Product Cost Planning (CO-PC-PCP)

HELP.COPCPCP

Release 4.6C

SAP™

Copyright

Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax
	Tip

Contents

Product Cost Planning (CO-PC-PCP)

Product Cost Planning (CO-PC-PCP)

Product Cost Planning

Purpose

Product Cost Planning (CO-PC-PCP) is an area within Product Cost Controlling (CO-PC) in which you can plan the non order-related costs of, and determine prices for, materials and other cost accounting objects.

You can use Product Cost Planning to break down the costs of your company's products, such as

- Manufactured materials
- Services
- Other intangible goods

for analysis purposes. You can analyze the costs in various ways, for example:

  - What is the amount of value added of a particular step in the production process?
  - What proportion of the value added can be attributed to a particular organizational unit?
  - How are the primary costs and transfer prices broken down?
  - How high are the material, production and overhead costs?
  - How can production or construction be rationalized?
  - Can the product be supplied at a competitive price?

Product Cost Planning comprises the following:

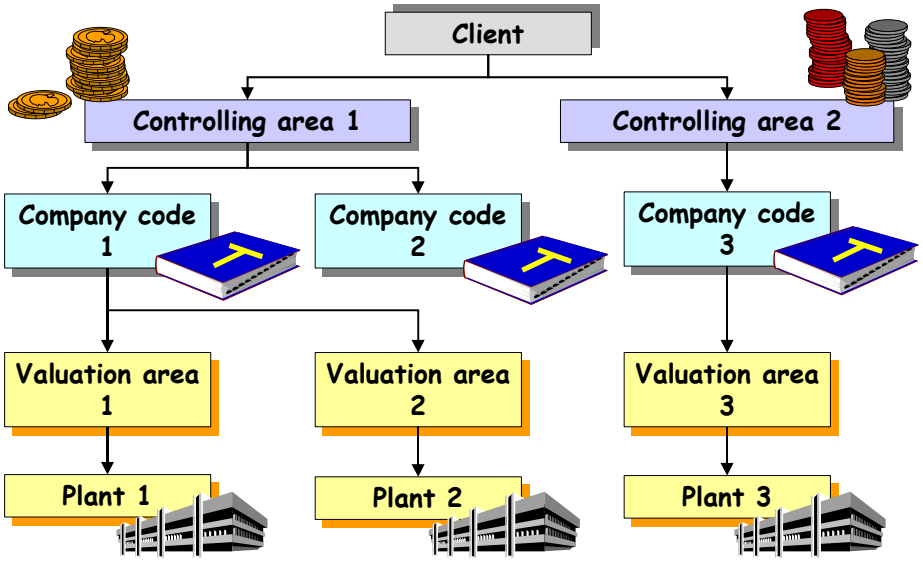
Cost Estimate with Quantity Structure [Seite 92]	Costing materials that have access to a quantity structure [Extern] in PP
Cost Estimate without Quantity Structure [Seite 449]	Costing materials without a quantity structure in PP
Price Update [Seite 634]	Transferring the results of material cost estimates to the material master
Reference and Simulation Costing [Seite 659]	Planning new products and services using base planning objects
Easy Cost Planning and Execution Services [Seite 765]	Rapid cost planning without master data within an ad hoc cost estimate [Seite 785]

For further information, see the following:

- Purpose of Product Cost Planning [Seite 23]
- Costing Sequence [Seite 59]

Implementation Considerations

The following graphic provides an overview of the organizational structures required for costing:



Materials are always valuated at valuation area level [Extern]. Costing must be performed at plant level. Consequently you **have to select** the plant as valuation level in Customizing under *Enterprise structure* → *Definition* → *Logistics – General* in the step Define valuation level [Extern] . When you do this a valuation area is created with the same name for each plant. All costing data is then stored with reference to a plant.

Integration

In order to carry out costing, Product Cost Planning accesses master data in other components, such as BOMs, routings, and work centers from Production Planning, and cost centers, activity types, and business processes from Overhead Cost Controlling. Conversely, you can make the costing results available for other applications. For example, you can use the costing results to update the standard price in the material master and carry out material valuation using this price.

For more information, see Information for Other Applications [Seite 51].

Because of this high integration of data, SAP recommends that you make a **thorough check** to make sure that the correct data is accessed for the quantity and value structures before starting Product Cost Planning, in order to ensure that the costing results are reliable.

For more information about integration, see Origin of Costing Data [Seite 129].

Features

The following table gives you an overview of the menu and functions of Product Cost Planning:

Button	Function	Cost estimate

Product Cost Planning

Material Costing → Edit Costing Run	Cost estimate for multiple materials [Seite 325] with BOM and routing	Is used to process mass data and is created automatically using Production Planning data (product cost estimate)
Material Costing → Cost Estimate with Quantity Structure	Cost estimate for a material [Seite 120] with BOM and routing or master recipe	Is created automatically using the Production Planning data (product cost estimate)
Material Cost Estimate with Quantity Structure → Additive Costs	Additive cost estimate [Seite 246]	Is created using data that you enter manually (unit costing)
Material Costing → Cost Estimate Without Quantity Structure	Cost estimate for a material without BOM or routing [Seite 449]	Is created using data you entered manually (unit costing) or transferred from a non-SAP system
Reference and Simulation Costing	Base object cost estimate [Seite 659]	Is created using data that you enter manually (unit costing)
Easy Cost Planning & Execution Services Edit Ad hoc Cost Estimate	Ad hoc cost estimate [Seite 785]	Is created using a planning form (costing model [Extern]), that can access the data in the SAP system

Button	Function
Material Costing → Price Update	Transfer of cost estimate results to the material master record [Seite 634]
Material Costing → Master Data for Mixed Cost Estimate	Definition of procurement alternatives and mixing ratios for a mixed cost estimate [Seite 426]
Easy Cost Planning & Execution Services Edit Ad hoc Cost Estimate	Define planning forms for Easy Cost Planning [Extern]

Button	Functions accessible	Examples
Information System	The various reports for Product Cost Planning [Seite 451]	• Lists of existing material and base object cost estimates • Detailed reports • Comparative reports

Environment	Further Product Cost Planning functions	• Archiving [Seite 602] and deletion [Seite 604] of costing data • Distribution of cost component splits [Seite 77] (ALE)

You use the costing tools provided by Product Cost Planning according to the availability of data in Production Planning (PP and/or PP-PI) and to the type of reference object that you want to cost (see graphic below) :

Method / Reference object	Automatic (product cost estimate)	Manual (unit cost estimate)	Manual (multilevel unit cost estimate)
Material (MM)	✓ Material cost est. with qty structure Costing run	✓ Material cost est. w/o qty structure Additive cost est.	✓ Material cost est. w/o qty structure
Base planning object (PCP)	✗	✓ Reference and Simulation Costing	✓ Reference and Simulation Costing

- **Automatic Cost Estimate** (Also Known As Product Costing)

  The system determines the quantity structure (BOMs and routings or master recipe) for a material and valuates it **automatically** for the cost estimate using data from Production Planning (PP or PP-PI). For more information, see Working with the Cost Estimate with Quantity Structure [Seite 119] and Cost Estimate with Quantity Structure: Process Flow [Seite 120].

- **Unit Costing**

  The cost estimate calculates the costs for

  – Materials (for example, additive costs for a material cost estimate with quantity structure, material cost estimate without quantity structure)

  – Base planning objects

  without accessing BOMs and routings in Production Planning. For this enter the costing items **manually**. When doing this, you can access SAP system data such as materials, business processes, cost centers and activity types. For further information, see the following:

  - Unit Costing [Seite 683]
  - Additive Costs [Seite 246]

Product Cost Planning

- Working with the Cost Estimate Without Quantity Structure [Seite 477]
- Working with Reference and Simulation Costing [Seite 665]

- **Multilevel Unit Costing**

  The cost estimate calculates the costs for

  – Materials (material cost estimate without quantity structure)

  – Base planning objects

  without accessing BOMs and routings in Production Planning. For this enter the costing items **manually**. When doing this, you can access SAP system data such as materials, business processes, cost centers and activity types. You can also display the costing structure hierarchically and, using a worklist, access frequently used data. For more information, see Multilevel Unit Costing [Seite 671].

Activities

You can access the functions of Product Cost Planning from either the *Accounting* menu or the *Logistics* menu:

- *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning*
- *Logistics* → *Production* → *Product Cost Planning*
- *Logistics* → *Production - Process* → *Product Cost Planning*

You make all the settings for Product Cost Planning in Customizing for Product Cost Controlling. For more information, see Preparing for Costing: Customizing [Seite 72] and the *Implementation Guide (IMG) for Product Cost Controlling.*

Purpose of Product Cost Planning

Use

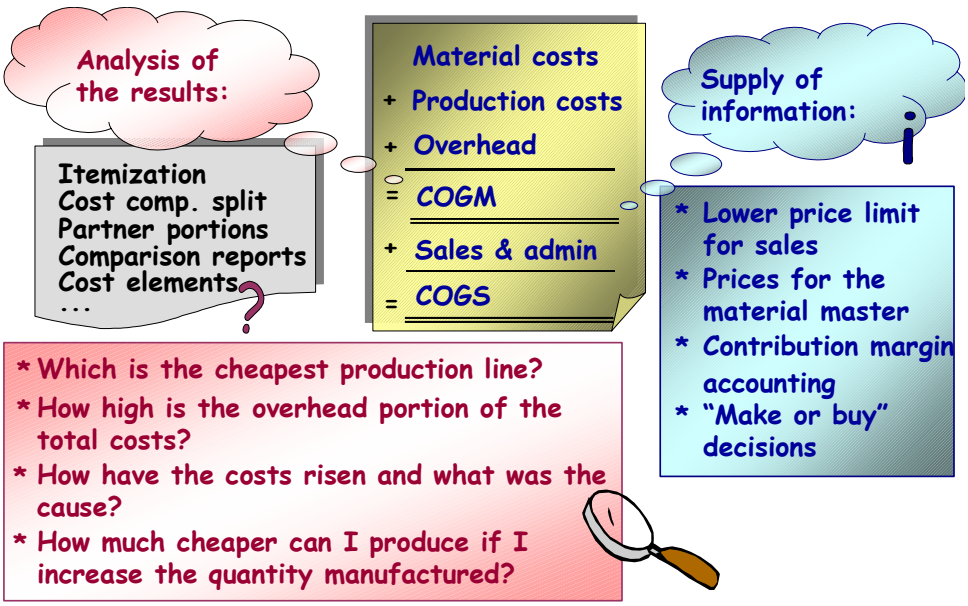
You can use Product Cost Planning to do the following:

- To calculate the non-order-related cost of goods manufactured and cost of goods sold [Seite 26] for each product unit
- To establish how the costs are broken down for each product, and to calculate the value added for each step of the production process (Concept of Cost Rollup [Seite 467])
- To optimize the cost of goods manufactured through comparison costing (Product Cost Controlling Information System [Extern])
- To provide basic information for other R/3 applications [Seite 51], for example:
  - To establish standards with which to assess production efficiency in Cost Object Controlling [Seite 52]
  - To update prices in the material master record [Seite 634] and in Profitability analysis [Seite 56]
  - Lower price limits for Sales and Distribution [Seite 55]

Features

The following graphic illustrates the aims of Product Cost Planning, which are:

1. Calculation of the cost of goods manufactured (COGM) and the cost of goods sold (COGS) of a product
2. Analysis of the costing results using the various reports available
3. Provision of information for other SAP applications



Purpose of Product Cost Planning

The following table describes the reports with which you can analyze the costing results:

Report	Content
Cost component split	A view of the costs of a material cost estimate broken down into cost groups, such as material costs, production costs, and overhead costs.
Itemization	Detailed information about the costs contained in a material cost estimate or base object cost estimate
Itemization by cost element	Detailed information about the costs contained in a material cost estimate or base object cost estimate, sorted by cost element
Costed multilevel BOM	Quick overview of the BOM and costs of a material cost estimate or base object cost estimate in hierarchical form
Partner cost component split	Overview of the value added portions of organizational units (partners) in relation to the total costs of a material

You can use the ***Product Cost Controlling Information System (CO-PC-IS)*** to analyze the costing results. The following table gives you an overview of the various analysis options in the Information System:

Information about Material Cost Estimates	
Detailed reports [Seite 807]	• Cost component reports [Seite 824] • Itemizations [Seite 828] • Costed multilevel BOMs [Seite 823] • Partner cost component splits [Seite 812]
Comparative reports [Seite 830]	• Product costing vs. preliminary costing [Seite 831] • Cost component comparison [Seite 833] • Cost element comparison [Seite 834] • Itemization comparison [Seite 835]
Analyzing the costing run [Seite 792]	• Results of the costing run [Seite 795] • Price vs. costing [Seite 796] • Costing run variances [Seite 799]

Information about Base Planning Objects	
Detailed reports [Seite 817]	Multilevel Explosion of Base Planning Objects [Seite 821] Costed multilevel BOMs [Seite 823] Itemizations [Seite 828]
Comparative reports	Object Comparison for Unit Costing [Seite 837]

Calculation of COGM and COGS

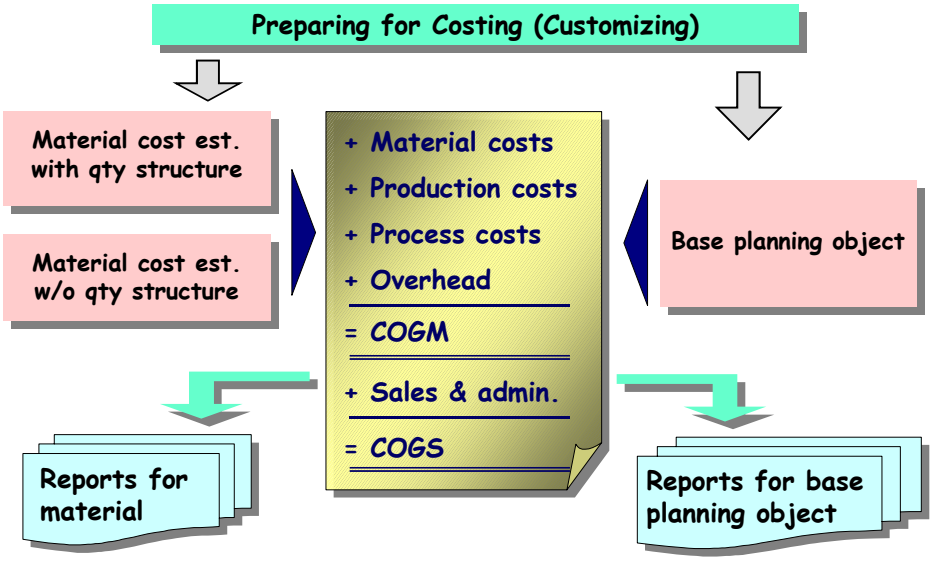
Use

You can use the *Product Cost Planning* functions to calculate the cost of goods manufactured (COGM) and cost of goods sold (COGS) for products such as materials and services. The costs may then be analyzed and business decisions (such as "make or buy" decisions) made.

The **cost of goods manufactured** is composed of material and production costs, process costs and overhead (such as material and production overhead). The **cost of goods sold** consists of the cost of goods manufactured together with sales and administration overhead costs.

Features

The following graphic shows how the COGM and COGS are calculated using Product Cost Planning:



To calculate the COGM and COGS for materials, you can execute a material cost estimate (with or without quantity structure). For further information, see the following:

- Material Cost Estimate with Quantity Structure [Seite 92]
- Material Cost Estimate Without Quantity Structure [Seite 449]

To calculate the COGM and COGS for products that do not have any master data (such as services or materials at the planning stage), you can avail yourself of the Reference and Simulation Costing functions. For further information, see the following:

- Reference and Simulation Costing [Seite 659]

Before costing, check all the settings in Customizing for *Product Cost Planning* that apply to the calculation of costs. For further information, see the following:

- Preparing for Costing: Customizing [Seite 72]

You can use the following reports in the *Product Cost Controlling Information System* to analyze the costs:

- Cost Component Reports (Cost Component Display) [Seite 824]
- Itemization [Seite 828]
- Costed Multilevel BOMs [Seite 823]

See also:

- Purpose of Product Cost Planning [Seite 23]
- Information for Other R/3 Applications [Seite 51]
- Reports in Product Cost Planning [Seite 790]
- Preparing for Costing [Seite 72]
- Cost Accounting Methods [Extern]

Cost Components

Use

This report shows the costs calculated in a material cost estimate or sales order cost estimate across all production levels, broken down into cost components. You can analyze the costs of the cost component split for the cost of goods manufactured and the costs of the primary cost component split.

The results of a cost estimate are updated as cost components (this is called a *cost component split*). The cost components break down the costs of a material across the entire production structure into material costs, production costs, material overhead, production overhead, and other costs. The costs for internal activities normally flow into the cost component split under secondary cost elements. In order to present primary costs for internal activities, you can use a primary cost component split as an alternative way of outlining the cost components.

The cost component split enables you to do the following:

- Analyze the cost origin across multiple production levels.

  You can analyze the value added within a multilevel production structure. The costs of the upper level consist of the internal activities and the overhead costs that are incurred at that level. The costs of the lower level include the materials and raw materials. The total costs of the upper level and lower level equal the total costs of the production level being analyzed.

- View the costs by original production factors (primary cost component split).
- Structure the costs according to the requirements of other areas (such as material valuation or profitability analysis).

  In the cost component view, you can specify which cost elements are displayed in the report. For example, you can select the cost of goods manufactured or the cost of goods sold, or the costs that are relevant to inventory valuation. You specify various cost component views in Customizing for *Product Cost Planning*. For each cost component, you can decide which share of the costs contained therein (fixed, variable, full) is displayed in which cost component view.

Prerequisites

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material in the BOM. For this to occur, you must have already defined a cost component structure in Customizing.

You specify the following in a cost component structure:

- Which cost components the calculated costs should be assigned to
- Which cost elements are grouped into which cost component

The cost component structure is selected through the company code, plant, and costing variant. You specify this assignment in Customizing for Product Cost Planning under *Basic Settings for Material Costing → Define Cost Component Structure.*

If you want to see a primary cost component split for the cost components, you must first generate a primary cost component split in *Cost Center Accounting* or *Activity-Based Costing*.

If you are using mixed costing, you can display the costing results for a specific procurement alternative broken down into cost components. Call up the desired procurement alternative in the report call using the menu option *Settings*. To display the cost component split for a mixed cost estimate that was formed from different cost estimates and procurement alternatives and weighted with equivalence numbers, do not enter a procurement alternative. The split for the mixed cost estimate is displayed automatically if a mixed cost estimate was created for the costing version.

Features

Main Cost Component Splits and Auxiliary Cost Component Splits

You can display the costs as a cost component split for the cost of goods manufactured and/or primary cost component split.

- You can calculate the cost component split for the cost of goods manufactured and primary cost component split simultaneously. You can switch between the two cost component views (under *Settings* → *Type of cost component split)*. However, you can also generate only the cost component split for the cost of goods manufactured or the primary cost component split.
- If you want to cost both cost component splits simultaneously, you must determine which cost component split is the **main cost component split** in Customizing for *Product Cost Controlling*. You can also generate a further cost component split as an **auxiliary cost component split** for comparison purposes.

The update of the standard price [Seite 636] in the material master is effected by the main cost component split.

An itemization is only created for the main cost component split.

In the report, you can switch between the main cost component split and the auxiliary cost component split. With the appropriate setting, you can switch between the cost component split for the cost of goods manufactured and the primary cost component split.

Upper Level / Lower Level / Aggregate Level

The cost estimate enables you to analyze the value added within a multilevel production structure. You can apportion the costs for each material according to the **lower level** and **upper level**.

You can find the cost component split display under *Costs* → *Display Cost components.* You can make this setting with *Settings* → *Layout*. You can create your own report from a large number of selections options.

When you display the costs:

- For the **upper level**, you see the production costs, overhead costs and costs for external activities that are expected for this production level
- For the **lower level,** you see the costs of all material components that are processed in this production level

Cost Components

In both cases, the costs are apportioned according to cost components [Seite 462]. The total cost of the upper level and lower level equals the total costs of the production level being analyzed.

You can go to the following other reports in the same report group:

- Total values
- Upper level
- Lower level

When the costs are apportioned according to cost components, the original identity of the costs (for example, costs of materials or fixed and variable production costs) are maintained throughout all production levels. At every production level, the value added at that level and the costs of the lower level can be separated through the cost component split.

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material. For more information on saving costing results, see Saving Costing Results [Seite 600].

If you want to create a cost component split for raw materials and purchased parts, you can enter additive cost components for each material for these costs. You can then group these cost components in an "External procurement" cost component structure that only contains such costs. For more information, see Additive Costs [Seite 246].

Cost Component Split for the Cost of Goods Manufactured

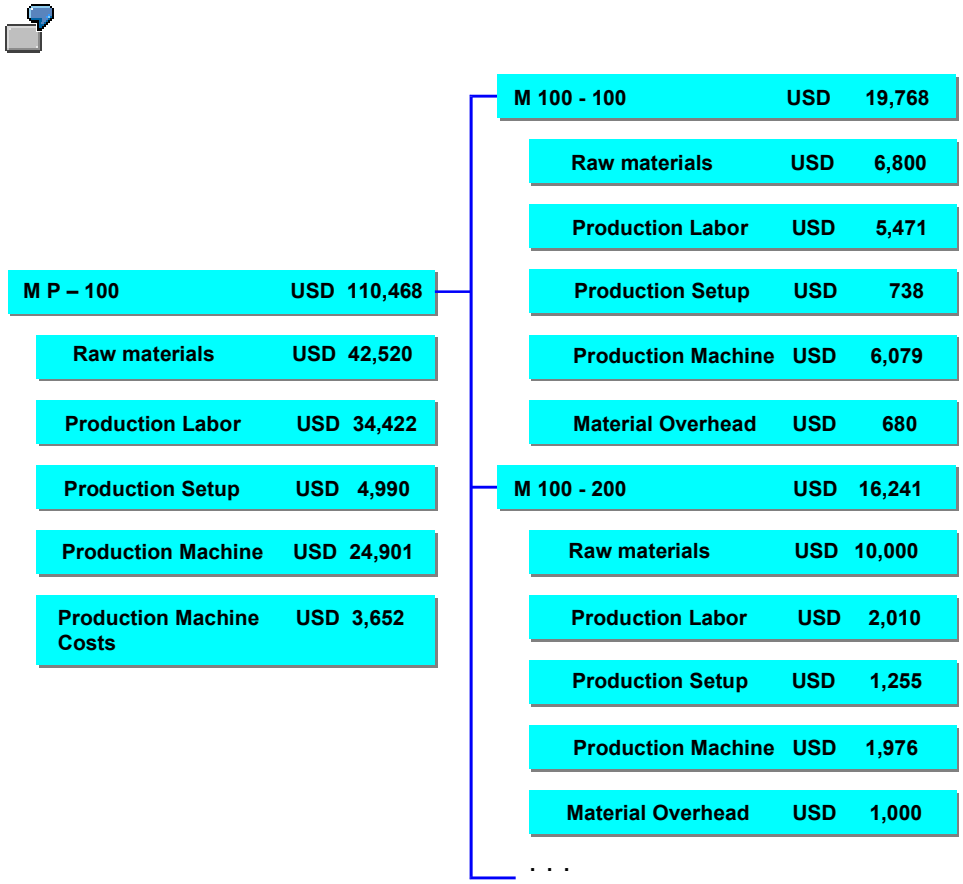
Definition

A report that enables you to do the following:

- Show the value added for each manufacturing level
- Compare the material cost estimates

Use

Typical cost components [Seite 462] of the cost component split for the cost of goods manufactured are raw materials, internal activities, external activities, material overhead, and so on. You define the structure of the cost components for the cost of goods manufactured in Customizing. For further information, see the Implementation Guide for Product Cost Controlling under *Product Cost Planning* → *Basic Settings for Material Costing*.



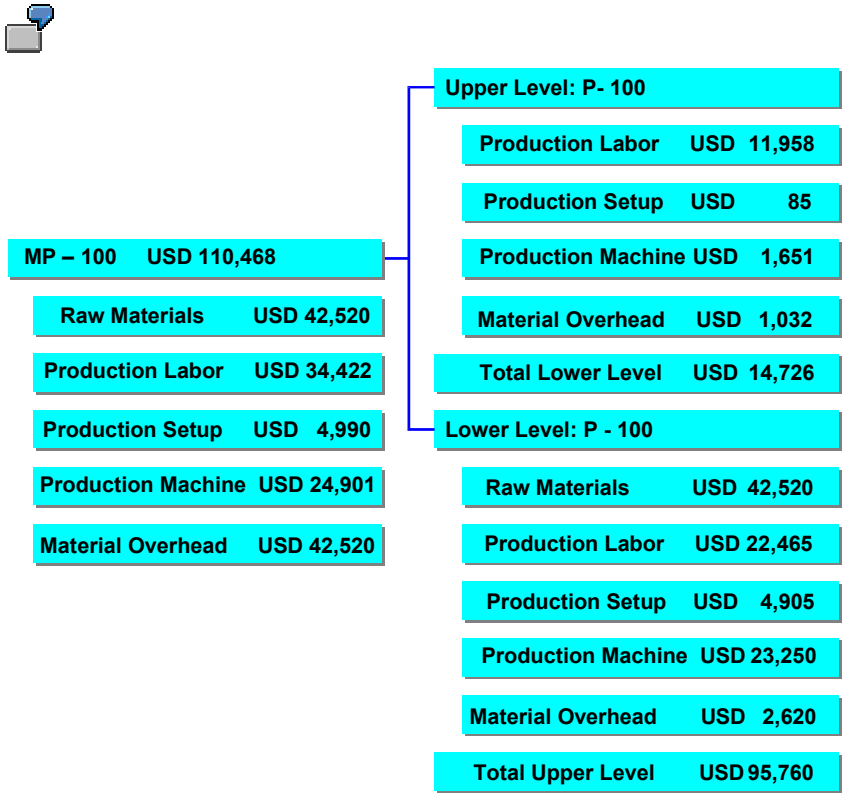
In this example, the cost of goods manufactured are assigned to five cost components (raw materials, labor production, setup production, machine production, and material overhead). This structure enables the costs of assemblies 100-100, 100-200, and so on to be transferred into the cost estimate for material P-100 as raw

Cost Component Split for the Cost of Goods Manufactured

materials costs, production costs, overhead costs and so on, instead of as material costs.

The cost component split thus enables an analysis to be made of the value added at each manufacturing level. You can switch from the reports for the upper level of the cost estimate to the lower level.

- With the **upper level** report, you can display the costs that occurred with assemblies 100-100, 100-200 and so on for material P-100. The costs of the subordinate assemblies are added together to make the total of the lower level.
- With the **lower level** report, you can view the alternative display of the costs for P-100. In this report, the costs of assemblies 100-100. 100-200 and so on are displayed broken down into cost components. The costs of the assemblies are added together to make the total of the upper level.



Primary Cost Component Splits

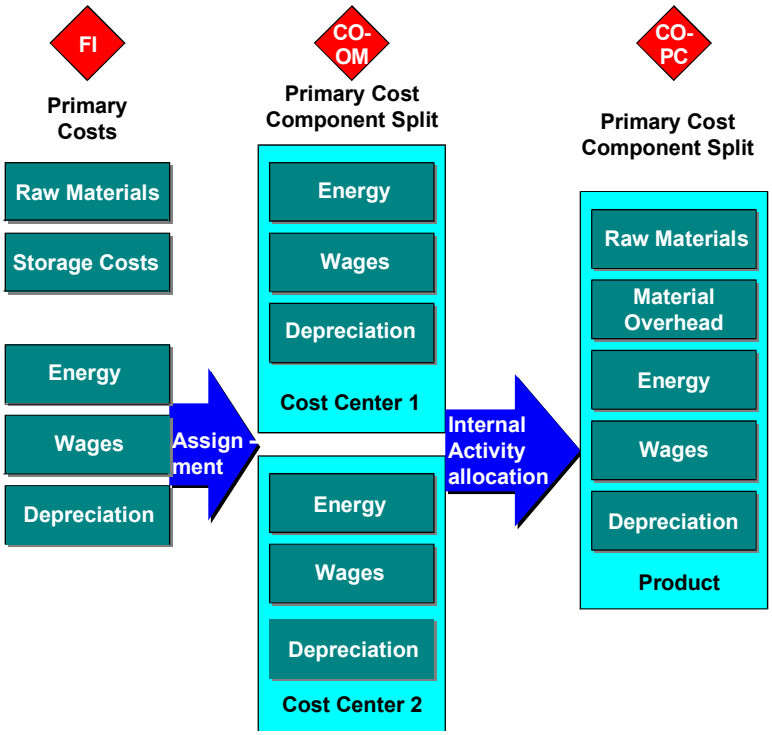
Definition

A report that displays the costs of the internal activities and the process costs broken down into their original production factors. For example, depreciation on production facilities can be included in the cost estimate, and is not encrypted under the secondary cost element for the activity allocation.

Use

The primary cost component split can be created in the **cost estimate with** and **without quantity structure**, as well as when **costing a sales order**. You define the structure of the primary cost components in Customizing for Product Cost Controlling. Typical cost components of the primary cost component split are raw materials, wages, energy, depreciation, and so on. For more information, see the Implementation Guide for Product Cost Controlling under *Product Cost Planning → Basic Settings*.

The costs of a product are grouped into primary costs in the same way as the cost component split for the cost of goods manufactured [Seite 455]: the costs are collected as cost components [Seite 462], to which you assign intervals of primary cost elements. You can also subdivide the costs into fixed and variable costs.



The primary cost component split is an alternative way of showing the cost of goods manufactured of a product. This cost component split assigns the primary cost elements for the cost center or the process to the cost components, insodoing sending information necessary for setting the activity price for the activity type or the costs for the process.

Primary Cost Component Splits

A feature of the primary cost component split in Product Cost Planning is that it provides an indication of future cost developments of a particular product. Since the amount of labor costs or energy costs of a product is visible, the effects of changes to these costs can be better predicted.

The primary costs from Overhead Cost Controlling can either be transferred directly into the primary cost component split of the product, or assigned to other cost components. In this way, you can explode the costs for specific internal activities partly by their primary costs, and combine them partly as secondary costs.

You can transfer the primary cost component split of the internal activities directly into the cost estimate, or assign it to other cost components. It is also possible to break down certain activities only partially into their primary costs, or report them as secondary costs.

Integration

- The primary cost component split in costing requires the use of the primary cost component split created in Cost Center Accounting when calculating the activity price.

  When determining the primary cost component split for products, the costs for internal activities and process costs (valuated in CO-ABC), with their primary cost component splits from Cost Center Accounting, are included in costing.

- Manually-created cost component splits are included when creating the primary cost component split.
- It is also possible to update the standard price in the material master via the primary cost component split.

See also:

Transfer Structure for the Primary Cost Component Split [Seite 459]

Cost Component Structures

Definition

Specifies which costs are contained in the cost component split.

Use

You can use the cost component structure to specify that certain costs

- Remain visible in the cost estimate
- Are passed on to Profitability Analysis

You can define a cost component structure so that the cost estimate for a finished product shows the origin of the costs for the semifinished products and raw materials.

You can define the cost component structure to have a validity period. You can specify the date from which the structure is to be valid. This means that you can use an alternative cost component structure for the cost estimate without having to change an existing structure. In addition, cost estimates that have already been saved can still be interpreted by the system.

Through the cost components [Seite 462] that you list in the cost component structure, you specify the following:

- Which costs are included
- Whether the variable costs or the total costs are included
- Whether the cost of goods manufactured or the sales and administration costs are included
- Whether the costs for stock valuation, tax-based inventory valuation, and commercial inventory valuation are included

If you use a cost component structure in Customizing to create a **primary cost component split** for products, the cost component splits of the items that are relevant to costing are included in the primary cost component split. In addition to materials, internal activities and process costs can also have cost component splits.

You can create **cost component views** on the basis of the Customizing settings for the cost components. When you display a material cost estimate, cost component views [Seite 465] show the costing results according to different viewpoints.

The cost component view *Cost of goods sold* contains all the cost components that are indicated as the cost of goods manufactured and sales and administration costs.

See also:

For more information, see the *Implementation Guide (IMG)* under *Product Cost Planning → Basic Settings for Material Costing → Define Cost Components*.

Cost Components

Definition

Grouping of cost elements with or without origin groups.

Use

The costs from a cost estimate are assigned to cost elements and cost components. (You can use the origin groups in the material master records to subdivide the material costs within a cost element.)

You can use cost components to specify that costs should be included in the relevant inventory valuation, for example.

You create origin groups and cost components for in Customizing for Product Cost Planning under *Basic Settings for Material Costing*. Based on the cost components that you have defined in Customizing, you can do the following:

- Create cost component views [Seite 465] that contain costs such as the cost of goods manufactured, sales and administration costs or the costs for inventory valuation
- Group cost components differently according to the purpose for which costing was carried out (such as stock valuation or inventory valuation)

Integration

The definition of the cost components in Customizing for Product Cost Planning determines how the costed material is valuated. For each cost component, you specify whether the assigned costs are included with the following **valuations**:

- Inventory valuation
- Physical inventory valuation based on commercial law
- Physical inventory valuation based on tax law
- Transfer price surcharge

For each valuation, you define the relevant **proportion** of the costs:

- You flag the cost component as ***not relevant***.

  This prevents certain costs (such as production overhead) from being used in inventory costing.

- You flag the cost component as ***variable costs***.

  This means that only the variable portion of certain costs (such as internal activities) are used in inventory costing.

- You flag the cost component as ***fixed and variable costs***.

  This means that the full costs (such as for raw materials) are used in stock valuation.

You also specify the following for each cost component:

- Whether the costs assigned to the cost component are to be treated as the cost of goods manufactured

Cost Components

- Whether the costs assigned to the cost component are included in an initial cost split (a cost component split for raw materials). You can create an additive cost estimate [Seite 246], to include freight charges and insurance costs for raw materials. Alternatively, you can create a raw material cost estimate [Seite 735].
- Whether delta profits (profits between company codes and profit centers) should be updated. This indicator must be set when you create a group cost estimate [Seite 621].

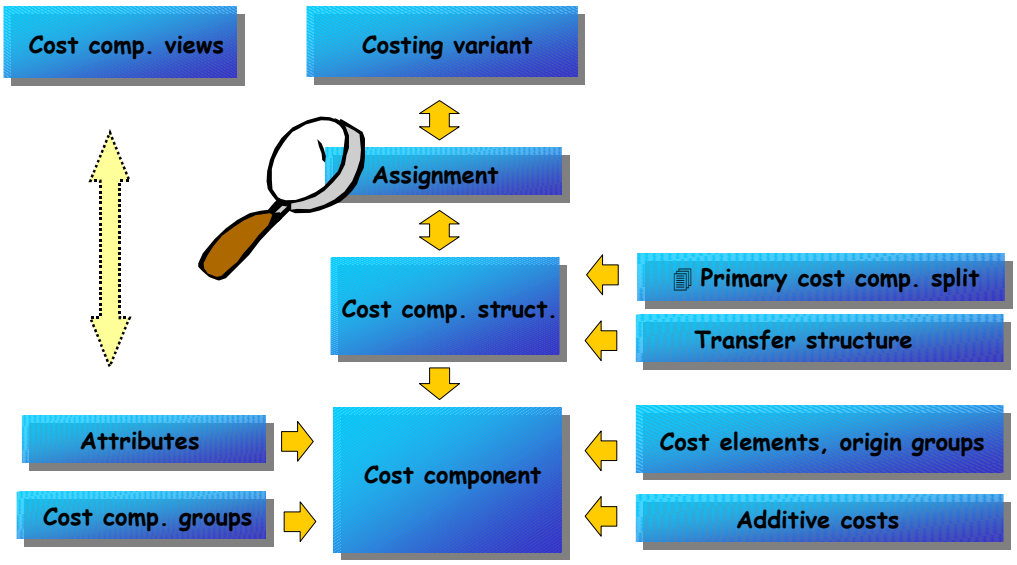
These settings are then included when the costing data is transferred into the material master record.

Type of cost estimate whose results are transferred to the material master	Type of valuation	Resultant price
Standard cost estimate	Inventory valuation	Future planned price
Inventory cost estimate	Physical inventory based on commercial law	Price based on commercial law
	Inventory based on tax law	Price based on tax law

If you transfer the results of a modified standard cost estimate or a current cost estimate into the material master record, you can specify which cost component view should be transferred.

Features

The following graphic illustrates how cost components, cost component structures, and cost views are customized:



Cost components are grouped into a cost component structure. A cost component structure can have up to 40 cost components. However, if the cost components contain both fixed and variable costs, the number of costs components is limited to 20.

Examples of cost components are:

- Raw materials

- Personnel costs
- Production costs
- Overhead: material
- Overhead: production
- Overhead: administration
- Overhead: sales and distribution
- External activities
- Other costs

If you are using a particular costing variant, the system determines the cost component structure [Seite 460] for this costing variant and creates the cost component split for the costing results accordingly.

All costing variants for the standard cost estimate in a company code must be linked to the same cost component structure. Otherwise you cannot transfer costing results from other plants for specially-procured materials.

For costing variants that are not set for the standard cost estimate, you can assign the cost component structure separately for each plant or for each costing variant.

The values for each cost component are updated in the currency of the company code to which the material is assigned.

See also:

For further information about defining cost components, see the *Implementation Guide (IMG) for Product Cost Controlling* under *Product Cost Planning* → *Basic Settings for Material Costing* → *Define Cost Components*.

Cost Component Views in Material Costing

Use

You can display the costing results [Seite 451] in various views. The cost component view is one of these views. Examples of cost component views are:

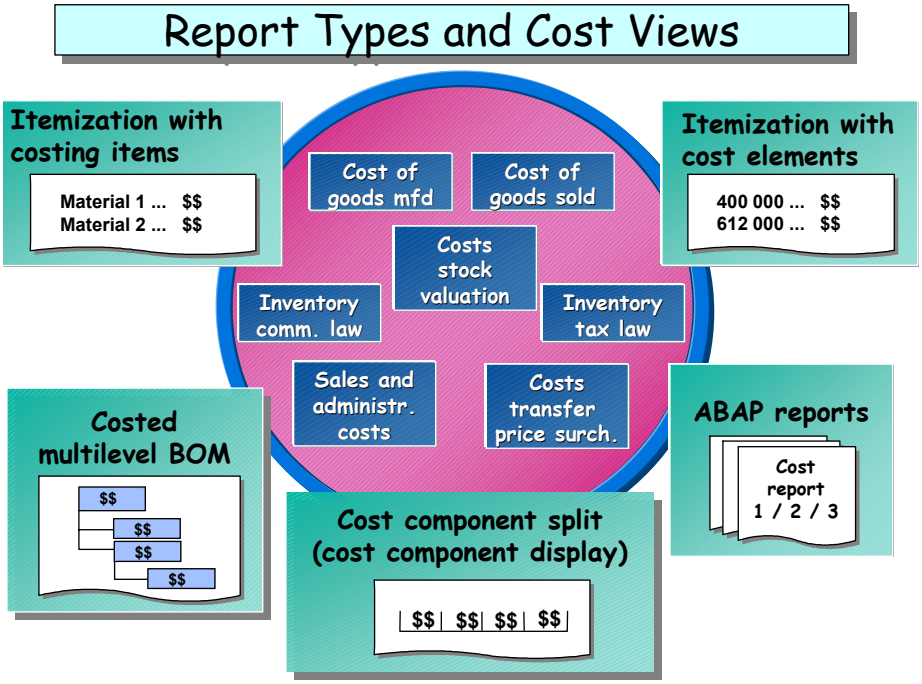
- Cost of goods manufactured
- Cost of goods sold

Prerequisites

You assign the cost components to a cost component view in Customizing for Product Cost Planning.

Features

The following graphic details the types of report available:



The costing results, which are contained in reports such as the itemization and the cost component split, are displayed in various cost component views.

For Profitability Analysis, the view for the cost of goods sold determines which costs are compared with the sales revenues to calculate the contribution margin for each product.

For Materials Management, the view for stock valuation determines which costs go into the standard price and the inventory cost estimate.

Also affecting Materials Management is the view for tax-based inventory valuation, which determines which costs are included in the inventory cost estimate based on tax law.

When you define a cost component view in Customizing for Product Cost Planning, you enter a name for the cost component view and define which cost components are contained in the cost component view.

The cost component view *Cost of goods sold* contains all the cost components that are indicated as the cost of goods manufactured and sales and administration costs.

With the cost component view in Customizing for Product Cost Planning, you can also define what costs are used in the calculation of material overhead surcharges.

You want to calculate material overhead for the semifinished products used in the finished product. The cost estimate for the semifinished product contains costs such as the cost of goods manufactured and sales and administration costs.

In Customizing for Product Cost Planning, you use the calculation base in the costing type to specify that the applied material overhead for the semifinished products should only be calculated on the basis of the cost of goods manufactured. Overhead is not applied to the sales and administration costs for the semifinished product.

See also:

Implementation Guide (IMG) for Product Cost Planning

Analyzing the Results [Seite 494]

Concept of Cost Rollup

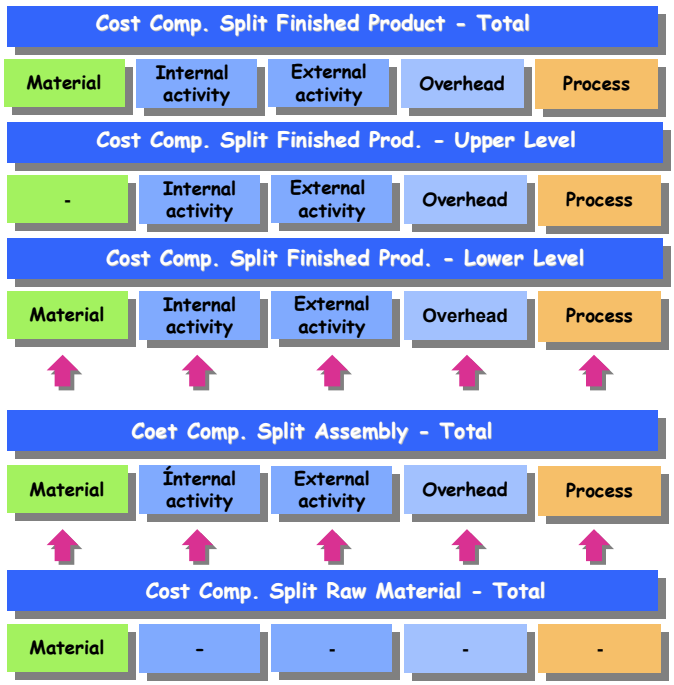
Use

The purpose of cost rollup is to include the cost of goods manufactured [Seite 26] of all the materials in a multilevel production structure within the costs of the material located at the top of the structure. The costs are rolled up **automatically** using the costing levels.

1. The system first calculates the costs for the materials with the lowest costing level and assigns them to cost components.
2. The materials in the next highest costing level (such as semifinished materials) are then costed. The costs for the materials costed first are rolled up and become part of the costs of goods sold in the next highest level.

This process is continued until the costing results [Seite 451] of the highest material in the structure (such as the finished product) contain the cost of goods manufactured [Seite 26] for every material in the structure.

For costing, you assign the costs in a cost estimate to **cost components** in Customizing for Product Cost Planning. The cost components [Seite 462] split the costs of a material. In the cost rollup process, the data for these cost components is passed on to the costing results of the next-highest material (see graphic).



The data structure is called a **cost component split**. The results of the cost estimate (with [Seite 92] and without [Seite 449] quantity structure) are always saved in the form of a cost component split. The structure of the cost component split (that is, the number of cost components) is the same for all materials in the cost estimate.

However, a multilevel production structure [Seite 159] may also contain costs that should not be rolled up, such as sales and administration costs. In Customizing for Product Cost Planning you specify whether the assigned costing results should be rolled up for each cost component.

Features

The materials in a BOM [Seite 157] are called **BOM components**; these can consist of a material without its own BOM (such as a material component, purchased part, or raw material), or a material with its own BOM (assembly). If the product has a multilevel BOM [Seite 159], the costs for the material components are calculated and taken into account when the next-highest assembly is costed.

The structure of the BOM determines the sequence in which the materials are costed. After exploding the BOM from top to bottom and assigning costing levels, the system then costs from the bottom up. The BOM components with the lowest costing level (or the highest low-level code) are costed first, then the BOM components (assemblies) with the next highest costing level, and so on up to the highest material. The resultant costs are, in the process, rolled up towards the top.

For each BOM component costed, a cost component split is created, which groups the costs into costs such as material costs, production costs, and costs for external procurement. The cost component [Seite 462] *Material costs* for the finished product thus contains all the material input costs of the subordinate BOM components. You define the structure of this cost component split in Customizing for Product Cost Planning in a cost component structure [Seite 460].

Costing can also determine the cost of goods manufactured for materials produced in another plant if the two plants are assigned to the same controlling area, and the company codes of the plants use the same cost component structure. In such cases, the structure of the cost component split must be the same in both works. For more information, see Transferring Existing Costing Data [Seite 607] and Special Procurement in Costing [Seite 443] .

If a cost estimate for the material already exists, the system can transfer the calculated costs (grouped in cost components) into the cost estimate of the next-highest material.

If the system cannot find a cost estimate for the material, it uses a price in the material master record according to the valuation variant (see also Raw Material Costing [Seite 735]).

You can add manually entered costs to the material costs by means of an additive cost estimate [Seite 246] that contains separate cost components. This enables you to include in the cost estimate costs that, although they actually exist, cannot be taken into account automatically by the system. Examples of such costs are freight charges, insurance costs, stock transfer costs, incomplete BOMs, and routings. You can also create a separate cost estimate for raw materials. For further information, see Raw Material Costing [Seite 735].

The manually entered (that is, additive) costs can only be used for planning purposes in the R/3 System.

The cost component split is updated in the currency of the company code to which the material is assigned.

Itemization

In addition, the costing results can be updated and displayed in the controlling area currency. The cost component split is then rolled up in both currencies. (See also: Currencies in Costing [Seite 633]).

You can represent cost accounting in the R/3 System as **absorption costing** and as **variable costing**. When you use variable costs, make sure that when you define cost components [Seite 462], you indicate only the variable part of the activity types as being **relevant to stock valuation**. This ensures that, when allocating costs to internal activities, only the variable activity type prices are credited, even when you carry out confirmations. You can pass on the fixed portion for each assessment at period end directly to Profitability Analysis (CO-PA). The variable costs of goods manufactured are passed on by billing documents to CO-PA.

See also:

- Quantity Structure Determination [Seite 179]
- Valuation of the Quantity Structure [Seite 203]
- Cost Estimate with Quantity Structure: Process Flow [Seite 120]

Itemization

Definition

Report that lists the calculated costs and contains detailed information on cost origins and elements that make up costs.

Prerequisites

An itemization is generated automatically with a cost estimate. If you want to display the itemization information in the cost estimate display and the information system, you must set the *Itemization* indicator when saving the cost estimate.

During preliminary costing for a production order or a production campaign, an itemization is generated dynamically. However, this itemization is not stored in the system and therefore cannot be analyzed in the information system. The itemization is available for analysis immediately after you carry out costing. For more information on the itemization of production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Use

You can use itemization to analyze a costed material, base planning object or sales document item in more detail.

Depending on the questions you need answered, there are different layouts of the itemization available in the SAP standard system. Through the selection of certain fields, you can find various information that is also partially grouped. The costs can be broken down for analysis by

cost elements, by operations, or by costing items. The following layouts are described in more detail:

- Itemization by Costing Items [Extern]
- Itemization by Cost Components/ Cost Elements [Extern]
- Itemization by Operations [Extern]
- Itemization by Cost Elements [Extern]

You can modify this structure to suit your own requirements by creating your own layouts [Extern]. You can create your own layouts to be able to see other information in the itemization. For example, you can add the purchasing info record and the purchasing organization or the origin groups to the report display, or add the text of the activity types or item categories.

The origin group provides detailed information on the source of the material costs or on the origin of the overhead. With material costs, the origin group is entered in the material master record. With overhead costs, the origin group is entered in the credit key of the costing sheet and offers more information on the origin of the overhead.

In the itemization, you can also display the costs broken down into cost elements. Material costs, external activity and non-stock material are assigned to primary cost elements. In this itemization, they are shown under cost elements determined by the system. Costs for internal activity are displayed under the allocation cost element of the activity type that was entered in the master record of the activity type. Overhead costs and process costs are also displayed under secondary cost elements. Because all actual costs are also assigned to these cost elements, a plan/actual comparison is possible later.

Only a limited selection of layouts are available for **base planning objects**.

Structure

In the standard system. the itemization is displayed with the layout *Item Categories (grouped)*. Here, the costing items are listed according to item categories. The item categories indicate, for example, whether it is a material (M), internal activity (E), or overhead rate (G).

The costing item for a material (M) indicates the plant, the relevant material number, the price of the material, the text in the material master data and the quantity used.

The costing item for an internal activity (E) indicates the cost center, the work center, the activity type, a text, the price of the activity and the quantity used.

See Creating and Deleting Subtotals [Extern] for general information on grouping in layouts.

For *joint production*, the itemization provides two types of display. You can switch between the process view and the product view in the report. While the product view shows only the costs of the co-product, the process view provides information about the costs of the other co-products, as well as an overview of the total costs of the production process. The other co-products are shown under item category A with negative quantities and values. This negative value is the amount of costs for the co-product that was calculated using the apportionment structure.

Integration

The itemization is a prerequisite for variance calculation in Product Cost by Period and Product Cost by Order.

From the report, you can display the master data of a costing item.

For operations that are carried out externally, the costs are either entered in the routing, or are determined using a purchasing info record. For operations that are carried out internally, the costs are determined using *Cost Center Accounting*. For the valuation of internal activity using a cost estimate with quantity structure, the system assumes that price calculation was already done in *Cost Center Accounting*.

The system determines overhead on the basis of input quantities, or proportionally on the basis of direct costs (material or production) or costs of goods manufactured. You define the conditions for determining this overhead in a costing sheet in Customizing.

Process costs are determined in Activity-Based Costing [Extern] and are generally assigned to the product using a template. The template specifies which process costs are consumed and the basis on which these costs are further allocated to the product.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

If you are working with production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Cost Elements

Use

The report displays a cost estimate broken down into cost elements. The cost elements show the costs according to origin, such as material costs or labor costs. The cost element itemization thus tells you which costs have arisen for what purpose.

Integration

If you enter an *origin group* in the material master record or in the credit key of the costing sheet, you can have this displayed in an additional field to further break down the costs into material cost elements and the overhead costs into origin groups.

The values in the cost element itemization are determined from the values in the itemization. Subsequent changes of the quantity structure or the costing items are not displayed. To display such changes, costing must be repeated.

If you use your own programs or reports to evaluate your cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Prerequisites

If you want to see the cost element itemization in the information system, you must select the *itemization* indicator when you save the cost estimate.

Activities

In the standard system, you can choose between predefined layouts or adapt the information to your requirements by creating custom layouts. For more information, see Creating, Changing, and Managing Layouts [Extern].

See also:

Cost Analysis [Extern]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Partner Cost Component Split

Definition

Report with which you can display the value added of the organizational units (partners [Seite 628]) involved in the production process organized according to cost component groups in a hierarchy graphic.

Use

If production involves more than one partner (for example, multiple profit centers in multiple plants and company codes), you can analyze the value added for each partner [Seite 628].

You can analyze the following reports:

- Reports that show the total costs of a product broken down according to cost components [Seite 462]
- Reports that show the portion of the partners broken down according to cost component groups

In Customizing, you specify which organizational units the system considers as partners. You can select from the organizational units company code, plant, profit center and business area.

For every resource used, the system can derive the organizational unit that provided this resource. The cost estimate generates a separate cost component split for every involved partner. You can also only display the direct partner's [Seite 628] portion.

The partner cost component split can be arranged in multiple dimensions, according to the definition of the partner. The cost component split can be displayed in hierarchy sequences of the partner, as required.

Structure

The partner cost component split provides a hierarchical graphic in which the partners that you have defined are displayed with their costs. The costs are grouped in cost components and shown as totals. Through *Settings* → *Sort Sequence of Partner Cost Splits* in the report, you can change the sort sequence of partner cost splits (order in which the partners are shown in the hierarchy).

Through *Settings* → *Cost Component Groups, y*ou can switch between cost component groups 1 and 2 in the report. You can also switch between the main and auxiliary cost component splits.

Unless you specify a different lot size, the lot size of the cost estimate is displayed. If you want to use a specific lot size, enter it in the report parameters under *cost base*. The costs are then converted to that lot size. The values displayed depend on the cost component view selected.

Integration

Through *Settings* → *Partner View*, you can branch from the partner cost component split to reports for the direct partners. The reports on the direct partners are also hierarchical graphics, although they are only single-level. If you choose and display, for example, the profit center as the direct partner, you will see (in addition to the profit center of the material costed) only the

profit center that has directly issued your activity or delivery to the profit center of the material costed.

Prerequisites

To generate and display a partner cost component split, you must do the following in Customizing:

- Define cost component groups
- Define a partner version
- Enter this partner version in the costing type
- Enter this costing type in the costing variant that you use for costing

See also:

Preparing for Material Costing [Seite 73]

Cost Component Report [Seite 824]

Partners and Direct Partners

Definition

- **Partner**

  Business unit that is involved in the value added process

- **Direct Partner**

  Business unit that passes on its delivery or service directly to another partner

Use

Partners and direct partners provide an in-depth view of how the value added portions are broken down. Within the context of **partner versions** in Customizing for Product Cost Planning, *partners* or *direct partners* can consist of any combination of the organizational units *profit center*, *plant*, *business area*, and *company code*.

If you do not want the portion of the value added that the direct partner procured to be visible when the product or service is transferred to the receiving partner, it can be subsumed under the value added of the **direct partner** (single-level partner). In such a case, only the portions of the directly-procured deliveries and activities are displayed. Value-added portions that the direct partner has received from others are passed on directly to the direct partner.

In conjunction with the partner version settings in Customizing, the cost estimate generates a separate cost component split [Seite 812] for each **partner**, providing an in-depth display of all the valued-added portions at each stage of the production process. The materials and services of a production level do not appear in the next level as material costs; instead, the structure of the costs and profits, together with the partner portions, are retained at all levels and for all partners.

In the context of group costing [Seite 621], the company code is a particularly important partner. However, you can also use the partner information if your company costs the

Partners and Direct Partners

legal view only, instead of group costing as a whole; even here, you can break down the portion of each organizational unit, such as the plant, to analyze the value-added chain.

See also:

For more information, see the *Implementation Guide (IMG)* for *Product Cost Planning* under *Selected Functions in Material Costing*.

Information for Other SAP Applications

Use

You can use Product Cost Planning to provide important information for other areas of the SAP System. The following table describes the areas in which the costing results can be used, and what for:

Area	Use of costing results
Cost Object Controlling (CO-PC-OBJ)	• Calculation of material usage costs • Valuation of inward stocks • Calculation of work in process (WIP) at actual costs in *Product Cost by Period* • Variance calculation including scrap variances • Results analysis For more information, see Cost Object Controlling (CO-PC-OBJ) [Seite 52].
Materials Management (MM)	• Material and stock valuation For more information, see Materials Management (MM) [Seite 53].
Sales and Distribution (SD)	Sales Pricing (SD) [Seite 55]
Profitability Analysis (CO-PA)	• Contribution margin accounting For more information, see Profitability Analysis (CO-PA) [Seite 56].

Cost Object Controlling (CO-PC-OBJ)

Use

You can use the results of standard cost estimates in Cost Object Controlling for the following purposes:

- Calculation of material usage costs
- WIP calculation
- Variance and scrap calculation
- Results analysis
- Valuation of inward stocks

See also:

For more information, see the following documents in the SAP Library under *Cost Object Controlling (CO-PC-OBJ)*:

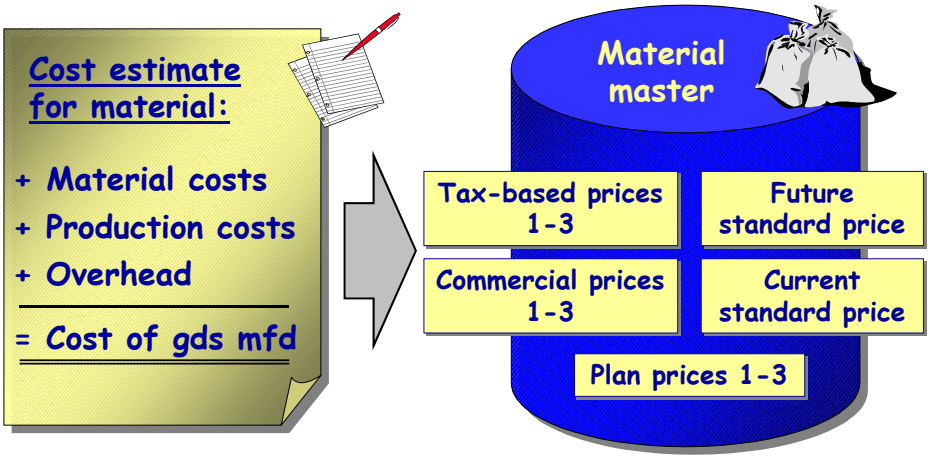
- Preliminary Costing for Production Orders [Extern]
- Preliminary Costing for Product Cost Collectors [Extern]
- Actual Postings in Cost Object Controlling [Extern]
- Calculation of Target Costs [Extern]
- Calculation of Control Costs [Extern]
- Work in Process in Product Cost by Period [Extern]
- Variance Calculation [Extern] and Scrap Variances [Extern]
- Goods Receipts in Cost Object Controlling [Extern]
- Updating the Planned Costs [Extern]
- Results Analysis [Extern]

Materials Management (MM)

Use

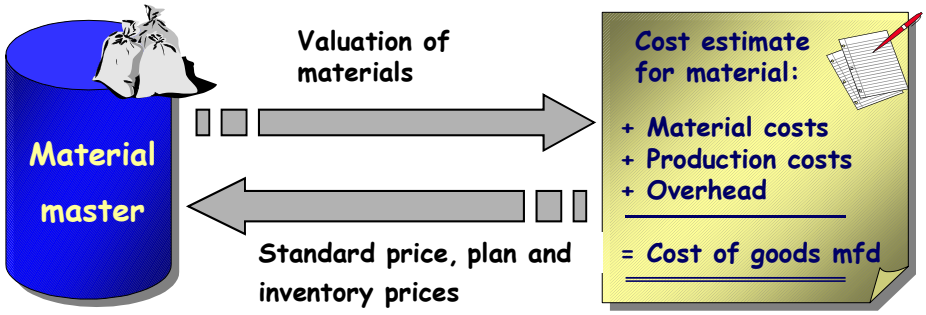
You can transfer the material cost estimate results to various price fields of the material master record, and thus provide information or prices for the following purposes:

- Material valuation (such as the standard price)
- Inventory valuation (such as the commercial price)



Integration

Firstly you can transfer the costing results into the material master record. Secondly you can access the data in the material master record to calculate prices for materials for costing purposes.



See also:

For more information about transferring the costing results to the material master, see the following:

- Standard Cost Estimates [Seite 63] and Updating the Standard Prices [Seite 636]
- Inventory Cost Estimates [Seite 65] and Tax-Based and Commercial Prices [Seite 650]

Materials Management (MM)

- Modified Standard Cost Estimate [Seite 68] / Current Cost Estimate [Seite 70] and Updating the Other Planned Prices [Seite 655]

For further information about the material master record, see the following:

- Material Master Records [Seite 689]
- General Data and Quantity Structure Data [Seite 505]
- Valuation Data and Price Fields [Seite 507]

For more information about calculating material prices when using the Actual Costing/Material Ledger component, see the SAP Library under *Actual Costing/Material Ledger (CO-PC-ACT)* in the following documents:

- Price Control and Material Price Determination [Extern]
- Periodic Material Valuation [Extern]
- Purpose of Actual Costing/Material Ledger [Extern]
- Standard Price Versus Moving Average Price [Extern]
- Multiple Currencies and Valuations for Materials [Extern]

Sales Pricing (SD)

Use

When you create a sales document in the Sales and Distribution module, the system calculates a sales price based on various conditions which you define in Customizing for Sales and Distribution.

Sales price calculation can be based on the following:

- The price from the material master record [Seite 689]

  The results of the standard cost estimate [Seite 63] are updated in the material master record as the standard price [Seite 636]. When a quotation or a sales order is created in the Sales and Distribution module for a material with standard price control, the system can access the price in the material master record and use it to calculate the sales price.

- The cost of goods manufactured, cost of goods sold, and administrative costs from the sales order cost estimate as calculated using product costing or unit costing

  You can use the Product Cost Planning functions to create a cost estimate for a sales order. Here you can

  – Enter materials in the sales order that are configured and costed (product costing).

  – Enter materials in the sales order that have no BOM or routing, and create the costing items manually (unit costing [Seite 683]).

  In both cases, the value can be transferred from the cost estimate into pricing.

See also:

CO Cost Object Controlling

- Product Cost by Sales Order [Extern]
- Sales Order Costing [Extern]
- Revenue Planning [Extern]
- Updating the Planned Costs [Extern]

SD Sales and Distribution

- Conditions and Pricing [Extern]

Profitability Analysis (CO-PA)

Use

You can transfer the costing results (cost component split [Seite 824]) into the *Profitability Analysis (CO-PA)* module.

You can use the cost components [Seite 462] from the cost estimate in Profitability Analysis for profit planning and to valuate the plan/actual data of billing documents. In this way, Profitability Analysis enables you to obtain detailed information on the origin of your costs, and to analyze your contribution margins.

If you carry out profitability analysis and costing in separate systems, you can distribute [Seite 82] the costing results to Profitability Analysis by using ALE.

Prerequisites

You make the necessary settings to transfer data from costing into Profitability Analysis in Customizing for *Profitability Analysis*.

You can transfer the cost of goods sold to Profitability Analysis when you do the following:

- Assign the cost components [Seite 462] containing the cost of goods manufactured and the sales and administration costs to the value fields of an operating concern and link these values to the *Sales volume* quantity field
- Define a selection strategy which points to the appropriate costing variant and costing date
- Link the selection strategy with the materials or material types to be valuated

To calculate the **planned costs of the products** using **material costing**, you assign in Customizing the cost components to the value fields of an operating concern (such as the stock value, sales overhead, and administrative overhead) and connect these values to the quantity field *sales quantity*.

To calculate the **actual costs of the products** using **variance calculation**, you must do the following:

- Assign the cost components to the value fields of an operating concern
- Define a PA settlement structure that links the variance categories with the value fields of the operating concern

Features

Profit Planning

For profit planning, you can calculate the planned costs of the products to be sold either using the price in the material master record (the standard price or the moving average price) or with material costing. For further information, see the following:

- Profitability Analysis [Extern]
- Valuation [Extern] and Valuation Using Material Costing [Extern]

Calculation of Variances

In Product Cost by Order or Period, you can calculate variances by comparing the results of the standard cost estimate [Seite 63] with the actual costs for the production order or run schedule

header. Variance calculation assigns each variance to a variance category (such as price variance, resource-usage variance, or quantity variance). You can settle these variances to Profitability Analysis to valuate the quantity sold with the actual costs (that is, planned costs according to standard cost estimate plus variances.

For more information, see Variance Calculation [Extern] and Variance Categories [Extern].

Contribution Margin Accounting

You can valuate the quantity sold in the period concerned with the results of the material cost estimate to calculate the contribution margin for each product.

The quantities sold in the accounting period can be valuated with the costs calculated by the cost estimate to determine the cost of sales for each product. The cost of sales is compared with the sales revenues to determine the contribution margin for each product.

Profitability Analysis accesses quantity fields and value fields. Here, the quantity field contains the sales volume. The value fields contain values from the cost estimate (such as the cost of goods manufactured, sales and administration costs) and values from the sales system (billing documents).

Contribution margins can be calculated based on the following costs:

- Marginal costs (as per standard cost estimate)

  Marginal costs are cost components that are flagged as variable costs via the cost component structure.

- Full costs (as per standard cost estimate)

  Full costs are the fixed costs plus the variable costs.

- Full costs + production variances

  Production variances are calculated in Product Cost by Order or Period and are settled to Profitability Analysis.

For short-term profit/loss cost accounting, you have various analytical options. These include analyzing contribution margins, sales figures, and operating profits by product group, division, sales quantity and market segment, and profit center.

Activities

1. Define an operating concern.

   Here you specify the level at which profitability analysis is carried out. You can assign one or more controlling areas to an operating concern. More than one company code can be assigned to a controlling area.

2. You define which characteristics and value fields may be used in this operating concern.

   Examples of characteristics are customers, materials, material types, and divisions.

3. Examples of value fields are stock value, sales overhead, administrative overhead, price variances, and quantity variances. These value fields are filled with information at different times.

If you transfer a billing document into Profitability Analysis, the sales volume is valuated with the results of the specified cost estimate.

If you settle a production order to stock, the variances are settled to Profitability Analysis in accordance with the PA settlement structure.

4. Define a valuation strategy.

   Here you determine that the sales volume is valuated via the cost estimate.

5. Define a costing key.

   Here you create a key for selecting cost estimates. You link this key to the following parameters:

   a. Costing variant
   b. Costing version (if applicable)
   c. Indicator for additive cost estimate (if applicable)
   d. Time base

      You can enter either the costing date (such as 1/1/1996), the period and the fiscal year of costing (such as 001/1996), or you can enter a period indicator (such as current standard cost estimate, previous standard cost estimate, or future standard cost estimate).

6. Assign this costing key to a material or material type.

   In this step, you assign the key for the cost estimate to the material type or the material, and specify the following:

   a. The date on which valuation is to be carried out
   b. Which operation is to be valuated (in this case, the billing document)
   c. Which plan version is to be used
   d. The date until which the assignment is to be valid

7. You assign the costing elements of the cost estimate to the value fields to be valuated in Profitability Analysis.

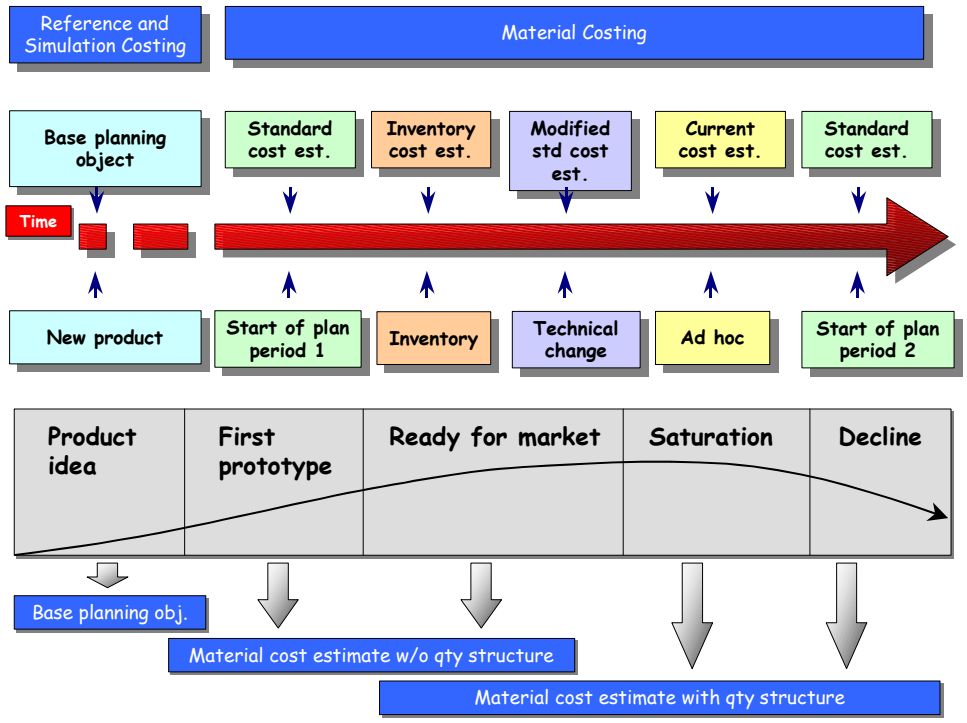
   In this step, you assign the cost components of a cost component structure to the value fields of an operating concern. You can assign more than one cost component to a value field. However, you **cannot** assign a cost component to more than one value field.

   You also specify whether the values are fixed costs, variable costs or full costs.

Costing Sequence

Use

The following graphic shows you the types of cost estimate you can create, the stage of the production cycle at which you can create them, and the functions that you can use for this purpose:



If you are planning a new product for which there is no master data in the R/3 System, you can carry out the initial planning and cost projections by creating a **base planning object**. For more information, see Reference and Simulation Costing [Seite 659].

When the first master data (such as the material master) is created in the R/3 System at a later date, you can use the **material cost estimate without quantity structure** to manually plan the cost of goods manufactured and cost of goods sold for the product, and use the base object cost estimate as a reference for this. For more information, see Material Cost Estimate Without Quantity Structure [Seite 449].

When the complete master data (such as BOMs and routings) is available in the system, you can create a **material cost estimate with quantity structure**, which automatically calculates the cost of goods manufactured and cost of goods sold from the existing data. For more information, see Material Cost Estimate with Quantity Structure [Seite 92].

Features

You can create cost estimates at different times and for different purposes during the course of the fiscal year:

- At the beginning of the fiscal year or new season

Costing Sequence

- To plan and simulate costs for new products or services (base object costing)
- To calculate prices for valuating the materials to be produced (standard cost estimate, inventory cost estimate)

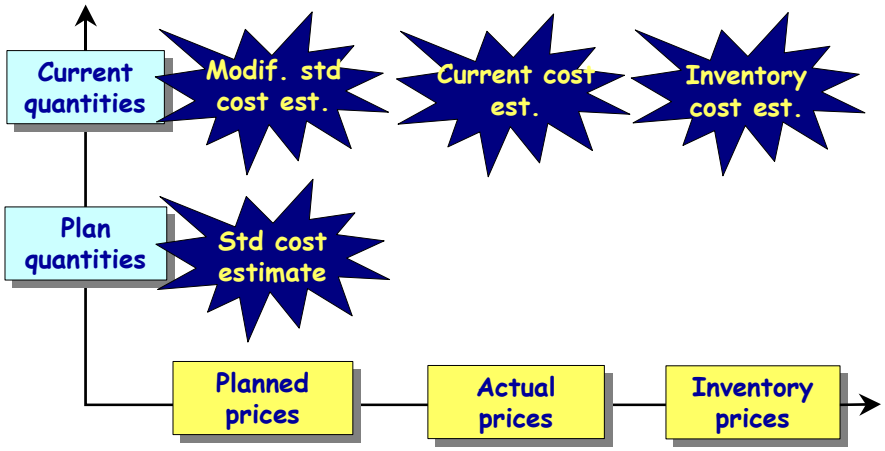
- During the fiscal year
  - To provide information on how the costs are changing (current cost estimate)
  - To take into account technical changes and their effects on the costs (modified standard cost estimate)
- Before the balance sheet is prepared
  - To determine the valuation methods for the tax-based and commercial valuation of the materials in stock (inventory cost estimate)

The following table gives you an overview of the purpose of the various cost estimates:

Type of Cost Estimate	Purpose of Cost Estimate
Base planning object [Seite 702]	• Planning and simulation of new products and services • *What-if* analyses
Standard cost estimate [Seite 63]	• Valuation of the planned quantity structure with planned prices • Calculation of the standard prices for the valuation of S-price materials
Modified standard cost estimate [Seite 68]	• Valuation of current quantities with the planned prices • Costing of materials during the fiscal year in order to analyze cost developments
Current cost estimate [Seite 70]	• Valuation of current quantities with the current prices • Costing of materials during the fiscal year in order to analyze cost developments
Inventory cost estimate [Seite 65]	• Valuation of actual quantities with tax-based and commercial prices • Establishment of valuation approaches for inventory valuation

The following graphic summarizes the quantity structures and prices used in costing in addition to the purpose of the respective cost estimates:

Costing Sequence



You use **costing variants** to specify the purpose of costing and the quantities and prices used. The costing variant is the central control key of a cost estimate. Using the various settings in the costing variant, you can specify the quantity structure to be valuated and the prices to be utilized. In essence, you are stating whether the cost estimate is a standard, modified standard, inventory or current cost estimate. For more information, see Preparing for Costing: Customizing [Seite 72].

Base Planning Objects

Use

You can use base planning objects for the following purposes:

- At the beginning of the planning phase
- When you are at the draft stage of planning new products and services
- When there is no master data in the R/3 System (material master, BOM, routing, master recipe)
- When you want to change existing material cost estimates

Integration

You can also access existing data in the R/3 System when you are creating base planning objects. This data includes materials and material cost estimates, internal activities, services, cost centers, cost elements and activity types, work centers, and other base planning objects.

See also:

- Reference and Simulation Costing [Seite 659]
- Creating Base Planning Objects [Seite 668]
- Unit Costing [Seite 683]

Standard Cost Estimates

Use

You usually create a standard cost estimate for a material at the beginning of a fiscal year or a new season. The standard cost estimate is then valid for the entire year or season. You can use it to determine a standard price for materials in this period.

You should not change the standard cost estimate during this period. The results of the cost estimate then remain constant and are not influenced by price fluctuations or changes in the production setup during the course of the planning period.

You valuate the planned quantity structure of a standard cost estimate with standard prices. A standard cost estimate for a material is not linked to an order or to a production version.

Prerequisites

You create a cost estimate based on a costing variant. For standard cost estimates, the costing variant contains the following settings:

- The costing type specifies that the costing results can be updated as the standard price in the material master.
- The valuation variant specifies that the materials are valuated with standard prices or planned prices.

For more information, see Preparing for Costing: Customizing [Seite 72].

For standard cost estimates for materials involving **repetitive manufacturing**, you must do the following in the MRP view of the material master:

- Set the *Repetitive mfg* indicator
- Enter a *repetitive manufacturing profile*

Features

The standard cost estimate calculates a standard price for materials with "S" price control:

- If you mark the standard cost estimate [Seite 639], the system writes the results of the cost estimate into the costing view of the material master record as the future standard price. You can use this price to valuate a material component in the cost estimate.
- If you release the standard cost estimate [Seite 645], the system transfers the result of the standard cost estimate into the material master record of the material as the standard price. This price is then active for **Financial Accounting** and is used for valuation of the material until the next time a standard cost estimate is released.
- From this period on, all transactions involving products produced in-house are valuated in the Logistics module using the standard price (that is, the results of the standard cost estimate). If a material with standard price control is delivered to stock, for example, inventories of this material are valuated with the standard price as determined by the standard cost estimate. This provisional valuation can be corrected at a later date following the settlement of the actual costs that occurred in the period.

Valuation using standard prices calculated in the standard cost estimate applies **only** to materials with "S" price control.

You can also use the results of the standard cost estimate to determine the following data for each production order or run schedule header (make-to-stock production) at the end of the accounting period:

- **Variances** for the actual costs of a product
- Prices for confirmed **scrap quantities**
- Target costs for valuating the **work in process** based on the confirmed quantities

See also:

For more information about using the costing results [Seite 451], see the following documents:

- Purpose of Product Cost Planning [Seite 23]
- Price Update [Seite 634]

For more information about executing a cost estimate, see Cost Estimate with Quantity Structure: Process Flow [Seite 120].

For more information about standard cost estimates in connection with valuated sales order stock, see *CO Cost Object Controlling (CO-PC-OBJ)* in the R/3 Library under the following documents:

- Valuated Sales Order Stock: Valuation [Extern]
- Standard Price Calculation with a Valuated Sales Order Stock [Extern]

For more information about calculating material prices when using the *Actual Costing/Material Ledger* component, see the R/3 Library under *Actual Costing/Material Ledger (CO-PC-ACT)* in the documents

- Actual Costing/Material Ledger [Extern]
- Standard Price Versus Moving Average Price [Extern]
- Price Control and Material Price Determination [Extern]
- Integration of Actual Costing/Material Ledger [Extern]

For more information about using standard prices for material valuation, see the R/3 Library under *MM Material Valuation* in the following documents:

- Price Control [Extern]
- Value Calculation with Standard Price: Example [Extern]

Inventory Cost Estimates

Use

You can use the inventory cost estimate to create valuation bases for the tax-based and commercial inventory valuation of products. You can carry out inventory costing shortly before the balance sheet is prepared, in order to determine a valuation price for the materials for the tax balance sheet and the commercial balance sheet.

The inventory cost estimate valuates the current quantity structure with the tax-based and commercial inventory prices.

You can transfer the results of the inventory cost estimate into the accounting view of the material master record as the commercial price or tax-based price. For more information, see Price Update [Seite 634] and Tax-Based and Commercial Prices [Seite 650].

Prerequisites

You create a cost estimate based on a costing variant. For inventory cost estimates, you must have made the following settings in the costing variant:

- You have specified in the costing type that the results of the cost estimate can be updated as the *tax-based* or *commercial price* or as *other planned price* in the material master.
- You have specified in the valuation variant that the valuation of the
  - materials is carried out with a tax-based or commercial price.
  - internal activities are carried out with conservative prices
- In the valuation variant, factors relevant to costing have been defined.

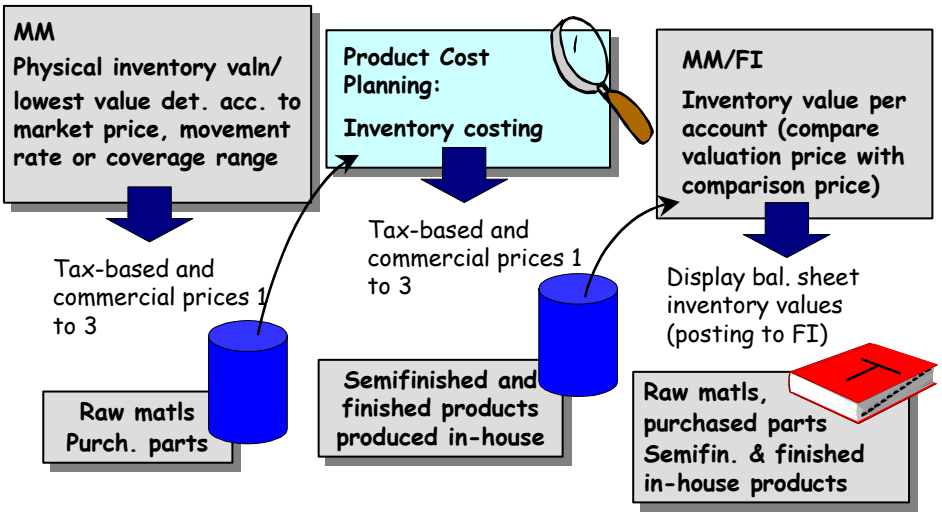
For detailed information about these and other settings see Updating Tax-Based and Commercial Prices [Seite 650].

Features

The inventories of externally procured materials (raw materials, purchased parts) and in-house products must be displayed in the year-end closing balance sheet in accordance with commercial law and tax law. The law requires that the inventory is displayed according to the lowest value principle. This means that from the various valuation methods (delivered prices or cost of goods manufactured, stock exchange or market prices, valuation price on the key date) you must use the lowest value. This ensures that with price fluctuations, book profits (for example where market prices are rising) are not displayed, but reserves for imminent loss (for example where prices are falling) are included.

The following graphic illustrates the role played by inventory costing in determining tax-based and commercial prices:

Inventory Cost Estimates



Step 1: Lowest Value Determination for Raw Materials and Purchased Parts

First, the determination of lowest value is made in MM for raw materials and purchased parts. Material stocks are devalued at year-end closing according to the lowest value principle. This method valuates the existing stocks as conservatively as possible using the recognition-of-loss principle. The results are transferred to the material master as commercial or tax-based prices.

A valuation price can be calculated in the following ways in *Materials Management (MM)*:

- According to current market prices

  If the current market price is higher than the procurement price, a profit is expected. However, this profit can only be reflected in the balance sheet if it is actually realized. The material continues to be valuated with the procurement price.

  If the current market price is lower than the procurement price, the planned loss must go into the balance sheet. The material is valuated with the market price.

- According to movement rate or range of coverage

  Materials can also be checked for movement rate and range of coverage by the R/3 System. If the movement rate is low or the range of coverage is high, the value of the material is adjusted because it is assumed that the material is no longer needed in the future.

You can find additional information under *MM Material Valuation* in the documents Material valuation [Extern], Determination of lowest value [Extern] and Lowest value principle [Extern].

Step 2:

Inventory Costing for Semi-Finished and Finished Products and Transferring the Results to the Material Master

The inventories of raw materials and material components are valuated according to the lowest value principle, meaning the materials (such as raw materials, purchased parts) are devalued in *MM* and corresponding prices planned or determined. Based on this, the semi-finished and finished products can then be costed using inventory costing for balance sheet valuation in accordance with commercial law and tax law.

You can transfer the results of inventory cost estimates as commercial or tax-based prices 1 to 3 in the material master.

For further information, see the following:

- Price Update [Seite 634]
- Tax-Based and Commercial Prices [Seite 650]
- Updating Other Prices [Seite 657]

Reference Variant and Transfer Control

You can use an existing cost estimate (such as the standard cost estimate) as a reference for inventory costing. To do this, you define a reference variant in the costing variant. There you can specify via the transfer control which existing cost estimate is to be used as a reference, and which costing items are to be revaluated or transferred. The system accesses the quantity structure of the standard cost estimate, without having to determine it again.

The main reason for using inventory costing is to valuate the material inventories; the valuation of internal activities does not differ from the standard cost estimate. Therefore, you can specify in the reference variant that only the material items and material overhead are to be recalculated, but not the internal activities and subcontracting items.

For further information, see the following:

- Cost Estimate with Quantity Structure: Process Flow [Seite 120]
- Reference Costing [Seite 629]

Step 3: Determination of the Inventory Value for the Financial Statements

Finally, you can execute the function *Lowest value per account* in the *MM Valuation* menu. The system determines for each G/L account the difference between the inventory value as per price control and a comparison value (such as tax-based price 1, 2 or 3). The comparison value can have been calculated by the lowest value determination in accordance with market prices (such as raw materials and purchased parts) or by inventory costing (such as materials produced in-house).

For more information about inventories, see *MM-Inventory Management* in the documents Physical Inventory [Extern] and Physical Inventory Process [Extern].

Activities

See also:

- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating the Cost Estimate Without Quantity Structure [Seite 480]

Modified Standard Cost Estimates

Use

You can use the modified standard cost estimate to calculate the cost of goods manufactured of a material in the course of the fiscal year, and to ascertain changes to the standard cost estimate (“revised standard”). You can transfer the results of a modified standard cost estimate to the material master as the planned price.

The modified standard cost estimate valuates the current quantity structure with the standard price.

You can also use the modified standard cost estimate in **Cost Object Controlling** as follows:

- For the calculation of production variances by period in Product Cost by Order and Product Cost by Period

  The target costs are calculated using the modified standard cost estimate and the yield, and are compared with the actual costs less any work in process and scrap.

  In both cases, you can use target cost version 3 that is supplied with the standard system. When you use target cost version 3, the calculation of target costs is based on the modified standard cost estimate.

- In Product Cost by Period
  - When you use a cost object hierarchy to distribute the actual costs
  - To valuate work in process

Prerequisites

You create a cost estimate based on a costing variant. For modified standard cost estimates, you must have made the following settings in the costing variant:

- To ensure that the current quantity structure is valuated with the planned prices, you must have specified in the valuation variant that the materials are valuated with standard prices or that the same prices as in the standard cost estimate [Seite 63] are used.
- If you want to transfer the results of the modified standard cost estimate to the material master, you must have specified in the costing type that the costing results can be transferred as "other planned prices" to the material master.

For more information, see Preparing for Costing: Customizing [Seite 72] and Update of Other Planned Prices [Seite 655].

Features

You can create a modified standard cost estimate if the basic costing data have changed for technical reasons (for example, changes to the BOM) during the planning period. In the modified standard cost estimate, the current quantity structure is valuated with the same prices as in the standard cost estimate.

You can compare the results of the modified standard cost estimate with the results of the standard cost estimate in the information system to see how changes in production affect the costs.

You can use the modified standard cost estimate for short-term planning instead of the standard cost estimate. However, the standard cost estimate [Seite 63] remains the basis for cost-revenue control and for the calculation of total variances.

You can transfer the results of the modified standard cost estimate into the material master record as the planned price (*planned price 1, 2*, and *3*). This planned price can also be used to valuate the material in the cost estimate. For more information about this, see Price Update [Seite 634].

See also:

- Product Cost by Order [Extern]
- Product Cost by Period [Extern]

Current Cost Estimates

Use

You can use the current cost estimate to calculate the cost of goods manufactured of a material in the course of the fiscal year, and to provide up-to-date information as to whether the current material costs are acceptable. You can transfer the results of a current cost estimate as "other planned prices" to the material master.

The current cost estimate valuates the current quantity structure with the current valid prices.

Prerequisites

You create a cost estimate based on a costing variant. For current cost estimates, you must have made the following settings in the costing variant:

- The valuation variant must specify that the current prices will be used for valuation purposes.
- If the costing results are to be transferred to the material master, the costing type must specify that the costing results can be transferred as other planned prices.

For more information, see Preparing for Costing: Customizing [Seite 72] and Update of Other Planned Prices [Seite 655].

Features

You can create a current cost estimate in certain decision-making cases, such as in situations where you must decide between producing in-house or procuring externally.

In the **Information System** of **Product Cost Controlling**, you can compare the results of the current cost estimate with those of other cost estimates (such as the modified standard cost estimate) to determine the effects of price changes on the costs.

In **Cost Object Controlling**, you can do the following:

- In Product Cost by Period, you can valuate **work in process** with target costs calculated using a current cost estimate, provided that you use the corresponding valuation variant for work in process and scrap.
- In Product Cost by Period and Product Cost by Order, you can valuate **scrap** with target costs calculated using a current cost estimate, provided that you use the corresponding valuation variant for work in process and scrap.
- You can calculate **variances** before period-end closing by defining a target cost version to be used for target cost calculation based on a current cost estimate.

You can transfer the results of the current cost estimate into the **material master record** as a planned price (*planned price 1, 2*, and *3*). This planned price can be used to valuate the material in the cost estimate. For more information, see Price Update [Seite 634].

See also:

Cost Object Controlling:

- Product Cost by Period [Extern]
- Product Cost by Order [Extern]
- Work in Process [Extern]

- Scrap Variances [Extern]
- Variance Calculation [Extern]

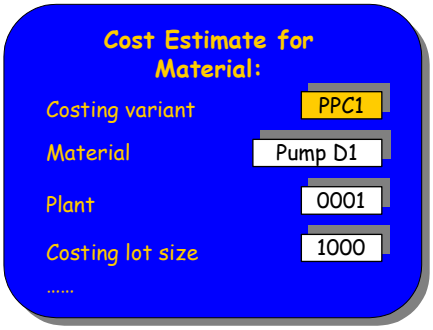
Information System Product Cost Controlling:

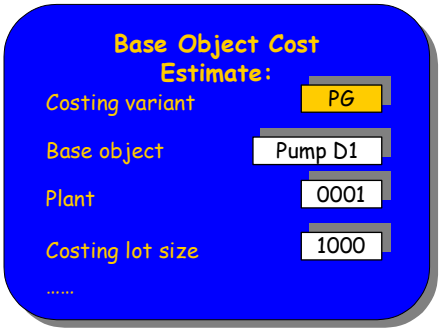
- Reports in Product Cost Planning [Seite 790]

Preparing for Costing: Customizing

Use

Every cost estimate you create is based on a **costing variant**:

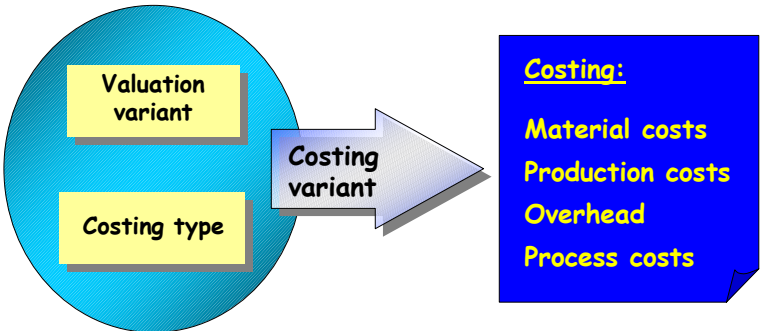




In the costing variant, you combine various control parameters and settings for costing. These settings contain information such as the prices that the system will use to cost materials, activities and business processes.

The control parameters contained in the costing variant and the settings you have to make are dependent on whether you are creating a material cost estimate or a base object cost estimate.

Each costing variant contains a valuation variant and a costing type.



A costing variant for material cost estimates contains important control parameters for the automatic determination of the quantity structure and for the update of the prices in the material master.

For more information as well as Customizing overviews, see:

- Preparing for Material Costing [Seite 73]
- Preparing for Base Object Costing [Seite 76]

See also:

Material Cost Estimate with Quantity Structure [Seite 92]

Material Cost Estimate Without Quantity Structure [Seite 449]

Reference and Simulation Costing [Seite 659]

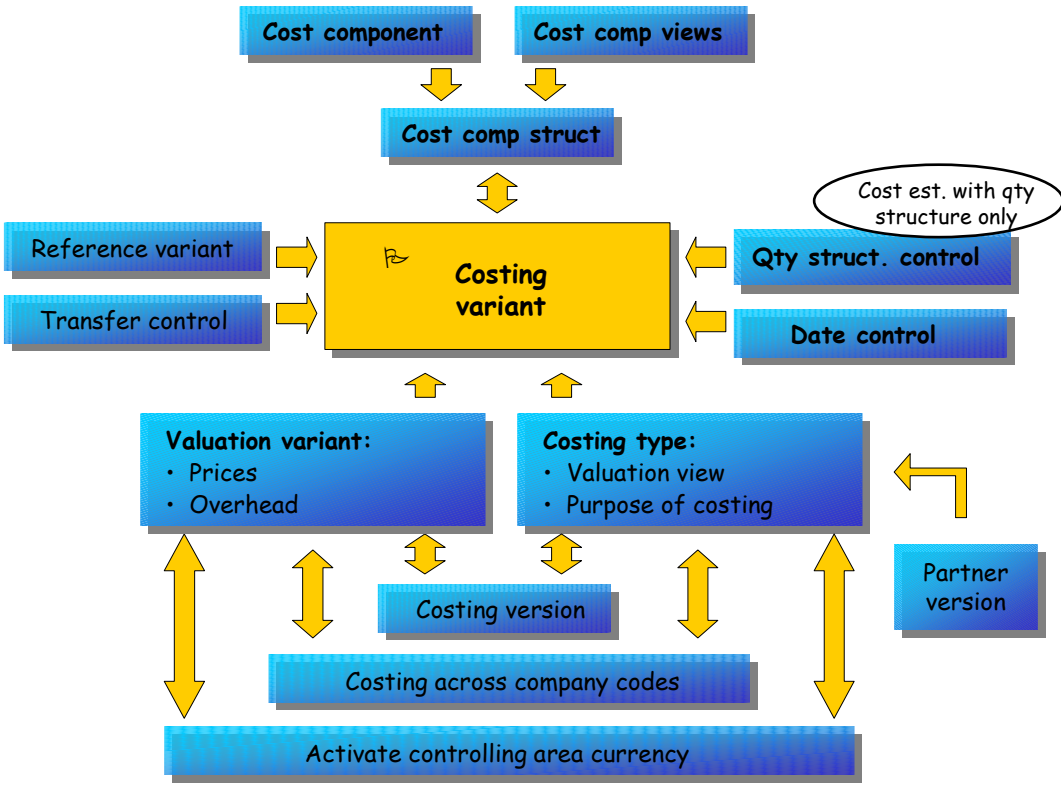
Preparing for Material Costing

Use

When you create a material cost estimate, it is always linked to a costing variant. This costing variant contains all the information needed to execute a material cost estimate. You define and check costing variants in Customizing for *Product Cost Planning*.

Features

The following graphic gives you an overview of Customizing for **material costing**.



You enter the following in the costing variant:

- **Costing type**
  - Definition of the valuation view [Seite 621] to be costed
  - Establishment of the purpose of costing [Seite 59] and price update [Seite 634]
  - Entry of partner version to generate a partner cost component split [Seite 812]
- Valuation variant [Seite 203]
  - Determination of prices [Seite 203] with which the materials, activity types, processes, subcontracting and external activities are valuated

  - Costing sheet [Seite 744] (overhead [Seite 569], overhead key [Seite 746], template [Seite 751])
  - Price factors for inventory costing [Seite 65]

- Date control [Seite 567]

  Control of the validity of the cost estimate, quantity structure date and valuation date

- Quantity structure control [Seite 179] (applies only to material costing with quantity structure)

  Determination of master data from Logistics (BOM and routing/master recipe)

- Transfer control [Seite 607]

  Control of transfer of existing cost estimates

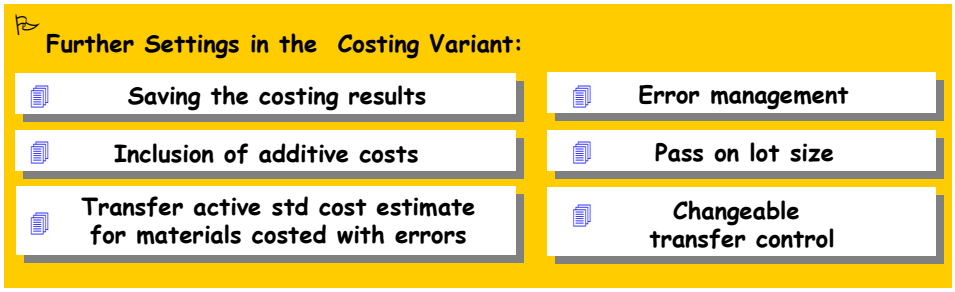
- Reference variant [Seite 629]

  Control of transfer of an existing quantity structure that has already been costed

The cost estimate also receives the following information from the costing variant or costing type/valuation variant:

- Cost component structure [Seite 460]
- Activation of cross-company costing [Seite 618]
- Activation of cost component split in controlling area currency [Seite 633]

You make further settings for material costing in the costing variant, as illustrated below:



You can specify the following:

- Whether the costing results can be saved
- Whether system messages can be collected in a log and saved
- Whether additive costs can be included in a material cost estimate
- Which lot size is to be used by the system for costing
- Whether the current standard cost estimate should be used for materials costed with errors
- Whether the transfer control can be altered when executing a cost estimate

Activities

You define the costing variants and the various control keys in Customizing for *Product Cost Controlling*.

To check the Customizing settings for a costing variant for material costing, choose *Accounting → Controlling → Product Cost Planning → Tools → Material Costing → Check costing variant.*

See also:

For more information about the relevant Customizing settings, see the following:

- *Implementation Guide (IMG)* for *Product Cost Controlling*
- The SAP Library under the following:

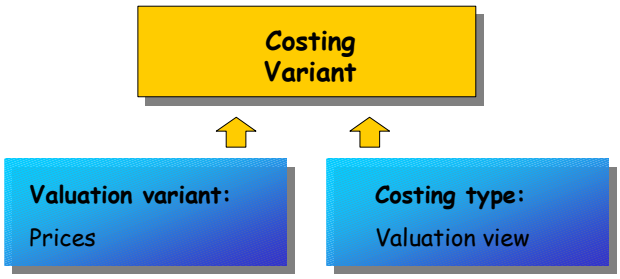
Subject	***Document***
Cost Component	• Cost Component Split [Seite 824] • Cost Component Split for COGM [Seite 455] and Primary Cost Component Split [Seite 457] • Transfer Structure for the Primary Cost Component Split [Seite 459] • Cost Components [Seite 462] and Cost Component Structures [Seite 460] • Cost Component View in Material Costing [Seite 465]
Valuation Variant	• Valuation of the Quantity Structure [Seite 203] • Overhead Application [Seite 741] and Process Costs [Seite 748]
Costing Type	• Costing Sequence [Seite 59] and Price Update [Seite 634]
Transfer Control	• Use of Existing Costing Data [Seite 607]
Date Control	• Date Control [Seite 567]
Quantity Structure Control	• Quantity Structure Determination [Seite 179]
Saving Costing Data	• Saving Material Cost Estimates [Seite 600] • Logs in Material Costing [Seite 589]
Reference Variants	• Reference Costing [Seite 629]
Partner Versions	• Partner Cost Component Splits [Seite 812]
Costing Versions	• Costing Versions [Seite 619]
Valuation Views	• Group Costing [Seite 621]

Preparing for Base Object Costing

Use

When you create a base planning object, it is always linked to a costing variant. This costing variant contains all the information needed to cost the object. You define and check costing variants in Customizing for *Product Cost Planning*.

The following graphic gives you an overview of Customizing for **Reference and Simulation Costing**:



In the costing variant for Reference and Simulation Costing, you enter a valuation variant and a costing type.

- In the costing type, you specify which valuation view you require to be costed.
- In the valuation variant, you specify the following:
  - The prices with which the materials are to be valuated
  - The prices with which the internal activities, business processes and external activities are to be valuated
  - Which price is to be used for subcontracting

You also define in the costing variant whether a cost element is required for each costing item.

See also:

For more information about the relevant settings in Customizing, see the *Implementation Guide (IMG) for Product Cost Controlling*.

Business Framework Architecture: ALE and BAPIs

Use

Application Link Enabling (ALE) allows business data (and thus costing data) to be distributed between multiple, loosely-linked R/3 systems. It also connects R/2 systems to external systems, and distributes data between different Releases.

Features

ALE aims to decentralize business applications while maintaining data consistency. The reasons for this decentralization can include the following:

- The globalization of markets, and the separation of organizational units
- Increase in the performance capacity of an R/3 system
- Business processes that are not restricted to a single company and which include customers and vendors

ALE consists of a controlled exchange of messages between distributed applications. To set up a distribution of business processes and functions with ALE, you must create a **logical distribution model** for the entire system. The distribution model describes the ALE message flow between logical systems. It contains the relationships between logical systems, message types, BAPIs, and filters. In the model, you determine which applications run on which systems, and which messages exchange applications with each other. You specify the following:

- Which applications run on which systems
- Which master data and transaction data should be exchanged
- Which control data should be made known to the distributed systems

In the distribution model, you specify which messages should be sent to which logical system. In addition, filters enable you to define conditions for the content and sending of messages.

The **Idoc** (intermediate document) is the basis for the exchange of data. An Idoc is a container for the exchange of data between R/3, R/2 and/or external systems. Whereas ALE uses Idocs to communicate data between logical systems, external systems can use them as standard interfaces for data transfer.

Business data, functions and processes can be distributed in two different ways, depending on the type of message sent:

- Distribution by message type
- Distribution via **BAPIs**

There are also tools available in ALE for the monitoring and setting of ALE functions.

- The ALE audit enables the sending R/3 system to monitor the processing status of the Idoc sent to the receiving system. The receiving system sends completion confirmations to the sending system.
- You can optimize the system performance of ALE processing by controlling the periodic flow, processing Idocs in parallel, and by package processing.
- ALE serialization functions control the sequence of processing the IDocs.

Business Framework Architecture: ALE and BAPIs

See also:

- ALE Integration Technology [Extern]
- Modeling Distribution [Extern]
- Setting Up the Communication [Extern]
- Technical Requirements [Extern] and Administration [Extern]
- BAPIs in Product Cost Planning [Seite 90]

ALE/Distribution in Product Cost Planning

Use

You can use the ALE functions in **Product Cost Planning** to distribute the cost component split as follows:

- To Profitability Analysis and to Sales and Distribution, if they are operated in separate systems (Distribution to Profitability Analysis and Sales and Distribution [Seite 82])
- In group costing, to supply information about the product costs of separate production planning systems to a central cost accounting system (Group Costing in Distributed Systems [Seite 86])
- To transfer the costing results to other systems, for further costing to be carried out (Further Costing in Other Systems [Seite 84])

Prerequisites

To set up a distribution of business processes and functions with ALE, you must create a **logical distribution model** for the entire system. In the model, you determine which applications run on which systems, and which messages exchange applications with each other. The distribution model thus describes the ALE message flow between logical systems. You specify which master data and transaction data is to be exchanged, and which control data should be recognized by the distributed systems. You also determine in the distribution model the systems to which costing data should be sent.

For further information about the procedure for preparing and creating the models for distribution, see the SAP Library under ALE - Introduction and Overview [Extern] and in the Implementation Guide under *Cross-Application Components* → *Distribution (ALE)*.

You must maintain the corresponding **master data and control data** in Customizing for ALE [Seite 89]. Customizing of the sending system must be available in the target system.

- There is a model plant.

  The plant in the sending system to which the cost component split should be distributed exists in the target system as the model plant (or also as the shadow plant). The cost component split is distributed to this plant in the target system.

- The costing variant is available with all Customizing parameters.
- Customizing of the cost component structures used was distributed to a Customizing master system.

The material masters must exist in the target system, with accounting and costing views. For more information, see the following sections in the SAP Library:

- Distribution of Master Data [Extern]
- Example of Master Data Distribution [Extern]

Features

The costing data can be distributed to particular systems or to all the logical systems that are specified in the distribution model as recipients of costing data. If you do not make any entries for

the target system, the data is distributed to all the systems specified in the distribution model as recipients of costing data.

You can access these functions by choosing *Accounting → Controlling → Product Cost Planning → Tools → Material Costing → Distribution → Cost Component Split.*

You can select the **costing data to be distributed** using the material number, class (of a group of materials), plant, costing variant, costing version, costing status and validity of the cost estimate. The selected data is picked out by the system, and transferred in IDocs.

You can choose whether

- additive cost estimates
- automatic (i.e. non-manual) cost estimates (that is, cost estimates without quantity structure)
- current standard cost estimates

should be transferred. If you do not make any entries, no cost estimates will be distributed.

In the sending system, released standard cost estimates are not automatically released in the receiving system. Marking standard is *allowed*. For more information, see Updating Standard Prices [Seite 636].

To work with **classes**, assign the materials in question to a class. Choose *Logistics → Central functions → Classification → Allocation → Maintain → Objects to class.*

You can also use the following ALE functions:

- Filters:

  Filters are conditions that must be met by message types and BAPIs so that they can be distributed via ALE. Here, you can specify that only materials shall be sent that have been assigned to a particular class as defined in Customizing. The materials in the class can be maintained as above.

- Reference:

  You can specify that, in addition to the filter objects of message type COPCPA, filter objects from a message type of the material (such as MATMAS) can be sent to the application. In other words, only those material cost estimates can be distributed for which the material can also be sent.

You activate both functions in the distribution model in Customizing. For the filter function, you also assign the corresponding class to a logical system.

See also:

- ALE Integration Technology [Extern]
- ALE and the R/3 Procedure Model [Extern]
- Technical Requirements for ALE Business Processes [Extern]
- Distribution of Control Data [Extern]
- Distribution of Master Data [Extern]
- Message Exchange [Extern]
- Modeling Distribution [Extern]

- Distribution Model [Extern]
- IDocs [Extern]
- Classes [Extern]
- Filters [Extern]

Distribution to Profitability Analysis and Sales and Distribution

Use

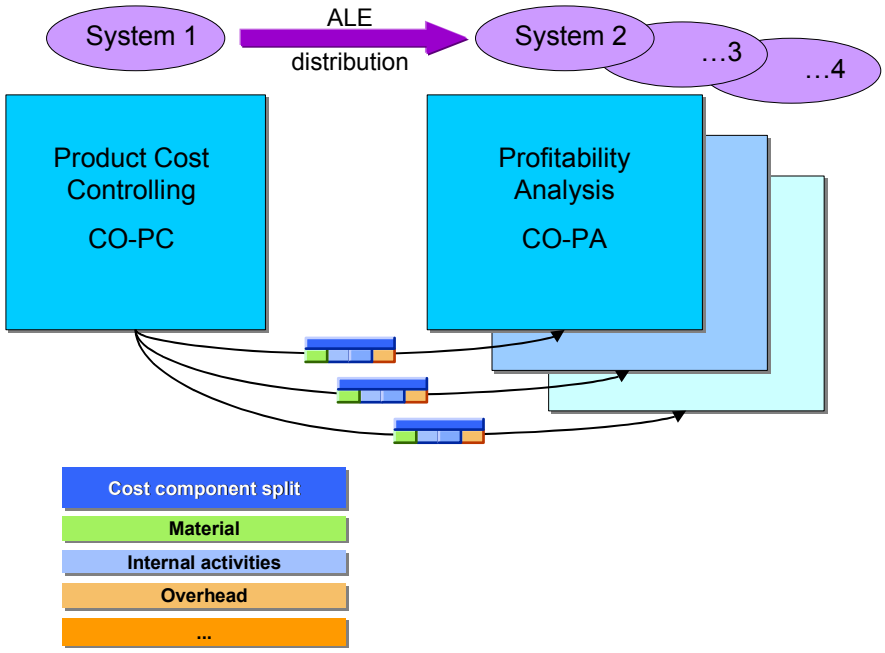
If you carry out Profitability Analysis based on costing data from another R/3 system, the data must be exchanged between both systems. The costing results can then be analyzed in the form of a cost component split in Profitability Analysis.

If costing data from another R/3 system is to be accessed by Sales and Distribution, the data must be exchanged between both systems. The costing results can then be used in Sales and Distribution.

Features

Data Flow:

Distribution of the Cost Component Split to Profitability Analysis and Sales and Distribution (I)



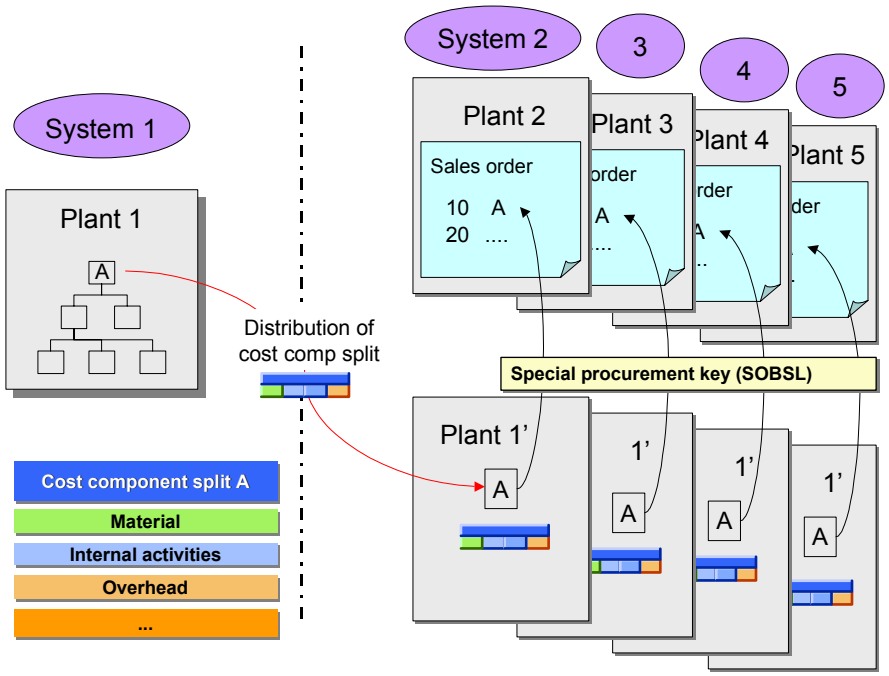
The results of a cost estimate (the cost component split) can be distributed to a particular system or to all the logical systems that are defined in the **customer model** to receive the costing data.

You distribute the cost component split by choosing *Accounting → Controlling → Product Cost Planning → Tools → Material Costing → Distribution → Cost Component Split.*

The system transfers the data into IDocs. If you do not enter a target system, the cost estimates selected for distribution are sent to all the receivers defined in the distribution model.

Data Flow:

Distribution of the Cost Component Split to Profitability Analysis and Sales and Distribution (II)



Material A is costed in **Plant 1** (System 1). The cost component split for Material A is distributed by ALE to System 2 (mirror plant 1') and to other systems, if applicable. The cost component split can now be used in System 2 by Profitability Analysis and Sales and Distribution for analysis or for price determination when billing documents are created. In the receiving system, the material must be recosted, in which the cost component split of Material A in plant 1' is accessed by special procurement keys.

See also:

You can find further information about the analysis and further use of standard cost estimates in Profitability Analysis and Sales and Distribution in the R/3 Library under the following:

Components for Profitability Accounting [Extern]

- Valuation [Extern]
- Valuation using Material Costing [Extern]

Sales and Distribution: Pricing and Conditions [Extern]

Further Costing in Other Systems

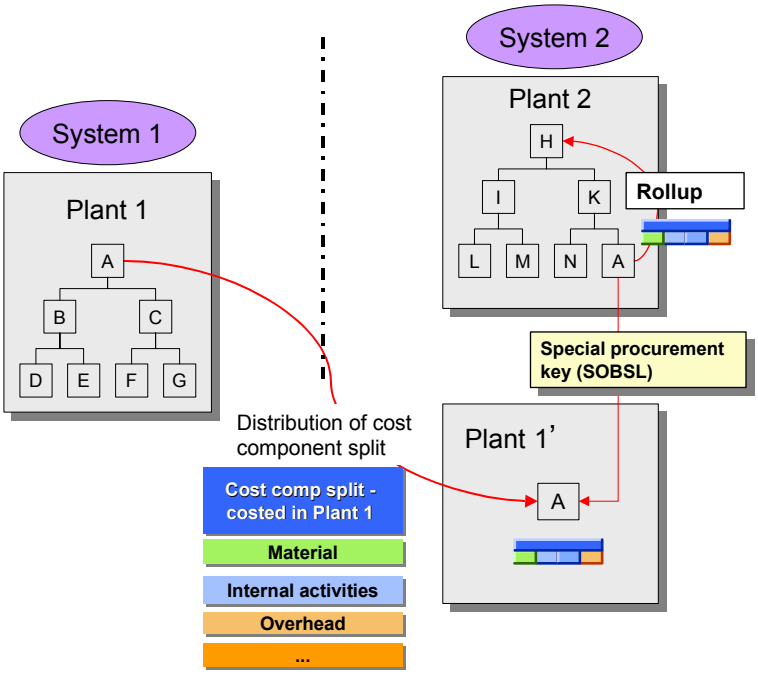
Use

You can use the ALE functions in Product Cost Planning to transfer the costing results into other systems for further costing purposes.

The results of a cost estimate (cost component split) can be distributed to a particular system or to all the logical systems that are required in the customer model to receive the costing data.

Features

Data Flow: Further Costing in Other Systems



Material A is costed in **Plant 1** (System 1). The cost component split for Material A is distributed by ALE from System 1 to System 2, and is used for further costing for Material E. There is a mirror plant **1'** in System 2 for this.

When you cost Material E in Plant 2 (System 2), you can access the cost component split of Material A in plant 1' by special procurement key [Seite 443]. This enables you to rollup [Seite 467] the costs for Material A.

You distribute the cost component split by choosing *Accounting* → *Controlling* → *Product Cost Planning* → *Tools* → *Material Costing* → *Distribution* → *Cost Component Split.* You can use the selection criteria, such as material number, class, plant, and costing variant, to define which cost estimates should be distributed to which system.

The system enters the data in Idocs and transfers it to the target system specified. If you do not enter a target system, the selected cost estimates are sent to all the defined receivers in the distribution model.

See also:

- ALE/Distribution in Product Cost Planning [Seite 79]
- Business Framework Architecture [Seite 77]
- ALE-Introduction and Overview [Extern]

Group Costing in Distributed Systems

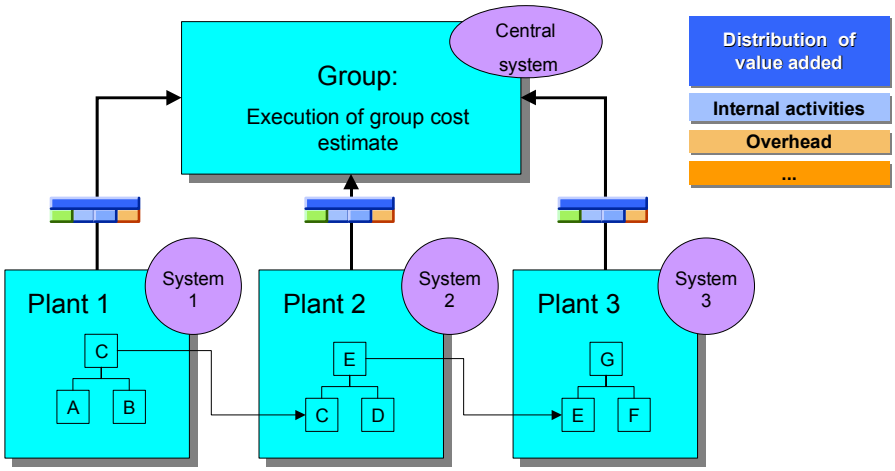
Use

You can use the ALE functions to send cost component splits [Seite 824] from local systems to a central system, and create a group cost estimate [Seite 621] centrally (less any transfer prices).

Features

You can use the ALE functions in **Product Cost Planning** to supply information about the product costs of separate production planning systems to a central cost accounting system. ALE supports the sending of information about value-added portions.

Data Flow: Distribution of the Value Added to a Central Cost Accounting System



First, cost estimates that are independent of each other are created in every plant and system where the materials are to be produced. If you want to create a group cost estimate in a central system, you must send the costing results (cost component split) from every local plant to the central system. You can use ALE for this.

If a plant receives a material from another plant, the price paid to the supplying plant may be a transfer price. However, a group cost estimate does not contain transfer prices and reflects only those costs arising in the group itself.

Because of this, you can only distribute the value-added portions from the local systems to the central system. You must therefore calculate the value added in the local systems for the materials to be sent to the central system. You can access these functions by choosing *Accounting → Controlling → Product Cost Planning → Tools → Material Costing → Determine value added.* By entering certain selection criteria, you can choose the cost estimates whose value added is to be sent to the central system. The value-added portions are transferred by the system in the form of an additive cost component split [Seite 246].

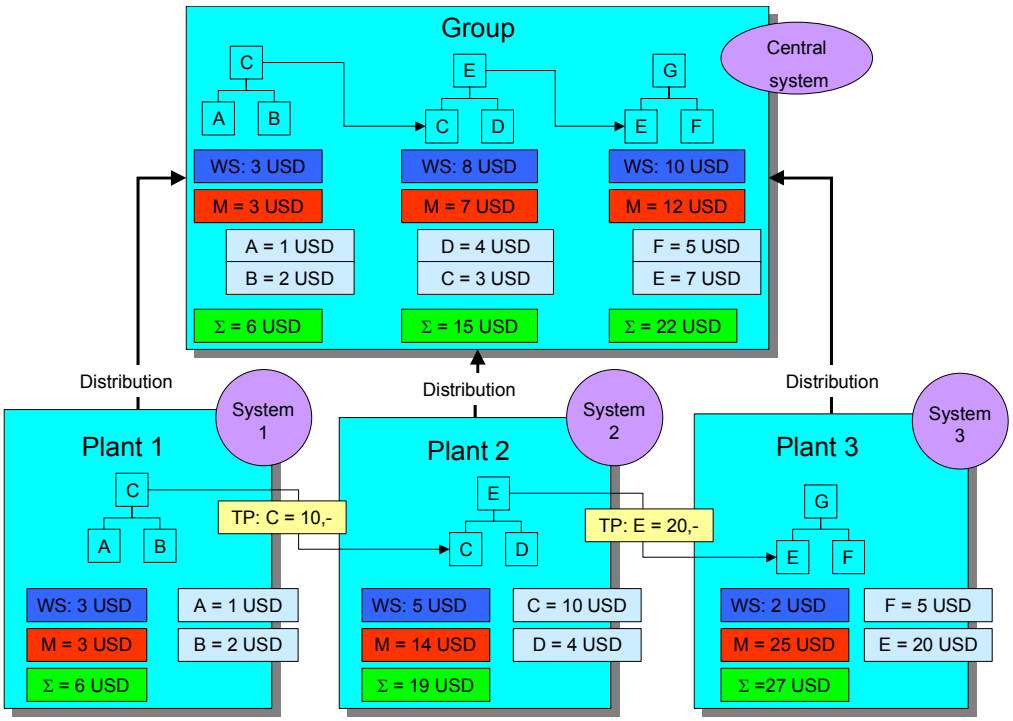
You can now send the additive cost component split by ALE to the central cost accounting system. There, you can create a group cost estimate, minus any transfer prices [Extern]. A prerequisite is that material masters and BOMs have also been distributed and exist in the target system.

For the purposes of group costing, the value added should not be recosted. This means that instead of reselecting routings, work centers, cost centers, activity prices and such, the value added portions distributed to the central system should be transferred. You achieve this by making **no** entries for routing selection in the quantity structure control in Customizing.

Please ensure that you have specified in the valuation and costing variants additive costs are to be included in costing.

You produce and cost the following in three decentralized plants and systems:

- Plant 1, system 1: material C, consisting of materials A and B
- Plant 2, system 2: material E, consisting of materials C (from plant 1) and D
- Plant 3, system 3: material G, consisting of materials E (from plant 2) and F



You create a cost estimate for the material produced in each plant:

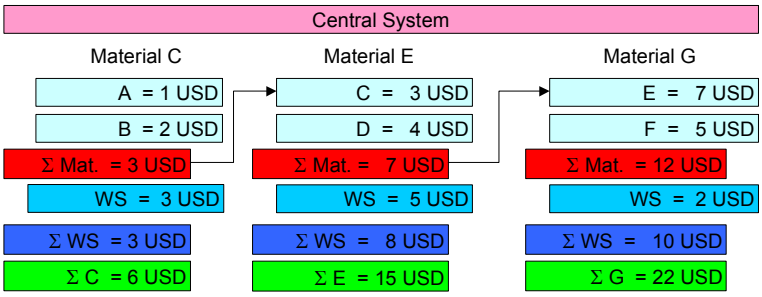
Plant 1 / System 1	Plant 2 / System 2	Planz 3 / System 3
A = 1 USD	C = 10 USD	E = 20 USD
B = 2 USD	D = 4 USD	F = 5 USD
Σ Mat. = 3 USD	Σ Mat. = 14 USD	Σ Mat. = 25 USD
WS = 3 USD	WS = 5 USD	WS = 2 USD
Σ C = 6 USD	Σ E = 19 USD	Σ G = 27 USD

Group Costing in Distributed Systems

- The costs for producing **material C** in plant 1 are **USD 6**. The material is sold to plant 2 for USD 10 (transfer price).
- The costs for producing **material E** in plant 2 are **USD 19**. The material is sold to plant 3 for USD 20 (transfer price).
- The costs for producing **material G** in plant 3 are **USD 27**.

You now calculate the value added in plants 1 to 3, and send it to the central system. Here, you create a cost estimate without the transfer prices, containing the value added distributed to the central system. A prerequisite is that material masters and BOMs for materials A to G have also been distributed and exist in the target system.

The costs for the manufacture of **material G** are **USD 22**.



ALE Settings in Customizing

Prerequisites

Customizing can be used for message type COPCPA.

Procedure

The following data must be distributed to all the systems involved:

Master data

Material master (accounting and costing views)

Control data

OMWC (C MM-IV Split material valuation)

V_001K_K (Account determination for valuation area)

V_025K (Account category reference)

V_CK01 (Costing types)

V_CK03 (Costing variants)

V_CK05 (Valuation variants)

V_CK07 (Allocation of organizational units to cost component structure)

V_CK16 (Date control)

V_CK24 (Transfer control ID)

V_CKH2 (Allocation of element to cost element interval)

V_CKH3 (Elements with attributes)

V_CKH4 (Cost component structure)

V_CKH8 (Cost component views)

V_CKH7 (Cost component groups)

V_CK30 (Transfer structure)

V_T001W (Plants)

V_T006D (Dimensions for units of measurement)

V_T006I (ISO codes for units of measurement)

Standard task

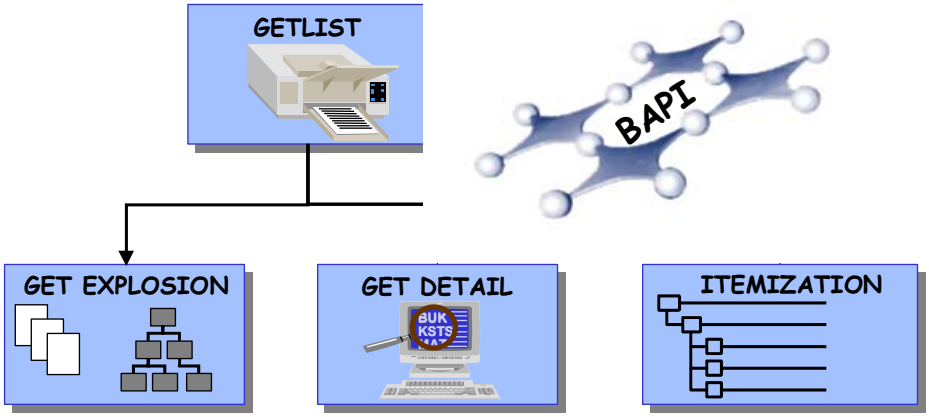
500002 (COPCPA_Err)

BAPIs in Product Cost Planning

Use

SAP's Business Framework Architecture is an open and component-based architecture providing interaction between SAP's components and other software producers. BAPIs (Business Application Programming Interface) enable you to access data and business processes in the SAP System via standardized interfaces.

In Product Cost Planning, a number of BAPIs are available to enable you to access the costing data relating to materials in the R/3 System.



Features

The following BAPIs are available:

- BAPI_COSTESTIMATE_GETLIST

  With this method, you can select cost estimates for materials in the R/3 System. A list is displayed with the cost estimates that meet your selection criteria.

- BAPI_COSTESTIMATE_GETDETAIL

  With this method, you can access the cost component split [Seite 824] for a cost estimate from the list that you selected with the method BAPI_COSTESTIMATE_GETLIST. The costs are displayed broken down into cost components.

- BAPI_COSTESTIMATE_ITEMIZATION

  With this method, you can access the itemization [Seite 828] for a cost estimate from the list that you selected with the method BAPI_COSTESTIMATE_GETLIST. You can display the information for each costing item.

- BAPI_COSTESTIMATE_GETEXPLOSION

  This method enables you to access the costed multilevel BOM [Seite 823] for a cost estimate from the list that you selected with the method BAPI_COSTESTIMATE_GETLIST. The BOM structure is exploded at each level.

See also:

For more information about the relevant function modules and their parameters and data elements, see the documentation in the R/3 System and in the SAP Library under the following:

- BAPI User Guide [Extern]
- Business Application Programming Interface (BAPI) [Extern]
- Business Framework [Extern]
- Benefits of BAPIs [Extern]
- Terminology [Extern]
- Further Documentation on BAPIs [Extern]
- Programming with BAPIs [Extern]

Material Cost Estimate with Quantity Structure

Purpose

The cost estimate with quantity structure is a tool for planning non-order-related costs and establishing prices for materials. It is used to calculate the cost of goods manufactured and cost of goods sold [Seite 26] for each product unit. You can use the results of the standard cost estimate for material valuation for standard prices.

Implementation Considerations

The cost estimate with quantity structure presupposes that a bill of materials and routing (PP) or a master recipe (PP-PI) exist for the material to be costed . For more information about this, see Master Data for the Cost Estimate with Quantity Structure [Seite 131].

Features

The cost estimate with quantity structure [Seite 120] uses the *PP* or *PP-PI* master data to determine the material consumption and internal activities required to produce the product. The cost estimate is created automatically using this data.

You can use the costing run [Seite 325] to process mass data.

There are a number of reports in the cost estimate itself and in the information system for Product Cost Controlling [Extern] that you can use to display the costing results together with the relevant quantity structure:

- Costed multilevel BOM [Seite 824]
- Itemization [Seite 828]

In addition to the PP-oriented displays of the costing results mentioned above, there is a **cost component split** for each material that divides the costs into cost components [Seite 462]:

- Cost component split for the cost of goods manufactured [Seite 455]
- Primary cost component split [Seite 457]
- Partner cost component split [Seite 812]

See also:

Purpose of Product Cost Planning [Seite 23]

Calculation of Cost of Goods Manufactured and Cost of Goods Sold [Seite 26]

Costing Results

Use

After you have executed a material cost estimate, you can analyze the costing results. The material cost estimate gives you the following information:

- Cost Component Split [Seite 824]
- Itemization [Seite 828]
- Itemizations by Cost Element [Extern]
- Costed Multilevel BOMs [Seite 823]
- Partner Cost Component Splits [Seite 812]

See also:

- Reports in Product Cost Planning [Seite 790]
- Analyzing the Results [Seite 494]
- Displaying Material Cost Estimates [Seite 493] and Analyzing the Costing Run [Seite 337]
- Saving Material Cost Estimates [Seite 600]
- Logs in Material Costing [Seite 589]
- Costing Status [Seite 598]

Cost Components

Use

This report shows the costs calculated in a material cost estimate or sales order cost estimate across all production levels, broken down into cost components. You can analyze the costs of the cost component split for the cost of goods manufactured and the costs of the primary cost component split.

The results of a cost estimate are updated as cost components (this is called a *cost component split*). The cost components break down the costs of a material across the entire production structure into material costs, production costs, material overhead, production overhead, and other costs. The costs for internal activities normally flow into the cost component split under secondary cost elements. In order to present primary costs for internal activities, you can use a primary cost component split as an alternative way of outlining the cost components.

The cost component split enables you to do the following:

- Analyze the cost origin across multiple production levels.

  You can analyze the value added within a multilevel production structure. The costs of the upper level consist of the internal activities and the overhead costs that are incurred at that level. The costs of the lower level include the materials and raw materials. The total costs of the upper level and lower level equal the total costs of the production level being analyzed.

- View the costs by original production factors (primary cost component split).
- Structure the costs according to the requirements of other areas (such as material valuation or profitability analysis).

  In the cost component view, you can specify which cost elements are displayed in the report. For example, you can select the cost of goods manufactured or the cost of goods sold, or the costs that are relevant to inventory valuation. You specify various cost component views in Customizing for *Product Cost Planning*. For each cost component, you can decide which share of the costs contained therein (fixed, variable, full) is displayed in which cost component view.

Prerequisites

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material in the BOM. For this to occur, you must have already defined a cost component structure in Customizing.

You specify the following in a cost component structure:

- Which cost components the calculated costs should be assigned to
- Which cost elements are grouped into which cost component

The cost component structure is selected through the company code, plant, and costing variant. You specify this assignment in Customizing for Product Cost Planning under *Basic Settings for Material Costing → Define Cost Component Structure.*

If you want to see a primary cost component split for the cost components, you must first generate a primary cost component split in *Cost Center Accounting* or *Activity-Based Costing*.

If you are using mixed costing, you can display the costing results for a specific procurement alternative broken down into cost components. Call up the desired procurement alternative in the report call using the menu option *Settings*. To display the cost component split for a mixed cost estimate that was formed from different cost estimates and procurement alternatives and weighted with equivalence numbers, do not enter a procurement alternative. The split for the mixed cost estimate is displayed automatically if a mixed cost estimate was created for the costing version.

Features

Main Cost Component Splits and Auxiliary Cost Component Splits

You can display the costs as a cost component split for the cost of goods manufactured and/or primary cost component split.

- You can calculate the cost component split for the cost of goods manufactured and primary cost component split simultaneously. You can switch between the two cost component views (under *Settings* → *Type of cost component split)*. However, you can also generate only the cost component split for the cost of goods manufactured or the primary cost component split.
- If you want to cost both cost component splits simultaneously, you must determine which cost component split is the **main cost component split** in Customizing for *Product Cost Controlling*. You can also generate a further cost component split as an **auxiliary cost component split** for comparison purposes.

The update of the standard price [Seite 636] in the material master is effected by the main cost component split.

An itemization is only created for the main cost component split.

In the report, you can switch between the main cost component split and the auxiliary cost component split. With the appropriate setting, you can switch between the cost component split for the cost of goods manufactured and the primary cost component split.

Upper Level / Lower Level / Aggregate Level

The cost estimate enables you to analyze the value added within a multilevel production structure. You can apportion the costs for each material according to the **lower level** and **upper level**.

You can find the cost component split display under *Costs* → *Display Cost components.* You can make this setting with *Settings* → *Layout*. You can create your own report from a large number of selections options.

When you display the costs:

- For the **upper level**, you see the production costs, overhead costs and costs for external activities that are expected for this production level
- For the **lower level,** you see the costs of all material components that are processed in this production level

Cost Components

In both cases, the costs are apportioned according to cost components [Seite 462]. The total cost of the upper level and lower level equals the total costs of the production level being analyzed.

You can go to the following other reports in the same report group:

- Total values
- Upper level
- Lower level

When the costs are apportioned according to cost components, the original identity of the costs (for example, costs of materials or fixed and variable production costs) are maintained throughout all production levels. At every production level, the value added at that level and the costs of the lower level can be separated through the cost component split.

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material. For more information on saving costing results, see Saving Costing Results [Seite 600].

If you want to create a cost component split for raw materials and purchased parts, you can enter additive cost components for each material for these costs. You can then group these cost components in an "External procurement" cost component structure that only contains such costs. For more information, see Additive Costs [Seite 246].

Cost Component Split for the Cost of Goods Manufactured

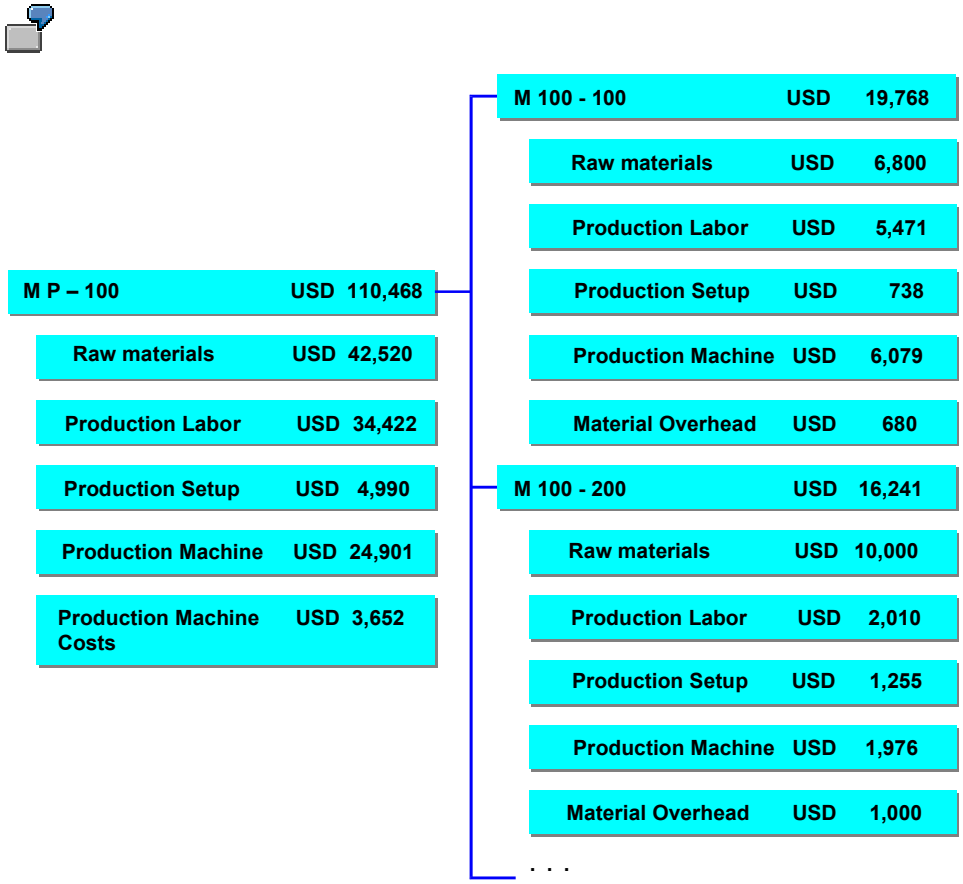
Definition

A report that enables you to do the following:

- Show the value added for each manufacturing level
- Compare the material cost estimates

Use

Typical cost components [Seite 462] of the cost component split for the cost of goods manufactured are raw materials, internal activities, external activities, material overhead, and so on. You define the structure of the cost components for the cost of goods manufactured in Customizing. For further information, see the Implementation Guide for Product Cost Controlling under *Product Cost Planning* → *Basic Settings for Material Costing*.



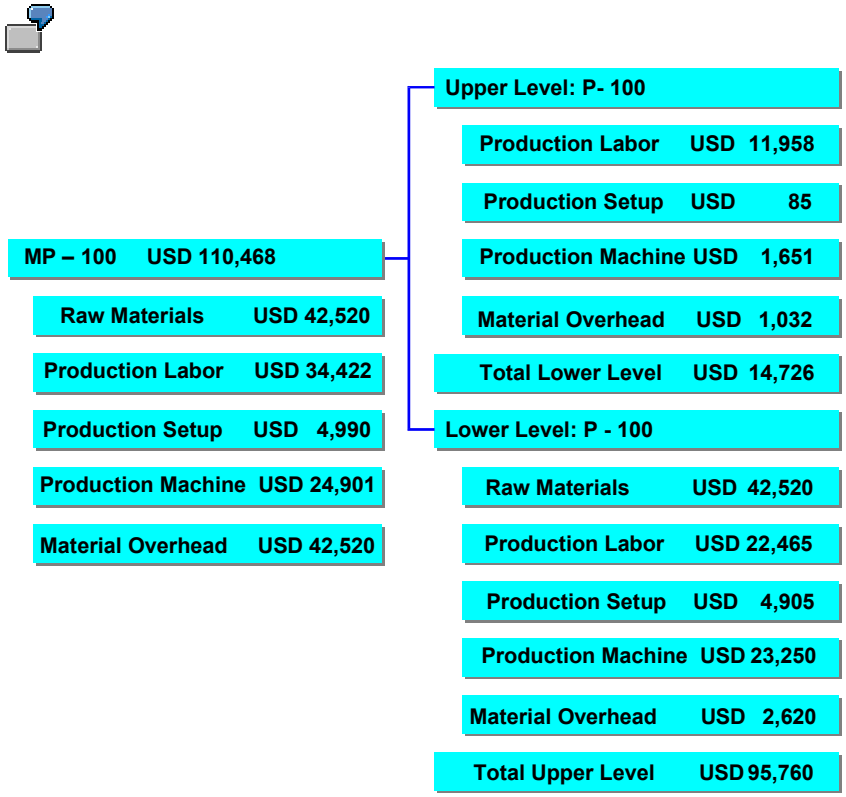
In this example, the cost of goods manufactured are assigned to five cost components (raw materials, labor production, setup production, machine production, and material overhead). This structure enables the costs of assemblies 100-100, 100-200, and so on to be transferred into the cost estimate for material P-100 as raw

Cost Component Split for the Cost of Goods Manufactured

materials costs, production costs, overhead costs and so on, instead of as material costs.

The cost component split thus enables an analysis to be made of the value added at each manufacturing level. You can switch from the reports for the upper level of the cost estimate to the lower level.

- With the **upper level** report, you can display the costs that occurred with assemblies 100-100, 100-200 and so on for material P-100. The costs of the subordinate assemblies are added together to make the total of the lower level.
- With the **lower level** report, you can view the alternative display of the costs for P-100. In this report, the costs of assemblies 100-100. 100-200 and so on are displayed broken down into cost components. The costs of the assemblies are added together to make the total of the upper level.



Primary Cost Component Splits

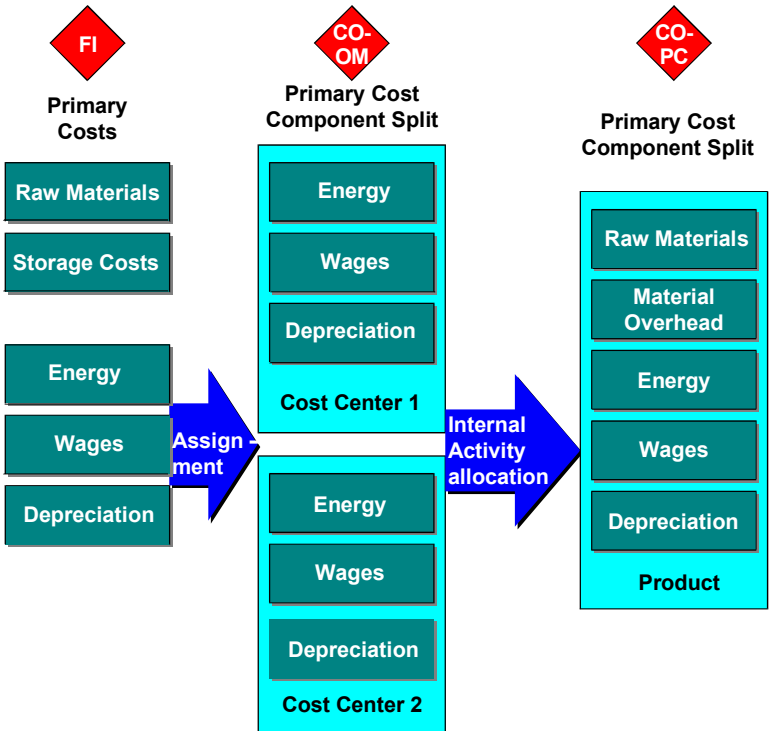
Definition

A report that displays the costs of the internal activities and the process costs broken down into their original production factors. For example, depreciation on production facilities can be included in the cost estimate, and is not encrypted under the secondary cost element for the activity allocation.

Use

The primary cost component split can be created in the **cost estimate with** and **without quantity structure**, as well as when **costing a sales order**. You define the structure of the primary cost components in Customizing for Product Cost Controlling. Typical cost components of the primary cost component split are raw materials, wages, energy, depreciation, and so on. For more information, see the Implementation Guide for Product Cost Controlling under *Product Cost Planning → Basic Settings*.

The costs of a product are grouped into primary costs in the same way as the cost component split for the cost of goods manufactured [Seite 455]: the costs are collected as cost components [Seite 462], to which you assign intervals of primary cost elements. You can also subdivide the costs into fixed and variable costs.



The primary cost component split is an alternative way of showing the cost of goods manufactured of a product. This cost component split assigns the primary cost elements for the cost center or the process to the cost components, insodoing sending information necessary for setting the activity price for the activity type or the costs for the process.

Primary Cost Component Splits

A feature of the primary cost component split in Product Cost Planning is that it provides an indication of future cost developments of a particular product. Since the amount of labor costs or energy costs of a product is visible, the effects of changes to these costs can be better predicted.

The primary costs from Overhead Cost Controlling can either be transferred directly into the primary cost component split of the product, or assigned to other cost components. In this way, you can explode the costs for specific internal activities partly by their primary costs, and combine them partly as secondary costs.

You can transfer the primary cost component split of the internal activities directly into the cost estimate, or assign it to other cost components. It is also possible to break down certain activities only partially into their primary costs, or report them as secondary costs.

Integration

- The primary cost component split in costing requires the use of the primary cost component split created in Cost Center Accounting when calculating the activity price.

  When determining the primary cost component split for products, the costs for internal activities and process costs (valuated in CO-ABC), with their primary cost component splits from Cost Center Accounting, are included in costing.

- Manually-created cost component splits are included when creating the primary cost component split.
- It is also possible to update the standard price in the material master via the primary cost component split.

See also:

Transfer Structure for the Primary Cost Component Split [Seite 459]

Transfer Structure for the Primary Cost Component Split

Definition

Controls the transfer of costs from the cost components of one cost component structure into the cost components of another cost component structure.

Use

The transfer structure determines how the costs of the sending cost component split (such as the primary cost component split of an internal activity) are transferred to the receiving cost component split.

Through the transfer structure, a single cost component of the receiving cost component split can be assigned to every cost component of the sending cost component split.

If the cost component structure of the primary cost component split [Seite 457] for the cost center activity prices is not the same as the cost component structure of the primary cost component split for the products, you can use the transfer structure to specify how the cost component split of an internal activity or process for a material cost estimate is transferred into the cost component splits of the material costed.

In contrast to the switching structure in Cost Center Accounting, which reassigns cost components within a single cost component structure, the transfer structure assigns cost components between two different cost component structures.

You define transfer structures in Customizing for Product Cost Planning under *Basic Settings* → *Define Cost Components*.

See also:

Implementation Guide for Product Cost Planning

Cost Component Structures

Definition

Specifies which costs are contained in the cost component split.

Use

You can use the cost component structure to specify that certain costs

- Remain visible in the cost estimate
- Are passed on to Profitability Analysis

You can define a cost component structure so that the cost estimate for a finished product shows the origin of the costs for the semifinished products and raw materials.

You can define the cost component structure to have a validity period. You can specify the date from which the structure is to be valid. This means that you can use an alternative cost component structure for the cost estimate without having to change an existing structure. In addition, cost estimates that have already been saved can still be interpreted by the system.

Through the cost components [Seite 462] that you list in the cost component structure, you specify the following:

- Which costs are included
- Whether the variable costs or the total costs are included
- Whether the cost of goods manufactured or the sales and administration costs are included
- Whether the costs for stock valuation, tax-based inventory valuation, and commercial inventory valuation are included

If you use a cost component structure in Customizing to create a **primary cost component split** for products, the cost component splits of the items that are relevant to costing are included in the primary cost component split. In addition to materials, internal activities and process costs can also have cost component splits.

You can create **cost component views** on the basis of the Customizing settings for the cost components. When you display a material cost estimate, cost component views [Seite 465] show the costing results according to different viewpoints.

The cost component view *Cost of goods sold* contains all the cost components that are indicated as the cost of goods manufactured and sales and administration costs.

See also:

For more information, see the *Implementation Guide (IMG)* under *Product Cost Planning → Basic Settings for Material Costing → Define Cost Components*.

Cost Components

Definition

Grouping of cost elements with or without origin groups.

Use

The costs from a cost estimate are assigned to cost elements and cost components. (You can use the origin groups in the material master records to subdivide the material costs within a cost element.)

You can use cost components to specify that costs should be included in the relevant inventory valuation, for example.

You create origin groups and cost components for in Customizing for Product Cost Planning under *Basic Settings for Material Costing*. Based on the cost components that you have defined in Customizing, you can do the following:

- Create cost component views [Seite 465] that contain costs such as the cost of goods manufactured, sales and administration costs or the costs for inventory valuation
- Group cost components differently according to the purpose for which costing was carried out (such as stock valuation or inventory valuation)

Integration

The definition of the cost components in Customizing for Product Cost Planning determines how the costed material is valuated. For each cost component, you specify whether the assigned costs are included with the following **valuations**:

- Inventory valuation
- Physical inventory valuation based on commercial law
- Physical inventory valuation based on tax law
- Transfer price surcharge

For each valuation, you define the relevant **proportion** of the costs:

- You flag the cost component as ***not relevant***.

  This prevents certain costs (such as production overhead) from being used in inventory costing.

- You flag the cost component as ***variable costs***.

  This means that only the variable portion of certain costs (such as internal activities) are used in inventory costing.

- You flag the cost component as ***fixed and variable costs***.

  This means that the full costs (such as for raw materials) are used in stock valuation.

You also specify the following for each cost component:

- Whether the costs assigned to the cost component are to be treated as the cost of goods manufactured

- Whether the costs assigned to the cost component are included in an initial cost split (a cost component split for raw materials). You can create an additive cost estimate [Seite 246], to include freight charges and insurance costs for raw materials. Alternatively, you can create a raw material cost estimate [Seite 735].
- Whether delta profits (profits between company codes and profit centers) should be updated. This indicator must be set when you create a group cost estimate [Seite 621].

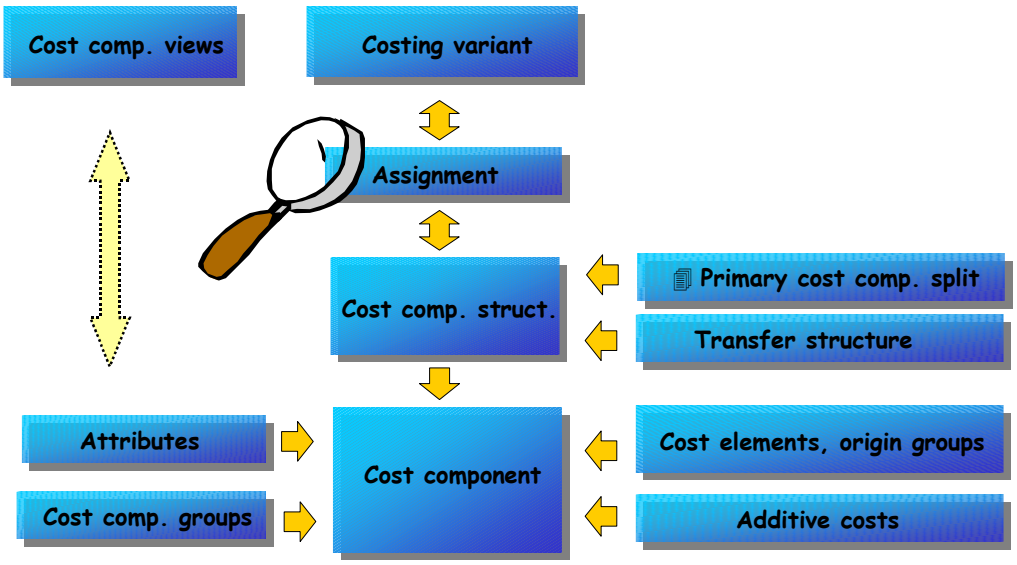
These settings are then included when the costing data is transferred into the material master record.

Type of cost estimate whose results are transferred to the material master	Type of valuation	Resultant price
Standard cost estimate	Inventory valuation	Future planned price
Inventory cost estimate	Physical inventory based on commercial law	Price based on commercial law
	Inventory based on tax law	Price based on tax law

If you transfer the results of a modified standard cost estimate or a current cost estimate into the material master record, you can specify which cost component view should be transferred.

Features

The following graphic illustrates how cost components, cost component structures, and cost views are customized:



Cost components are grouped into a cost component structure. A cost component structure can have up to 40 cost components. However, if the cost components contain both fixed and variable costs, the number of costs components is limited to 20.

Examples of cost components are:

- Raw materials

Cost Components

- Personnel costs
- Production costs
- Overhead: material
- Overhead: production
- Overhead: administration
- Overhead: sales and distribution
- External activities
- Other costs

If you are using a particular costing variant, the system determines the cost component structure [Seite 460] for this costing variant and creates the cost component split for the costing results accordingly.

All costing variants for the standard cost estimate in a company code must be linked to the same cost component structure. Otherwise you cannot transfer costing results from other plants for specially-procured materials.

For costing variants that are not set for the standard cost estimate, you can assign the cost component structure separately for each plant or for each costing variant.

The values for each cost component are updated in the currency of the company code to which the material is assigned.

See also:

For further information about defining cost components, see the *Implementation Guide (IMG) for Product Cost Controlling* under *Product Cost Planning* → *Basic Settings for Material Costing* → *Define Cost Components*.

Cost Component Views in Material Costing

Use

You can display the costing results [Seite 451] in various views. The cost component view is one of these views. Examples of cost component views are:

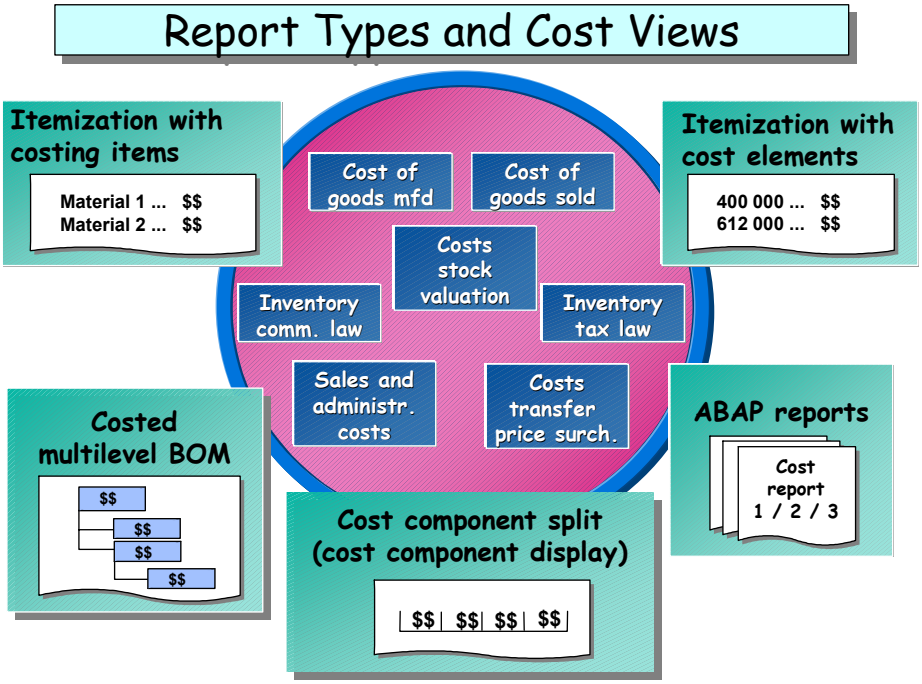
- Cost of goods manufactured
- Cost of goods sold

Prerequisites

You assign the cost components to a cost component view in Customizing for Product Cost Planning.

Features

The following graphic details the types of report available:



The costing results, which are contained in reports such as the itemization and the cost component split, are displayed in various cost component views.

For Profitability Analysis, the view for the cost of goods sold determines which costs are compared with the sales revenues to calculate the contribution margin for each product.

Cost Component Views in Material Costing

For Materials Management, the view for stock valuation determines which costs go into the standard price and the inventory cost estimate.

Also affecting Materials Management is the view for tax-based inventory valuation, which determines which costs are included in the inventory cost estimate based on tax law.

When you define a cost component view in Customizing for Product Cost Planning, you enter a name for the cost component view and define which cost components are contained in the cost component view.

The cost component view *Cost of goods sold* contains all the cost components that are indicated as the cost of goods manufactured and sales and administration costs.

With the cost component view in Customizing for Product Cost Planning, you can also define what costs are used in the calculation of material overhead surcharges.

You want to calculate material overhead for the semifinished products used in the finished product. The cost estimate for the semifinished product contains costs such as the cost of goods manufactured and sales and administration costs.

In Customizing for Product Cost Planning, you use the calculation base in the costing type to specify that the applied material overhead for the semifinished products should only be calculated on the basis of the cost of goods manufactured. Overhead is not applied to the sales and administration costs for the semifinished product.

See also:

Implementation Guide (IMG) for Product Cost Planning

Analyzing the Results [Seite 494]

Concept of Cost Rollup

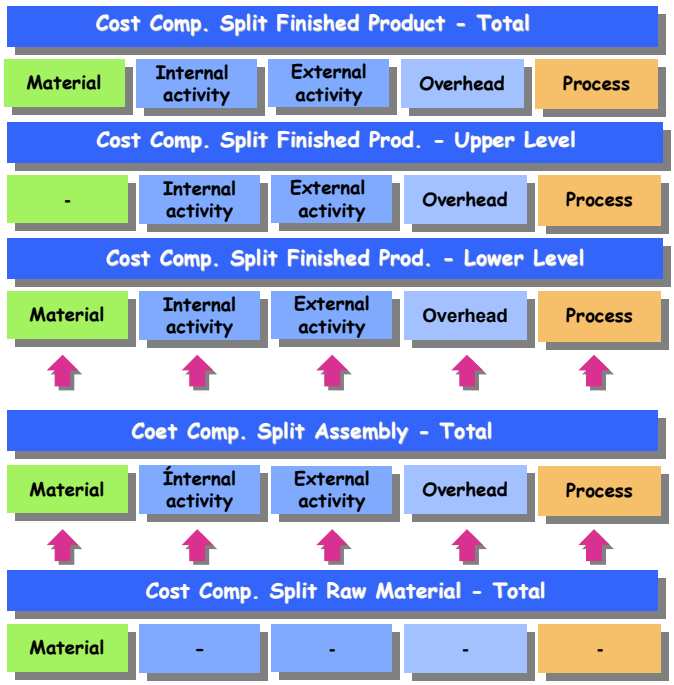
Use

The purpose of cost rollup is to include the cost of goods manufactured [Seite 26] of all the materials in a multilevel production structure within the costs of the material located at the top of the structure. The costs are rolled up **automatically** using the costing levels.

3. The system first calculates the costs for the materials with the lowest costing level and assigns them to cost components.
4. The materials in the next highest costing level (such as semifinished materials) are then costed. The costs for the materials costed first are rolled up and become part of the costs of goods sold in the next highest level.

This process is continued until the costing results [Seite 451] of the highest material in the structure (such as the finished product) contain the cost of goods manufactured [Seite 26] for every material in the structure.

For costing, you assign the costs in a cost estimate to **cost components** in Customizing for Product Cost Planning. The cost components [Seite 462] split the costs of a material. In the cost rollup process, the data for these cost components is passed on to the costing results of the next-highest material (see graphic).



The data structure is called a **cost component split**. The results of the cost estimate (with [Seite 92] and without [Seite 449] quantity structure) are always saved in the form of a cost component split. The structure of the cost component split (that is, the number of cost components) is the same for all materials in the cost estimate.

However, a multilevel production structure [Seite 159] may also contain costs that should not be rolled up, such as sales and administration costs. In Customizing for Product Cost Planning you specify whether the assigned costing results should be rolled up for each cost component.

Features

The materials in a BOM [Seite 157] are called **BOM components**; these can consist of a material without its own BOM (such as a material component, purchased part, or raw material), or a material with its own BOM (assembly). If the product has a multilevel BOM [Seite 159], the costs for the material components are calculated and taken into account when the next-highest assembly is costed.

The structure of the BOM determines the sequence in which the materials are costed. After exploding the BOM from top to bottom and assigning costing levels, the system then costs from the bottom up. The BOM components with the lowest costing level (or the highest low-level code) are costed first, then the BOM components (assemblies) with the next highest costing level, and so on up to the highest material. The resultant costs are, in the process, rolled up towards the top.

For each BOM component costed, a cost component split is created, which groups the costs into costs such as material costs, production costs, and costs for external procurement. The cost component [Seite 462] *Material costs* for the finished product thus contains all the material input costs of the subordinate BOM components. You define the structure of this cost component split in Customizing for Product Cost Planning in a cost component structure [Seite 460].

Costing can also determine the cost of goods manufactured for materials produced in another plant if the two plants are assigned to the same controlling area, and the company codes of the plants use the same cost component structure. In such cases, the structure of the cost component split must be the same in both works. For more information, see Transferring Existing Costing Data [Seite 607] and Special Procurement in Costing [Seite 443] .

If a cost estimate for the material already exists, the system can transfer the calculated costs (grouped in cost components) into the cost estimate of the next-highest material.

If the system cannot find a cost estimate for the material, it uses a price in the material master record according to the valuation variant (see also Raw Material Costing [Seite 735]).

You can add manually entered costs to the material costs by means of an additive cost estimate [Seite 246] that contains separate cost components. This enables you to include in the cost estimate costs that, although they actually exist, cannot be taken into account automatically by the system. Examples of such costs are freight charges, insurance costs, stock transfer costs, incomplete BOMs, and routings. You can also create a separate cost estimate for raw materials. For further information, see Raw Material Costing [Seite 735].

The manually entered (that is, additive) costs can only be used for planning purposes in the R/3 System.

The cost component split is updated in the currency of the company code to which the material is assigned.

In addition, the costing results can be updated and displayed in the controlling area currency. The cost component split is then rolled up in both currencies. (See also: Currencies in Costing [Seite 633]).

You can represent cost accounting in the R/3 System as **absorption costing** and as **variable costing**. When you use variable costs, make sure that when you define cost components [Seite 462], you indicate only the variable part of the activity types as being **relevant to stock valuation**. This ensures that, when allocating costs to internal activities, only the variable activity type prices are credited, even when you carry out confirmations. You can pass on the fixed portion for each assessment at period end directly to Profitability Analysis (CO-PA). The variable costs of goods manufactured are passed on by billing documents to CO-PA.

See also:

- Quantity Structure Determination [Seite 179]
- Valuation of the Quantity Structure [Seite 203]
- Cost Estimate with Quantity Structure: Process Flow [Seite 120]

Itemization

Definition

Report that lists the calculated costs and contains detailed information on cost origins and elements that make up costs.

Prerequisites

An itemization is generated automatically with a cost estimate. If you want to display the itemization information in the cost estimate display and the information system, you must set the *Itemization* indicator when saving the cost estimate.

During preliminary costing for a production order or a production campaign, an itemization is generated dynamically. However, this itemization is not stored in the system and therefore cannot be analyzed in the information system. The itemization is available for analysis immediately after you carry out costing. For more information on the itemization of production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Use

You can use itemization to analyze a costed material, base planning object or sales document item in more detail.

Depending on the questions you need answered, there are different layouts of the itemization available in the SAP standard system. Through the selection of certain fields, you can find various information that is also partially grouped. The costs can be broken down for analysis by cost elements, by operations, or by costing items. The following layouts are described in more detail:

- Itemization by Costing Items [Extern]
- Itemization by Cost Components/ Cost Elements [Extern]
- Itemization by Operations [Extern]
- Itemization by Cost Elements [Extern]

You can modify this structure to suit your own requirements by creating your own layouts [Extern]. You can create your own layouts to be able to see other information in the itemization. For example, you can add the purchasing info record and the purchasing organization or the origin groups to the report display, or add the text of the activity types or item categories.

The origin group provides detailed information on the source of the material costs or on the origin of the overhead. With material costs, the origin group is entered in the material master record. With overhead costs, the origin group is entered in the credit key of the costing sheet and offers more information on the origin of the overhead.

In the itemization, you can also display the costs broken down into cost elements. Material costs, external activity and non-stock material are assigned to primary cost elements. In this itemization, they are shown under cost elements determined by the system. Costs for internal activity are displayed under the allocation cost element of the activity type that was entered in the master record of the activity type. Overhead costs and process costs are also displayed under

secondary cost elements. Because all actual costs are also assigned to these cost elements, a plan/actual comparison is possible later.

Only a limited selection of layouts are available for **base planning objects**.

Structure

In the standard system. the itemization is displayed with the layout *Item Categories (grouped)*. Here, the costing items are listed according to item categories. The item categories indicate, for example, whether it is a material (M), internal activity (E), or overhead rate (G).

The costing item for a material (M) indicates the plant, the relevant material number, the price of the material, the text in the material master data and the quantity used.

The costing item for an internal activity (E) indicates the cost center, the work center, the activity type, a text, the price of the activity and the quantity used.

See Creating and Deleting Subtotals [Extern] for general information on grouping in layouts.

For *joint production*, the itemization provides two types of display. You can switch between the process view and the product view in the report. While the product view shows only the costs of the co-product, the process view provides information about the costs of the other co-products, as well as an overview of the total costs of the production process. The other co-products are shown under item category A with negative quantities and values. This negative value is the amount of costs for the co-product that was calculated using the apportionment structure.

Integration

The itemization is a prerequisite for variance calculation in Product Cost by Period and Product Cost by Order.

From the report, you can display the master data of a costing item.

For operations that are carried out externally, the costs are either entered in the routing, or are determined using a purchasing info record. For operations that are carried out internally, the costs are determined using *Cost Center Accounting*. For the valuation of internal activity using a cost estimate with quantity structure, the system assumes that price calculation was already done in *Cost Center Accounting*.

The system determines overhead on the basis of input quantities, or proportionally on the basis of direct costs (material or production) or costs of goods manufactured. You define the conditions for determining this overhead in a costing sheet in Customizing.

Process costs are determined in Activity-Based Costing [Extern] and are generally assigned to the product using a template. The template specifies which process costs are consumed and the basis on which these costs are further allocated to the product.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

If you are working with production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Cost Elements

Use

The report displays a cost estimate broken down into cost elements. The cost elements show the costs according to origin, such as material costs or labor costs. The cost element itemization thus tells you which costs have arisen for what purpose.

Integration

If you enter an *origin group* in the material master record or in the credit key of the costing sheet, you can have this displayed in an additional field to further break down the costs into material cost elements and the overhead costs into origin groups.

The values in the cost element itemization are determined from the values in the itemization. Subsequent changes of the quantity structure or the costing items are not displayed. To display such changes, costing must be repeated.

If you use your own programs or reports to evaluate your cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Prerequisites

If you want to see the cost element itemization in the information system, you must select the *itemization* indicator when you save the cost estimate.

Activities

In the standard system, you can choose between predefined layouts or adapt the information to your requirements by creating custom layouts. For more information, see Creating, Changing, and Managing Layouts [Extern].

See also:

Cost Analysis [Extern]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Partner Cost Component Split

Definition

Report with which you can display the value added of the organizational units (partners [Seite 628]) involved in the production process organized according to cost component groups in a hierarchy graphic.

Use

If production involves more than one partner (for example, multiple profit centers in multiple plants and company codes), you can analyze the value added for each partner [Seite 628].

You can analyze the following reports:

- Reports that show the total costs of a product broken down according to cost components [Seite 462]
- Reports that show the portion of the partners broken down according to cost component groups

In Customizing, you specify which organizational units the system considers as partners. You can select from the organizational units company code, plant, profit center and business area.

For every resource used, the system can derive the organizational unit that provided this resource. The cost estimate generates a separate cost component split for every involved partner. You can also only display the direct partner's [Seite 628] portion.

The partner cost component split can be arranged in multiple dimensions, according to the definition of the partner. The cost component split can be displayed in hierarchy sequences of the partner, as required.

Structure

The partner cost component split provides a hierarchical graphic in which the partners that you have defined are displayed with their costs. The costs are grouped in cost components and shown as totals. Through *Settings* → *Sort Sequence of Partner Cost Splits* in the report, you can change the sort sequence of partner cost splits (order in which the partners are shown in the hierarchy).

Through *Settings* → *Cost Component Groups, y*ou can switch between cost component groups 1 and 2 in the report. You can also switch between the main and auxiliary cost component splits.

Unless you specify a different lot size, the lot size of the cost estimate is displayed. If you want to use a specific lot size, enter it in the report parameters under *cost base*. The costs are then converted to that lot size. The values displayed depend on the cost component view selected.

Integration

Through *Settings* → *Partner View*, you can branch from the partner cost component split to reports for the direct partners. The reports on the direct partners are also hierarchical graphics, although they are only single-level. If you choose and display, for example, the profit center as the direct partner, you will see (in addition to the profit center of the material costed) only the profit center that has directly issued your activity or delivery to the profit center of the material costed.

Prerequisites

To generate and display a partner cost component split, you must do the following in Customizing:

- Define cost component groups
- Define a partner version
- Enter this partner version in the costing type
- Enter this costing type in the costing variant that you use for costing

See also:

Preparing for Material Costing [Seite 73]

Cost Component Report [Seite 824]

Partners and Direct Partners

Definition

- **Partner**

  Business unit that is involved in the value added process

- **Direct Partner**

  Business unit that passes on its delivery or service directly to another partner

Use

Partners and direct partners provide an in-depth view of how the value added portions are broken down. Within the context of **partner versions** in Customizing for Product Cost Planning, *partners* or *direct partners* can consist of any combination of the organizational units *profit center*, *plant*, *business area*, and *company code*.

If you do not want the portion of the value added that the direct partner procured to be visible when the product or service is transferred to the receiving partner, it can be subsumed under the value added of the **direct partner** (single-level partner). In such a case, only the portions of the directly-procured deliveries and activities are displayed. Value-added portions that the direct partner has received from others are passed on directly to the direct partner.

In conjunction with the partner version settings in Customizing, the cost estimate generates a separate cost component split [Seite 812] for each **partner**, providing an in-depth display of all the valued-added portions at each stage of the production process. The materials and services of a production level do not appear in the next level as material costs; instead, the structure of the costs and profits, together with the partner portions, are retained at all levels and for all partners.

In the context of group costing [Seite 621], the company code is a particularly important partner. However, you can also use the partner information if your company costs the legal view only, instead of group costing as a whole; even here, you can break down the portion of each organizational unit, such as the plant, to analyze the value-added chain.

See also:

For more information, see the *Implementation Guide (IMG)* for *Product Cost Planning* under *Selected Functions in Material Costing*.

Working with the Cost Estimate with Quantity Structure

Use

The cost estimate is a tool for planning non order-related costs and establishing prices for materials. It is used to calculate the cost of goods manufactured and cost of goods sold [Seite 26] for each product unit.

The following functions are available for working with material cost estimates with quantity structure:

- Cost Estimate with Quantity Structure for a Material [Seite 120]
- Additive Costs for a Cost Estimate with Quantity Structure [Seite 246]
- Costing Run for the Processing of Mass Data [Seite 325]
- Managing the Costing Results, such as Saving, Archiving and Deleting [Seite 588]
- Use of Existing Costing Data [Seite 607]
- Use of Parallel [Seite 374] and Background processing [Seite 375]

Cost Estimate with Quantity Structure: Process Flow

Purpose

The cost estimate with quantity structure enables you to calculate the non-order-related **cost of goods manufactured** and the **cost of goods sold** for products, based on the BOMs and routings (PP).

Prerequisites

You have checked the settings in the costing variant. For more information, see Preparing for Material Costing [Seite 73].

Process Flow

1. Create a cost estimate for a material. If you want to cost more than one material, create a costing run.

   For further information, see the following:

   – Creating a Cost Estimate with Quantity Structure [Seite 123]

   – Costing Run [Seite 325]

2. The system creates the quantity structure (BOM and routing/master recipe) automatically through the quantity structure control as defined in the costing variant in Customizing, or copies an existing quantity structure using a reference variant.

   For further information, see the following:

   – Master Data for Costing with Quantity Structure [Seite 131]

   – Quantity Structure Determination [Seite 179]

   – Use of Existing Costing Data [Seite 607]

3. The system valuates the quantity structure using the valuation variant that you defined in Customizing, or copies existing costing data.

   For further information, see the following:

   – Valuation of the Quantity Structure [Seite 203]

   – Use of Existing Costing Data [Seite 607]

4. The system includes any additive cost estimates, if you have provided for this in the costing variant in Customizing.

   For further information, see Additive Costs [Seite 246].

5. The system calculates overhead.

   For further information, see Overhead [Seite 569].

6. You analyze the costing results and save the cost estimate.

   For further information, see the following:

   – Costing Results [Seite 451]

   – Managing the Costing Results [Seite 588]

7. You can update the costing results in the material master record, and transfer them into Profitability Analysis.

   For further information, see the following:

   – Purpose of Product Cost Planning [Seite 23]

   – Price Update [Seite 634]

8. You can archive and delete material cost estimates.

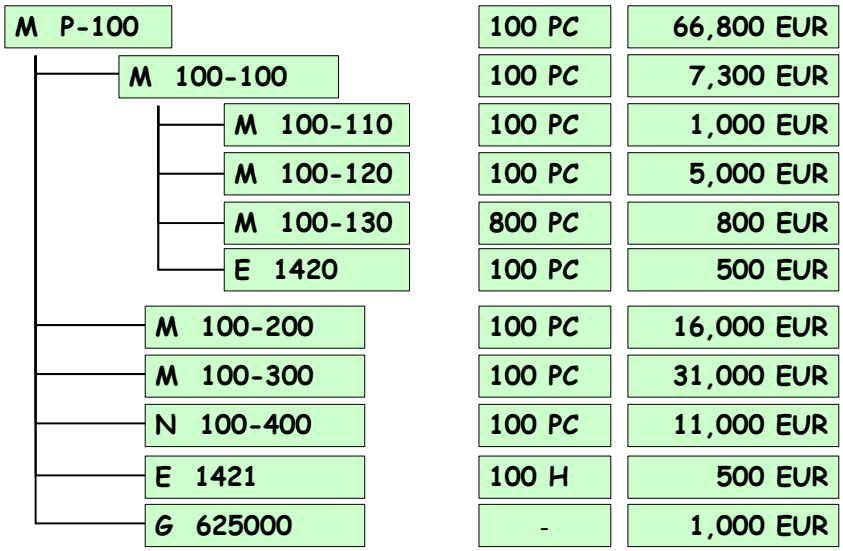
   For further information, see the following:

   – Archiving Material Cost Estimates [Seite 602]

   – Deleting Material Cost Estimates [Seite 604]

Example

You create a cost estimate with quantity structure for material P-100.



First, the system determines the quantity structure, being the BOM and routing. It then valuates the materials in the BOM and the production activities from the routing with prices and calculates the overhead.

The material costs are calculated for the material components [Extern] by multiplying a price from the material master record [Extern] by the input quantity from the BOM. For example, the unit price for material M 100-110 is EUR 10. For materials not included in inventory (that is, non-stock materials), the unit price is entered in the BOM itself, such as material 100-400. The costs of the material components are variable costs.

The costs of the assemblies [Extern] are calculated using the input quantity in the BOM and the data on the material in the BOM and routing. For example, the costs for material 100-100 consist of the material costs for materials 100-110, 100-120 and 100-130 and the costs specified in the routing for the assembly of these components (activity 1420). These costs comprise variable costs (for the raw materials used) as well as fixed and variable costs (for the internal activities, overhead and, if applicable, process costs).

Cost Estimate with Quantity Structure: Process Flow

The costs of the assemblies are calculated level by level. This means that the costs for assemblies 100-100, 100-200, 100-300 and so on are first calculated, and then included in the total costs for assembly P-100. The process of assigning the costs of the subordinate material components and assemblies to each of the higher production levels is called cost rollup [Seite 467].

See also:

- Origin of Costing Data [Seite 129]
- For more information about the relevant settings in Customizing, see the *Implementation Guide (IMG) for Product Cost Planning*.

Creating a Cost Estimate with Quantity Structure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate with Quantity Structure* → *Create*.

   The screen *Create Material Cost Estimate with Quantity Structure* appears.

2. Enter the material and plant.
3. Enter the following data in the *Costing data* tab page:
   - Costing variant

     For more information, see Preparing for Material Costing [Seite 73].
   - Costing version

     For more information, see Costing Versions [Seite 619].
   - Costing lot size

     If you do not enter a lot size, the system uses the costing lot size from the costing view of the material master record.
   - Transfer control

     For more information, see Use of Existing Costing Data [Seite 607].
4. You can enter the following additional data in the *Quantity Structure* tab page:
   - Production version
   - BOM data
   - Routing data

   You can enter a production version or data for BOMs and routings. You cannot enter both the production version **and** a BOM/routing. If you do not enter any data for the quantity structure, the system selects a valid quantity structure for the cost estimate.

   For further information, see the following:

   - Quantity Structure Determination [Seite 179]
   - Parameters for Quantity Structure Control [Seite 180]
   - Quantity Structure Control Through the Initial Screen of the Cost Estimate [Seite 189]
   - Master Data from Logistics [Seite 140]
5. Choose and check the proposed costing dates in the tab page *Dates*. Change the costing dates if required.

   The dates are proposed from the settings in the date control ID. The settings in date control [Seite 567] also determine whether you can change the proposed dates.

   If you have changed the costing dates, you can copy the proposed dates by choosing *Default values*.

6. Choose .

The system costs the material. The system creates the quantity structure, determines the costing levels, valuates the quantity structure [Seite 203] and calculates overhead [Seite 569].

You see the costing results for the highest material.

For more information about displaying and analyzing the results, see the following:

- Analyzing Results [Seite 494]
- Origin of Costing Data [Seite 129]

7. Choose to save the costing results.

   For more information, see Saving Material Cost Estimates [Seite 600].

See also:

- Concept of Cost Rollup [Seite 467]
- Calculation of Cost of Goods Manufactured and Cost of Goods Sold [Seite 26]
- Price Update [Seite 634]
- Archiving Material Cost Estimates [Seite 602]
- Deleting Material Cost Estimates [Seite 604]

Displaying Material Cost Estimates

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate with* or *Without Quantity Structure* → *Display.*

   The screen *Display Cost Estimate with* or *Without Quantity Structure* appears.

2. Enter the material and plant.
3. Enter additional search and display criteria, such as the costing variant and costing version.
4. Choose *Cost ests* to find any existing cost estimates.
   a. The dialog box *Selection of material cost ests* appears, in which you can enter further selection criteria.
   b. Choose .

      A list of material cost estimates corresponding to your search criteria appears. Display a material cost estimate by double-clicking on it.

5. Choose .

Result

You see the results of the material cost estimate. From here, you can call the reports for analysis purposes. For more information, see Analyzing Results [Seite 494].

Analyzing the Results

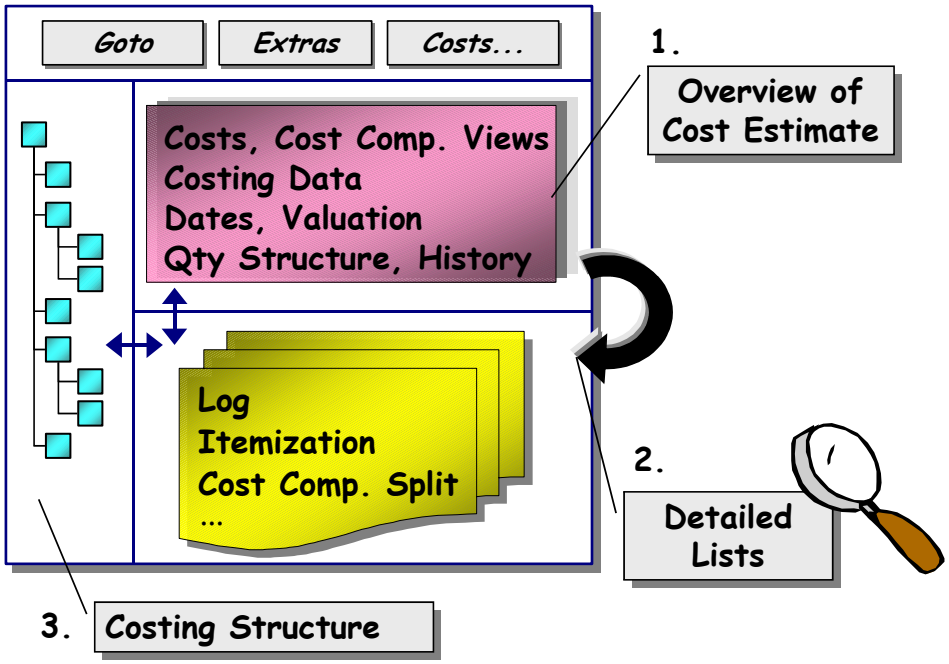
Use

You can analyze the results of a material cost estimate in this way if you:

- Create a material cost estimate with quantity structure [Seite 123]
- Create a material cost estimate without quantity structure [Seite 480]
- Create [Seite 248], change or display [Seite 251] additive costs
- Display a material cost estimate [Seite 493]
- Have executed a costing run [Seite 337] and double-click on a material in the material overview to access detailed information on the cost estimate for that material
- Display a material cost estimate from the archive [Seite 602]

Features

The screen is divided into three areas:



Note that it is not possible to display a costing structure directly after performing unit costing [Extern]

You can arrange this screen to your own requirements by doing the following:

- Altering the size of the screen areas

  To see all the pushbuttons and displayed fields for the costing structure, it may be necessary to increase the size of this screen area.

- Displaying or hiding the screen areas *Detailed list* and *Costing structure* via *Detail list on/Detail list off* and *Costing structure on/Costing structure off*
- Using *Hold* to save these settings so you can call up this function (user-dependent) later: it is up to you whether you save the settings independent of the costing variant or not.

Cost Estimate Overview

This screen area contains tab pages which provide the following cost estimate data:

***Costs* tab**
Contains the calculated costs The costs displayed are based on the costing lot size. However, you can also see the costs based on the price unit in the material master, or based on a figure you have already defined, by selecting a cost base from the list field. Note that if a cost base is changed, all costing items are adjusted proportionally, including those that contain fixed costs (such as setup costs). displays the log [Seite 589] containing the messages for the material displays the itemization [Seite 828] displays the cost component split [Seite 824] *Partner* displays the partner cost component split with cost component groups [Seite 812] displays the costed multilevel BOM [Seite 823] (displayed in the screen area *costing structure*) *Additive Costs* displays the additive costs These reports, which refer to a cost component view, are displayed in the screen area *Detailed list*. To display another cost component view, select the desired view from the list field in the *Costs* tab page. The information in the screen area *Detailed list* is updated automatically.

Tab page	***Contains***
Costing data	The costing variant and costing version used in the cost estimate
Dates	The costing dates used for the cost estimate
Quantity structure	The quantity structure data used for the cost estimate
Inventory costing	• Currency in which the costing results are displayed • Costing sheet, overhead key, and template used to calculate overhead
History	Information on who created, marked, and released the cost estimate, and when

Further Costing Information and Settings for the Cost Estimate

	You can branch from the toolbar to the master data used. For example, you can go to the material master of the material costed. For more information, see Origin of Costing Data [Seite 129].

◀ or ▶	Previous/next material (only when you **create** a cost estimate with quantity structure, not when you display it)

Goto → *Material overview*	You can display an overview of all the materials costed. You can adapt the list to your own requirements, for instance by setting filters and by sorting. By double-clicking on a material, you can branch from this list to the detailed information.
Goto → *Highest material cost estimate*	You go back to the costing information for the highest material.
Costs → *Cost element itemization*	The cost element itemization [Seite 827] is only available when you **create** a cost estimate, not when you display it.
Costs → *View selection*	Here you can change the view for all three screen areas at the same time.
Settings → *Cost display*	Here you can change the cost base and the currency (providing a cost component split has been generated for the currency to be set) for all three screen areas at the same time. You can change the content of the table on the tab page *Costs* under *Costs for view*.

Origin of Costing Data

Use

The quantity structure is made up of the data for material consumption and for the activities and business processes used to produce a material. The quantity structure specifies the following:

- Which material components are needed, and which materials are procured externally
- Which operations and sub-operations are carried out to produce the material, and which operations are carried out externally
- Which activities and business processes are consumed to produce the material

Integration

The cost estimate with quantity structure accesses data in the Production Planning (PP and PP-PI), Materials Management (MM), and Controlling (CO) components of the SAP System. The following table provides an overview of the origin of the data used by costing with quantity structure:

Type of data determined by cost estimate with quantity structure	From	In
The material input quantity for each component	The BOM for the material	PP
The standard times for production of the product	The routing or rate routing for the material	PP
	The work centers at which the operations are carried out	PP
The material input quantity for each co-product	The material list	PP-PI
The standard times for production of the co-product	The master recipe for the co-product	PP-PI
	The resources at which the operations and phases are carried out	PP-PI
The price for an externally-procured material	The material master record	MM
	Or the purchasing info record	MM
The price for an external operation	The purchasing info record	MM
	Or the purchase order	MM
	Or the routing or rate routing	PP
The costs for a semifinished product	The cost estimate for the semifinished product that is generated when the finished product is costed (acc. to transfer control)	CO
The price for a semifinished product processed by a vendor (subcontracting)	The purchasing info record	MM

	Or the purchase order	MM
The price for an activity used with in-house operations	Activity type planning	CO
	Or activity price calculation	CO
The conditions for the calculation of overhead	The costing sheet and, if applicable, the overhead group	CO
The process costs	The process template	CO
The costing lot size	The material master (changeable default value)	MM

See also:

When you create a cost estimate with quantity structure, the system creates the quantity structure automatically. For more information about this, see Quantity Structure Determination [Seite 179].

The quantity structure is valuated by the system. For more information, see Valuating the Quantity Structure [Seite 203].

You can use existing costing data for both creating and valuating the quantity structure. For more information, see Use of Existing Costing Data [Seite 607].

For information about how the system calculates overhead costs, see Overhead [Seite 569].

For information about the dates used by the system to create and valuate the quantity structure, see Date Control [Seite 567].

For more information about the master data accessed by costing, see Master Data for Costing [Seite 131].

Master Data for Costing with Quantity Structure

Use

To calculate the material, production, and overhead costs for a material, costing with quantity structure can access the following master data in other R/3 components:

Component	Data accessible for costing purposes
MM	Material master records [Seite 689] and purchasing info records [Seite 691]
PP	Bills of material [Seite 157], routings [Seite 166] and work centers [Seite 693]
PP-PI	Master recipes [Extern] and resources [Extern]
CO	Cost centers and activity types [Seite 698] , business processes [Extern]

Integration

The **material costs** for a material are calculated using the BOM and the master records of the materials in the BOM. The **production costs** are calculated using the routing, the work centers where the respective operations are carried out, the cost centers, and the activity types. You can calculate overhead [Seite 569] using the material costs and the production costs as a base.

In the Production Planning (PP) module, the **work center** is the organizational entity in which an operation is carried out. Every work center is linked to a **cost center**. The cost center is the organizational entity in the Controlling (CO) component where costs are incurred.

A **routing** contains the default values for the production of a product. The work center contains such things as

- Formulas that access the default values in the routing
- Activity types for which activity prices are planned or determined in Cost Center Accounting

On the basis of the formula in the work center and the default values in the operation, the system calculates the anticipated activity. This activity is valuated using the prices in Cost Center Accounting to calculate the planned costs for the operation.

In the routing, you can also assign the material components contained in the **bill of material** to the individual operations. This enables you to plan

- Which material components are provided and at which date
- Which material costs are expected at which date

The integration described above also applies if you work with the ***PP-PI*** master data (master recipes, material lists and resources) instead of the ***PP*** master data (BOMs, routings, work centers). The material list assigned to the master recipe contains the information pertaining to the material components used. The phase overview details the work required to manufacture the product and the default values. The resource is the organizational unit at which an operation or phase is carried out. It also specifies a cost center.

Master Data for Costing with Quantity Structure

In view of the high level of integration with the master data of other R/3 modules that is relevant to costing, you should check the entries in those modules before creating cost estimates.

Master Data in Controlling

Use

You can access the following information in Controlling to calculate the cost of goods manufactured and the cost of goods sold:

- Cost Centers and Activity Types [Seite 698]
- Business Processes [Seite 701]
- Cost Elements [Seite 139]

Cost Centers and Activity Types

Use

Cost Center Accounting (CO-OM-CCA) [Extern] determines the type and amount of costs incurred at the individual cost centers. Products and/or orders are debited with these costs according to the activities used relative to the cost centers.

In **costing with quantity structure**, the cost center is taken into account for costing purposes via the work center. For further information, see the following:

- Work Centers in Costing [Seite 693]
- Linking of Cost Centers and Business Processes [Seite 696]
- Overhead [Seite 569]
- Valuation of Internal Activities [Seite 731]

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the cost center or work center manually in the list screen. For more information, see List Screen of the Unit Cost Estimate [Seite 706] and Overhead Costs in Base Object Costing [Seite 739].

Features

The **cost center** is the organizational unit where costs are incurred. A work center specifies one cost center only.

For each cost center, the following are planned:

- Which activities are performed from the cost center
- Which costs are debited to a product when it uses the activities of the cost center

For costing, the valuation date of the cost estimate must correspond to the validity period of the cost center.

To check the master data for the cost center, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Cost center* → *Individual processing* → *Display*.

The activity of the cost center is expressed in **activity types**. You specify in the work center the activity types used to manufacture the product. You use **activity type planning** in Cost Center Accounting to assign activity types to cost centers.

Activities are valuated using activity prices, which are either set by you according to policy or are calculated by the system using cost planning in the form of iterative activity price calculation. Here, the planned costs of a cost center which are assigned to the activities are divided by the planned activity (or by capacity, depending on your system settings) to find iterative activity prices.

Actual costs are entered for each cost center. You can calculate actual activity prices for the individual activity types and use these values in costing to valuate the activities.

The following are relevant for costing:

- Activity type category

The activity category determines whether the activity type is taken into account in costing.

- Cost element

  The activity type must be assigned to a secondary cost element, so that the costs for this activity type can be included in costing under this cost element. This cost element must have cost element type 43 (internal activity allocation).

  The valuation date of the cost estimate must fall within the validity period of the cost element.

To check the master data for the activity type, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Activity type* → *Individual processing* → *Display*.

See also:

For more information, see *Cost Center Accounting* in the following sections of the SAP Library:

- Cost Centers [Extern]
- Cost Elements [Extern]
- Activity Types [Extern]
- Activity Type Categories [Extern]

Internal Activities

Usage

Costing can access the internal activities in Cost Center Accounting.

Features

Internal activities are planned in Cost Center Accounting. The company is divided into cost centers. For each cost center you can plan the following:

- Which activities are performed in the cost center
- With which costs an object is debited when it uses the activities of the cost center

An activity type master record exists for each internal activity. This determines, among other things, under which secondary cost element the costs are updated.

Activities are valuated using activity prices that you either set as 'policy' prices, or that the system determines on the basis of an iterative activity price determination. Here, the planned costs of a cost center which are assigned to the activities are divided by the planned activity (or by capacity, depending on your system settings) to find iterative activity prices.

A number of plan versions are used in Cost Center Accounting. For the standard cost estimate, you must work with plan version **zero**. For inventory costing, you can choose another plan version.

Actual costs are entered for each cost center. You can calculate actual activity prices for the activities, and revaluate the object which used the activities of the cost center.

You can enter your own planned activity prices for activity-independent and activity-dependent activity input. The system uses this data to determine which costs are to be treated as fixed costs.

See also:

Displaying Activity Prices for Each Cost Center [Seite 700]

Valuation of Internal Activities [Seite 731]

Valuation of Externally-Processed Operations [Seite 210]

Cost Center Accounting (CO-OM-CCA)

Displaying Activity Prices for Each Cost Center

Use

Internal activities are displayed in the cost estimate as category E items. The quantities used for such an internal activity are determined using the entries in the operation of the routing for the *Cost Estimate with Quantity Structure* or specified using your manual entry for the *Unit Costing.*

A price from Cost Center Accounting is used to valuate this activity quantity. You determine which price is used to valuate the internal activity in the cost estimate via the valuation variant in Customizing. It is possible for you to use for instance the plan price of the period or the actual price of the previous period to value the internal activity.

Procedure

1. Choose *Accounting* → *Controlling* → *Cost Center Accounting* → *Planning* → *Activity Output/Prices* → *Display*.
2. Enter the selection criteria, for example period and CO version.

   You must enter version 000 (operative version) for the standard cost estimate. For inventory costing, you can use other plan/actual versions.
3. Choose *Overview screen*.
4. Check the activity prices for the activity type.

See also:

CO Overhead Cost Controlling

Business Processes

Use

You can include the costs for business processes used when you calculate the cost of goods manufactured and the cost of goods sold. The system inserts costing items of category **X** in the cost estimate. In a unit cost estimate [Seite 683], you can also enter process costs manually by using item category **P**.

See also:

For more information about business processes and including them in costing, see the following:

- Business Processes [Extern]
- Activity-Based Costing Approaches [Extern]
- Parallel Activity-Based Costing [Extern]
- Process Costs in Costing [Seite 748]

Cost Elements

Use

Every item that is relevant to costing is assigned to a cost element. For example, material costs (category M) are assigned to primary cost elements, while production costs (category E) and overhead costs (category G, P or X) are assigned to secondary cost elements.

Item categories T (text) and O (formulas) in unit costing (that is, material costing without quantity structure and base planning objects) are not relevant to costing and do not, therefore, have to be assigned to cost elements.

Features

Item Category	Data Used by System to Determine Cost Element
M (materials)	Valuation class in the accounting view of the material master record
E (internal activities)	Entry in the master data of the activity type
X and P (business processes)	Entry in the master data of the business process
G (overhead)	Credit key in the costing sheet
V (variable items)	Your manual entry Variable items are only available in unit costing.
F (externally processed operations)	Entry in the detail screen of the operation

See also:

For more information about cost elements, see *CO Cost Center Accounting*.

Master Data from Logistics

Use

You can access the following master data in Logistics to calculate the cost of goods manufactured and the cost of goods sold:

- Material Master Records [Seite 689]
- Master Data in Purchasing [Seite 691]
- BOMs [Seite 157]
- Routings [Seite 166]
- Master Recipes [Seite 173]
- Work Centers and Resources [Seite 693]

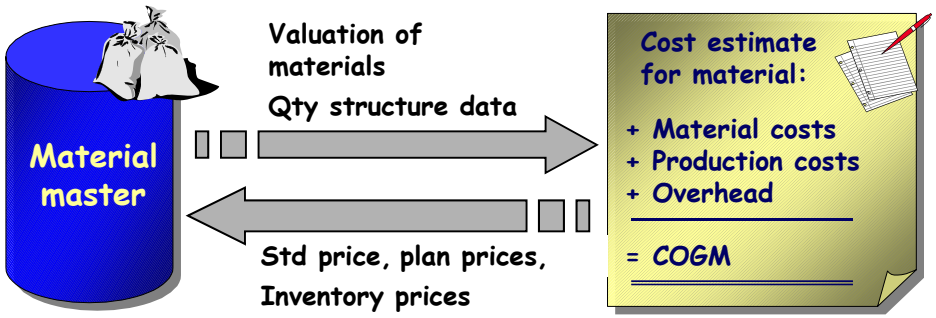
Material Master Records

Use

Material costs appear in the itemization as costing items of category M. These items are determined automatically in material costing with quantity structure. In unit costing (that is, material costing without quantity structure or base planning objects), you enter the materials manually as items of category M.

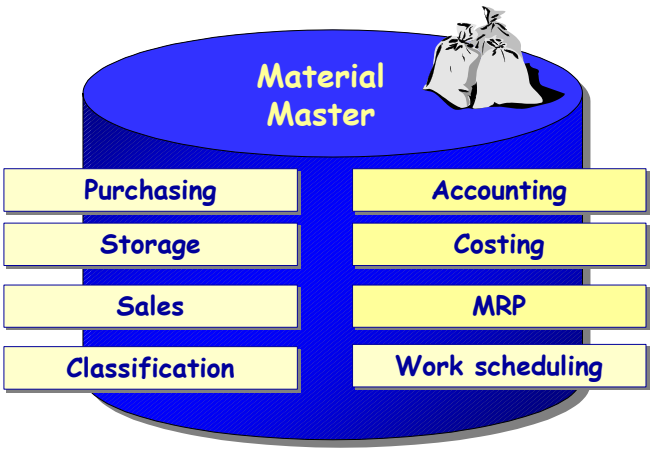
You can access the data of these materials in the material master record, in order to determine the prices of the materials for costing purposes. You can also transfer the results of material cost estimates into the material master record.

In addition, the material master record contains information about the determination of the quantity structure and about the procurement of the material to be costed.



Features

The material master record contains all information needed for managing a material. This data is arranged in **views**. The views correspond to the user departments [Extern] within the company in which the material is used. For material costing, the costing [Extern], accounting [Extern] and MRP [Extern] views are particularly relevant.



The cost estimate accesses **data in the accounting and costing views** of the material master record, in order to do the following:

Material Master Records

- Determine a price for externally-procured materials (in accordance with the valuation strategy for material valuation)
- Assign the material costs of a cost element using the valuation class
- Find the currency and price unit of the cost estimate
- Establish parameters for the calculation of overhead [Seite 569] for specific materials
- Determine a lot size for the cost estimate

The cost estimate accesses **data in the costing and MRP views** of the material master record, in order to do the following:

- Select parameters to determine BOMs and routings (material costing with quantity structure only), such as the BOM and routing or production version
- Select parameters to determine costing data in other plants (Special Procurement in Costing [Seite 443])

Material costing provides the following **information for the accounting view or costing view** of the material master record:

- Standard prices for materials with standard price control
- Tax-based prices and commercial prices for inventory valuation 1, 2, 3
- Other planned prices 1, 2, 3

See also:

- Determining the Quantity Structure in Costing with Quantity Structure [Seite 179]
- Valuating the Quantity Structure in Costing with Quantity Structure [Seite 203]
- Creating Costing Items in Unit Costing [Seite 703]
- Valuating Costing Items in Unit Costing [Seite 726]
- Price Update [Seite 634]

For more information about the material master record, see *LO Material Master* under the following:

- Material Master [Extern] and Material Master Record [Extern]
- Creating Material Master Records [Extern] and Creating a Material Master Record [Extern]
- Material Valuation [Extern] and Define Split Valuation [Extern]

General Data

Use

The costing view for the material contains the following general information:

- Base unit of measure

  Unit of measure in which the stocks of the material are managed.

- *With quantity structure* indicator

  This determines:

  – Whether the material is usually costed using material costing either with or without a quantity structure

  – Whether the system searches for existing material cost estimates with or without quantity structure when costing data is being transferred (see also: Transfer of Existing Costing Data [Seite 607])

- *Material origin* indicator

  Determines whether the material number is updated in addition to the cost element.

- *No costing* indicator

- Origin group

  Used to separate materials whose costs are updated under the same cost element for cost accounting purposes.

  If you enter origin groups in the relevant material master records, you can calculate overhead surcharges and production variances for each cost element/origin, for example. You cannot analyze overhead surcharges at origin group level in the unit cost estimate.

- Overhead group

  The overhead group is used when calculating overhead for a group of materials which have the same conditions. You assign the overhead group to an overhead key in Customizing for Product Cost Planning.

  You control the calculation of overhead via a costing sheet. When you create a costing sheet, you must ensure that it contains the corresponding overhead key.

- Variance key

  The variance key contains control parameters for the variance calculation. When you create an order for the production of the material, the system enters the variance key you specified here in the order master data.

- Plant-specific material status

  Restricts the use of the material and determines the functions for which a warning or error message is issued. You define whether the material status allows material costing in Customizing for *Logistics General* or *Product Cost Planning*.

- Profit Center

Price Fields and Valuation Data

Use

The accounting and costing views in the material master record contain price fields which can be accessed by costing to valuate the materials and which can be updated with the costing results. These price fields are as follows:

- Standard price and information relating to future, current and previous standard cost estimate

  The standard price is calculated by a standard cost estimate [Seite 63], and is written to the material master record when the cost estimate is released [Seite 636]. The standard price should not change during a planning period. When you create a costing view for the first time, you enter a provisional price (such as 1 euro).

  As soon as you mark the standard cost estimate, the costing results are transferred to the material master as the future standard price. As soon as you release [Seite 645] the standard cost estimate for the material this price becomes the current standard price, overwriting the existing current standard price.

  For more information, see Updating Standard Prices [Seite 636].

- Moving average price

  The moving average price changes due to goods movements and invoice entries. The system calculates the price automatically by dividing the material value in the material stock account by the total of all warehouse stocks in a plant. This price cannot be calculated via a material cost estimate.

- Planned prices 1, 2, 3 with *validity date from*

  You can either enter these prices manually, or determine them using a material cost estimate, and transfer the costing results as the other planned prices in the material master using the *Price Update* function.

  For more information, see Updating the Other Planned Prices [Seite 655].

- Tax-based and commercial prices 1, 2, 3

  You can either enter these prices manually, or determine them using a material cost estimate, and transfer the costing results as tax-based and commercial prices in the material master using the *Price Update* function.

  For more information, see Tax-Based and Commercial Prices [Seite 650].

The valuation data in the costing view controls the valuation of the material and the assignment of the material to a cost element (G/L account). If you have already created an accounting view for the material, certain data will also be displayed here.

- Valuation class

  Together with account determination in Customizing for valuation and account assignment, the valuation class determines the G/L accounts to which costs are updated by a valuation-relevant business transaction (such as a goods issue).

  For material costing, the valuation class controls the cost element to which the planned costs for this material are assigned, and the cost element under which the actual costs are updated when the material produced is delivered to stock.

Price Fields and Valuation Data

- Valuation category

  The valuation category specifies the criterion according to which partial stocks are distinguished from one another. Valuation category **B**, for example, differentiates the stock according to whether the material is produced in-house or procured externally. Stocks produced in-house are valuated differently from those procured externally. The value of the total stock equals the total of the stock values and stock quantities of the individual sub-stocks. With material costing, a separate valuation of the stocks is possible only to a limited degree.

  The stocks of a material with split valuation are carried separately for each valuation type. They are consolidated in the valuation header record. The data calculated by the standard cost estimate is updated in this valuation header record and under the *In-house* valuation type, if just one *In-house* valuation type was defined.

  You cannot split the costing results by origin or quality.

  For more information see Valuation category [Extern], Valuation type [Extern], Split valuation [Extern] and Split-Valuated Stocks [Extern].

- Price control

  The price control indicator specifies whether the stock of the material (and therefore also every business transaction for the material, such as usage) is valuated with the standard price or with a moving price.

  For material costing, you can go into Customizing for Product Cost Planning and create your own valuation strategy for the calculation of material costs. This strategy defines a search sequence for the selection of the different prices stored in the material master record (such as the standard price, future standard price, previous standard price, and moving average price)

  For more information, see Control of Material Valuation [Extern].

- Price unit

  Defines the number of units of measure to which the price in the material master record refers

- Currency

  Determined automatically from the company code.

See also:

For further information, see the following:

- *MM Inventory Management* under Material Master [Extern]
- *MM Material Valuation* in the following documents:
  - Material Valuation [Extern] and Control of Material Valuation [Extern]
  - Valuation Type [Extern] and Valuation Category [Extern]
  - Valuation Level [Extern], Valuation at Valuation Area Level [Extern] and Valuation Level: Example [Extern]

- Standard Price: Value Calculation [Extern] and Moving Average Price: Calculation [Extern]
- Split Valuation [Extern]

Entries for the Quantity Structure

Use

For the **material cost estimate** the costing or MRP view contains the following relevant information for the quantity structure:

- Alternative BOM and BOM usage

  The alternative BOM determines which alternative is used as the basis for material costing with a quantity structure for a specific BOM usage.

  The BOM usage determines the areas within the company in which the BOM [Seite 157] is used.

  For automatic alternative determination enter a BOM usage to determine which BOM is to be used for the material costing with quantity structure.

- Task list group, group counter and task list type

  The task list group summarizes several routings [Seite 166] or master recipes that have similar production processes or are used to manufacture similar materials. You differentiate between the routings in a group by means of group counters.

  You can create a new task list group for each routing usage. This enables you to opt for production alternatives in material costing with a quantity structure. Within the task list group, the same group counter identifies the same production alternative.

  The group counter identifies which routing [Seite 166] or master recipe within the routing group is used in the material costing with a quantity structure.

  The task list type identifies a particular task list together with the task list group and the group counter. A task list contains the information for the production of a material. This may involve for example a master recipe (task list type 2), a routing (task list type N) or a rate routing (task list type R).

- Special procurement type for costing

  This key sets a special procurement type [Seite 443] for material costing with a quantity structure that can be different from the special procurement type in materials planning. In this case the entry in the costing view has priority for the cost estimate.

  If you do not enter a key here, the special procurement type you enter in the MRP view will apply.

- Costing lot size

  The costing lot size specifies the quantity used as a basis for costing. If you do not specify a lot size when creating a cost estimate, this lot size is used as a default. If you do specify a lot size when creating a cost estimate, the lot size in the material master record is ignored.

- The indicator co-product/fixed price

  Indicates a material as a co-product [Seite 400] or a fixed-price co-product [Seite 405]

- Version indicator

  Indicates that production versions exist for the material

- Production version

  Specifies the production version to be used as a basis for costing the material

The following information relevant to the material cost estimate is defined in the MRP view.

- Lot size data
- Assembly [Seite 384]- and Component scrap [Seite 387]
- Procurement type and information for special procurement
- Indicator *co-product*
- Alternative selection
- Version indicator and production versions

See also:

- Quantity Structure Determination [Seite 179]
- Production Versions [Extern]
- Creating Production Versions [Extern] and Creating the Production Version with Reference [Extern]

Creating a Material Master Record

1. Choose *Logistics* → *Production* → *Master data* → *Material master* → *Material* → *Create (general)* → *Immediately*.
2. Enter an alphanumeric key (material number [Extern]) and an industry sector [Extern].
3. Enter a material type [Extern].

   If you choose *Material* → *Create (special)* instead of *Material* → *Create (general)*, you have to assign the material to a material type automatically, such as HALB for semifinished products or FERT for finished products.

   For more information, see Determining the Material Type [Extern] and Standard Material Types [Extern].
4. Choose *Select view(s)* and select *Accounting* and *Costing*.
5. Choose *Organizational levels*.
6. Enter a plant and choose *Continue.*

   Materials are always linked to a plant.
7. In the *Accounting* view, enter the following data:
   - *Description*
   - *Base unit of measure*
   - *Division*

     Under *Division*, you assign the material to a business area.
   - *Valuation class*

     The valuation class enables you to assign the material to various G/L accounts.
   - *Price control indicator*

     The price control indicator determines whether material movements are valuated with the standard price or with a moving average price.
   - *Standard price* or *Moving average price*
6. In the *Costing* view, enter the following data:
   - *With quantity structure* indicator

     Set this indicator if you usually cost a material using material costing with a quantity structure (BOM and routing).

     Do not set this indicator if you always cost a material using material costing without a quantity structure (that is, with a manually-created quantity structure).
   - *Origin group*

     The origin group allows you to separate materials whose costs are updated under the same cost element.

- *Material origin*

  If this indicator is set, the material number will also be written to the cost element.

- *Costing lot size*

  The costing lot size is used as the base quantity for costing if you do not enter a lot size when costing.

- *Overhead group*

  The overhead group assigns the material to an overhead key. You can enter a percentage for each overhead key in the costing sheet.

- *Variance key*

  The variance key contains control parameters for the variance calculation.

- *MM/PP status*

  You define whether the material status allows costing in Customizing for Logistics General or for Product Cost Planning.

7. Save the material.

See also:

Creating Material Master Records [Extern]

Displaying/Changing the Material Master Record

1. Choose *Logistics* → *Production* → *Master data* → *Material master* → *Material* → *Display* → *Display current* or *Display* → *Immediately*.
2. Enter the material number [Extern] and choose .

   The dialog box *Select View(s)* appears.
3. Select the *Accounting* and *Costing* views.

   You can save the views as the default value, and show the dialog box *Select View(s)* only when required. To do this, select the views you require, choose *Default values* and set the indicator *View selection only on request.*
4. Choose *Continue*.

   The dialog box *Organizational Levels* appears.
5. Enter the required data (*Plant* and, if applicable, *Valuation type*).

   You can save these entries as the default value, and show the dialog box *Organizational Levels* only when required. To do this, choose *Default value* and set the indicator *Org. levels/profiles only on request.*
6. Choose *Continue*.

   The screen *Display … Material* or *Change … Material* appears, in which you can check and/or change the entries applicable to the cost estimate. For more information, see General Data and Quantity Structure Data [Seite 505] and Valuation Data and Price Fields [Seite 507].

   If you choose *Extras*, you can display further details about the material. For example, the tab page *Consumption* shows the material consumption for the periods concerned.

See also:

LO Material Master:

- Display of Material Master Records [Extern]
- Changing Material Master Records [Extern]
- Planning Changes To a Material Master Record [Extern]
- Change Document [Extern]
- Changing the Material Type [Extern]

Material Types

Definition

Divides materials with the same properties into groups.

Use

So that different materials can be managed consistently in accordance with company requirements, those materials with the same properties are divided into groups and assigned to a material type. Examples of such groups are:

- Raw materials (ROH)
- Semifinished products (HALB)
- Finished products (FERT)
- Materials procured externally (FREMD)
- Process materials (PROC)
- Trading goods
- Operating supplies

Each material is assigned to a material type so that ii is designated as, for example, a raw material, a semifinished product, or a finished product. This defines various control parameters for processing the material.

For costing, the material type controls

- Whether a costing view can be created in the material master record for a material of this material type
- Whether a material of this material type is normally costed using costing with a quantity structure (that is, using BOMs and routings), or costing without a quantity structure (manually, using unit costing)
- Whether the value and quantity for the material for the relevant plant is shown in the material master record
- How the material is assigned to the stock and consumption accounts in Financial Accounting

You determine which control parameters are linked to the material type in Customizing for **Logistics General**.

A costing view can only be created by the system if the *Costing* indicator is set for a material type. If no costing view exists in the material master record, the system creates a costing view when costing is carried out.

You can use the material type to specify that the *With quantity structure* indicator is set as a default when you create a material master with this material type. The *With quantity structure* indicator specifies that materials of this material type will generally be costed using material costing. If the indicator is not set, the system looks for an existing material cost estimate without

quantity structure. If no cost estimate without quantity structure exists, the material is costed as a raw material.

In the standard system, the material types for raw materials, semifinished products, and finished products are defined in such a way that materials with these material types can be costed with material costing.

You can reset the *With quantity structure* indicator manually in the costing view of the material master record.

Master Data in Purchasing

Use

Purchasing contains information for the procurement of a material or service from a certain vendor, such as conditions negotiated with the vendor. Costing enables you to access this information in the following areas:

- Valuation of Materials [Seite 728]
- Raw Material Costing [Seite 735] (not relevant for Reference and Simulation Costing)
- Valuation of subcontracted [Seite 446] materials
- Valuation of external processing [Seite 210]

Prerequisites

In order to access the prices from purchasing (that is, the purchasing info record or purchase order), you must enter the following in Customizing for *Product Cost Planning*:

- In the valuation variant:
  - Enter strategy **L** (price from purchasing info record) for material valuation
  - Enter a strategy for the valuation of subcontracting and external processing
- Enter this valuation variant in the costing variant that you want to use for the cost estimate

Features

The link between material/activity and vendor is established in purchasing. It manages information about the vendor, and about the materials and activities that you have obtained from the vendor, such as quantities, prices, price changes, and other costs.

When costing, you can access information in the purchasing info record and purchase order, for the following purposes:

- To include delivery costs (such as freight charges, duty costs, and insurance costs) in the costing results

  This enables you to carry out raw material costing. Instead of the price being taken from the material master, an actual cost estimate including overhead calculation for material components is executed. This cost estimate does not have a quantity structure (BOM, routing).

- To valuate subcontracted materials with a price from purchasing

  For more information, see Valuation of Subcontracting [Seite 733].

- To valuate externally-processed items with a price from purchasing

  For more information, see Valuation of Externally-Processed Operations [Seite 210].

You can access the following prices:

- The price from the operation in the routing (not applicable to unit costing)
- From the purchasing info record (purchasing):

  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for *Product Cost Planning* and assigning it to the costing variant.

The valuation variant contains a search sequence that has a maximum of three prices.

You have defined the following strategy sequence for the valuation of external activities:

a. Net quotation price

b. Net order price

c. Price from operation

If a net quotation price exists in the purchasing info record, the system transfers this price. If no such price exists, the system transfers the net order price from the purchase order. If no purchase order was created for the operation, the system uses the price in the externally-processed operation in the routing.

See also:

For more information about purchasing master data, see the following in the SAP Library under MM Purchasing [Extern]:

- Purchasing Info Records [Extern]
- Source Lists [Extern]
- Quota Arrangements [Extern]

For more information about performing costing, see the following:

- Working with the Cost Estimate with Quantity Structure [Seite 119].
- Working with the Cost Estimate Without Quantity Structure [Seite 477]
- Working with Reference and Simulation Costing [Seite 665]

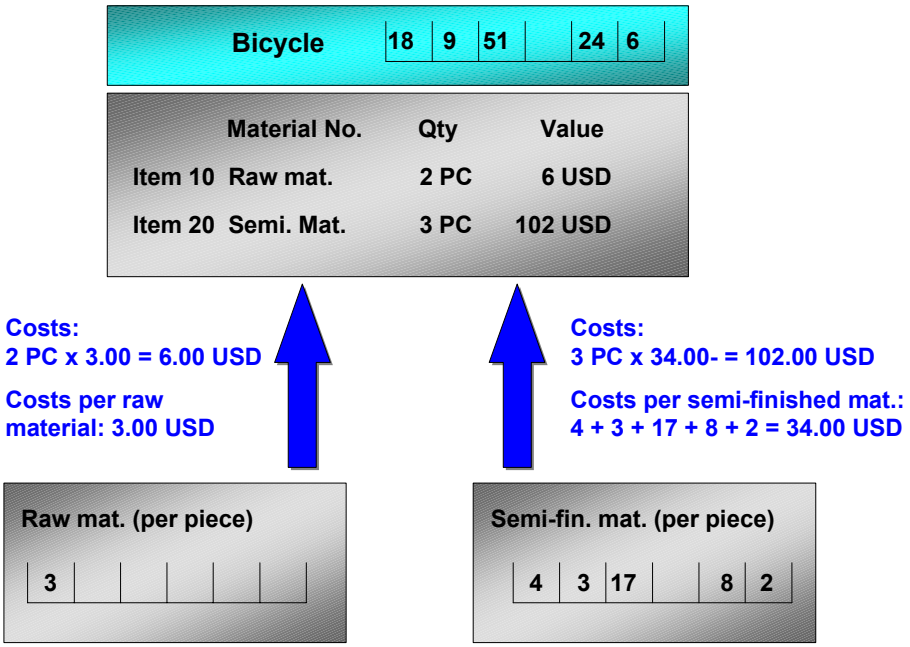
Bills of Material

Use

The bill of material (BOM) lists the materials required to manufacture a particular product. A BOM can include materials that have their own BOMs. The BOM determines which materials are costed, and the sequence in which they are costed. The system selects a BOM for the material through the costing variant and its quantity structure determination ID.

Integration

The following graphic shows the integration between the BOM, the material master record, the valuation variant and the cost estimate, and shows how material costs are calculated.



See also:

For more information about how **costs** (material and production costs) are calculated, see the following:

- Costed Multilevel BOMs [Seite 159]
- Calculation of Cost of Goods Manufactured and Cost of Goods Sold [Seite 26]
- Cost Rollup [Seite 467]
- Cost Estimate with Quantity Structure: Process Flow [Seite 120]
- Valuation of Materials [Seite 728]

For more information about **bills of material**, see the SAP Library under the following:

- PP BOMs [Extern]

Bills of Material

- Assemblies [Extern]
- Structure of a BOM [Extern]
- BOM Usage [Extern]
- Validity of the BOM [Extern]
- BOM Header [Extern]
- BOM Items [Extern]
- Item Categories for Material Items [Extern]

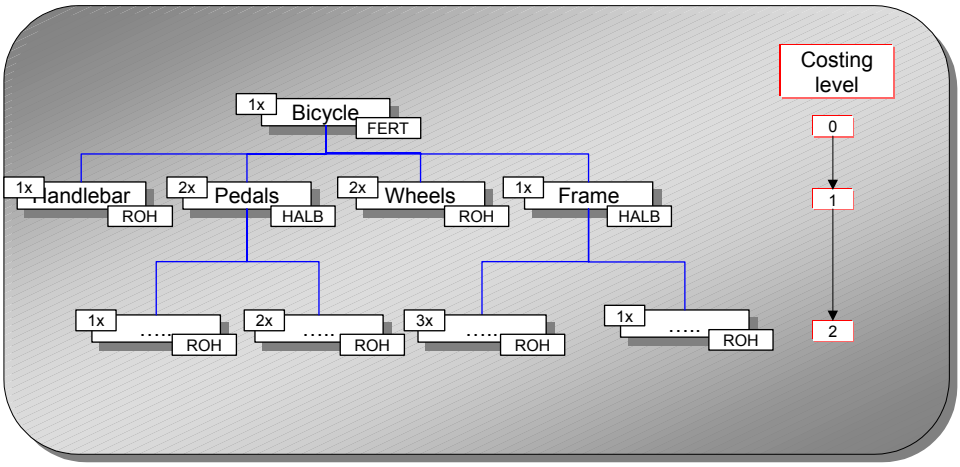
Multilevel BOMs

Definition

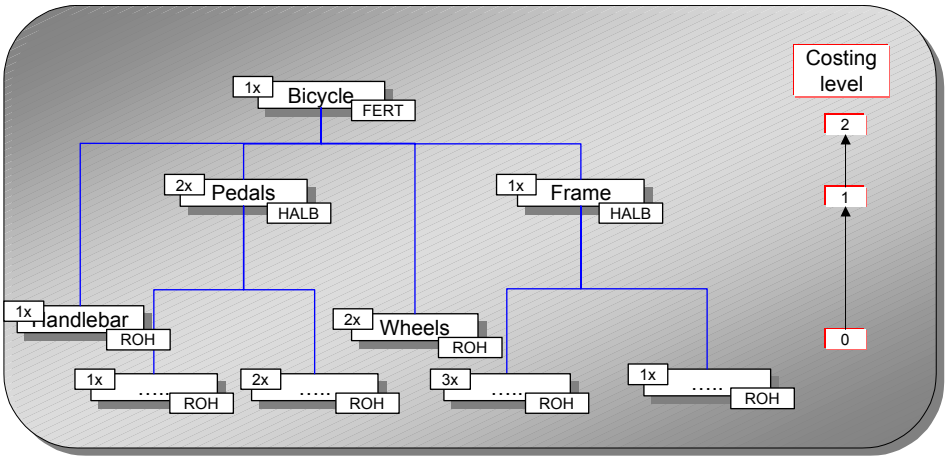
BOM containing materials that have their own BOMs (assemblies).

Use

The system assigns a low-level code (from the Logistics view) to each level of the BOM. The following graphic shows a multilevel BOM and its low-level codes:



The system explodes the BOM from top to bottom (low-level codes), and assigns costing levels (from the costing view). The following graphic shows a multilevel BOM and its costing levels:



The costing levels determine the sequence in which the cost of goods manufactured is calculated for each material.

- The system first calculates the costs for the materials with the lowest costing level (no. 0 in the figure).
- Then it calculates the costs for the materials (semifinished products) in the next highest level (1) including the costs that it calculated for the materials in the subordinate costing level.

Multilevel BOMs

This ensures that the costs for all assemblies and all raw materials or purchased parts are included in the costs calculated for the end product. This process is also called cost rollup [Seite 467]. A cost component split [Seite 824] is created for each assembly costed, grouping the costs into, for example, material costs, production costs, and overhead. For raw materials or purchased parts, you can create an initial cost split [Seite 462] to break down the procurement costs.

When you save the cost estimate for the end product, you also save a cost component split for each level of the cost estimate. This enables you to analyze the value added for each production level.

See also:

- PP BOMs [Extern]
- Assemblies [Extern]

Recursive BOMs

Definition

BOM [Seite 157] of a material which is also contained in the BOM.

Use

You can cost materials and assemblies with recursive structures using the cost estimate with quantity structure or the costing run. For further information about this, see Costing Recursive Structures [Seite 417].

Recursive BOMs can usually be found in the process industries [Seite 399] (such as the chemical and pharmaceutical industries), and in connection with joint production [Seite 400] and mixed costing [Seite 426].

See also:

- PP BOMs [Extern]
- Recursiveness [Extern]

Information in the BOM Header

Use

The following information in the BOM header is relevant for costing:

- **BOM Usage**

  Determines whether the BOM is relevant for costing.

  When you create a BOM, enter the BOM usage in the initial screen. You can enter the BOM usage as a default for the costing selection in the costing view of the material master record. The BOM usage is a selection criterion for the automatic alternative determination.

- **Validity**

  The validity period of the BOM determines whether the BOM can be selected for costing. The BOM must be valid at the quantity structure date of the cost estimate.

  If you create a BOM, specify the validity period in the initial screen.

  To check the validity period, select *Goto → Header → Administrative data*

- **BOM status**

  You use the BOM status to determine whether a BOM can be used in a certain work area (in this case, the cost estimate). The BOM status is proposed through the control data in Customizing for Production. The BOM status is a selection criterion for the automatic BOM determination.

  To check the BOM status, choose *Goto → Header → Full*.

- **Alternative BOM**

  The alternative BOM identifies a BOM within a BOM group (multiple BOM, variant BOM). You can enter the alternative BOM as a default for the quantity structure determination in the costing view of the material master record.

  To check the number of the alternative, choose *Goto → Header → Full.*

- **Lot size (for multiple BOMs)**

  Multiple BOMs are groups of BOMs that describe different alternative combinations of materials (alternatives) for the same product. If different lot size ranges are represented by different alternative BOMs, you select the BOM to be costed using the costing lot size.

  To check the lot size range for an alternative BOM, choose *Goto → Header → Quantities/long text*.

See also:

Product Cost Planning:

- Quantity Structure Determination [Seite 179]
- Parameters for Quantity Structure Control [Seite 180]
- Quantity Structure Control Through Customizing [Seite 183]

Production Planning:

- PP BOMs [Extern]
- BOM Header [Extern]
- BOM Usage [Extern]
- Validity [Extern]
- BOM Status [Extern]
- BOM Alternatives [Extern]
- Lot Sizes (Quantities/Long Texts) [Extern]

Information in the BOM Items

Use

The item overview lists the individual material components needed to manufacture the product. The input quantities for the material components refer to the base quantity in the BOM header [Seite 162].

You enter a costing lot size when you create a cost estimate. The material input quantities for each item are adjusted in accordance with the base quantity of the BOM to correspond to the costing lot size.

The unit of measure must match the stockkeeping unit in the material master record. The price used for the material valuation is always based on the stockkeeping unit. If the component is issued in a different unit of measure or is entered in the BOM with a different unit of measure, then the system uses the output conversion rate from the material master to determine the required quantity.

Features

The following information in the BOM item is relevant for costing:

- **Item Category**

  The item category classifies the BOM item. Costs are calculated for the following item categories:

  - Stock materials
  - Variable-sized items
  - Non-stock materials

  You check the item category in the *Material item overview* screen.

  For stock items and variable-sized items, the system selects a price from the material master record by means of a search strategy that you specify in the valuation variant in Customizing for Product Cost Planning. For stock materials and variable-sized items that have their own BOMs, the system creates a cost estimate and copies the calculated costs into the cost estimate of the higher costing level. For more information, see Multilevel BOMs [Seite 159].

  For non-stock materials, the system determines the costs from the purchasing data in the BOM item.

- **Validity Period**

  The validity period of the BOM item is taken into account in material costing. If the item is not valid on the quantity structure date of costing, it is ignored.

  You check the validity period of the BOM item in the *Material item overview* screen.

- **Relevancy to Costing**

  If the relevancy to costing indicator is not set, the BOM item is ignored for costing. For the standard cost estimate, the modified standard cost estimate and the current cost estimate, the field can contain an **x** or be empty.

For inventory costing, you can enter a relevancy to costing indicator that is linked to a factor in Customizing for Product Cost Planning. You can adjust the value of the BOM items (such as packaging materials) using this factor for commercial physical inventory valuation or tax-based physical inventory valuation. For more information, see Inventory Cost Estimates [Seite 65] and Tax-Based and Commercial Prices [Seite 650].

You use the BOM usage and the default values of the item to control whether this field contains a default value and whether you can change the contents of this field during BOM maintenance.

To check the relevancy to costing indicator, choose *Goto* → *Item* → *Status/long text*.

- **Fixed Quantity**

  This indicator controls whether the input quantity is lot size independent (fixed for each base quantity in the BOM that is smaller or equal to the costing lot size) or whether it is lot size dependent.

  To check this indicator, choose *Goto* → *Item* → *Basic Data*.

- **Component Scrap (%)**

  Component scrap is included in material costing during the BOM explosion. The system increases the input quantity of the component by the calculated scrap quantity. Component scrap can also be defined in the material master. For more information, see Component Scrap [Seite 387].

- **Operation Scrap (%)**

  Operation scrap (the excess material consumption for each operation) is included in material costing. The system increases the input quantity of the component by the calculated scrap quantity. For more information, see Operation Scrap [Seite 390].

- ***Net* Indicator**

  If the *Net* indicator is set, the system includes in the cost estimate the operation scrap for each BOM item and not the assembly scrap in the material master record. If you define operation scrap, you must set the *Net* indicator. For more information, see Costing Scrap [Seite 382].

  To check the estimated scrap, choose *Goto* → *Item* → *Basic Data*.

  The entries in the BOM item specify the planned scrap. You can valuate the confirmed scrap quantities in Cost Object Controlling in order to calculate the costs of the actual scrap.

See also:

- PP BOMs [Extern]
- Item Categories for Material Cost Estimates [Extern]
- Validity Period [Extern]
- Scrap Data [Extern]

Routings

Use

The routing lists the operations needed to manufacture a product. It specifies the following for each operation:

- The work center at which the operation is carried out
- Which default values are to be used to calculate the dates, capacities, and production costs
- Whether the costs of an operation are taken into account for costing
- The material components needed to carry out an operation

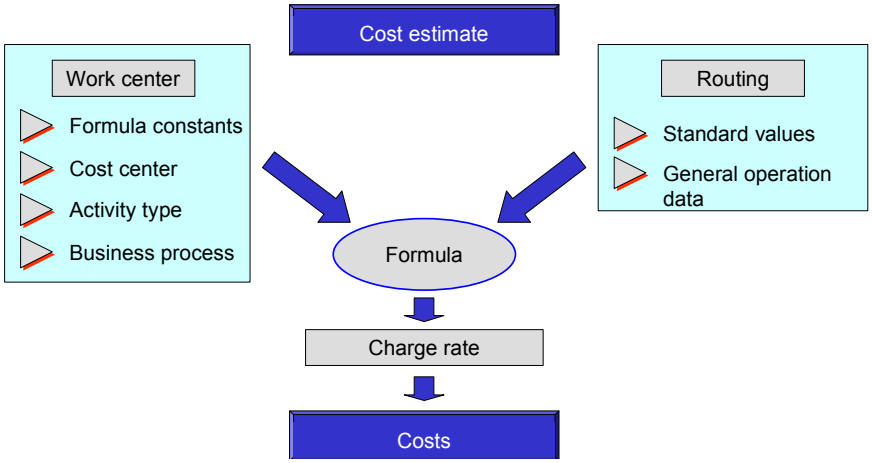
In repetitive manufacturing, you can use rate routings in addition to normal routings and reference operation sets.

Features

For costing, the system selects a routing for the material using the costing variant and its quantity structure determination ID. The planned costs are calculated for each operation.

The system calculates the amount of activity used using the formula in the work center and the default values in the operation of the routing. This activity is valuated using the prices in Cost Center Accounting or Activity-Based Costing to calculate the planned costs for the operation.

The following figure shows the connection between the data in the work center and the data in the routing.



Repetitive manufacturing often uses rate routings instead of normal routings. With a routing, the base quantity is normally constant and the times (such as the processing time) are determined through the standard values. With the rate routing, however, it is the other way around. The production quantities are maintained separately for each article, and the time is constant. In a rate routing, therefore, you can specify what quantity of an article is manufactured in a given time using a production rate.

The functions of rate routings and routings are otherwise the same as those of normal routings.

See also:

Information in the Routing Header [Seite 168]

Operation Overview [Seite 170]

Detail Screen for the Operation [Seite 171]

Quantity Structure Determination [Seite 179]

Valuation of the Quantity Structure [Seite 203]

Information in the Routing Header

Usage

The following data in the **header** of the routing is relevant to costing.

- Task list type
- Task list group
- Usage
- From lot size / to lot size
- Change number
- Validity period

You check this data by choosing *Details* → *Header*.

Features

Task list type

You can select the following task list types for material costing:

- Routings
- Rate routings
- Recipes

You specify the task list type when creating the routing. You can enter a default task list type in the costing view of the material master record.

Task list group

The routing group combines similar routings.

You enter the routing group in the initial screen of the routing. If you do not enter a routing group, the system assigns a group automatically.

You can enter a default routing group in the costing view of the material master record.

Group counter

The group counter identifies a routing within a routing group. The system sets the group counter automatically.

You can enter this value as a default in the costing view of the material master record.

Usage

The usage indicates what the routing is used for (such as production or repair). Together with the task list type and the status of the routing, the usage forms a search criterion for automatic alternative determination.

Status

The status of the routing specifies whether the routing is, for example, released or still being processed. Routings can only be costed without errors if their status allows costing. Together

with the task list type and the usage of the routing, the status constitutes a search criterion for automatic alternative determination.

From lot size / to lot size

If different lot size ranges are represented by different alternative routings, you select the routing for costing by means of the costing lot size.

Change number

All changes to the routing that are made with a change number are included in costing.

You enter a change number in the initial screen of the routing.

Validity period

The routing must be valid on the quantity structure date of the cost estimate. You enter a key date in the initial screen of the routing.

Operation Overview

Definition

List of all operations in the routing.

Use

The following information in the operation overview is relevant for costing:

Work center

The system selects the following data through the work center:

- Formulas that access default values to determine the planned times
- Activity types for which activity prices are planned or determined in Cost Center Accounting
- Business processes for which prices are determined in Activity-Based Costing

Control key

The control key specifies, among other things,

- Whether the operation is included in the cost estimate
- Whether the operation is processed internally or externally
- Whether and how the operation is confirmed

Suboperations are handled in the same way as operations.

Detail Screen for the Operation

Definition

Contains all the information for a particular operation in the routing [Seite 166].

Use

The following data in the detail screen for the operation is relevant for costing:

Standard values

The system uses standard values and the formula in the work center [Seite 693] to calculate the planned costs for the operation.

The standard value key in the work center specifies

- How many standard values can be entered in the operation (maximum of six)
- The meaning of the standard values (such as setup time, machine time, or labor time)
- The dimension (time, quantity, volume) in which the default values are entered

You can enter the required activities in accordance with either the activity types defined in the work center or the business process entered therein. The time unit you enter does not have to match the time unit that was entered when the activity type was specified.

The key for the performance efficiency rate specifies the relationship between the predefined target time and the actual time. In costing, the standard values can be corrected through the key for performance efficiency rate.

Scrap

The scrap created in the operation results in a scrap-adjusted quantity in the next operation, because the quantity to be processed is reduced by the scrap quantity. This scrap is included in the cost estimate when the quantity structure is created.

See also:

Costing Scrap [Seite 382], Operation Scrap [Seite 390]

Relevancy to costing indicator

If the relevancy to costing indicator is not set, the operation is ignored for costing.

For inventory costing [Seite 65], you can enter a relevancy to costing indicator that is linked to a factor in Customizing for Product Cost Planning. The values of the operations that contain, for example, packaging costs can be adjusted according to this factor for stock valuation.

External processing

The control key indicates whether an operation can be processed externally. The costs of the externally processed operation can be entered either in the operation itself or in a purchasing info record. The valuation variant contains a strategy sequence for the valuation of external processing. You enter the cost element under which the costs of the operation are to be updated in the operation.

You can enter a purchasing info record [Seite 691] in the operation details screen. Externally-processed operations use purchasing info records without a material reference (info record for non-stock material). The purchasing info record contains the following information:

Detail Screen for the Operation

- Vendor
- Purchasing organization
- Planned delivery time
- Purchasing group
- Standard quantity
- Net price

Remember that purchasing info records have a validity period. The data in the purchasing info record will only be included in costing if the purchasing info record is valid on the quantity structure date of the cost estimate.

If no purchasing info record exists, you enter the following data in the operation:

- Sort string
- Material group
- Planned delivery time
- Price unit
- Net price
- Currency
- Cost element

Master Recipes

Use

In addition to PP BOMs and routings, you can also include master recipes in costing. The system determines the master recipe and calculates the material and production costs automatically just as it does with a PP quantity structure with a BOM and routing.

See also:

- Bills of Material [Seite 157], Information in the BOM Header [Seite 162] and Information in the BOM Items [Seite 164]
- Information in the Routing Header [Seite 168], Detail screen for the Operation [Seite 171] and Operation Overview [Seite 170]
- Valuation of Production Activities [Seite 731]
- Quantity Structure Determination [Seite 179]
- Master Recipes [Extern]

Work Centers and Resources

Use

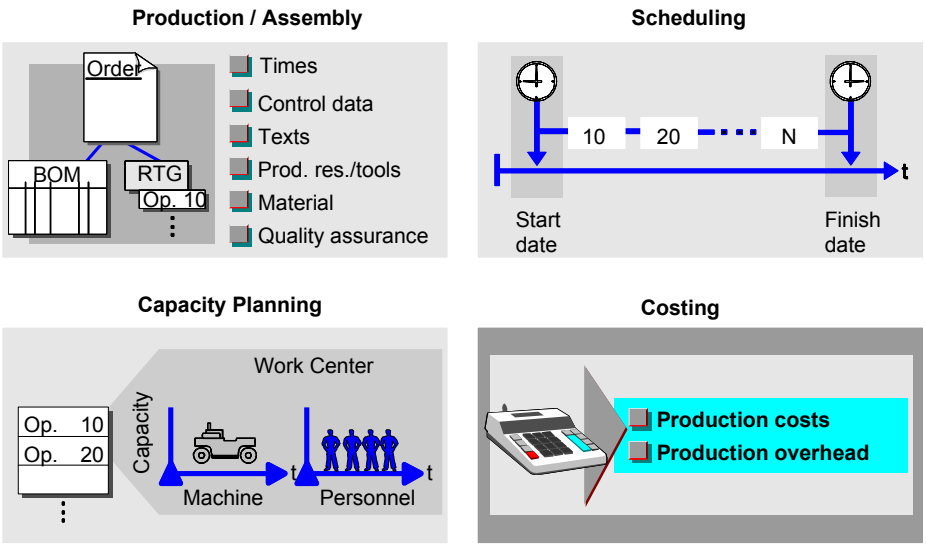
The work center or resource is the organizational unit where an operation is carried out. A work center or resource specifies exactly one cost center and various activity types, or a business process. In this way, the work center or resource link the entries in Cost Center Accounting or Activity-Based Costing with the entries in PP or PP-PI.

In **costing with quantity structure**, the work center is included in the cost estimate through the routing and the resource through the master recipe. For more information, see Routings in Costing [Seite 166].

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the work center or resource in the list screen manually. For more information, see List Screen of the Unit Cost Estimate [Seite 706].

Features

The following graphic shows how the data in work centers and routings can be used in the R/3 System.



The following entries in the **basic data screen** of the work center or resource are relevant to costing:

Work Center Category

The work center category determines which data you can maintain in the work center and which values are proposed. You define work center categories in Customizing for Production.

Standard Value Key

This key determines how many default values you can maintain (maximum of six), and assigns a meaning (such as setup time, machine time, or labor time) and a dimension (such as minutes) to the standard values.

Standard values are used in formulas to calculate the execution time, the capacity requirements and the production costs.

You define the standard value key in Customizing for Production.

Efficiency Rate

The performance efficiency rate is the relationship between the predefined target time and the actual time. You can use the efficiency rate key in costing to correct the default values. You define the efficiency rate key in Customizing for Production.

Suppose the performance efficiency rate is 150% and the standard time is 120 minutes for one operation. If the price for the activity type is USD 60 per hour, the planned costs for the operation are calculated as follows:

120 min /150% x 100% = 80 minutes (planned time)

The planned cost for the operation is therefore USD 80.

You can define default values for the routing or master recipe in the work center or resource respectively. If you assign an operation in the routing or a phase in the master recipe to this work center or resource then these default values are transferred to the operation or phase.

The following **default values** are relevant to costing:

Control Key

The control key specifies the following:

- whether the operation or the phase are included in the costing
- whether the operation or the phase are processed internally or externally
- whether they are confirmed and in what form

You can check these settings in the control key by using the *possible entries* function (*F4)* on the *Control key* field and choosing the *Detailed information* function for the corresponding control key.

Reference indicator

Setting this indicator prevents the control key from being changed in the routing.

See also:

For more information, see the SAP Library under PP - Work Centers [Extern] and in the following sections:

- Work Center Categories [Extern]
- Performance Efficiency Rate Keys [Extern]
- Default Values [Extern]
- Control Keys [Extern]
- Reference Indicators [Extern]

Linking of Cost Centers and Business Processes

Use

So that the system can access the planned prices for the activity types in Cost Center Accounting, the work center must be linked to a cost center and the activity types defined for that cost center.

To allocate to process costs using the integration with the work center (and thus with the routing), you must enter a business process and a formula to determine the process quantity in the work center.

The following data is relevant to costing:

Cost center

A work center can only be assigned to one cost center. However, you can assign more than one work center to a cost center. For more information, see Linking Work Centers to Cost Centers [Extern].

Activity types

The standard value key determines how many activity types you can specify for each work center. For production work centers, you can specify a maximum of six activity types. For network work centers and plant maintenance work centers, you can only specify one activity type.

You create activity types in Cost Center Accounting and define, for each cost center, the costs that are charged to a product when it uses activities of this cost center. For more information, see Activity Types [Extern].

Reference indicator

Setting this indicator prevents the control key from being changed in the routing. For more information, see Reference Indicators [Extern].

Formula key

In the work center, you assign a formula key to each activity type or to the business process. This key is linked to a formula that determines how the activity input for each operation is calculated.

Formulas are used to calculate capacity requirements, lead times, and costs.

If you want to use a formula to calculate costs, you must set the *Allowed for costing* indicator in the definition of the formula.

You define formula keys and formulas in Customizing for Production under *Basic data* → *Work center* → *Costing*.

The standard system contains formula key SAP002 *Prod.: Machine time*.

You see in the definition of the formula key, that

- The *Allowed for costing* indicator is set
- The formula defined was: SAP_02 x SAP_09 / SAP_08 / SAP_11

Linking of Cost Centers and Business Processes

In the definition of the formula parameters you see the accompanying text (for instance SAP_02 for *Machine*, SAP_09 for the *Operation quantity*).

Business process

You can only enter one business process. The business process is transferred from the work center into the routing. For more information, see Linking Work Centers to the Business Process [Extern].

For further information, see the following sections in the SAP Library:

- PP Work Centers [Extern]
  - Standard Value Key [Extern]
  - Costing [Extern]
  - Formulas [Extern]
- Process Costs [Seite 748]

Determination of the Quantity Structure

Use

When you create a cost estimate with quantity structure, the system constructs a quantity structure from the PP master data (that is, BOMs, routings, or master recipes). You determine the data to be used for the cost estimate in the costing variant in Customizing for Product Cost Controlling.

The quantity structure is created automatically using the following data:

- BOM and routing (production by lot size)
- BOM and rate routing (repetitive manufacturing)
- Master recipe (process manufacturing)

Costing copies this quantity structure automatically to costing items of type M (material) and E (internal activity).

Features

The sections below tell you

- How costing constructs the quantity structure and how you can influence how the quantity structure is created
  - Quantity Structure Control Through Customizing [Seite 183]
  - Quantity Structure Control Through the Material Master Record [Seite 187]
  - Quantity Structure Control Through the Initial Screen of the Cost Estimate [Seite 189]
- How the cost estimate with quantity structure accesses data in other plants (see Special Procurement in Costing [Seite 443])
- How you can transfer existing costing data (see Transferring Existing Costing Data [Seite 607])
- How you can use reference costing to copy an existing quantity structure into a new cost estimate (see reference costing [Seite 629]).

See also:

Cost Estimate with Quantity Structure: Process Flow [Seite 120]

Valuation of the Quantity Structure [Seite 203]

Date Control [Seite 567]

Parameters for Quantity Structure Control

Use

There are various ways to influence how a quantity structure is created. This section details the parameters with which you can control the quantity structure data.

Features

Quantity Structure Control

The quantity structure control controls how the system searches for alternatives when there is more than one BOM or routing for a material. You define the quantity structure control in Customizing and enter it in the costing variant. For more information, see Quantity Structure Control Through Customizing [Seite 183] and Preparing for Material Costing [Seite 73].

Transfer Control

This determines

- Whether a material is to be recosted, if costing data already exists for the material in the plant of the finished product
- Whether costing data is to be transferred from another plant if the material is withdrawn from, or transferred to, this plant

You define the transfer control in Customizing and enter it in the costing variant. For more information, see Transfer of Existing Costing Data [Seite 607].

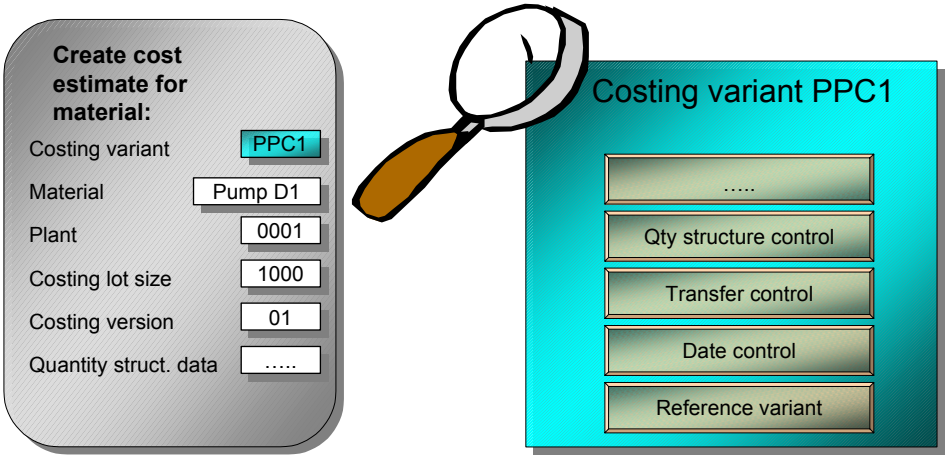
Reference Variant

The reference variant enables you to create a cost estimate using the quantity structure of an existing cost estimate as a base. The quantity structure of the cost estimate referenced is transferred and is not exploded afresh. You define the reference variant in Customizing and enter it in the costing variant. For further information, see Reference Costing [Seite 629].

Date Control

The system uses the date control to propose the date on which the routings and BOMs are exploded. You define the date control in Customizing and enter it in the costing variant. For more information, see Date Control [Seite 567].

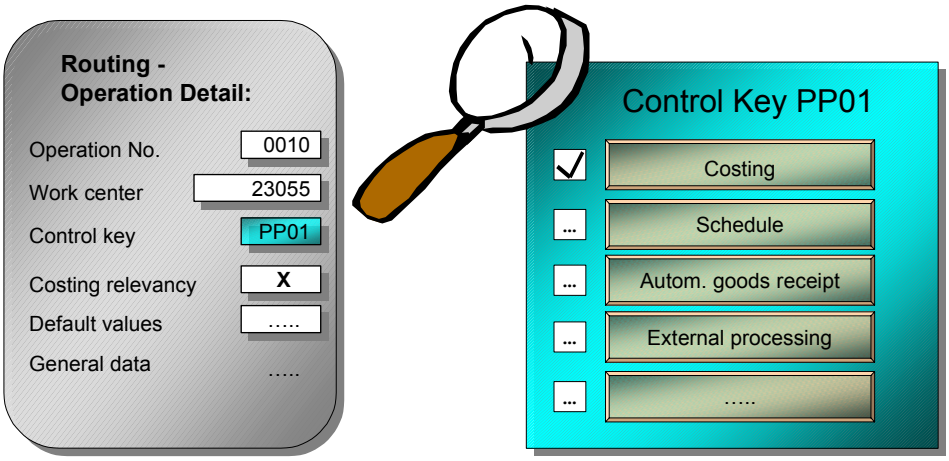
The following figure shows how the costing variant combines all the control parameters for cost estimates. In addition to the other key parameters (such as the valuation variant and costing type), the costing variant contains the control parameters required for the quantity structure. These are the quantity structure control, transfer control, date control, and reference variant.



Control Key in the Operation of the Routing

The control key of an operation in the routing specifies whether the operation is to be included in costing. You define the control key in Customizing and enter it in the operation in the routing. To cost the operation, you must set the *Costing* indicator. For more information, see Routings in Costing [Seite 166].

Furthermore, you must mark the operation as *relevant to costing* (X) in the routing. Operations that are not marked as “relevant to costing” are ignored - even if the control key of the operation allows costing.



See also:

For further information about the Customizing settings to determine the quantity structure, see the *Implementation Guide (IMG)* under *Product Cost Planning → Cost Estimate with Quantity Structure,* and *Special Processing in Material Costing* in the following sections:

- *Define Quantity Structure Control*
- *Settings for Quantity Structure Control*
- *Define Transfer Strategy*

Parameters for Quantity Structure Control

- *Define Date Control*
- *Define Reference Variants*

For further information about defining control keys, see the *Implementation Guide (IMG*) under *Production* → *Basic Data* → *Routing* → *Operation Data* → *Define Control Key*.

Quantity Structure Control Through Customizing

Use

You can use the **quantity structure control** to specify how the system selects a bill of material and a routing for the material to be costed.

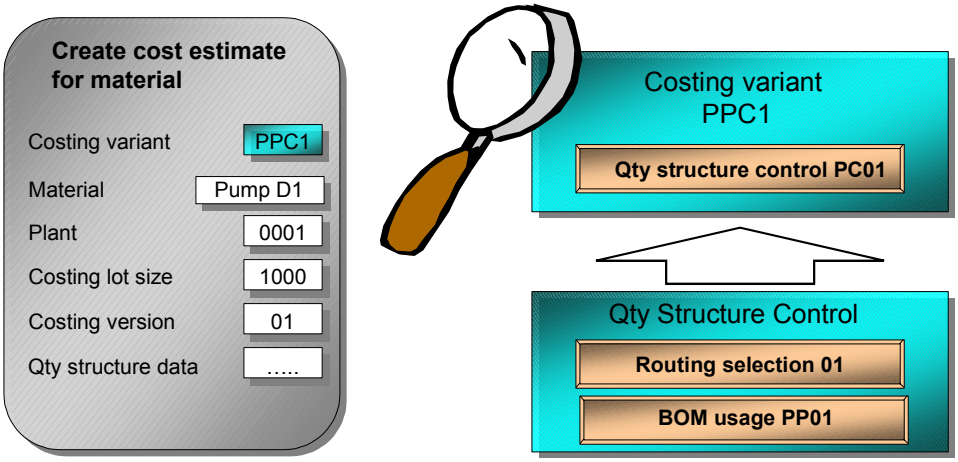
You define the quantity structure control in Customizing for Product Cost Planning. The quantity structure control can apply to either a specific plant or to all plants. You enter the quantity structure control in the costing variant. When the cost estimate is created, the system selects the quantity structure control ID through the costing variant.

When you create a cost estimate for a material, you always use a costing variant. This variant is the link between the cost estimate and the quantity structure control.

Features

The quantity structure control links the cost estimate to the following:

- BOM application
- Routing selection



The **routing selection ID** determines how the system selects a routing. You can define several priorities. You assign selection criteria (task list type, task list usage, and task list status) to each of these priorities.

The routing that corresponds to the selection criteria with the highest selection priority is selected. If, however, no alternative routing can be found, the system continues searching using the selection criteria of the next selection priority.

The **BOM application** controls the following:

- The order of priority of the BOM usages (selection ID)

  When a BOM is required to embrace various enterprise areas (in other words, it has several BOM usages), you can determine which usage will be selected by the system first by using a selection ID.

- The priority of an alternative BOM for a specific multiple BOM

You can control which alternative BOM the system selects as of a certain date for a specific material, taking into account the plant and the BOM usage. You can use the application to determine whether the system takes this specification into account or ignores it.

- Whether the system includes only those BOMs with a status containing particular status indicators

  An alternative BOM is only exploded if the BOM status contains the indicator required in the application.

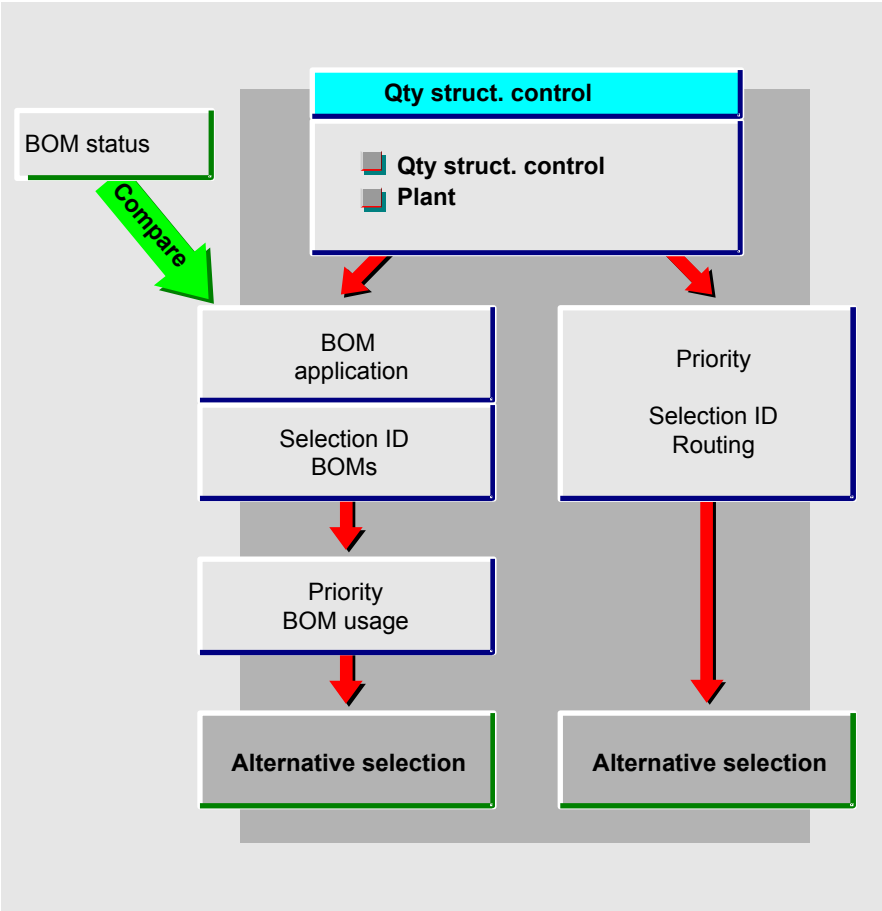
  You can check the BOM application and the parameters that are linked to it in Customizing for Product Cost Planning.

When determining the BOM and routing, the system also checks the following:

- Whether the BOM and the routing are valid on the quantity structure date
- Whether the lot size in the BOM and in the routing are the same as the costing lot size

If, for example, the system finds a BOM according to the parameters in the quantity structure control, but this BOM has a lot size or validity period that does not correspond to the cost estimate, the BOM is ignored. The system continues searching for a BOM using the next selection criteria until it finds one that is valid.

A material can be represented in various alternative BOMs. You can specify that a particular BOM alternative be used for the cost estimate at a certain date. The following graphic gives you an overview of the alternative selection for multiple BOMs in costing:



See also:

For further information, see the *Implementation Guide (IMG) for Product Cost Controlling* under *Product Cost Planning → Cost Estimate with Quantity Structure*.

- *Define Quantity Structure Control*
- *Define Order Type Determination*
- *Settings for Quantity Structure Control*
- *Check Automatic Routing Selection*
- *Check BOM Selection*
- *Check BOM Application*
- *Check Alternative Selection for Multiple BOM*

Activities

To check the parameters that are linked to the costing variant in Customizing, choose *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Environment → Material Costing → Check costing variant.*

Quantity Structure Control Through the Material Master Record

Use

You can enter data in the costing view of the material master record [Seite 505] that determines how the system selects a BOM and a routing.

The entries in the material master record take priority over the entries in the quantity structure control. (See also: Quantity Structure Control Through Customizing [Seite 183])

Features

The quantity structure of the material to be costed can be determined using entries in the material master. The system uses the following sequence when searching for the data to be used in the cost estimate quantity structure:

1. Entry of a special procurement key (see also: Special Procurement in Costing [Seite 443])
2. Entry of a production version with entries for the BOM and routing
3. Entry of a specific BOM and/or routing

If you always want to explode the BOM of a material with the same procedure, you can enter this data directly in the material master record using the following fields in the costing view:

BOM Usage

Specifies whether the bill of material is, for example, an engineering BOM, a production BOM or a costing BOM. You define the BOM usage in Customizing. (See also: Bills of Material in Costing [Seite 157])

Alternative BOM

Identifies a bill of material within a multiple BOM or a variant BOM. (See also: Bills of Material in Costing [Seite 157])

Task List Type

Specifies whether, for example, routings, reference operation sets or recipes are included. You define task list types in Customizing. (See also: Routings in Costing [Seite 166])

Task List Group

The group can be used, for example, to group routings for different lot size ranges or production processes. If you use different task list usages (such as production or repair), it is useful to create a new group for each task list usage.

When you create a routing, the system specifies a group. You can also enter a group yourself. Customizing specifies which numbers you can use for this. (See also: Routings in Costing [Seite 166])

Group Counter

Quantity Structure Control Through the Material Master Record

Identifies routings within a task list group The group counter is proposed by the system when the routing is created. You can, however, overwrite the default with your own entry. (See also: Routings in Costing [Seite 166])

If you carry out costing in the background, you should enter this data manually in the relevant material master records.

If you do not carry out costing in the background, you can select an alternative BOM through either the quantity structure control in Customizing for Product Cost Planning, or through the lot size and time periods.

See also:

- Parameters for Quantity Structure Control [Seite 180]
- Quantity Structure Control Through Customizing [Seite 183]
- Quantity Structure Control Through the Initial Screen of the Cost Estimate [Seite 189]
- Transfer of Existing Costing Data [Seite 607]
- Reference Costing [Seite 629]

For more information, see the *Implementation Guide (IMG)* under the following:

- *Production → Basic Data → Bill of Material → General Data → BOM Usage*
- *Production → Basic Data → Routing → Control Data → Maintain Task List Types*
- *Production → Basic Data → Routing → Control Data → Define Number Ranges for Routings*

Quantity Structure Control Through the Initial Screen of the Cost Estimate

Use

For the highest material of the structure to be costed, you can determine which bill of material and routing are used through the initial screen of the material cost estimate with quantity structure.

The entries in the initial screen take priority over the entries in the material master record and in the quantity structure control. For more information, see Quantity Structure Control Through Customizing [Seite 183] and Quantity Structure Control Through the Material Master Record [Seite 187].

If the BOM specified in the initial screen is contained in further multiple BOMs, for example, the system cannot explode the multiple BOMs.

Features

If you want to determine the data to be used for the header material in the initial screen of the *cost estimate with quantity structure*, enter the following:

- **Production Version**
  - Contains detailed data on the BOM, routing, lot size range, and validity
  - You define production versions in the costing view in the material master record. In the production version, enter the BOM and routing of the material to be costed. However, if you enter a production version that is locked for use, the system ignores it and selects a valid production version.

or

- **Quantity Structure Data**
  - ***BOM Usage***

    Specifies whether the bill of material is, for example, an engineering BOM, a production BOM or a costing BOM.
  - ***Alternative BOM***

    Identifies a BOM within a multiple BOM. In view of the different manufacturing processes that exist, a material can, for example, be created for different lot size ranges through various alternative BOMs.
  - ***Task List Group***

    Groups routings for different lot size ranges or production processes. If you use different routing usages (such as production or repair), it is useful to create a new routing group for each usage.
  - ***Group Counter***

Identifies routings within a task list group.

Since the production version already contains information on the quantity structure, you enter either a production version or data pertaining to the BOM and routing. If you enter a production version and then make additional quantity structure entries, the production version takes priority. The quantity structure entries are ignored.

Special Procurement in Costing

Use

A BOM can include materials produced not in the plant of the finished product, but in another plant, or externally.

You can include the costing data for materials from other plants within the controlling area in the cost estimate. You determine the link between the plants through the **special procurement type**.

Features

You use the special procurement type to determine whether the material

- Is produced in another plant in the company code of the finished product, or in another company code (materials in other plants [Seite 445])
- Is provided by you, and is processed by an external supplier (subcontracting [Seite 446])
- Represents a logical grouping of materials that is not produced as an assembly, yet is managed together (Phantom Assemblies [Seite 446])
- Is delivered directly to stock without the semifinished products (direct production [Seite 446])

You can enter a special procurement type in the material master record in both the *MRP* and the *Costing* views.

- If you have no special procurement type in the *Costing* view, the system uses the special procurement type in the *MRP* view when costing.
- If you have different special procurement types in the *Costing* and *MRP* views, the entry in the *Costing* view is used.

Special procurement types are defined in Customizing for Product Cost Planning or in Customizing for Requirements Planning. They consist of the combination:

- Procurement type (either F: *External procurement* or E: *In-house production*)
- Special procurement (for instance, M: *Direct production*, L: *Subcontracting*)

If a material is not specially procured, it is costed with BOM and routing. If no valid BOM can be found by the system, a price for the material is determined according to valuation strategy and the routing is ignored.

If you want to cost a material that has no valid BOM but does have a routing, you can include the routing in the cost estimate when you create a new special procurement type in Customizing (procurement type: E and special procurement: E) and enter this special procurement type in the *Costing* view of the material.

If you want to cost a material as externally procured by ignoring the existing quantity structure in the system when costing, the following options are available:

- In the *Costing* view in the material master record, enter procurement type F and no special procurement type (in either the *MRP* or the *Costing* view).

Special Procurement in Costing

- In Customizing of the special procurement types, create a new special procurement type (procurement type: F, special procurement: empty) and enter the special procurement type in the *Costing* view of the material.

Materials in Other Plants

Use

The following special procurement types are taken into account in costing:

- stock transfer from another plant
- Withdrawal from another plant
- Production in another plant

Features

If you entered one of these special procurement types in the costing view of the material master record, the system proceeds as follows:

- Materials in plants that are assigned to the company code of the plant in which the cost estimate was created are either recosted, or an existing cost estimate is transferred in accordance with the transfer control (this does not occur for *Withdrawal from another plant*).
- For materials in plants that are assigned to a different company code, the *Cost across company codes* indicator in the costing variant determines how the system proceeds:
  - If the *Cost across company codes* is set, these materials are either recosted or an existing cost estimate is transferred in accordance with the transfer control (this does not occur for *Withdrawal from another plant*).
  - If the *Cost across company codes* indicator is not set, a price is determined in accordance with the valuation variant.

See also:

Transfer of Costing Data [Seite 607]

Cross-Company Costing [Seite 618]

In the plant of the finished product there is a material master record for a semifinished product that has a special procurement type. According to the special procurement type, the material is produced in another plant and then transferred to the plant of the finished product.

When costing the finished product, the system looks for costing data for the semifinished product in the other plant. The search proceeds according to a strategy in the transfer control:

- If the system can select an existing cost estimate, the results [Seite 451] of this cost estimate are rolled up [Seite 467] in the cost estimate of the finished product.
- If the system cannot select a cost estimate, the semifinished product is costed in the other plant and the results are rolled up directly into the cost estimate of the finished product.

Direct Production, Subcontracting, Phantom Assemblies

Use

Direct production

If you create a production order for a material whose BOM contains materials with a special procurement type for direct production, further orders for the production of the material will be created automatically. The planned costs are calculated separately for each order in the order network.

In material costing, materials with a special procurement type for direct production are regarded as semifinished products. They are costed and the cost estimate results are updated for the respective materials.

Phantom assemblies

If a material is flagged as a phantom assembly (meaning that the material has a special procurement type with procurement type *In-house production* and special procurement *Phantom assembly*), costing explodes the BOM and calculates the planned costs for all the material components in the phantom assembly. These material components are displayed and updated in the cost estimate of the higher-level material. The results of the cost estimate are also updated with reference to the phantom assembly.

If you want to cost a material as a phantom assembly, you must enter special procurement type 50 in the *MRP* view of the material master record and leave the special procurement type empty in the *Costing* view.

Subcontracting

If subcontracting has been specified for a material (meaning that it has a special procurement type *External procurement* and special procurement *Subcontracting*), you can define a strategy in the valuation variant in Customizing for Product Cost Planning to access a price in the purchasing info record [Seite 691] or in the purchase order. For more information, see Determining Vendors [Seite 737].

The subcontracting company can be selected either using the planned quota arrangement or the actual quota arrangement in the purchasing system. You determine which quota arrangement is used as the basis in the valuation variant.

With subcontracting, the cost estimate contains the production costs of the subcontractor as well as the material costs of the material components provided by the subcontractor.

See also:

For more information, see the following sections in the SAP Library:

- *PP BOMs* under Special Procurement Type [Extern]
- *MM - Inventory Management*, in the following sections:
  - Subcontracting [Extern]
  - Subcontracting for Sales Order Stock and Projects [Extern]
  - Subcontracting in Purchasing [Extern]

  - Subcontracting in Inventory Management [Extern]
  - Subcontracting in Invoice Verification [Extern]
- *PP - Requirements Planning* under Subcontracting [Extern]

Use of Existing Costing Data

Use

A BOM may contain the following types of materials:

- Materials that have already been costed
- Materials already produced or stored in another plant, and costed in that plant

You can use this existing data in costing, and transfer it to other cost estimates. You can transfer existing **material cost estimates with and without quantity structure**.

You can do the following:

- Transfer an existing cost component split using *Transfer control*
  - Single-plant transfer [Seite 610]
  - Cross-plant transfer [Seite 611]
- Using reference costing [Seite 629], transfer the costed quantity structure and, for every item category (such as M, G, and X), decide whether it should be recosted or revaluated

Prerequisites

Settings for Transfer Control

You define transfer control in Customizing for Product Cost Controlling. You use transfer control to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate.

You enter the transfer control ID in the costing variant that you are going to use for the cost estimate.

When you create a standard cost estimate, any cost estimate that has already been **released** is automatically transferred, irrespective of whether you use transfer control. For further information, see Releasing Standard Cost Estimates [Seite 645].

If you set the *Transfer control can be changed* indicator in the costing variant, the system displays the *Transfer control ID* field in the *Control parameters* dialog box when you create a cost estimate. If you have entered a transfer control ID in the costing variant, this ID is proposed by the system. You can overwrite this default value manually. If you do not set the *Transfer control can be changed* indicator in the costing variant, the system determines the transfer control automatically from the costing variant, if it has been entered there.

Settings for Reference Costing

You define a reference variant in Customizing for Product Cost Controlling. It enables you to specify the costing items that should be revaluated. You define the reference variant in the costing variant.

See also:

For further information about the Customizing settings for transfer control and the reference variant, see the *Implementation Guide (IMG)* under *Product Cost Planning → Cost Estimate with Quantity Structure*.

Features

Using the **transfer control**, you can transfer the data of the following types of cost estimate:

- Future standard cost estimates

  The system searches for an existing future (marked) standard cost estimate.

- Current standard cost estimates

  The system searches for an existing current (released) standard cost estimate.

- Previous standard cost estimates

  The system searches for an existing previous standard cost estimate.

- Cost estimates with period-based transfer control

  The system searches for an existing cost estimate that has the same costing version and date in the costing variant (that is, the costing type and valuation variant) as the cost estimate you are currently working on. You define the date that is relevant for selecting the cost estimate in the costing type (that is, with period, with date or without date).

- Other cost estimates

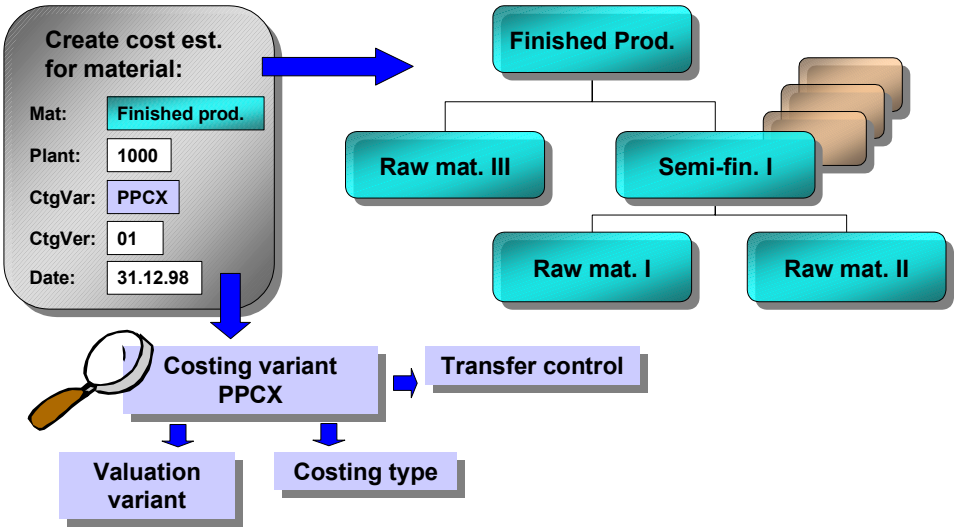
  The system searches for an existing cost estimate that corresponds with your criteria. These criteria can be the costing variant and costing version.

Whether the system transfers a **cost estimate with or without quantity structure** depends on the *With quantity structure* indicator in the costing view of the material master. If this indicator is set, the system looks for cost estimates with quantity structure. If this indicator is not set, the system looks for cost estimates without quantity structure. For more information, see Material Master Costing View: Basic Data [Seite 505].

You are creating a cost estimate for a finished product (12.31.98), using costing variant PPCX. The finished product contains semi-finished product I, for which the following cost estimates already exist in the system:

- A marked (future) standard cost estimate (costing variant PPC1)
- A released (current) standard cost estimate (costing variant PPC1)
- Another cost estimate (costing variant XPCX)
- A cost estimate with period-based transfer control (costing variant PPCX, costing version 01, **from 12.01.98**)

Use of Existing Costing Data



You don't want to recost the semi-finished product. Instead, you want to transfer the results of an existing cost estimate, being either one with period-based transfer control (your main priority), or, if not, a current standard cost estimate. Before creating the cost estimate, therefore, you have entered in Customizing the following transfer control in costing variant PPCX:

1) Cost estimate with period-based transfer control

2) Current standard cost estimate

3) Other cost estimate

When costing the finished product using costing variant PPCX, the system searches for existing cost estimates for all the materials in the BOM structure in the sequence which you specified.

Since a cost estimate with period-based transfer control exists, this cost estimate is transferred. The first strategy has been completed successfully. The cost estimate for the semi-finished product has also been executed using costing variant PPCX, costing version 01. Although the existing cost estimate is from 12.01.98, it is period-based if the relevant indicator (that is, *Saving with period* and not *Saving with* or *without date*) has been switched on in the costing type.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Single-Plant Transfer

Use

The strategy sequence for single-pant transfer in the transfer control enables you to specify that new cost estimates will not be created for materials being used in a finished product. Instead, the cost estimate for the finished product will transfer data from existing cost estimates.

Features

The strategy sequence is the sequence in which the system is to search for costing data.

You specify that the system searches first for a current standard cost estimate, then for a future standard cost estimate, and finally for a previous standard cost estimate.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

The selected data is grouped into cost components [Seite 462] and transferred to the cost estimate.

If the system cannot find a cost estimate that meets the criteria, the material is costed afresh using the BOM and routing.

See also:

Implementation Guide for Product Cost Planning

Cross-Plant Transfer

Use

You use the strategy sequence for cross-plant transfer to specify how the system is to proceed with special procurement [Seite 443].

You enter the special procurement type in the costing view of the material master record. If you do not enter a special procurement type in this view, the system uses the special procurement type from the MRP view.

Features

The following special procurement types are taken into account for the transfer to a material cost estimate:

- Stock transfer from another plant
- Production in another plant

The special procurement type specifies the plant in which the system is to look for costing data. The strategy sequence is the sequence in which the system is to search for costing data.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

  The results of standard cost estimate in the second plant can only be transferred to the cost estimate in the first plant if they have the same cost component structure as the results of the standard cost estimate in the first plant.

  For this reason, you must assign the costing variants for the standard cost estimate to a cost component structure at the company code level in Customizing for *Product Cost Planning*. When you cost across company codes [Seite 618], the cost component structures in the controlling area must be the same.

If the system cannot find a cost estimate that meets the criteria, the material is costed again on the basis of the BOM and routing in the other plant. However, the system will only cost the material in the other plant if the plant is in a different company code and cross-company costing has been activated.

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Valuation of the Quantity Structure

Use

When you create a cost estimate with quantity structure, the system creates a quantity structure using data from the PP master data (BOMs, routings). When you create a cost estimate without quantity structure, you create the quantity structure manually.

In both cases, the quantity structure is then valuated.

Features

You control how costing valuates the quantity structure through the following parameters in Customizing:

- Valuation variant
- Date control

Using the valuation date and the valuation variant, the system valuates the following:

- The materials used
- The activities and process activities performed
- The externally-processed operations
- The externally-procured materials

Valuation Variant

The valuation variant determines which values are used to valuate the materials and activity types included in the cost estimate. It determines:

- Which price is taken from the material master record, or which values are taken from the cost estimate, in order to calculate the material costs (see also: Valuation of Materials [Seite 728])
- Which price, and which plan/actual version, are taken from Cost Center Accounting to calculate the costs for internal activities (see also: Valuation of Internal Activities [Seite 731])
- Which price is taken from the purchasing info record, purchase order, or operation to calculate the costs of external activities (see also: Valuation of Externally-Processed Operations [Seite 210])
- Which price is taken from the purchasing info record or purchase order to calculate the costs for subcontracting, and which quota arrangement is used to valuate the subcontracting (see also: Valuation of Subcontracting [Seite 733])
- Which costing sheet is used to calculate overhead or to determine a process template to calculate process costs (see also: Overhead [Seite 569])

You define valuation variants in Customizing and enter them in the costing variant. You assign the valuation variant to the costing variant. For more information, see Preparing for Material Costing [Seite 73].

Date Control

Valuation of the Quantity Structure

You specify the date on which the relevant prices are to be read by entering a valuation date for the cost estimate. The valuation date is proposed through the date control ID. (See also: Date Control [Seite 567])

You define the date control in Customizing and enter it in the costing variant. For more information, see Preparing for Material Costing [Seite 73].

See also:

Creating the Cost Estimate with Quantity Structure [Seite 123]

Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Implementation Guide (IMG) for Product Cost Controlling

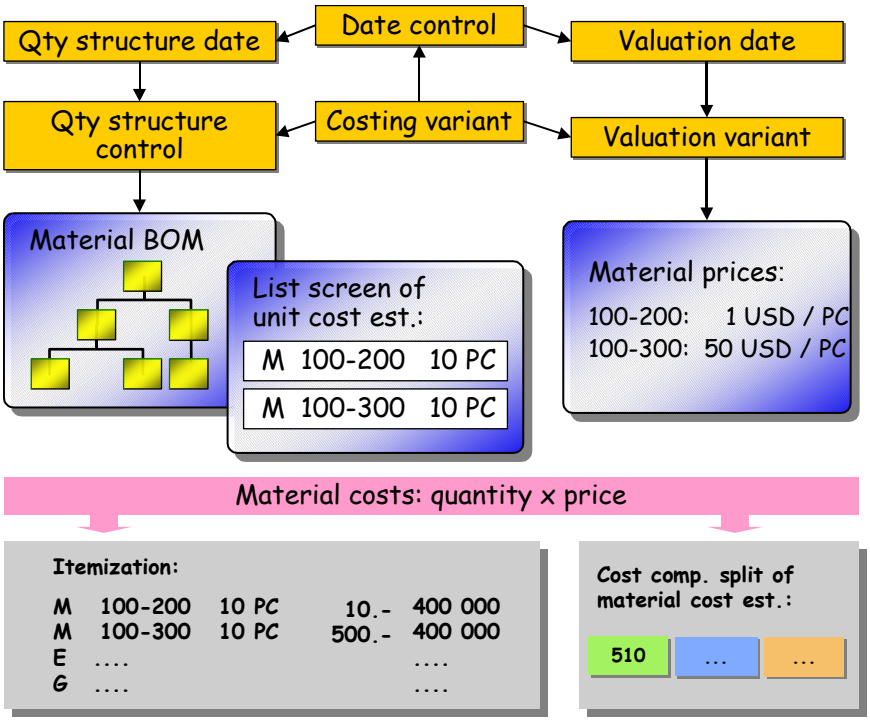
Valuation of Materials

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs. The material costs are displayed as follows:

- In the itemization as items of type "M"
- In the cost component split, in the cost component "Material costs"

To calculate the material costs, the materials required for production must be determined and valuated with a price. In material costing with quantity structure, the system determines the materials automatically using the quantity structure control. In unit costing, you enter the materials manually. They are then valuated with a price (see graphic below).



Integration

To valuate the materials, you can access various prices in the material master record and in the purchasing data, such as the following:

- Future, current or previous standard price
- Moving average price
- Tax-based or commercial prices 1, 2 and 3
- Planned prices 1, 2, 3
- Quotation and purchase order prices

Prerequisites

In Customizing for Product Cost Planning, you define which price is to be used to valuate items such as raw materials and purchased parts. To do this, you define a valuation variant and assign it to the costing variant. The valuation variant contains a search sequence that has a maximum of five prices. For the cost estimate, the system searches in the sequence specified for these prices.

For **prices from the purchasing info record**, enter strategy **L** and create a separate strategy sequence for prices from purchasing data. You can access various prices, such as net or gross quotation prices, and net or gross order prices. For more information, see Determining Vendors [Seite 737].

Features

Material Cost Estimate with Quantity Structure

The system first finds a valid BOM and explodes it from top to bottom. It then calculates the costs for the materials in the costing levels with the lowest number. Using the valuation variant and valuation date, the system selects a price for the materials. For further information, see Multilevel BOMs [Seite 159], Date Control [Seite 567] and Parameters for Quantity Structure Control [Seite 180].

The system then calculates the costs for the materials in the next highest level while including the costs for the materials in the previous level. For further information, see Concept of Cost Rollup [Seite 467].

- For materials that have already been costed, you can transfer values from earlier cost estimates provided you have defined the appropriate transfer control ID (see also Transfer of Costing Data [Seite 607]).
- For specially-procured materials, you can transfer values from cost estimates in other plants provided you have defined the appropriate transfer control ID.
- You can include the results of an additive cost estimate in an automatic cost estimate for the material provided you have made the setting in the valuation variant for additive costs to be included. (See also Additive Costs [Seite 246])

The price for non-stock items is taken directly from the BOM. (See Bills of Material in Costing [Seite 157])

Unit Costing *(Base Object Costing, Material Costing Without Quantity Structure, Additive Costing):*

If you create a unit cost estimate, you enter the costing items manually. For materials, you select item category M. Using the valuation variant, the system takes a price from the material master or purchasing. For further information, see Creating Costing Items [Seite 703] and Valuation of Costing Items [Seite 726].

See also:

Implementation Guide (IMG) for Product Cost Planning

If you use the Material Ledger component, you can find more information about valuating materials under *Actual Costing/Material Ledger (CO-PC-ACT)* in the following sections:

- Price Change [Extern]
- Maintaining Future Valuation Prices [Extern]
- Releasing Planned Prices [Extern]
- Automatic Release of Planned Prices [Extern]
- Marking Prices for Future Valuation [Extern]

For more information about material valuation in the SAP System, see Material Valuation in the SAP System [Extern].

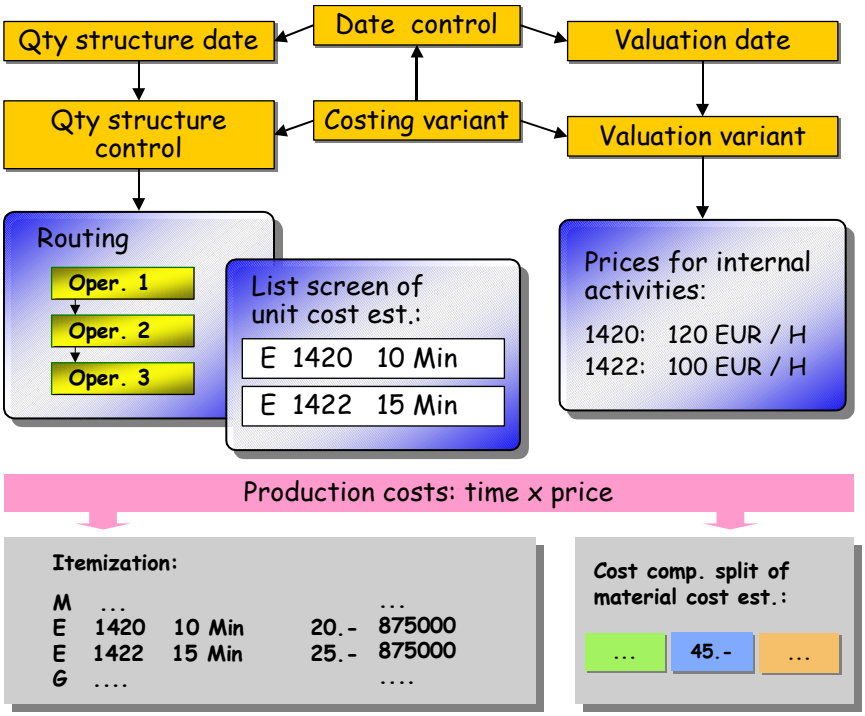
Valuation of Production Activities

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs.

The production costs are listed in the itemization as items of category E (internal activity) and can be assigned to cost components in the cost component split (such as the production costs component).

To calculate the production costs, the activities required for production must be valuated with a price.



Prerequisites

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant.

More than one activity price can be carried in Cost Center Accounting at the same time. You use the planned/actual version in the valuation variant to determine which version is relevant for costing.

- You will generally use version zero for the standard cost estimate, the modified standard cost estimate and the current cost estimate.
- For inventory costing, you can use versions other than version zero if you want to use activity prices that contain components that are not to be capitalized.

In Cost Center Accounting, you can

- Set the price for each activity type according to policy
- Calculate iteratively the activity price for each activity type
- Calculate the actual costs for each activity type using the actual costs incurred for the cost center

Features

Material Cost Estimate with Quantity Structure

You calculate the costs for internal activities with the following entries:

- The formula and the performance efficiency rate key in the work center
- The standard values for the operation in the routing
- The prices for the activity types in Cost Center Accounting

Unit Costing

You enter the costing items of category E manually. The system determines the price in accordance with the valuation variant from Cost Center Accounting.

See also:

Implementation Guide (IMG) for Product Cost Planning

Valuation of External Activities

Use

External activities appear in the itemization under category F.

In product costing, items processed externally are determined from the routing. The control key in the routing specifies whether an operation can be processed externally. You can calculate the costs for externally-processed operations using the following entries:

- The price in the operation of the routing
- The price in the purchasing info record (quotation) or in the purchase order

  The purchasing info record is determined from the entries in the operation of the routing.

In unit costing, you enter items of category F manually. You then have to enter a purchasing info record in the *Resource* field.

See also:

- Routings [Seite 166]
- Detail Screen for the Operation [Seite 171]

Valuation of Subcontracting

Use

The special procurement type in the costing view of the material master record specifies that subcontracting is to be carried out for the material. If you have not entered a special procurement type in the costing view, the entry in the *MRP* view applies.

For costing, you can choose the source of supply or the vendor using either the planned quota or the actual quota in the quota arrangement book. You do this by setting the *Planned quota arrangement* or *Actual quota arrangement* indicator in the valuation variant.

Features

The system selects a vendor in the following way:

1. If a vendor exists in the quota arrangement book, this vendor is selected.
2. If no vendor exists in the quota arrangement book, the vendor in the source list is selected.
3. If no entry exists in the source list, the vendor is selected using a purchasing info record (such as a dummy info record, or preferred info record), provided that the corresponding indicator is set.

   Otherwise, the vendor with the lowest net price is selected from the purchasing info record. For more information, see Determining Vendors [Seite 737].

You determine in Customizing for Product Cost Planning which price is selected for subcontracting by defining a valuation variant and assigning it to the costing variant.

You can access the following prices:

- From the purchasing info record (purchasing):
  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant. By defining the *planned* or *actual quota arrangement* for subcontracting in the valuation variant, you can specify whether the selection of the source of supply or vendor is dependent on the actual quota or the planned quota.

The valuation variant contains a search sequence that has a maximum of three prices.

Valuation of Subcontracting

You have defined the following strategy sequence for the valuation of subcontracting:

1. Net quotation price
2. Net order price

   If a purchasing info record with a quotation price exists for the material, the system uses this price. If no purchasing info record exists for the quotation, the system uses the price from the purchase order.

See also:

Implementation Guide (IMG) for Product Cost Planning

Raw Material Costing

Use

There are no BOMs or routings for raw materials in the system. You can, however, use these functions to create a cost estimate for raw materials. Instead of simply taking the price from the material master, an actual cost estimate (including overhead calculation) is created.

The raw material cost estimate enables you to include delivery costs, allocate overhead and include additive costs at the material component level.

Features

You are able to do the following:

- Access the purchasing data (MM_PUR), in order to include delivery costs such as freight charges and insurance costs (see also Purchasing Master Data [Seite 691])
- To include overhead and process costs

  You can define a special costing sheet for raw material costing in the costing variant in Customizing. (Overheads [Seite 569])

  You can only calculate overhead for raw materials in the **planning** data, not in actuals. The overhead, should not, therefore, be stock-relevant
- Create additive costs (see also Additive Costs [Seite 246])
- Save an itemization (in addition to the cost component split) for the costing of raw materials.
- Arrange the delivery costs in different cost components [Seite 462]
- Calculate a mixed price, if you have several supply sources for one material component. For more information, see Mixed Costing [Seite 426].

Activities

In Customizing for Product Cost Planning, check the following:

- Valuation variant

  You should use strategy **L** (price from purchasing info record) for the material valuation in the valuation variant

  Using this strategy for configurable material components means that only one material variant price will be included The same applies for material components with procurement alternatives The conditions of different vendors will only be taken into consideration if you implement this strategy. This strategy will be executed in both of these cases first, in other words the strategy sequence will be ignored to start with for configurable materials and when costing procurement alternatives. You can enter the strategy Price from purchasing info record as the last position in the strategy sequence, if a different strategy should be used.

Raw Material Costing

- Costing variant

  Enter the valuation variant defined above in the costing variant. If required, enter a special costing sheet for the application of overhead in raw material costing.

- The assignment of condition types to origin groups

  If you want to handle different conditions from *Purchasing (MM)* in different ways, you can assign condition types to origin groups. When assigning cost elements to the components, you can maintain different origins, and use this to assign the delivery costs to different cost components.

Create the cost estimate for the material as described in Creating a Cost Estimate with Quantity Structure [Seite 123].

In the cost estimate without quantity structure [Seite 480], you activate or deactivate raw material costing, by choosing *Functions* → *Raw material costing* → *Switch on/Switch off*. The cost estimate then inserts items of **type I** (Raw material costs) in the list screen.

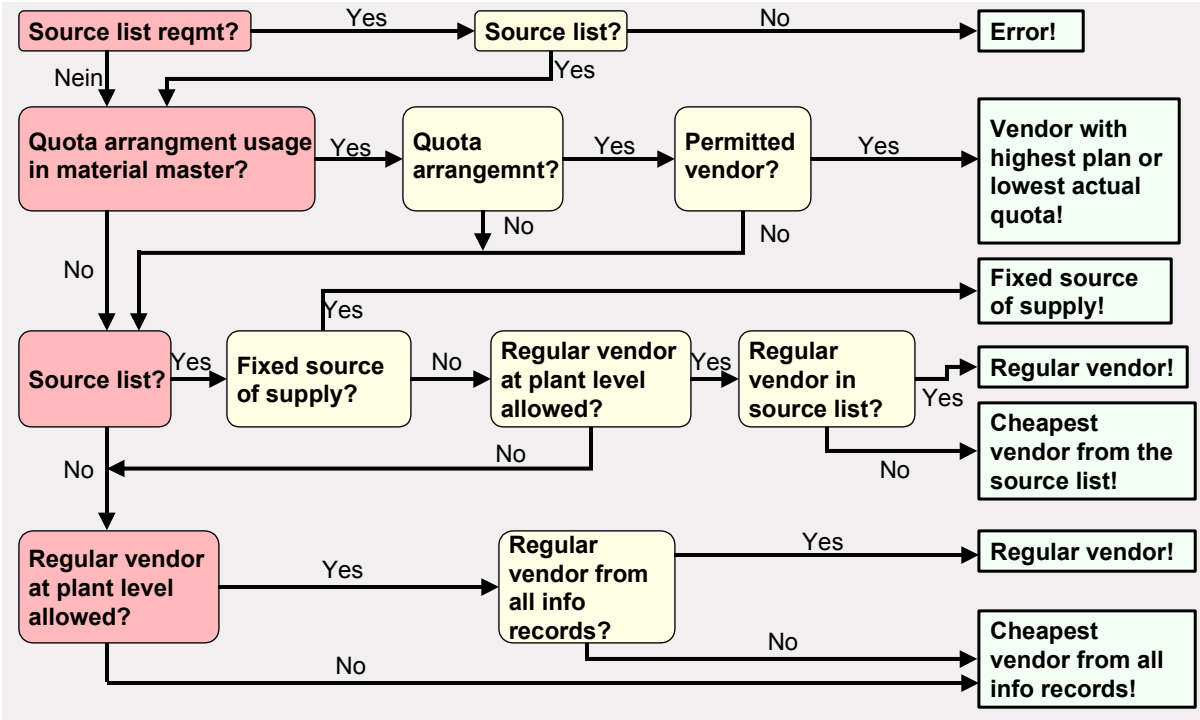
Determining the Vendor

Purpose

To determine a purchase information record, the system searches for a valid vendor for

- Valuation of materials with prices from the purchasing info record (raw material costing [Seite 735])
- Valuation of subcontracting [Seite 733]

Process Flow



If a source list requirement (at plant level) has been defined either in the material master record in the purchase view or in Customizing under *Purchase → Source List* but no valid source list is present, the search is terminated and no price can be determined for the valuation.

1. The system searches first for a **quota arrangement**.

You should note that to use the quota arrangement (plan and actual) in the material master record in the purchase view a *quota arrangement usage* must have been set.

If a valid quota arrangement exists, the system checks to see whether there are any permitted vendors. If this be the case the system searches for the vendor having the highest planned or lowest actual quota (in the case of materials only possible for the planned quota), depending on the settings in the valuation variant. In doing so the actual quota is calculated as the quota rating. For more information, see Allocation Quota Arrangement [Extern].

2. If no quota arrangement or permitted vendor can be found, the system searches for a **source list** for the material.

   If there is **no** valid source list the system checks whether a source list requirement (at plant level) has been defined in the material master record in the purchase view or in Customizing under *Purchase* → *Source List* . If this is the case the additional search is terminated and no price can be calculated for the valuation.

   If a valid source list exists, the system uses the vendor indicated as the fixed source of supply.

3. If no such vendor can be found, the system checks to see whether you have defined in Customizing that a regular vendor can be set.

   If a regular vendor has been defined, the system searches for it in the source list. If there is no regular vendor, the system searches the vendors in the source list for the vendor displaying the lowest net price in the info record.

4. If even searching the source list proves fruitless and you have defined in Customizing that a regular vendor can be set, the system then searches for a vendor **in every available info record**.

5. If there is no regular vendor or if you have specified in Customizing that the *Regular vendor* indicator in the info record is ignored, the system uses the vendor having the lowest net price of all the info records to calculate the price.

Result

Using the vendor that is found, the purchase information record is determined to be used for the valuation.

Concept of Cost Rollup

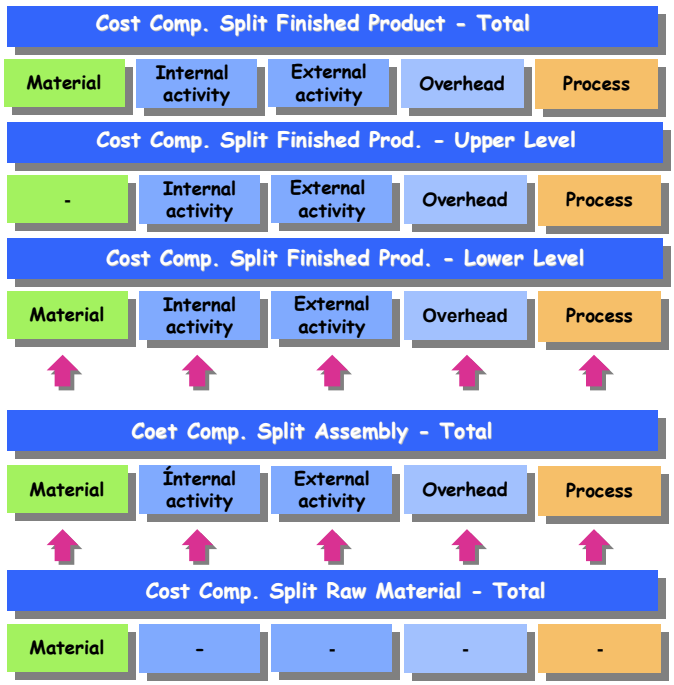
Use

The purpose of cost rollup is to include the cost of goods manufactured [Seite 26] of all the materials in a multilevel production structure within the costs of the material located at the top of the structure. The costs are rolled up **automatically** using the costing levels.

5. The system first calculates the costs for the materials with the lowest costing level and assigns them to cost components.
6. The materials in the next highest costing level (such as semifinished materials) are then costed. The costs for the materials costed first are rolled up and become part of the costs of goods sold in the next highest level.

This process is continued until the costing results [Seite 451] of the highest material in the structure (such as the finished product) contain the cost of goods manufactured [Seite 26] for every material in the structure.

For costing, you assign the costs in a cost estimate to **cost components** in Customizing for Product Cost Planning. The cost components [Seite 462] split the costs of a material. In the cost rollup process, the data for these cost components is passed on to the costing results of the next-highest material (see graphic).



The data structure is called a **cost component split**. The results of the cost estimate (with [Seite 92] and without [Seite 449] quantity structure) are always saved in the form of a cost component split. The structure of the cost component split (that is, the number of cost components) is the same for all materials in the cost estimate.

However, a multilevel production structure [Seite 159] may also contain costs that should not be rolled up, such as sales and administration costs. In Customizing for Product Cost Planning you specify whether the assigned costing results should be rolled up for each cost component.

Features

The materials in a BOM [Seite 157] are called **BOM components**; these can consist of a material without its own BOM (such as a material component, purchased part, or raw material), or a material with its own BOM (assembly). If the product has a multilevel BOM [Seite 159], the costs for the material components are calculated and taken into account when the next-highest assembly is costed.

The structure of the BOM determines the sequence in which the materials are costed. After exploding the BOM from top to bottom and assigning costing levels, the system then costs from the bottom up. The BOM components with the lowest costing level (or the highest low-level code) are costed first, then the BOM components (assemblies) with the next highest costing level, and so on up to the highest material. The resultant costs are, in the process, rolled up towards the top.

For each BOM component costed, a cost component split is created, which groups the costs into costs such as material costs, production costs, and costs for external procurement. The cost component [Seite 462] *Material costs* for the finished product thus contains all the material input costs of the subordinate BOM components. You define the structure of this cost component split in Customizing for Product Cost Planning in a cost component structure [Seite 460].

Costing can also determine the cost of goods manufactured for materials produced in another plant if the two plants are assigned to the same controlling area, and the company codes of the plants use the same cost component structure. In such cases, the structure of the cost component split must be the same in both works. For more information, see Transferring Existing Costing Data [Seite 607] and Special Procurement in Costing [Seite 443] .

If a cost estimate for the material already exists, the system can transfer the calculated costs (grouped in cost components) into the cost estimate of the next-highest material.

If the system cannot find a cost estimate for the material, it uses a price in the material master record according to the valuation variant (see also Raw Material Costing [Seite 735]).

You can add manually entered costs to the material costs by means of an additive cost estimate [Seite 246] that contains separate cost components. This enables you to include in the cost estimate costs that, although they actually exist, cannot be taken into account automatically by the system. Examples of such costs are freight charges, insurance costs, stock transfer costs, incomplete BOMs, and routings. You can also create a separate cost estimate for raw materials. For further information, see Raw Material Costing [Seite 735].

The manually entered (that is, additive) costs can only be used for planning purposes in the R/3 System.

The cost component split is updated in the currency of the company code to which the material is assigned.

In addition, the costing results can be updated and displayed in the controlling area currency. The cost component split is then rolled up in both currencies. (See also: Currencies in Costing [Seite 633]).

You can represent cost accounting in the R/3 System as **absorption costing** and as **variable costing**. When you use variable costs, make sure that when you define cost components [Seite 462], you indicate only the variable part of the activity types as being **relevant to stock valuation**. This ensures that, when allocating costs to internal activities, only the variable activity type prices are credited, even when you carry out confirmations. You can pass on the fixed portion for each assessment at period end directly to Profitability Analysis (CO-PA). The variable costs of goods manufactured are passed on by billing documents to CO-PA.

See also:

- Quantity Structure Determination [Seite 179]
- Valuation of the Quantity Structure [Seite 203]
- Cost Estimate with Quantity Structure: Process Flow [Seite 120]

Currencies in Costing

Use

You can update and display the costing results (cost component split, and itemization) in both the company code currency and the controlling area currency. The cost component split is then rolled up in both currencies. The controlling area currency is only valid for the legal valuation level.

If the controlling area currency is different from the company code currency, the itemization will be updated in both currencies. The value in the company currency is converted into the controlling area currency.

The additional currency information is required in variance calculation to calculate the target costs.

If the material ledger is active, you can update raw material prices in the material master record in three currencies. You can transfer the material price in the controlling area currency directly into the cost estimate. For semi-finished products, the cost estimate is updated in both currencies.

If the material ledger is active, the marked and released costing results are updated in the company code currency and the controlling area currency in the material ledger master data, provided that the corresponding currency types are used in the material ledger. (In this case, release is carried out in material price determination.)

Costing can also access prices in company code currency and controlling area currency in the Material Ledger master data.

See also:

Actual Costing/Material Ledger

Implementation Guide for Product Cost Planning

Activities

You activate the cost component split in the controlling area currency in Customizing for Product Cost Planning.

Use of Existing Costing Data

Use

A BOM may contain the following types of materials:

- Materials that have already been costed
- Materials already produced or stored in another plant, and costed in that plant

You can use this existing data in costing, and transfer it to other cost estimates. You can transfer existing **material cost estimates with and without quantity structure**.

You can do the following:

- Transfer an existing cost component split using *Transfer control*
  - Single-plant transfer [Seite 610]
  - Cross-plant transfer [Seite 611]
- Using reference costing [Seite 629], transfer the costed quantity structure and, for every item category (such as M, G, and X), decide whether it should be recosted or revaluated

Prerequisites

Settings for Transfer Control

You define transfer control in Customizing for Product Cost Controlling. You use transfer control to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate.

You enter the transfer control ID in the costing variant that you are going to use for the cost estimate.

When you create a standard cost estimate, any cost estimate that has already been **released** is automatically transferred, irrespective of whether you use transfer control. For further information, see Releasing Standard Cost Estimates [Seite 645].

If you set the *Transfer control can be changed* indicator in the costing variant, the system displays the *Transfer control ID* field in the *Control parameters* dialog box when you create a cost estimate. If you have entered a transfer control ID in the costing variant, this ID is proposed by the system. You can overwrite this default value manually. If you do not set the *Transfer control can be changed* indicator in the costing variant, the system determines the transfer control automatically from the costing variant, if it has been entered there.

Settings for Reference Costing

You define a reference variant in Customizing for Product Cost Controlling. It enables you to specify the costing items that should be revaluated. You define the reference variant in the costing variant.

See also:

Use of Existing Costing Data

For further information about the Customizing settings for transfer control and the reference variant, see the *Implementation Guide (IMG)* under *Product Cost Planning → Cost Estimate with Quantity Structure*.

Features

Using the **transfer control**, you can transfer the data of the following types of cost estimate:

- Future standard cost estimates

  The system searches for an existing future (marked) standard cost estimate.

- Current standard cost estimates

  The system searches for an existing current (released) standard cost estimate.

- Previous standard cost estimates

  The system searches for an existing previous standard cost estimate.

- Cost estimates with period-based transfer control

  The system searches for an existing cost estimate that has the same costing version and date in the costing variant (that is, the costing type and valuation variant) as the cost estimate you are currently working on. You define the date that is relevant for selecting the cost estimate in the costing type (that is, with period, with date or without date).

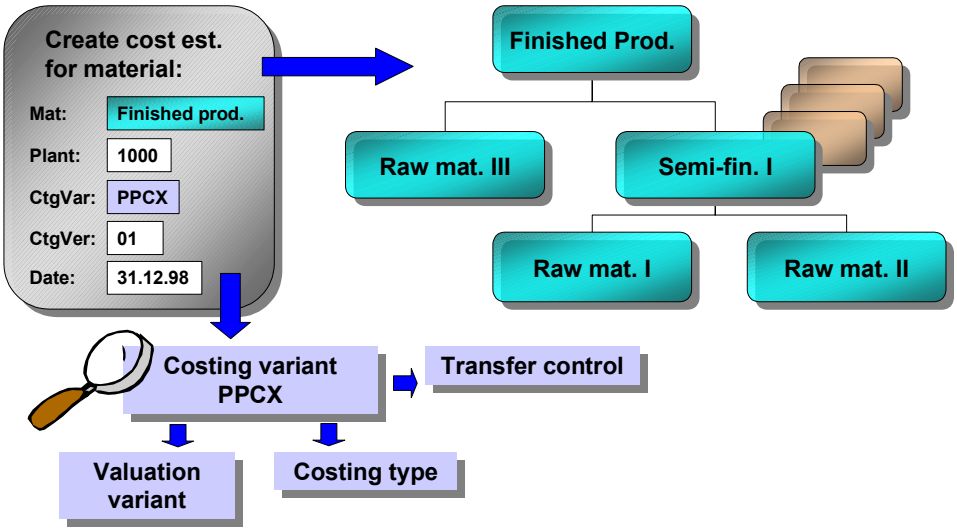
- Other cost estimates

  The system searches for an existing cost estimate that corresponds with your criteria. These criteria can be the costing variant and costing version.

Whether the system transfers a **cost estimate with or without quantity structure** depends on the *With quantity structure* indicator in the costing view of the material master. If this indicator is set, the system looks for cost estimates with quantity structure. If this indicator is not set, the system looks for cost estimates without quantity structure. For more information, see Material Master Costing View: Basic Data [Seite 505].

You are creating a cost estimate for a finished product (12.31.98), using costing variant PPCX. The finished product contains semi-finished product I, for which the following cost estimates already exist in the system:

- A marked (future) standard cost estimate (costing variant PPC1)
- A released (current) standard cost estimate (costing variant PPC1)
- Another cost estimate (costing variant XPCX)
- A cost estimate with period-based transfer control (costing variant PPCX, costing version 01, **from 12.01.98**)



You don't want to recost the semi-finished product. Instead, you want to transfer the results of an existing cost estimate, being either one with period-based transfer control (your main priority), or, if not, a current standard cost estimate. Before creating the cost estimate, therefore, you have entered in Customizing the following transfer control in costing variant PPCX:

1) Cost estimate with period-based transfer control

2) Current standard cost estimate

3) Other cost estimate

When costing the finished product using costing variant PPCX, the system searches for existing cost estimates for all the materials in the BOM structure in the sequence which you specified.

Since a cost estimate with period-based transfer control exists, this cost estimate is transferred. The first strategy has been completed successfully. The cost estimate for the semi-finished product has also been executed using costing variant PPCX, costing version 01. Although the existing cost estimate is from 12.01.98, it is period-based if the relevant indicator (that is, *Saving with period* and not *Saving with* or *without date*) has been switched on in the costing type.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Single-Plant Transfer

Use

The strategy sequence for single-pant transfer in the transfer control enables you to specify that new cost estimates will not be created for materials being used in a finished product. Instead, the cost estimate for the finished product will transfer data from existing cost estimates.

Features

The strategy sequence is the sequence in which the system is to search for costing data.

You specify that the system searches first for a current standard cost estimate, then for a future standard cost estimate, and finally for a previous standard cost estimate.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

The selected data is grouped into cost components [Seite 462] and transferred to the cost estimate.

If the system cannot find a cost estimate that meets the criteria, the material is costed afresh using the BOM and routing.

See also:

Implementation Guide for Product Cost Planning

Cross-Plant Transfer

Use

You use the strategy sequence for cross-plant transfer to specify how the system is to proceed with special procurement [Seite 443].

You enter the special procurement type in the costing view of the material master record. If you do not enter a special procurement type in this view, the system uses the special procurement type from the MRP view.

Features

The following special procurement types are taken into account for the transfer to a material cost estimate:

- Stock transfer from another plant
- Production in another plant

The special procurement type specifies the plant in which the system is to look for costing data. The strategy sequence is the sequence in which the system is to search for costing data.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

  The results of standard cost estimate in the second plant can only be transferred to the cost estimate in the first plant if they have the same cost component structure as the results of the standard cost estimate in the first plant.

  For this reason, you must assign the costing variants for the standard cost estimate to a cost component structure at the company code level in Customizing for *Product Cost Planning*. When you cost across company codes [Seite 618], the cost component structures in the controlling area must be the same.

If the system cannot find a cost estimate that meets the criteria, the material is costed again on the basis of the BOM and routing in the other plant. However, the system will only cost the material in the other plant if the plant is in a different company code and cross-company costing has been activated.

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Overhead

Use

Overhead costs are costs which can only indirectly be attributed to the product, such as electricity or general storage costs. You can allocate these overhead costs in the following ways:

- Overhead application [Seite 741]

  In the conventional method, overhead is applied to the reference object as a percentage rate or a quantity-based rate. The overhead is applied by means of costing sheets.

- Template allocation [Seite 748]

  Here, cost drivers are used to assign overhead to the reference object on a source-related basis according to usage. The overhead is applied by means of templates. Sender objects can be business processes or cost centers/activity types.

- Integration of business processes into the routing [Seite 748]

  Assigning process costs to routing operations is particularly suitable for direct production processes. On the other hand, indirect processes should be assigned using templates.

Integration

Overhead is assigned from *Financial Accounting (FI)* to the cost centers in *Cost Center Accounting (CO-OM-CCA)*. If you use *Activity-Based Costing (CO-OM-ABC)*, overhead is passed on from Cost Center Accounting to the business processes of Activity-Based Costing.

The overhead costs are in turn passed on from Cost Center Accounting or Activity-Based Costing to Product Cost Controlling (CO-PC).

You can transfer the costs from Cost Object Controlling to the following:

- *Financial Accounting (FI)*, to valuate finished and unfinished products, for example
- *Profit Center Accounting (EC-PCA)*
- *Profitability Analysis (CO-PA)*
- *Material Ledger/Actual Costing (CO-PC-ACT)*

You can pass on overhead costs that have not been applied to a cost object (such as sales and marketing costs) directly from Cost Center Accounting or from Activity-Based Costing to Profitability Analysis.

Features

You can calculate both planned and actual overhead costs. You can also apply overhead to process costs. You can use overhead calculation for all the cost objects in the R/3 System.

You can calculate **planned overhead costs** in the following:

- Product Cost Planning (non-order-related material costing)
- Preliminary costing of manufacturing orders (production orders and process orders), and product cost collectors
- Sales order cost estimates

- Order BOM cost estimates
- Calculation of planned costs for general cost objects
- Preliminary costing for internal orders

You can calculate **actual overhead costs** at period-end closing in Cost Object Controlling based on the actual costs or quantities incurred thus far.

For more information about calculating overhead in manufacturing orders, product cost collectors, general cost objects, and sales order items see the following sections:

- Product Cost by Order [Extern]
- Product Cost by Period [Extern]
- Product Cost by Sales Order [Extern]
- Costs for Intangible Goods and Services [Extern]

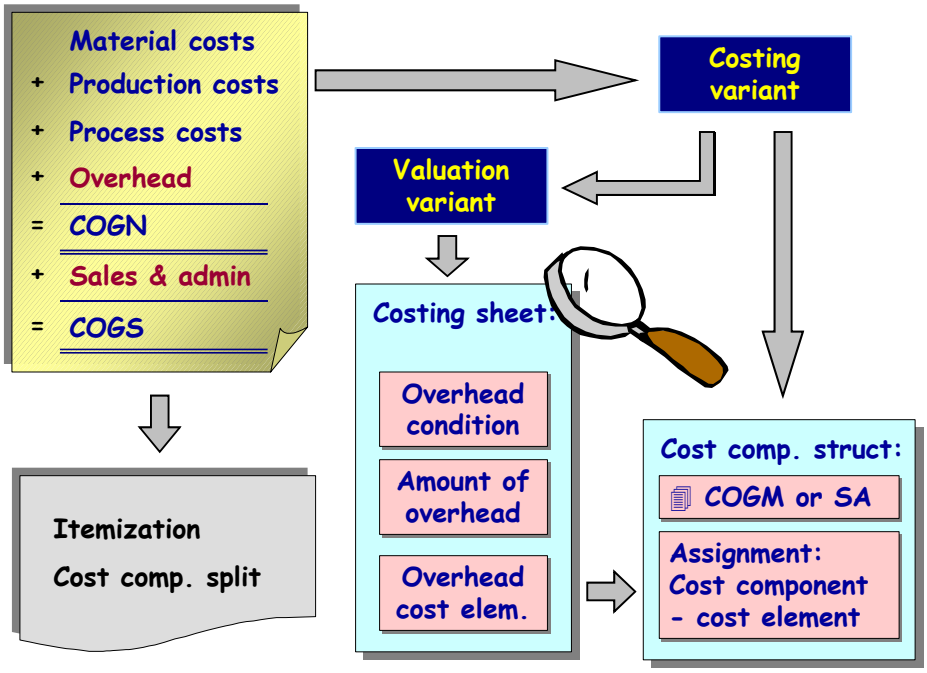
For more information about calculating overhead costs, see the following sections in the R/3 Library:

- Overhead Cost Controlling [Extern]
- Activity-Based Costing [Extern]

Applied Overhead

Use

You can apply both percentage overhead and quantity-based overhead to reference objects. In the R/3 System, you can assign the overhead to a product by creating a costing sheet [Seite 744] in Customizing for Product Cost Planning. Using this costing sheet, you specify the level of overhead and the conditions under which it is calculated.



You can calculate the following:

- Material and production overhead
- Administration and sales overhead

  The costing sheet thus specifies the cost elements under which the sales and administration costs are updated in costing. The cost component structure [Seite 460] determines the cost components [Seite 462] under which these costs are shown. It flags these cost components as sales and administration costs.

  In make-to-order production, the sales and administration costs are generally assigned to the product as applied overhead. The cost of goods sold for the product is passed on to Profitability Analysis. (See also: Product Cost by Sales Order [Extern])

  In order-related production, repetitive manufacturing and process manufacturing, the sales and administration costs are generally passed on from Cost Center Accounting directly to Profitability Analysis. The cost of goods manufactured for the product is

passed on to Profitability Analysis. (See also: Product Cost by Order [Extern] or Product Cost by Period [Extern])

Prerequisites

To be able to calculate overhead in the R/3 System, you must do the following:

- Create a costing sheet [Seite 744] in Customizing
- Assign the costing sheet to the valuation variant in Customizing
- In the initial screen of the cost estimate, enter a costing variant that either contains this valuation variant or that assigns the costing variant to the order type

To define particular overhead conditions for certain reference objects, you must do the following:

- Enter an **overhead group** in the master record of the reference object (such as the material master record, base object master record, cost object)
- Enter an overhead key [Seite 746] in the **costing sheet** that is linked to this overhead group in Customizing for Product Cost Controlling.

Features

Applied Overhead Using Planned Data

The applied overhead is calculated using the information in the itemization for the material costed. Because the system updates an itemization for each cost component view, you can calculate applied overhead for a specific cost component view. Overhead is only calculated on one basis, such as the cost of goods manufactured or cost of goods sold. As a general rule, the cost of goods manufactured is used as the basis for calculating overhead. You make the assignment in the costing type in Customizing.

When calculating overhead, the system inserts a costing category of type **G**. The applied overhead is updated under the cost elements that you specified in the costing sheet in Customizing for Product Cost Controlling.

In **costing with a quantity structure**, overhead is calculated automatically by the system when you carry out costing.

In **unit costing** (such as costing without a quantity structure and base object costing), overhead is calculated when you save the cost estimate. You can calculate overhead manually by choosing the menu option *Calculate overhead*.

To calculate the overhead application in **unit costing** (such as in a cost estimate without quantity structure, or a base object cost estimate), you must assign all the costing items to cost elements. Non-assigned costing items will not be included in the overhead application.

If you want to calculate overhead in unit costing, you must enter the key of the costing sheet in the master record of the reference object. To define overhead conditions for certain reference objects, you must enter an overhead key in the master record of the reference object and create a costing sheet that refers to this key.

Applied Overhead Using Actual Data

You can calculate actual overhead for cost objects in *Cost Object Controlling (CO-PC-OBJ)*. You can find further information under Calculating Overhead in Cost Object Controlling [Extern].

See also:

Implementation Guide (IMG) for Product Cost Controlling

Applied Overhead

- In Product Cost Planning under *Basic Settings* → *Overhead*.
- In Product Cost Planning under *Reference and Simulation Costing* → *Overhead*.
- In Cost Object Controlling, under:
  - ***Product Cost by Period*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Order*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Sales Order*** → *Basic Settings* → *Overhead*
  - ***Costs for Intangible Goods and Services*** → *Basic Settings* → *Overhead*

Costing Sheets

Definition

The costing sheet links all the functions of overhead calculation.

Use

In the costing sheet, you determine the following:

- The direct costs to which overhead is applied (calculation base)
- The conditions under which overhead is applied (dependency)
- Whether overhead is allocated on a percentage basis or on a quantity basis
- The amount of the overhead percentage, or the amount of overhead for each unit of measure (overhead)
- The validity period for the overhead
- Which object (cost center, process, or order) is credited, and under which cost element in the case of actual postings (credit key)

If you use Activity-Based Costing (CO-OM-ABC), the costing sheet also controls the allocation of process costs. For more information about the allocation of process costs, see Process Costs [Seite 748].

In **material costing**, you enter the costing sheet in the valuation variant in Customizing.

In **Reference and Simulation Costing**, you enter the costing sheet in the master record of the base planning object.

Structure

The costing sheet contains the following:

- **Calculation Base**

  The calculation base consists of a group of cost elements to which overhead is to be applied according to the same conditions. This process involves assigning individual cost elements or cost element intervals for each controlling area to a calculation base.

  You can apply different overhead amounts to the fixed and variable portions of the same base cost element. You can also make the amount of the overhead dependent on not only the direct costs, but also on the material itself. You can define material-specific calculation bases by entering the origin groups in the material master record and by specifying them in the calculation bases.

- **Overhead Rates**

  You use overhead to specify whether the overhead applied to the calculation base should be quantity-based or percentage-based. You also specify the validity period and the conditions under which the overhead should be calculated. The system calculates the overhead either as a percentage or based on the quantity.

  The conditions under which overhead is to be charged are laid down in condition tables. The standard condition table is linked to a controlling area, an overhead type (planned or actual), and to one other field of the object's master record (such as the plant, or

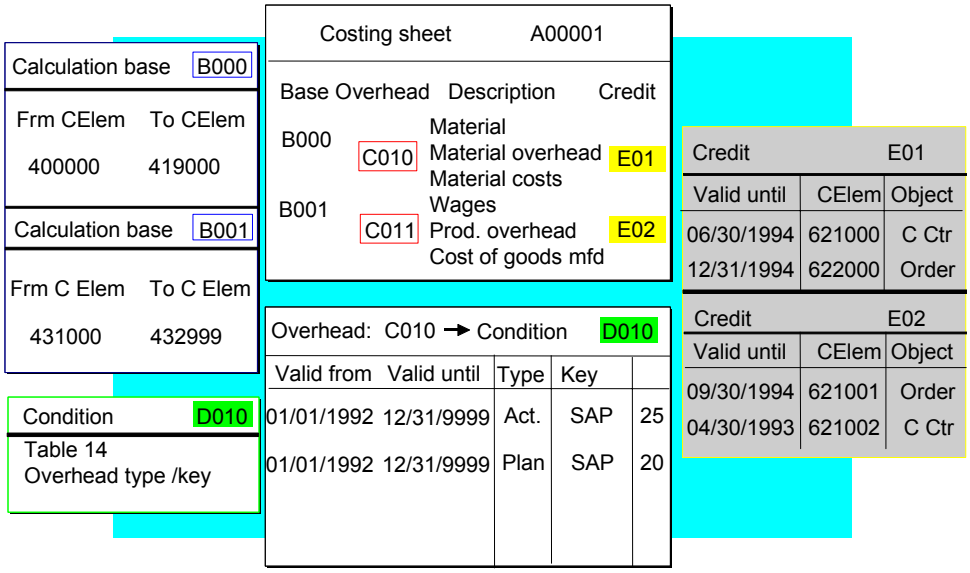
overhead key). Hence the conditions for overhead calculation can relate to all the reference objects of an organizational unit, or to an overhead key [Seite 746].

These lines also contain a **credit key**. The credit determines the (overhead) cost element under which the overhead is to be updated, and which cost center, business process or order is to be credited. You can also specify which part of the overhead is to be flagged as fixed costs.

- **Totals Lines**

  These lines show subtotals.

The following graphic provides an overview of the various components of the costing sheet:



See also:

For more information about the costing sheet, see the *Implementation Guide for Product Cost Controlling*.

Overhead Keys

Definition

Specifies which overhead is applied to a reference object (such as a material), thus forming the link between overhead conditions and the following:

- A particular material master record
- A particular cost object node of a cost object hierarchy
- A particular general cost object
- A particular sales order item

Use

You can define particular overhead conditions for certain reference objects.

Overhead key for materials

To link materials with certain overhead conditions, you must do the following:

- Enter an overhead group in the costing view of the material master record.
- Enter an overhead key in the costing sheet that is linked to this overhead group in Customizing for Product Cost Controlling.

Using the overhead key, the overhead is assigned to a particular material via the overhead group in the costing view of the material master.

The overhead group and overhead key are included in the following:

- In Product Cost Planning in material costing
- In Cost Object Controlling:
  - In a preliminary cost estimate for the product cost collector or for the manufacturing order
  - In period-end closing for the product cost collector or for the manufacturing order

Overhead Key for Cost Object Hierarchies

To link cost object hierarchies to overhead conditions, enter the overhead key in the cost object master record.

The overhead key is included in the cost object node when overhead is applied at period-end closing.

Overhead Key for Sales Order Items

To link sales order items to overhead conditions, enter an overhead key for the sales order item. To do this, go into the sales order and choose *Extras* → *Account assignment*.

The overhead key is included in Product Cost by Sales Order

- In Product Cost by Sales Order, to calculate the planned costs
- When overhead is calculated at period-end closing

Overhead Keys

Overhead Key for General Cost Objects

The overhead key is included:

- When planned costs are calculated for general cost objects
- At period-end closing

The standard system has various costing sheets containing an overhead key. You can apply overhead to materials by modifying these costing sheets to suit your needs.

You have defined two overhead groups in order to apply overhead to materials. These two overhead groups are linked to two overhead keys. An overhead of 10% is specified for overhead key 01. An overhead of 20% is specified for overhead key 02.

You have more than one plant. You want to apply overhead only if the material is assigned to a certain plant and overhead key.

The system checks these dependencies when the overheads are calculated. If the dependencies are met, the system calculates an overhead percentage. You must define this percentage for each of your dependencies.

Overhead Key for Base Planning Objects

In base object costing, you enter the overhead key in the master data for the base planning object.

Process Costs

Use

You can use Activity-Based Costing in *Product Cost Controlling (CO-PC)* in order to do the following:

- Include costs for production resources/tools and in the actual data
- Calculate overhead based on the output quantity

  In traditional overhead costing, you can calculate quantity-based overhead based on the input quantities, but not on the output quantities. Through the use of Activity-Based Costing, you can, in non-order-related costing, assign overhead to a material dependent on the costing lot size.

  In *Cost Object Controlling (CO-PC-OBJ)*, you can calculate process costs as follows:

  - Dependent on the planned order quantity (for example, in a preliminary cost estimate for the manufacturing order)
  - Dependent on the quantity delivered to stock, in order to calculate the actual costs for a material
  - In Sales-Order-Related Production, dependent on the quantity ordered of a material produced in make-to-order production
- In Sales-Order-Related Production, to allocate transportation costs to the sales order item matched with costs and revenue. For example, you may receive a collective invoice from your carrier with several amounts that are assigned to various sales orders.
- To carry out statistical cost accounting in parallel. In such cases, the cost object is not debited.

Prerequisites

You have maintained the appropriate templates, environments, and function hierarchies in Customizing for Product Cost Controlling.

For more information about settings in Customizing, see the Implementation Guide for *Product Cost Controlling (CO-PC)*. For more information about Activity-Based Costing, see Activity-Based Costing (CO-OM-ABC) [Extern] and the Implementation Guides for Activity-Based Costing and for Product Cost Controlling.

However, for the above-mentioned options, it is not imperative that you implement the complete version of Activity-Based Costing. You also do not have to carry out an all-embracing analysis of your process structure. You can use Activity-Based Costing in this context as an additional tool to assign your costs on a source-related basis.

Features

You can use the costs for business processes in a cost estimate as either a replacement for, or supplement to, the traditional method of allocating overhead.

Process Costs

In cost center accounting, the costs are structured according to organization and responsibility center. This means that although it is possible to pinpoint a company's costs where they arise, this does not explain the purpose for which the resources are used.

The process-oriented approach, on the other hand, considers the costs of all the functions in accordance with the company's process structure. A business process is debited with costs that are related to the usage of the resources. Overhead costs are traced back to the source and assigned through the valuation of the process quantities at the process price.

Overhead is assigned to the business processes according to the resources used. This allows costs to be applied to the cost objects on a source-related basis.

You can include process costs in a material cost estimate by means of the following:

- Templates [Seite 751]

  The template determines which process costs are used and how these costs are further applied to the product. The template is determined through the costing sheet in the valuation variant. This form of cost application provides you with a highly flexible method of specifying the processes and of calculating the activities and processes used.

  Template allocations also enable you to use cost centers/activity types as senders.

- Integrating business processes into the routing through the PP component

  The business processes are linked to the operations of the routing. This enables the process to be more closely linked to a specific material or order. It also makes it possible to link a specific process to a particular quantity. Work centers and routings are given a process assignment. The business processes are transferred from the work center into the routing. You enter the formula to determine the process quantity in the work center. The activity price of the business process is used for the valuation. In the cost estimate, the process quantities are determined with this formula and then valuated with the activity price. A credit is applied to the process, while the confirmed reference object is debited. The formula is also used to determine the process quantities used at the time of order confirmation of the routing operations; these quantities can also be adjusted. The actual allocation is arrived at in **Product Cost by Order** or **Product Cost by Period** using the process quantities following the valuation process.

You can include process costs using **planning data** in:

- Non-order-related costing

  In the **cost estimate with quantity structure**, process costs are calculated automatically by the system.

  In the cost estimate without a quantity structure, in additive costing and in Reference and Simulation Costing, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

- Preliminary costing for a cost object

  Process costs are calculated automatically by the system when you carry out costing in preliminary cost estimates of manufacturing orders, process orders, and sales order cost estimates (using the product costing method).

  When you carry out preliminary costing of manufacturing orders without a quantity structure, sales order costing (using the unit costing method), and plan general cost

objects, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

You can include process costs using **actual data** in order to allocate the process costs to cost objects. To do this, you carry out a dynamic process allocation at period-end closing of Cost Object Controlling. For further information, see the following:

- Period-End Closing in Product Cost by Order [Extern]
- Period-End Closing in Product Cost by Period [Extern]
- Period-End Closing: General Cost Objects [Extern]

To manually measure the resources (tracing factors) and cost drivers would require excessive organizational effort. The required data is often already in the system in statistical form, and can be transferred from LO-LIS (Logistics Information System). For more information about transferring data from LO-LIS, see the SAP Library under *Logistics General (LO).*

See also:

- Activity-Based Costing (CO-OM-ABC) [Extern]
- Use of Templates in the Standard Cost Estimate [Extern]
- Template-Allocation to Cost Objects [Extern]
- Quantity Input Methods (Pull) [Extern]

Templates

Definition

Tool for incorporating Activity-Based Costing in the cost estimate.

Use

The template enables process costs to be included in the cost estimate. It enables you to dynamically determine and valuate the process quantities used at the time of costing.

Templates have various uses:

- You can use a template for several cost objects. When you carry out costing, you can use a determination strategy in the costing sheet to specify which template is to be used.
- You can define methods to determine processes dynamically at the evaluation stage.
- You can use formulas to determine the process quantities used.
- If separate sub-processes are valid only for certain cost objects, you can set individual lines to be active or inactive. When evaluating the template, only the active items are included.
- You can use sub-templates if process sequences are required in several processes. You define these process sequences in sub-templates.

Since templates are not dependent on the reference object, the appropriate template must be selected at the time of evaluation. It is selected through the costing sheet, the overhead key and the environment.

- For material costing, you select the costing sheet in the valuation variant. The valuation variant is entered in the costing variant.

  The costing sheet is determined from the master data when the process costs are allocated to cost objects and base planning objects.
- The overhead key is determined during material costing from the overhead group in the material master of the material to be costed. For more information, see Overhead Key [Seite 746].
- The environment of a template determines the information that can be accessed when a template is defined.

Depending on the controlling area, costing sheet, overhead key, and environment, you can specify which template should be used for the cost estimate. You can enter a template more than once.

See also:

You can find further information under the following:

- *Activity-Based Costing (CO-OM-ABC)* in the SAP Library in the documents Templates [Extern] and Use of Templates in the Standard Cost Estimate [Extern]
- *Implementation Guide (IMG) for Product Cost Controlling*

Process Cost Planning

Purpose

Process cost planning enables you to do the following:

- Include process costs in Product Cost Planning
- Include process costs in the preliminary costing of cost objects

Prerequisites

In Customizing for Activity-Based Costing, you check

- The planner profiles and planning layouts

  Planning is based on the predefined planning layouts that are stored in planner profiles. Planning layouts are entry screens for planning. You can use those supplied with the standard system, or define your own.
- Whether a distribution key should be created
- Whether versions have been created for alternative forms of planning (if necessary, create new versions)
- Whether it should be possible to copy versions (if necessary, allow copying in the source version)
- Whether planning changes should be documented

In Customizing for **Product Cost Controlling**, you define a template, the template determination, environments, and function hierarchies. You can find further information in the Implementation Guides (IMG) for *Activity-Based Costing* and *Product Cost Controlling*.

Process Flow

In Activity-Based Costing, the entire planning flow can be performed in dialog.

The planning process is not a single operation, but an interactive process that generally consists of several cycles. This is also reflected in the saving of the planned data. To this end, the system provides for the parallel saving of alternative versions.

Where business process planning is concerned, there is no fixed methodology. However, SAP recommends the following procedure:

1. You plan statistical key figures that can be used as the basis for the allocation of process costs in the planning data and actual data.
2. Carry out activity type planning. The planning of business processes is based on Cost Center Accounting with the activity types and allocation bases.
3. Carry out primary cost planning.
4. Carry out secondary cost planning.
5. Carry out activity price calculation and process assessment.
6. Create the corresponding cost estimates for the reference object.

You carry out steps 1 to 5 in **Overhead Cost Controlling** (Cost Center Accounting or Activity-Based Costing).

You can find further information about Process Cost Planning and its requirements in the R/3 Library and in the Implementation Guide for *Activity-Based Costing (CO-OM-ABC).*

Result

The planning results are available on a real-time basis and can be analyzed at any time through the information system.

Costing Dates

Use

The following dates are relevant for a material cost estimate and a costing run:

- Quantity structure date
- Valuation date
- Costing date from/to

You can define a date control ID in **Customizing** for Product Cost Planning that determines the following:

- Which dates are proposed
- Whether the user can change the proposed dates

The date control ID is assigned to a **costing variant**.

Features

The **quantity structure date** determines how the system selects a valid quantity structure for the cost estimate. Based on this date, a BOM and a routing are selected, exploded and costed. The quantity structure date also determines which additive cost estimate is selected.

The **valuation date** determines how the system searches for valid data to calculate the following prices:

- Prices for stock materials from the material master record
- Activity prices for activity types from cost center planning
- Prices for externally-procured materials from purchasing
- Prices for externally-processed operations from purchasing

You set the **validity period of the cost estimate** with the *Costing date from* and *Costing date to* indicators.

You use the costing type in Customizing for Product Cost Planning to specify whether cost estimates are updated in the database with a date. You have the following options:

- Without date
- With date
- With start of period

For costing types which have the *With date* or *With start of period* indicator set, the system uses the date or period start that is entered in the *Costing date from* field.

- For the **standard cost estimate**, the *With start of period* indicator must be set. This means that the period and the fiscal year of costing are parts of the costing key in the database. This ensures that
  - Only one standard cost estimate can be stored within a period
  - Only this standard cost estimate can be transferred into the material master record as the standard price

- For the **modified standard cost estimate**, the *With start of period* indicator is automatically set. If you want to save several modified standard cost estimates for the same material in one period, set the *With date* indicator. The date of the cost estimate is saved as part of the costing key in the database.
- For the **current cost estimate**, the *Without date* indicator is automatically set. The date is not included in the costing key.

Depending on whether you carry out costing manually or automatically, you must remember the following:

- If costing is carried out **automatically**, the *Costing date from* applies. The *Costing date to* is just for informational purposes.

  You cannot create more than one cost estimate with the same validity period, because cost estimates with the same *Costing date from* would overwrite one another.

  On the other hand, you can create automatic cost estimates whose validity periods overlap. In this case, the entries in the field *Costing date from* are different.

- If costing is carried out **manually**, then both the *Costing date from* and the *Costing date to* apply.

  The validity periods of the additive cost estimates must not overlap.

  The validity period of the cost estimate is also relevant for Cost Object Controlling. The results of the standard cost estimate are used in the calculation of:

  - Variance calculation
  - Scrap calculation
  - Work in process calculation

  If the standard cost estimate is not valid on the date on which these functions are to be performed, the system issues an error message.

See also:

Implementation Guide for Product Cost Planning

Additive Costs

Use

You use additive costing to add costs manually to a material cost estimate when they cannot be calculated by the system. Examples of such costs are freight charges, insurance costs, stock transfer costs, incomplete or changed BOMs, and routings.

As a rule, costing calculates the costs of a material on the basis of the quantity structure. This type of cost estimate is performed automatically [Seite 123] by the system. However, you can also manually enter estimated values for costs that cannot be calculated by the system. This allows you to add costs to a cost estimate that was calculated automatically.

Prerequisites

The main prerequisite for including additive costs in an automatic cost estimate is that you carry out both automatic and additive costing on the basis of the same costing variant and costing version.

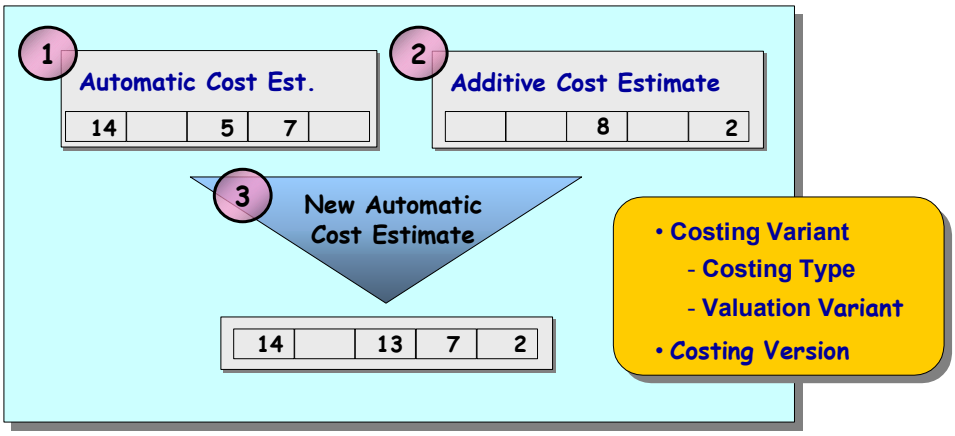
In addition, you need to carry out or check the following settings in Customizing:

- To ensure that the additive costs are included, set the indicator *Incl. additive costs* for each valuation strategy in the **valuation variant** in Customizing for Product Cost Planning.
- Specify the following through the **costing variant** in Customizing for Product Cost Planning:
  - Whether any existing additive costs are to be included in cost estimates that you create with this costing variant
  - Whether the additive costs are to be included when calculating overhead
  - Whether the additive costs are to be included when transferring stock to another plant
- You create separate **cost components** in Customizing for Product Cost Planning for those costs which you enter with the additive cost estimate, for example if you want to include the following costs in the cost estimate:
  - Special direct costs of production
  - Costs for materials for which no BOM has yet been created
  - Costs for work sequences for which no routing has yet been created

For more information about creating costing variants and valuation variants, and also updating additive costs in cost components, see the *Implementation Guide (IMG) for Product Cost Controlling*.

Features

The following graphic shows the link between the automatic cost estimate and the additive cost estimate.



When you cost materials, the system determines the BOM for the material, and selects a price for the valuation of the material components through the valuation variant. If you set the *Incl. additive costs* indicator in the valuation variant, the system looks for any existing additive cost estimates for the material. The system adds the costs entered manually to the costs calculated by the system. The costs in the automatic cost estimate and the additive cost estimate are added together for each cost component.

If you enter or change costs manually for a material, these costs are not automatically rolled up [Seite 467] in the BOM structure. You must first create a new material cost estimate or execute a new costing run so that the changes are included and rolled up. If additive costs have been included, the system sets the *Additive costing exists* indicator in the overview screen of the cost estimate. You can then update [Seite 634] the costing results in the material master.

The additive costs are added in their line item form to the itemization [Seite 828] of a cost estimate with quantity structure; in doing so item categories **S** (total) and **T** (text) are not transferred. If the costing item has a cost component split, then the cost element under which the item is entered is transferred, not the cost component split itself.

Additive cost estimates with dates that are not within the period of validity of the automatic cost estimate are not included in the automatic cost estimate.

The valuation date specifies the date for which the prices are selected. If a price is not valid on the valuation date, it cannot be selected. For more information, see Date Control [Seite 567].

You enter the additive costs manually in the form of a unit cost estimate [Seite 683]. When you create additive costs using unit costing, you can use the items of an existing additive cost estimate as a reference.

Creating Additive Costs

Procedure

Without Reference:

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate with Quantity Structure* → *Additive Costs* → *Create.*

   This brings you to the *Create Additive Costs* screen.

2. Enter the material number and plant.

3. Enter the following data in the *Costing data* tab page:

   a. Costing variant

   b. Costing version

   c. Costing lot size

      If you do not enter a costing lot size, the system uses the lot size from the material master.

   d. Transfer Control

      The transfer control proposed is from the costing variant. You can only enter or change the transfer control if the appropriate setting has been made in the costing variant. For more information, see Use of Existing Costing Data [Seite 607].

   e. Set the *Cost comp. str. with texts* indicator to generate the relevant entry tool for the cost component structure.

4. Choose and check the proposed costing dates in the tab page *Dates*. You can accept or change these dates.

5. Choose .

   The list screen [Seite 706] for unit costing appears. If you have selected the indicator *Cost comp. str. with texts*, the system inserts a variable item in the cost component structure [Seite 460] for every cost component [Seite 462] in the list screen and identifies the variable item with the cost element, cost component, and description.

   The system recognizes if additive cost estimates already exist and there are overlaps in the period of validity. These cost estimates are listed in a further dialog window. Each cost estimate on this list can be used as a reference. Select the relevant cost estimate and choose .

6. Enter or process the costing items [Seite 703]. You can also use the detail screen of the unit cost estimate [Seite 711] for this.

7. Choose to save the costing items entered.

   The cost estimate is saved temporarily. You can see the costs, the status of the cost estimate and additional information about the additive cost estimate sorted according to tab pages. For more information, see Analyzing the Results [Seite 494].

The following options are available:

- Goes back to the list screen in order to edit the costing items
- Displays information about the cost estimate

  Examples of such information include the material master, the costing variant and the logistical product structure.
- Displays the itemization [Seite 828]
- Displays the cost component split
- *Partner* Displays the Partner cost component split [Seite 812]

  This function is only available if you have generated a partner cost component split. A partner version must have been entered in the costing type.

8. Choose to save the additive cost estimate permanently to the database.

With Reference:

1. Carry out steps 1 to 3 as described above. Do not set the indicator *Cost comp. str. with texts*.
2. Choose .
3. In the *Copy from* screen area, enter the data for the additive cost estimate to be used as the reference.
4. Choose *Cost estimate* to find any existing cost estimates.

   The dialog box *Selection of material cost estimates - additive costs* appears. Enter the selection criteria required to find the additive cost estimate, and choose . A list of cost estimates corresponding to your search criteria appears. Choose the required cost estimate with a double click.
5. Check the costing dates proposed in the tab page *Dates*. You can accept or change these dates.

   Possible overlaps with existing additive cost estimates are recognized by the system. A further dialog box lists the cost estimates affected. These are either automatically deleted or the period is shortened.

   Each cost estimate on this list can be used as a reference. Select the relevant cost estimate and choose .
6. Choose .

   The list screen [Seite 706] for unit costing appears.
7. Enter or process the costing items [Seite 703]. You can also use the detail screen of the unit cost estimate [Seite 711] for this.
8. Choose to save the costing items entered.

   The additive cost estimate is saved temporarily. You see the costs and further information about the additive cost estimate under tab pages. For more information, see Step 7 of the above procedure.

9. Choose to save the additive cost estimate permanently to the database.

Result

You can include these additive costs in an automatic cost estimate. To do this, you create a cost estimate with quantity structure or a costing run based on the same costing variant and version.

See also:

- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating the Costing Run [Seite 328]
- Analyzing the Results [Seite 494]

Changing/Displaying Additive Costs

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate with Quantity Structure* → *Additive Costs* → *Change* or *Display.*

   The system displays either the *Change Additive Costs* screen or the *Display Additive Costs* screen.

2. Enter the material and plant.
3. Enter the following data in the *Costing data* tab page:
   - Costing variant
   - Costing version
   - Costing date from
4. Choose *Cost ests* to find the required cost estimate.

   The dialog box *Selection of material cost estimates - additive costs* appears. Enter the selection criteria required to find the additive cost estimate, and choose . A list of cost estimates corresponding to your search criteria appears. Choose the required cost estimate with a double click.

5. Choose .

   The system displays either the *Change Additive Costs* screen or the *Display Additive Costs* screen. The costing information displayed is arranged in tab pages.

   The following options are available:

   - Takes you to the list screen [Seite 706] of the unit cost estimate.

     You can only process the list screen if you have called up the function *Additive Costs* → *Change*.

   - Displays information about the cost estimate.

     This will take you to the material master or costing variant, for example.

   - Displays the itemization [Seite 828]
   - Displays the cost component split
   - *Partner* Displays the partner cost component split [Seite 812]

     This function is only available if you have created a partner cost component split. A partner version must have been entered in the costing type.

See also:

For more information, see Analyzing the Results [Seite 494].

Analyzing the Results

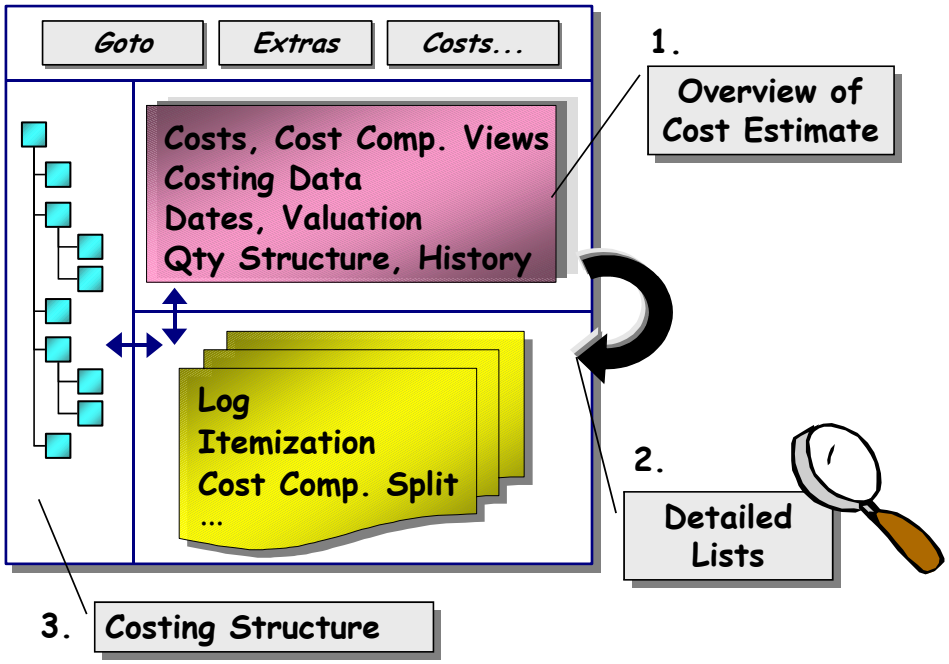
Use

You can analyze the results of a material cost estimate in this way if you:

- Create a material cost estimate with quantity structure [Seite 123]
- Create a material cost estimate without quantity structure [Seite 480]
- Create [Seite 248], change or display [Seite 251] additive costs
- Display a material cost estimate [Seite 493]
- Have executed a costing run [Seite 337] and double-click on a material in the material overview to access detailed information on the cost estimate for that material
- Display a material cost estimate from the archive [Seite 602]

Features

The screen is divided into three areas:



Note that it is not possible to display a costing structure directly after performing unit costing [Extern]

You can arrange this screen to your own requirements by doing the following:

- Altering the size of the screen areas

  To see all the pushbuttons and displayed fields for the costing structure, it may be necessary to increase the size of this screen area.

- Displaying or hiding the screen areas *Detailed list* and *Costing structure* via *Detail list on/Detail list off* and *Costing structure on/Costing structure off*
- Using *Hold* to save these settings so you can call up this function (user-dependent) later: it is up to you whether you save the settings independent of the costing variant or not.

Cost Estimate Overview

This screen area contains tab pages which provide the following cost estimate data:

***Costs* tab**
Contains the calculated costs The costs displayed are based on the costing lot size. However, you can also see the costs based on the price unit in the material master, or based on a figure you have already defined, by selecting a cost base from the list field. Note that if a cost base is changed, all costing items are adjusted proportionally, including those that contain fixed costs (such as setup costs). displays the log [Seite 589] containing the messages for the material displays the itemization [Seite 828] displays the cost component split [Seite 824] *Partner* displays the partner cost component split with cost component groups [Seite 812] displays the costed multilevel BOM [Seite 823] (displayed in the screen area *costing structure*) *Additive Costs* displays the additive costs These reports, which refer to a cost component view, are displayed in the screen area *Detailed list*. To display another cost component view, select the desired view from the list field in the *Costs* tab page. The information in the screen area *Detailed list* is updated automatically.

Tab page	***Contains***
Costing data	The costing variant and costing version used in the cost estimate
Dates	The costing dates used for the cost estimate
Quantity structure	The quantity structure data used for the cost estimate
Inventory costing	• Currency in which the costing results are displayed • Costing sheet, overhead key, and template used to calculate overhead
History	Information on who created, marked, and released the cost estimate, and when

Further Costing Information and Settings for the Cost Estimate

	You can branch from the toolbar to the master data used. For example, you can go to the material master of the material costed. For more information, see Origin of Costing Data [Seite 129].

◀ or ▶	Previous/next material (only when you **create** a cost estimate with quantity structure, not when you display it)

Goto → *Material overview*	You can display an overview of all the materials costed. You can adapt the list to your own requirements, for instance by setting filters and by sorting. By double-clicking on a material, you can branch from this list to the detailed information.
Goto → *Highest material cost estimate*	You go back to the costing information for the highest material.
Costs → *Cost element itemization*	The cost element itemization [Seite 827] is only available when you **create** a cost estimate, not when you display it.
Costs → *View selection*	Here you can change the view for all three screen areas at the same time.
Settings → *Cost display*	Here you can change the cost base and the currency (providing a cost component split has been generated for the currency to be set) for all three screen areas at the same time. You can change the content of the table on the tab page *Costs* under *Costs for view*.

Unit Costing

Use

Unit costing is a universal tool for planning costs and setting prices. You can use it to plan costs for various reference objects:

- Materials (material cost estimate without quantity structure [Seite 449])
- Additive costs [Seite 246] for a material cost estimate with quantity structure [Seite 92]
- Base planning objects [Seite 702]
- General cost objects [Extern]
- Production orders without quantity structure [Extern]
- Sales order items [Extern]
- Projects (WBS) [Extern]
- General costs activities [Extern]
- Network components [Extern]
- Internal orders [Extern]
- Primary cost elements [Extern]

Some objects, such as general cost objects and production orders without quantity structure, can only be planned using unit costing. The cost estimate results are valid for the entire life of the object.

For WBS elements and internal orders, you can use unit costing in addition to other forms of planning such as cost element planning and structure planning. The cost estimate results can be valid for the entire life of the object or for a fiscal year.

You can calculate the costs for production orders, materials, and sales orders either using unit costing or product costing. Product costing is generally used in connection with the Production Planning (PP) Module, while unit costing can be used to enter manually data relevant to costing or to transfer it from non-SAP systems.

Features

Unit costing is a type of spreadsheet that, due to its integration, can use existing master data and prices in the R/3 system, such as activity prices from Cost Center Accounting. You can use the spreadsheet to create totals, subtotals, and formulas for mathematical operations.

You can use unit costing in the R/3 System as follows:

- **As a Spreadsheet Without Accessing Data in the R/3 System**

  You can carry out simple cost planning without accessing information in the R/3 System. For example, you can enter variable items, create subtotals, and enter text items. For more information, see Creating Costing Items [Seite 703].

- **Spreadsheet with Access to Data in the R/3 System**

  If you are using the *Materials Management* and *Controlling* components, you can create costing items that can access information from these areas, such as the standard price

from the material master record, and the price for performing a certain activity type from activity type planning. For more information, see Master Data for Unit Costing [Seite 688] and Creating Costing Items [Seite 703].

- **As a Reference when Planning Specific Reference Objects**

  If you create a unit cost estimate for a reference object, you can use a reference for this. The reference object of the cost estimate (base planning object, material, order, and so on) determines which existing objects you can copy.

  For more information, see Creating a Cost Estimate with Reference [Seite 716] and Copying a Cost Estimate [Seite 719].

You have costed a product with a cost estimate with quantity structure [Seite 92] You would like to simulate the effects on the costs of using different materials, for example. You can create a cost estimate without quantity structure and use the cost estimate with quantity structure as a reference.

You have costed the items of a sales order with product costing, and would like to simulate the effects on the costs of using different internal activities, for example.

See also:

For more information about the unit costing functions, see the following sections:

- List Screens in Unit Costing [Seite 706]
- Detail Screens in Unit Costing [Seite 711]
- Headers in Unit Costing [Seite 685]

For more information about creating unit cost estimates for reference objects, see the following:

- Creating Additive Costs [Seite 248]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]
- Creating Base Planning Objects [Seite 668]
- Creating a Preliminary Cost Estimate for a CO Production Order [Extern]
- Planning Costs for General Cost Objects [Extern]
- Creating a Unit Cost Estimate for a Sales Order Item [Extern]
- Unit Costing in the General Costs Activity [Extern]
- Unit Costing for Material Components [Extern]
- Creating a Unit Cost Estimate in the Network [Extern]
- Unit Costing for Internal Orders [Extern]
- Detailed Planning of a Primary Cost Element [Extern]

Header Information About the Unit Cost Estimate

Use

You can go to the header screen of the unit cost estimate by choosing in the list screen [Seite 706].

The button takes you to information that was used in the cost estimate, such as the material master and the costing variant.

By choosing with the quick info *History*, you can display information such as who created the unit cost estimate and when, and who changed or closed it.

The button *List Screen* takes you back to the list screen of the unit cost estimate.

Change lot size… enables you to alter the lot size for the costing items.

The header screen also contains the following information:

Field	Definition
Reference object	This indicates the object for which the cost estimate is created (base planning object, order, project, material).
Costing variant	The costing variant [Seite 72] determines, among other things, how the costing items are valuated and which costing sheet is used to calculate overhead.
Controlling area	This specifies the controlling area to which the cost estimate is assigned.
Costing version	Costing versions [Seite 619] enable you to create more than one cost estimate for the same material without having to define new costing variants.
Indicator *Material component*	Flags the material as a material component If you turn on this indicator, a raw material cost estimate is created and an item of category I is inserted. You can switch off the raw material cost estimate by deselecting the indicator or by choosing *Functions* → *Switch off raw material costing* in the list screen.
Total value in CO area currency	This is the sum of the item values in the currency of the controlling area.
Fixed costs in CO area currency	This is the portion of the item values that is flagged as fixed costs.
Total value in foreign currency (header)	This is the sum of the item values in the object currency (header foreign currency).
Fixed costs in foreign currency (header)	This is the portion of the item values in object currency (header foreign currency) flagged as fixed costs.
Total value in foreign currency (item)	This is the total of the item values in the transaction currency (item foreign currency).

Header Information About the Unit Cost Estimate

Fixed costs in foreign currency (item)	This is the portion of item values in transaction currency (item foreign currency) flagged as fixed costs.
Pricing date	This is the date on which the prices of the items are calculated from the master data. If the reference object of the cost estimate is a production order, this date is the same as the order start date.
Lot size	Quantity which you entered on creating the cost estimate or which you changed using the function *Change lot size*.
Status	Not currently used
Description	Text as required
Description	Text as required; enables you to create a long text

Origin of Data in Unit Costing

Use

You create a unit cost estimate for a reference object to calculate the cost of goods manufactured and cost of goods sold. The costing items are:

- Entered manually by you (most items)

  Material items (category M), internal activity items (category E), base planning objects (category B), process costs (category P), variable items (category V)

- Costed by the system based on your entries

  Overhead (category G) and process costs (category X)

See also:

For more information about creating costing items, see Creating Costing Items [Seite 703].

For more information about the master data you can use in unit costing, see Master Data for Unit Costing [Seite 688].

For more information about how costing items are valuated and how overhead is calculated, see Valuation of Costing Items [Seite 726].

For more information about using multilevel unit costing, see Multilevel Unit Costing [Seite 671].

Master Data for Unit Costing

Use

You can access a range of master data from other components to calculate the cost of goods manufactured and the cost of goods sold in unit costing:

Component	Data
MM	Material master records [Seite 689] and purchasing data [Seite 691]
PP and PP-PI	Work centers [Seite 693] and resources [Seite 693]
CO	Cost centers [Seite 698], activity types [Seite 698], business processes [Seite 701] and base planning objects [Seite 702]

Unit costing can also access **services** in Materials Management. You can plan them as items of category **N** in unit costing. A service is assigned to a cost element via the valuation class in the service master record.

Prices for services are time-dependent. Costing selects the price that is valid on the date in the header of the cost estimate. To check the service master, choose *Logistics → Materials management → Service master → Service master → Display.*

To check the price for a service, choose *Logistics → Materials management → Service master → Service master → Service conditions → For service → Display.* For more information, see MM - Services [Extern].

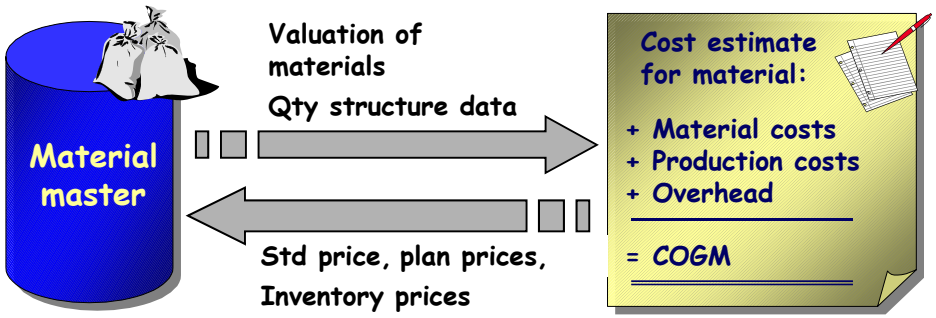
Material Master Records

Use

Material costs appear in the itemization as costing items of category M. These items are determined automatically in material costing with quantity structure. In unit costing (that is, material costing without quantity structure or base planning objects), you enter the materials manually as items of category M.

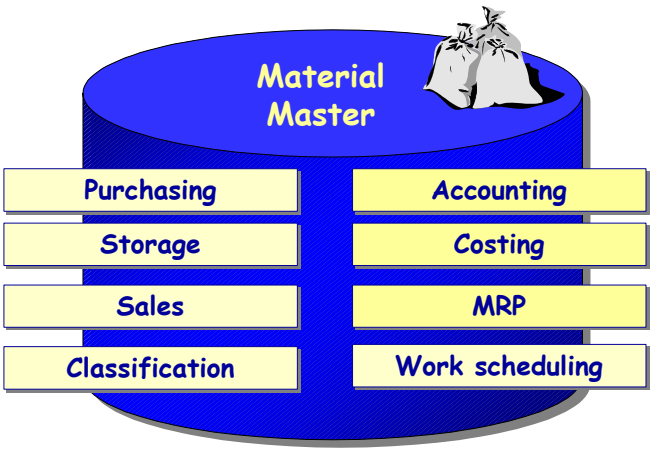
You can access the data of these materials in the material master record, in order to determine the prices of the materials for costing purposes. You can also transfer the results of material cost estimates into the material master record.

In addition, the material master record contains information about the determination of the quantity structure and about the procurement of the material to be costed.



Features

The material master record contains all information needed for managing a material. This data is arranged in **views**. The views correspond to the user departments [Extern] within the company in which the material is used. For material costing, the costing [Extern], accounting [Extern] and MRP [Extern] views are particularly relevant.



The cost estimate accesses **data in the accounting and costing views** of the material master record, in order to do the following:

Material Master Records

- Determine a price for externally-procured materials (in accordance with the valuation strategy for material valuation)
- Assign the material costs of a cost element using the valuation class
- Find the currency and price unit of the cost estimate
- Establish parameters for the calculation of overhead [Seite 569] for specific materials
- Determine a lot size for the cost estimate

The cost estimate accesses **data in the costing and MRP views** of the material master record, in order to do the following:

- Select parameters to determine BOMs and routings (material costing with quantity structure only), such as the BOM and routing or production version
- Select parameters to determine costing data in other plants (Special Procurement in Costing [Seite 443])

Material costing provides the following **information for the accounting view or costing view** of the material master record:

- Standard prices for materials with standard price control
- Tax-based prices and commercial prices for inventory valuation 1, 2, 3
- Other planned prices 1, 2, 3

See also:

- Determining the Quantity Structure in Costing with Quantity Structure [Seite 179]
- Valuating the Quantity Structure in Costing with Quantity Structure [Seite 203]
- Creating Costing Items in Unit Costing [Seite 703]
- Valuating Costing Items in Unit Costing [Seite 726]
- Price Update [Seite 634]

For more information about the material master record, see *LO Material Master* under the following:

- Material Master [Extern] and Material Master Record [Extern]
- Creating Material Master Records [Extern] and Creating a Material Master Record [Extern]
- Material Valuation [Extern] and Define Split Valuation [Extern]

Master Data in Purchasing

Use

Purchasing contains information for the procurement of a material or service from a certain vendor, such as conditions negotiated with the vendor. Costing enables you to access this information in the following areas:

- Valuation of Materials [Seite 728]
- Raw Material Costing [Seite 735] (not relevant for Reference and Simulation Costing)
- Valuation of subcontracted [Seite 446] materials
- Valuation of external processing [Seite 210]

Prerequisites

In order to access the prices from purchasing (that is, the purchasing info record or purchase order), you must enter the following in Customizing for *Product Cost Planning*:

- In the valuation variant:
  - Enter strategy **L** (price from purchasing info record) for material valuation
  - Enter a strategy for the valuation of subcontracting and external processing
- Enter this valuation variant in the costing variant that you want to use for the cost estimate

Features

The link between material/activity and vendor is established in purchasing. It manages information about the vendor, and about the materials and activities that you have obtained from the vendor, such as quantities, prices, price changes, and other costs.

When costing, you can access information in the purchasing info record and purchase order, for the following purposes:

- To include delivery costs (such as freight charges, duty costs, and insurance costs) in the costing results

  This enables you to carry out raw material costing. Instead of the price being taken from the material master, an actual cost estimate including overhead calculation for material components is executed. This cost estimate does not have a quantity structure (BOM, routing).

- To valuate subcontracted materials with a price from purchasing

  For more information, see Valuation of Subcontracting [Seite 733].

- To valuate externally-processed items with a price from purchasing

  For more information, see Valuation of Externally-Processed Operations [Seite 210].

You can access the following prices:

- The price from the operation in the routing (not applicable to unit costing)
- From the purchasing info record (purchasing):

  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for *Product Cost Planning* and assigning it to the costing variant.

The valuation variant contains a search sequence that has a maximum of three prices.

You have defined the following strategy sequence for the valuation of external activities:

d. Net quotation price

e. Net order price

f. Price from operation

If a net quotation price exists in the purchasing info record, the system transfers this price. If no such price exists, the system transfers the net order price from the purchase order. If no purchase order was created for the operation, the system uses the price in the externally-processed operation in the routing.

See also:

For more information about purchasing master data, see the following in the SAP Library under MM Purchasing [Extern]:

- Purchasing Info Records [Extern]
- Source Lists [Extern]
- Quota Arrangements [Extern]

For more information about performing costing, see the following:

- Working with the Cost Estimate with Quantity Structure [Seite 119].
- Working with the Cost Estimate Without Quantity Structure [Seite 477]
- Working with Reference and Simulation Costing [Seite 665]

Work Centers and Resources

Use

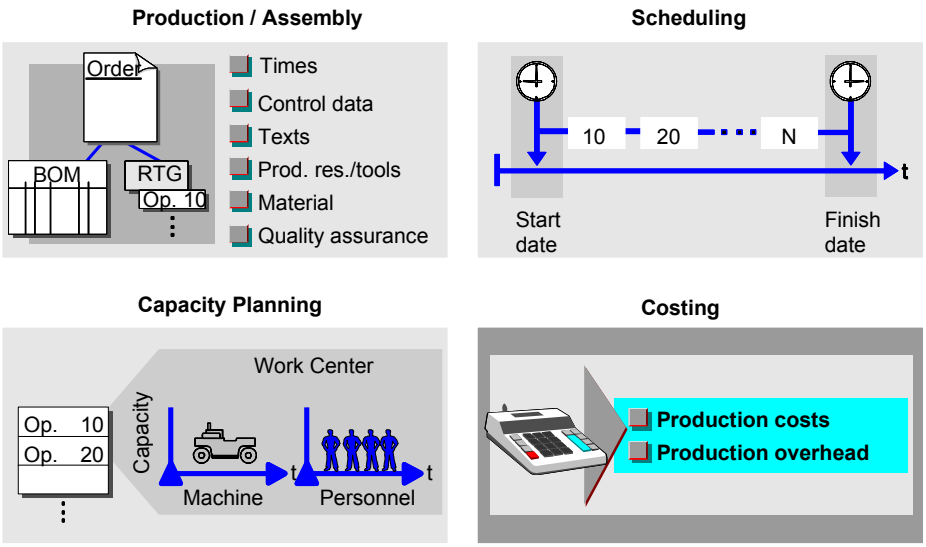
The work center or resource is the organizational unit where an operation is carried out. A work center or resource specifies exactly one cost center and various activity types, or a business process. In this way, the work center or resource link the entries in Cost Center Accounting or Activity-Based Costing with the entries in PP or PP-PI.

In **costing with quantity structure**, the work center is included in the cost estimate through the routing and the resource through the master recipe. For more information, see Routings in Costing [Seite 166].

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the work center or resource in the list screen manually. For more information, see List Screen of the Unit Cost Estimate [Seite 706].

Features

The following graphic shows how the data in work centers and routings can be used in the R/3 System.



The following entries in the **basic data screen** of the work center or resource are relevant to costing:

Work Center Category

The work center category determines which data you can maintain in the work center and which values are proposed. You define work center categories in Customizing for Production.

Standard Value Key

Work Centers and Resources

This key determines how many default values you can maintain (maximum of six), and assigns a meaning (such as setup time, machine time, or labor time) and a dimension (such as minutes) to the standard values.

Standard values are used in formulas to calculate the execution time, the capacity requirements and the production costs.

You define the standard value key in Customizing for Production.

Efficiency Rate

The performance efficiency rate is the relationship between the predefined target time and the actual time. You can use the efficiency rate key in costing to correct the default values. You define the efficiency rate key in Customizing for Production.

Suppose the performance efficiency rate is 150% and the standard time is 120 minutes for one operation. If the price for the activity type is USD 60 per hour, the planned costs for the operation are calculated as follows:

120 min /150% x 100% = 80 minutes (planned time)

The planned cost for the operation is therefore USD 80.

You can define default values for the routing or master recipe in the work center or resource respectively. If you assign an operation in the routing or a phase in the master recipe to this work center or resource then these default values are transferred to the operation or phase.

The following **default values** are relevant to costing:

Control Key

The control key specifies the following:

- whether the operation or the phase are included in the costing
- whether the operation or the phase are processed internally or externally
- whether they are confirmed and in what form

You can check these settings in the control key by using the *possible entries* function (*F4)* on the *Control key* field and choosing the *Detailed information* function for the corresponding control key.

Reference indicator

Setting this indicator prevents the control key from being changed in the routing.

See also:

For more information, see the SAP Library under PP - Work Centers [Extern] and in the following sections:

- Work Center Categories [Extern]
- Performance Efficiency Rate Keys [Extern]
- Default Values [Extern]
- Control Keys [Extern]
- Reference Indicators [Extern]

Cost Centers and Activity Types

Use

Cost Center Accounting (CO-OM-CCA) [Extern] determines the type and amount of costs incurred at the individual cost centers. Products and/or orders are debited with these costs according to the activities used relative to the cost centers.

In **costing with quantity structure**, the cost center is taken into account for costing purposes via the work center. For further information, see the following:

- Work Centers in Costing [Seite 693]
- Linking of Cost Centers and Business Processes [Seite 696]
- Overhead [Seite 569]
- Valuation of Internal Activities [Seite 731]

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the cost center or work center manually in the list screen. For more information, see List Screen of the Unit Cost Estimate [Seite 706] and Overhead Costs in Base Object Costing [Seite 739].

Features

The **cost center** is the organizational unit where costs are incurred. A work center specifies one cost center only.

For each cost center, the following are planned:

- Which activities are performed from the cost center
- Which costs are debited to a product when it uses the activities of the cost center

For costing, the valuation date of the cost estimate must correspond to the validity period of the cost center.

To check the master data for the cost center, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Cost center* → *Individual processing* → *Display*.

The activity of the cost center is expressed in **activity types**. You specify in the work center the activity types used to manufacture the product. You use **activity type planning** in Cost Center Accounting to assign activity types to cost centers.

Activities are valuated using activity prices, which are either set by you according to policy or are calculated by the system using cost planning in the form of iterative activity price calculation. Here, the planned costs of a cost center which are assigned to the activities are divided by the planned activity (or by capacity, depending on your system settings) to find iterative activity prices.

Actual costs are entered for each cost center. You can calculate actual activity prices for the individual activity types and use these values in costing to valuate the activities.

The following are relevant for costing:

- Activity type category

The activity category determines whether the activity type is taken into account in costing.

- Cost element

  The activity type must be assigned to a secondary cost element, so that the costs for this activity type can be included in costing under this cost element. This cost element must have cost element type 43 (internal activity allocation).

  The valuation date of the cost estimate must fall within the validity period of the cost element.

To check the master data for the activity type, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Activity type* → *Individual processing* → *Display*.

See also:

For more information, see *Cost Center Accounting* in the following sections of the SAP Library:

- Cost Centers [Extern]
- Cost Elements [Extern]
- Activity Types [Extern]
- Activity Type Categories [Extern]

Business Processes

Use

You can include the costs for business processes used when you calculate the cost of goods manufactured and the cost of goods sold. The system inserts costing items of category **X** in the cost estimate. In a unit cost estimate [Seite 683], you can also enter process costs manually by using item category **P**.

See also:

For more information about business processes and including them in costing, see the following:

- Business Processes [Extern]
- Activity-Based Costing Approaches [Extern]
- Parallel Activity-Based Costing [Extern]
- Process Costs in Costing [Seite 748]

Base Planning Objects

Use

You can use base planning objects for the following purposes:

- At the beginning of the planning phase
- When you are at the draft stage of planning new products and services
- When there is no master data in the R/3 System (material master, BOM, routing, master recipe)
- When you want to change existing material cost estimates

Integration

You can also access existing data in the R/3 System when you are creating base planning objects. This data includes materials and material cost estimates, internal activities, services, cost centers, cost elements and activity types, work centers, and other base planning objects.

See also:

- Reference and Simulation Costing [Seite 659]
- Creating Base Planning Objects [Seite 668]
- Unit Costing [Seite 683]

Creating Costing Items

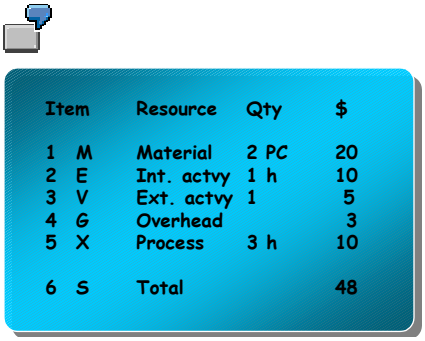
Use

You can edit costing items in the list screen of the unit cost estimate [Seite 706] or in the detail screen [Seite 711] for the costing item. The list screen gives you an overview of all the costing items. The detail screen gives you an overview of a particular costing item.

Alternatively, or as an extension of the classic (single-level) unit costing which uses a list screen and detail screen, you can use the functions of multilevel unit costing [Seite 671] to create costing items.

Features

In unit costing, you enter the costing items manually. In addition, each costing item must be assigned to an **item category**.



Item		Resource	Qty	$
1	M	Material	2 PC	20
2	E	Int. actvy	1 h	10
3	V	Ext. actvy	1	5
4	G	Overhead		3
5	X	Process	3 h	10
6	S	Total		48

The item category determines which data you have to enter and which data is read by the system:

Item category	Your entry	Object(s) found by system
B (base planning object)	Name of the base planning object, quantity	Price, unit of measure, cost element, text, item value
E (internal activity)	Cost center, activity type, quantity	Price, unit of measure, cost element, text, item value
F (external activity)	Purchasing info record, plant, purchasing organization, quantity, cost element	Price, unit of measure, text, item value
G (overhead)	-	Overhead, cost element
I (raw material costing) → cost estimate without quantity structure only	-	Raw material costs (see also raw material costing [Seite 735])
L (subcontracting)	Purchasing info record, plant, purchasing organization, quantity, cost element	Price, unit of measure, text, item value
M (material)	Material number, plant, quantity	Price, unit of measure, cost element, text, item value

N (service)	Service, quantity	Price, unit of measure, cost element, text, item value
O (operation)	Formula, cost element	Result of formula
S (total)	-	Total of item values above this item or above the item values that you specify in a formula
P (manual process costs)	Quantity, process	Process costs, activity price
T (text)	Description	-
V (variable item)	Quantity, price, cost element	Item value
X (process costs determined)	-	Process costs, quantity, unit of measure, cost element, text

If you do not enter an item category, the system proposes **V** (variable).

You can also enter the prices of individual costing items manually. If you do so, the item is indicated accordingly, and the field *Price entered manually* is set for the item.

The system finds cost elements for the individual items as follows:

Item category	Used by system to find cost element
B (base planning object)	The master data of the base planning object
E (internal activity)	Activity type master record
F (external activity)	Your manual entry
L (subcontracting)	Your manual entry
G (overhead)	Costing sheet
P (manual process costs)	Your manual entry
X (process costs determined)	Process template
M (material)	Automatic account determination
N (service)	Service master
V (variable item)	Your manual entry

In unit costing, you can check whether the system found a cost element for each costing item by choosing *Functions → Check cost elem.*

For base object cost estimates, you can specify in the costing variant in Customizing whether cost elements can or must be entered, or whether cost elements cannot be specified. For further information, see Preparing for Base Object Costing [Seite 76] and the *Implementation Guide (IMG)* for *Reference and Simulation Costing*.

List Screen of the Unit Cost Estimate

Use

The costing items in the list screen are displayed in the form of a list. Each line in the list corresponds to a costing item and contains all the data for that item.

There are various functions which you can use to process this list screen and/or costing items. These include the following:

- Changing the width of the columns in the list screen.

  To do this, place the cursor on the line between the columns and pulling the line to the desired position with the mouse button.

- Saving your own column settings as a variant (see Saving Column Settings as Variants [Seite 710])

Features

The following table provides an overview of the functions you can use to edit the list screen of the unit cost estimate or the costing items.

Function	Use
	The system calculates process costs and overhead, and inserts the costing items. The costing items are saved.
	This takes you to the itemization. There, you can edit the display and print out the cost estimate.
and	You can choose from various views of the unit cost estimate.
	This takes you to the header of the unit cost estimate [Seite 685].
	You can also edit costing items in the detail screen. (See also: Detail Screen of the Unit Cost Estimate [Seite 711])
	You can revaluate [Seite 756] the costing items with the current prices. The function is not available for the detailed planning of cost elements.
and	You can filter the cost estimate according to column when you display and change the unit cost estimates. You can display only the items of a certain item category, for example.
	You can total all the values that are not hidden.
	You can insert a formula [Seite 713]. The item category is predefined with **O**.

	Removes the selected costing item(s) and moves them to the clipboard.
	Copies one or more costing items to the clipboard.
	Inserts the costing items which you had previously cut or copied to the clipboard with the functions or .
	Selects all costing items for further editing.
	Reverses all selections.
	Selects a group of costing items for further editing.
	Deletes the selected item(s) from the list screen.
	Inserts a new item before the line where the cursor is positioned.
	Inserts more items. This function is only available when you change a cost estimate.
	You can display a unit cost estimate as a graphic based on the item category or cost element.
	Takes you to information about the costing item or header, such as the material master or cost element.
	Calls the log containing the system messages that affect multiple costing items.

Other Menu Functions

Goto →	
Text (header)	You can enter or display detailed information about the cost estimate.
History	You receive the following information: – Who created the cost estimate and when – Who last changed the cost estimate and when – Who closed the cost estimate and when
Technical information...	Contains technical information about the cost estimate, such as the costing type, costing version, costing sheet, template, and so on.
Exchange rate...	Contains information about the exchange rate used in the cost estimate.

Functions →	
New exchange rate (header)	You can change the translation rate for the foreign currency manually in the header. To do so, you must choose *Goto* to call the cost estimate header.
Change lot size	You enter the lot size when you create a cost estimate. If you do not enter a quantity, the system automatically sets the lot size to 1. If you use this function, all the quantities in the list screen will be adapted to the new lot size. To mark costing items as lot-size independent, enter **F** in the field *Item indicator*. The quantities for these items will then not be affected if you change the lot size.
Switch on/off raw material costing	You can activate raw material costing [Seite 735] to include items such as delivery costs for materials. If you switch on raw material costing, items of type **I** (information from purchasing info records [Seite 691]) are included. (This applies only to Material Costing Without Quantity Structure [Seite 449])
Close	You can close the cost estimate, to prevent further changes being made to it. The close is recorded in the history. If you process the cost estimate any further, the system will display a warning. You can still change the cost estimate, however.
Revaluate	You can revaluate the costing items with the current prices [Seite 756].
Determine cost element	With this function, you can assign the costing items of the category **V** to cost elements. You can also check whether the system was able to find a cost element for the other costing items. Every cost posting in the R/3 System is automatically assigned to a cost element. For planning purposes, you can assign the individual costing items to cost elements. The costing variant determines whether the individual items have to be assigned to cost elements. You define costing variants in Customizing for *Product Cost Planning*. For more information, see Preparing for Costing: Customizing [Seite 72].
Calculate overhead	You can use this function to calculate overhead [Seite 569] and process costs manually. The cost estimate inserts items of category G or X.
Explode material cost estimate…	If the spreadsheet contains a material item with a cost estimate, you can explode the material cost estimate [Seite 721] and display the items containing the material costs.
Explode base planning object	You can replace [Seite 724] all the base planning objects (item category B) in the cost estimate with the costing items (such as materials and internal activities) in this unit cost estimate.
Copy cost estimate	You can use a base object cost estimate as a reference [Seite 719].
Distribute	You can distribute the costs to the plan periods. It is only active for the planning of primary cost elements in Cost Center Accounting. (See also: Distribution Keys [Extern])
Settings →	

Display Currency In	You switch between various currency displays.
Column Freeze	You can fix columns that you have selected.

Saving the Column Setting as a Variant

Use

You can change the list screen and adapt it to your requirements. This list can then be saved as a variant.

Procedure

1. Choose to the right of the column headers.

   The dialog box *Table settings* appears.

2. In the *Variant* field, enter a new name for the variant.

3. Choose *Create*.

   The variant is saved.

4. Choose *Close*.

Result

Choosing enables you to do the following:

- Set the indicator *Use as standard setting* for the variant that you want to use as the standard variant
- Select the desired variant from the list and display it with *Copy*

  In the *Choose variants* group box, you see which variant is being currently displayed and which variant is flagged as the standard setting

- Remove obsolete variants with *Delete*

Detail Screens in Unit Costing

Use

You can process costing items in the list screen or detail screen of unit costing. The list screen gives you an overview of all the costing items. The detail screen gives you an overview of a particular costing item. By choosing in the list screen, you access the detail screen of a costing item.

Function

Depending on the item category, the detail screen of a costing item contains the following data:

Field	Definition
Item Category	Indicates an item as a material, base planning object, internal activity and so on, and specifies which data is determined by the system and which data must be entered by you.
Resource	Depending on the item category, contains the required master data (such as material master record for materials, activity type and cost center for internal activities)
Indicator *No cost comp. split*	For item categories M, E and P, stipulates that the value of the item shall not be determined through a cost component split If you set this indicator, the system uses a price in accordance with the valuation strategy (for example, for a material from the material master). You can also enter the value for the item manually. This function is **only applicable** to material costing without quantity structure. In all other cases, such as base planning objects, the system valuates the items in accordance with the valuation variant and not using cost component splits.
Work center and *Plant of work center*	This indicates which work center [Seite 693] was assigned to the item and in which plant. The work center and the plant of the work center can be entered for each item. With item category E (internal activity), the cost center is determined from the work center and plant.
Description	This is either transferred automatically (for example, material, activity type, base planning object) or entered manually.
Formula	The formula for the operation with item categories S and 0 is entered manually.
Cost element	This is either determined automatically (material, activity type, base planning object) or entered manually.
Quantity	You must enter this manually.
Unit of measure	This is either determined automatically (material, activity type, base planning object) or entered manually.

Indicator *IndepOfLotSize*	Item is independent of lot size. Items flagged as lot-size-independent are not adjusted if the lot size changes.
Total price	This is either calculated automatically (material, activity type, base planning object) or entered manually (variable items). The currency is in accordance with the currency display you selected.
Fixed price	Portion of the total price that is treated as fixed costs.
Indicator *Price entered manually*	Set by system if you have entered the price for an item manually
Total value	Item quantity multiplied by the total price for each unit of measure
Fixed value	Portion of the total value that is treated as fixed costs
Currency	Depending on the currency display, this is either the controlling area currency, the foreign currency of the item, or the foreign currency of the costing header (menu option *Settings*).

Formulas for Costing Items

Use

If you are using item categories **S** (total) and **O** (operation), you can enter a formula in the *Formula* field.

You can also enter a text for the formula to have a better overview of the costing items.

Features

The formulas must meet the following criteria:

- A formula can have up to 50 characters.
- A formula starts with **=**.
- The number of an item is put in quotation marks: **'1'**.
- A range of items starts with **(** and ends with **)**.
- The items in a continuous range are separated by **:** .
- The items in a split range are separated by **;** .
- Formulas cannot contain any additions or subtractions of constant values.

The following editing functions affect the formulas in a cost estimate:

- Insert item as a new entry

  Ranges in formulas with this item are extended.

  Formulas whose items have been changed by the insertion are adjusted.

- Delete or cut item

  Ranges in formulas with this item are made smaller.

  Formulas whose items are changed are adjusted.

  If you delete an item that was directly named in a formula, the system issues an error message and marks the position in the formula with **#**.

  If you delete more than one item which made up a range in a formula, the system issues an error message and marks the position in the formula with **#**.

- Insert item from the clipboard

  Formulas whose items have been changed by the insertion are adjusted.

  If the items got into the clipboard via *Copy*, the formulas in the copied items are not adjusted.

  If the items got into the clipboard via *Copy from...*, the formulas in the copied items are adjusted (based on the place at which they were inserted).

- Explode base planning object

  Items of category **S** from the base planning object to be exploded are not added. Items of category **O** from the base planning object to be exploded are assigned to item category **V** (variable). The operation value becomes the variable item value.

Formulas in the cost estimate in which you are working are adjusted if the items of the cost estimate are moved by inserted base planning objects.

Example of Formulas for Costing Items

Item	Item Category	Formula	Definition
1	M		
2	M		
3	S	`=('1':'3')`	Total of items 1 and 2
4	E		
5	E		
6	E		
7	O	`=('6')*0.5`	Item 6 multiplied by 0.5
8	S	`=('1':'2';'4':'7')`	Total of items 1, 2, 4, 5, 6 and 7
9	V		
10	S	`=('1':'10')`	Total of items 1, 2, 4, 5, 6, 7 and 9

The system proposes the formula in item 10 when you enter the item category **S**. The formula is a continuous range which excludes items of category **S**. If you want to total the two totals items 3 and 8, you have to enter a formula with a split range: `=('3';'8')`

Decimal places are always separated by a point in the formulas, irrespective of the user settings.

Further Examples:

Item No.	Item category	Value	Formula	Definition
1	V	0.10	-	-
2	V	0.05	-	-
3	V	10.00	-	-
4	O	5.00	=('3')/2	Item 3 divided by 2
5	O	10.10	=('3')+('1')	Total of items 3 and 1

6	O	9.95	=('3')+('2')-('1')	Addition of items 3 and 2, subtraction of item 1
7	S	35.20	=('1':'6')	Total of items 1 through 6
8	O	-	=('3')+2	Invalid use of constants
9	O	-	=('3')-2	Invalid use of constants
10	O	10.10	=('3';'1')2	Constant is ignored

Creating Unit Cost Estimates with Reference

Use

If you create a unit cost estimate for a reference object, you can use a reference for this. The reference object of the cost estimate (base planning object, material, order, and so on) determines which existing objects you can copy.

Type of reference object	Cost estimate(s) that can be accessed
Base planning object	Base planning object
Cost object ID	Base planning object or other cost object ID
Production order	Base planning object, material
Sales document	Base planning object or other sales document
Work breakdown structure (WBS) element	Base planning object or other WBS element
Internal order	Base planning object or other internal order
Material	Material
Additive costs	Material

Depending on the reference object, the system displays various fields in which you can specify which costing data you want to access. If, for example, you create a base planning object, you can use another base planning object as a reference. If you create a unit cost estimate for a sales order, for example, you can use a base planning object or another sales document as a reference.

You use the cost estimate for a similar product as the basis for a customer quotation, and add the required costing items.

To do this, specify the quotation in the dialog box *Copy Cost Estimate*. All costing items for the quotation are copied into the new cost estimate and revaluated.

Procedure

Using a Base Planning Object as a Reference for a Unit Cost Estimate for the Sales Order:

1. Select *Accounting* → *Controlling* → *Cost Object Controlling* → *Product Cost by Sales Order* → *Master Data/Planning* → *Sales Order* → *Change.*

   This brings you to *Change Sales Order: Initial Screen.*

2. Enter the order number and choose *Enter*.
3. Select the order item and choose *Item* → *Costing*.

   The dialog box *Copy Cost Estimate* appears.

4. Enter the costing variant.

5. Enter the name of the base planning object or sales order whose cost estimate you want to copy.
6. Choose *Enter*.

   The system copies the costing items to the cost estimate and revaluates them.

   For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
7. Create [Seite 703] more costing items as required or simulate changes to existing items.
8. Save the cost estimate and the sales order.

Using the Material Cost Estimate as a Reference for a New Cost Estimate Without Quantity Structure:

1. Choose *Accounting* → *Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate Without Quantity Structure* → *Create*.
2. Enter the material and plant.
3. In the *Costing data* tab page, enter the data required for the new cost estimate, such as the costing variant.
4. Choose .

   The *Copy from* group box is displayed.
5. In the *Copy from* group box, enter the data for the material cost estimate that you want to use as a reference.

   a. Choose *Cost ests* if you want the system to search for any existing cost estimates.

      The dialog box *Selection of Material Cost Estimates* appears.

   b. Enter the selection criteria and choose .

      A list of existing material cost estimates corresponding to your search criteria appears.

   c. Choose the required cost estimate with a double click.

      It is transferred to the *Copy from* group box.
6. Choose and check the proposed costing dates in the tab page *Dates*.
7. Choose .

   The screen *Unit Costing List Screen: Initial Screen* appears.

   The system copies the costing items from the reference and revaluates them.

   For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
8. Edit the costing items and save the cost estimate.

See also:

For more information, see Creating a Cost Estimate Without Quantity Structure [Seite 480].

Copying a Cost Estimate

Use

You can use an existing **base planning object** as a reference for your unit cost estimate (which could be for a material or production order without quantity structure), and insert either all or some of the base planning object items in the unit cost estimate.

Cost Estimate for a Sales Order that Accesses Existing Costing Items

You create a base object cost estimate for a group of product variants. This cost estimate contains all material components and activities required to produce one of these variants. This cost estimate serves mainly as a template for selecting costing items. The total value of the cost estimate is therefore ignored.

To create a cost estimate for a sales order to produce one of these variants, call up a list of all costing items for the product group and select those items required to produce the variant. You may need to insert additional costing items.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Copying All Items

1. Choose *Functions* → *Copy cost estimate…*

   The dialog box *Copy Cost Estimate* appears.
2. Enter the name of the base planning object that you want to copy.
3. Do not set the flag *All items*.
4. Choose ✔.

   All the items are copied into the clipboard.
5. Position the cursor on the row in which you want to insert the items.
6. Choose .

   The items are copied from the clipboard to the list screen of the unit cost estimate and revaluated.

   For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
7. Enter [Seite 703] more costing items as required and save the cost estimate.
8. If applicable, save the reference object (such as the base planning object or sales order).

Copying Selected Items

1. Choose *Functions* → *Copy cost estimate…*

   The dialog box *Copy Cost Estimate* appears.

2. Enter the name of the base planning object that you want to copy.
3. Do **not** set the flag *All items*.
4. Choose ✔.

   The system displays a dialog box with a list of the costing items.
5. From this list, select those costing items you want to copy, and select *Confirm*.

   These costing items are copied to the clipboard.
6. Position the cursor on the row in which you want to insert the items.
7. Choose .

   The items are copied from the clipboard to the list screen of the unit cost estimate and revaluated.

   For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
8. Enter more costing items as required and save the cost estimate.
9. If applicable, save the reference object (such as the base planning object or sales order).

Exploding Material Cost Estimates

Use

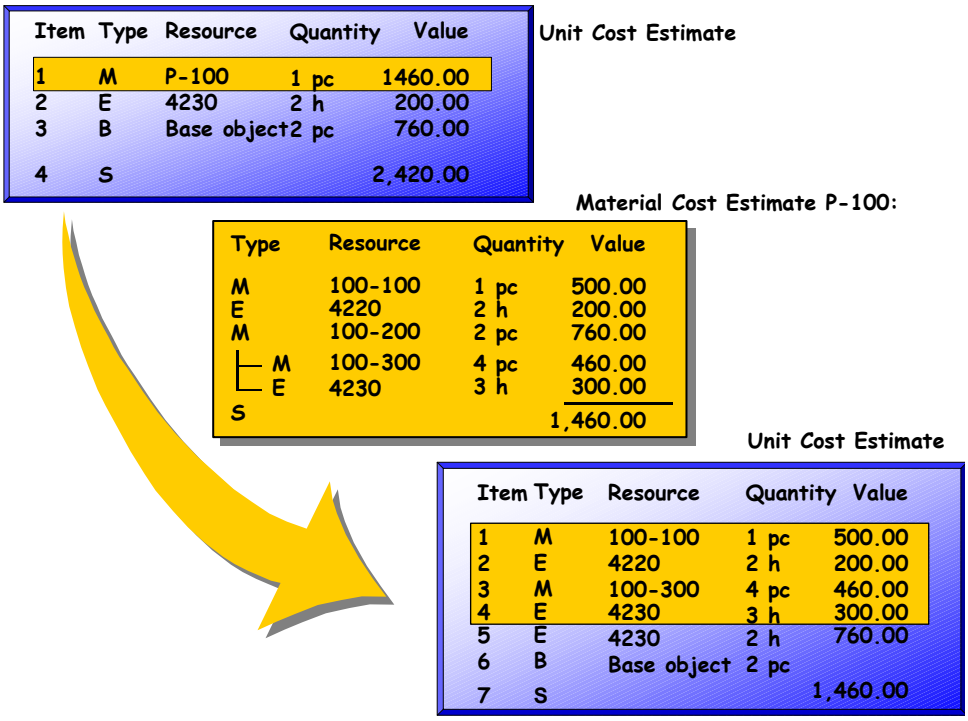
You can replace all the materials (item category M) of a unit cost estimate with the individual costing items (such as materials, and internal activities) in this unit cost estimate.

You can do the following:

- Explode existing material cost estimates (with and without quantity structure) and cost estimates for sales documents and copy them to other unit cost estimates (see graphic)
- Edit the copied costing items
- Simulate changes

You have costed a product with a cost estimate with quantity structure [Seite 92] and would like to simulate the effects on the costs of using different materials, for example.

You have costed the item of a sales order with product costing, You would like to simulate the effects on the costs of using different internal activities, for example.



In costing without quantity structure, you can copy a cost estimate for the material but not for the sales document.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Procedure

Exploding a Cost Estimate for a Material

1. Choose *Functions* → *Explode base planning object*

   The dialog box *Material Explosion* appears.

2. Specify whether you want to explode all levels, or to a certain level only.

3. If required, set the *Only materials* indicator.

   If this indicator is set, only material items are transferred from the cost estimate.

4. Check the proposed cost component view.

   If you choose a cost component view [Seite 465] that contains only a portion of the costs, overhead will be applied to this portion only in accordance with the costing sheet [Seite 744] specified in the costing variant [Seite 72] if you choose Revaluate [Seite 756].

5. Set the *Material* indicator, enter the material whose cost estimate is to be exploded, and choose ✔.

   The *Selection of Material Cost Estimates* screen appears.

   a. Enter a plant and other selection criteria as required, in order to find the material cost estimate that is to be copied into the unit cost estimate.

   b. Choose .

      A list is displayed containing the existing cost estimates for the material according to your selection criterial.

   c. Choose the required material cost estimate with a double click.

      The system copies the costing items into the clipboard.

6. In the list screen, choose .

   The items are copied from the clipboard to the unit cost estimate and revaluated. For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

7. If desired, change the costing items [Seite 703] to simulate changes to materials or internal activities.

8. Choose to check the header [Seite 685], for example the name or description.

9. Save the costing items and, if applicable, the reference object (such as the base planning object or sales order).

Procedure

Exploding a Product Cost Estimate for a Sales Document

1. Choose *Functions* → *Explode base planning object*

   The dialog box *Material Explosion* appears.

2. Check the cost component view proposed in the *Material Explosion* dialog box.

   If you choose a cost component view containing only part of the costs, choosing *Revaluate* will apply overhead only to this portion in accordance with the costing sheet specified in the costing variant.

3. Set the *Sales document* indicator, enter the sales document and the item, and choose ✔.

   The system copies the items into the clipboard.

4. In the list screen, choose .

   The items are copied from the clipboard to the unit cost estimate and revaluated. For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

5. If required, change the costing items [Seite 703], for simulation purposes.

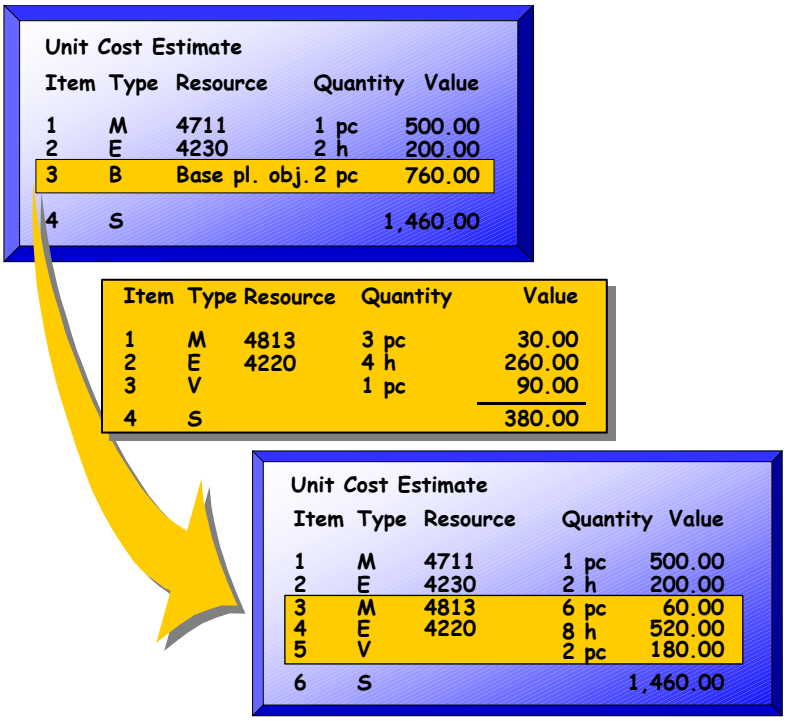
6. Choose to check the header [Seite 685], for example the name or description of the reference object.

7. Save the costing items and, if applicable, the reference object (such as the base planning object or sales order).

Exploding Base Planning Objects

Use

You can create a multilevel structure by using a base planning object as an item in another cost estimate. This allows you to combine a group of frequently-occurring costing items for a base planning object and to use it as a "building block" in further cost estimates. Exploding the base planning object enables you to replace items that refer to a base planning object by their costing items (see graphic below).



You have two options:

- Set the flag *All levels.* The system replaces each level of the base planning object with the items of the cost estimate.
- Set the *Number of levels* indicator and enter a level. The system replaces every base planning object with the costing items down to the level specified.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706]. You have entered items of item category B (base planning objects) in the list screen.

Procedure

1. Choose *Functions* → *Explode base planning object…*

   The dialog box *Copy reference…* appears. All the base planning objects contained in the list screen as costing items are shown.

2. Select the base planning object to be exploded.
3. Decide whether you want to explode all levels, or certain levels only.
   a. Set the *All levels* indicator, if you want the system to replace all levels of the base planning objects.
   b. Set the *Number of levels* indicator, if you want the system to explode to a particular level. Enter a level with this.
4. Choose *Explode.*

Result

The system copies the item values that were in the exploded base planning object into the list screen of the current unit cost estimate.

Items of category **S** (total) from the cost estimate to be exploded are not inserted. Items of category **O** (operation) are assigned to item category **V** (variable). The operation value becomes the variable item value.

Whether the inserted items are revaluated depends on whether you are exploding all or a certain number of levels. If you explode all levels, the items will be revaluated. If you explode a certain number of levels, the system will only revaluate up to this level.

See also:

- List Screens in Unit Costing [Seite 706]
- Costing Items in Unit Costing [Seite 703]
- Revaluating Costing Items [Seite 756]

Valuation of Costing Items

Use

In unit costing, you enter specific costing information manually in the form of costing items such as materials, internal activities and business processes. Other costing items are determined and inserted by the system, including overhead items (category G) and process costs (category X).

The following table describes the sources of the prices used by the system for the costing Items:

Price/value determined by unit costing	**From**
The price for a material (item category M)	The material master record [Seite 148] or the purchasing info record or purchase order (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
The activity price for an internal activity (item category E)	Cost Center Accounting (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
The price for a process (item category P or X)	Activity-Based Costing [Extern] (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
Overhead	The entries in the costing sheet
The value of a base planning object (item category B)	The master data of the base planning object [Seite 659]
The price for a service (item category N)	The service conditions [Extern]
The price for an external activity (item category F)	The purchasing info record [Extern] specified by you (in accordance with the valuation strategy)

The price for a subcontracting item (item category L)	The purchasing info record [Extern] specified by you (in accordance with the valuation strategy)
The price for a variable item (item category V)	Your entries

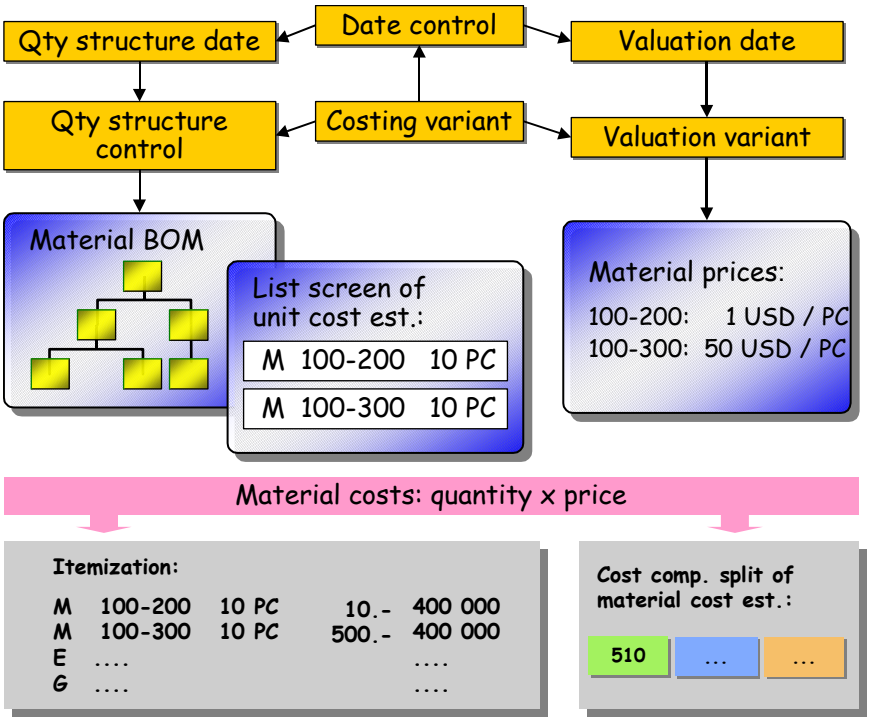
Valuation of Materials

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs. The material costs are displayed as follows:

- In the itemization as items of type "M"
- In the cost component split, in the cost component "Material costs"

To calculate the material costs, the materials required for production must be determined and valuated with a price. In material costing with quantity structure, the system determines the materials automatically using the quantity structure control. In unit costing, you enter the materials manually. They are then valuated with a price (see graphic below).



Integration

To valuate the materials, you can access various prices in the material master record and in the purchasing data, such as the following:

- Future, current or previous standard price
- Moving average price
- Tax-based or commercial prices 1, 2 and 3
- Planned prices 1, 2, 3
- Quotation and purchase order prices

Prerequisites

In Customizing for Product Cost Planning, you define which price is to be used to valuate items such as raw materials and purchased parts. To do this, you define a valuation variant and assign it to the costing variant. The valuation variant contains a search sequence that has a maximum of five prices. For the cost estimate, the system searches in the sequence specified for these prices.

For **prices from the purchasing info record**, enter strategy **L** and create a separate strategy sequence for prices from purchasing data. You can access various prices, such as net or gross quotation prices, and net or gross order prices. For more information, see Determining Vendors [Seite 737].

Features

Material Cost Estimate with Quantity Structure

The system first finds a valid BOM and explodes it from top to bottom. It then calculates the costs for the materials in the costing levels with the lowest number. Using the valuation variant and valuation date, the system selects a price for the materials. For further information, see Multilevel BOMs [Seite 159], Date Control [Seite 567] and Parameters for Quantity Structure Control [Seite 180].

The system then calculates the costs for the materials in the next highest level while including the costs for the materials in the previous level. For further information, see Concept of Cost Rollup [Seite 467].

- For materials that have already been costed, you can transfer values from earlier cost estimates provided you have defined the appropriate transfer control ID (see also Transfer of Costing Data [Seite 607]).
- For specially-procured materials, you can transfer values from cost estimates in other plants provided you have defined the appropriate transfer control ID.
- You can include the results of an additive cost estimate in an automatic cost estimate for the material provided you have made the setting in the valuation variant for additive costs to be included. (See also Additive Costs [Seite 246])

The price for non-stock items is taken directly from the BOM. (See Bills of Material in Costing [Seite 157])

Unit Costing *(Base Object Costing, Material Costing Without Quantity Structure, Additive Costing):*

If you create a unit cost estimate, you enter the costing items manually. For materials, you select item category M. Using the valuation variant, the system takes a price from the material master or purchasing. For further information, see Creating Costing Items [Seite 703] and Valuation of Costing Items [Seite 726].

See also:

Implementation Guide (IMG) for Product Cost Planning

If you use the Material Ledger component, you can find more information about valuating materials under *Actual Costing/Material Ledger (CO-PC-ACT)* in the following sections:

- Price Change [Extern]
- Maintaining Future Valuation Prices [Extern]
- Releasing Planned Prices [Extern]
- Automatic Release of Planned Prices [Extern]
- Marking Prices for Future Valuation [Extern]

For more information about material valuation in the SAP System, see Material Valuation in the SAP System [Extern].

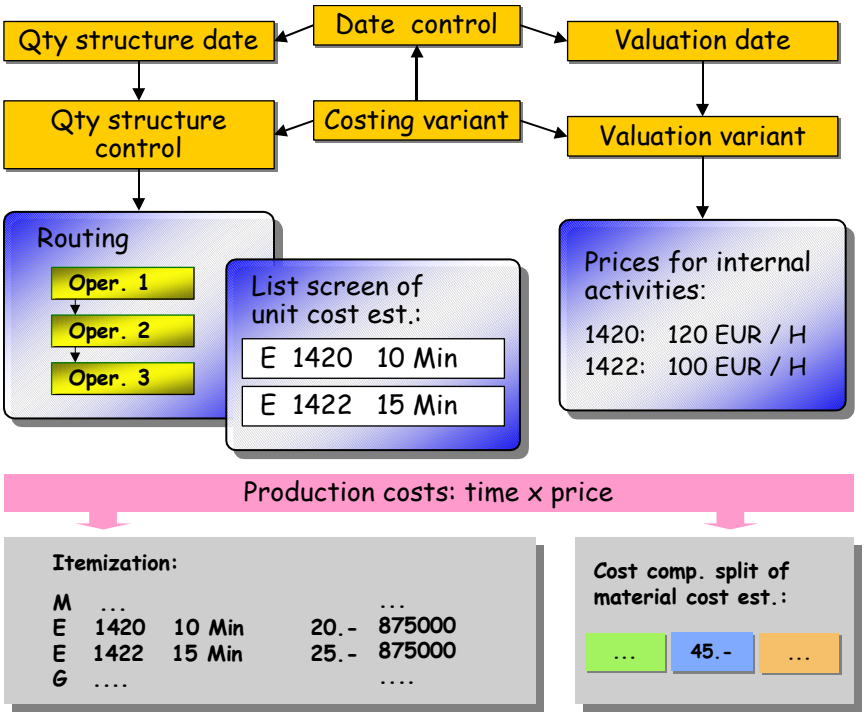
Valuation of Production Activities

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs.

The production costs are listed in the itemization as items of category E (internal activity) and can be assigned to cost components in the cost component split (such as the production costs component).

To calculate the production costs, the activities required for production must be valuated with a price.



Prerequisites

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant.

More than one activity price can be carried in Cost Center Accounting at the same time. You use the planned/actual version in the valuation variant to determine which version is relevant for costing.

- You will generally use version zero for the standard cost estimate, the modified standard cost estimate and the current cost estimate.
- For inventory costing, you can use versions other than version zero if you want to use activity prices that contain components that are not to be capitalized.

In Cost Center Accounting, you can

- Set the price for each activity type according to policy
- Calculate iteratively the activity price for each activity type
- Calculate the actual costs for each activity type using the actual costs incurred for the cost center

Features

Material Cost Estimate with Quantity Structure

You calculate the costs for internal activities with the following entries:

- The formula and the performance efficiency rate key in the work center
- The standard values for the operation in the routing
- The prices for the activity types in Cost Center Accounting

Unit Costing

You enter the costing items of category E manually. The system determines the price in accordance with the valuation variant from Cost Center Accounting.

See also:

Implementation Guide (IMG) for Product Cost Planning

Valuation of Subcontracting

Use

The special procurement type in the costing view of the material master record specifies that subcontracting is to be carried out for the material. If you have not entered a special procurement type in the costing view, the entry in the *MRP* view applies.

For costing, you can choose the source of supply or the vendor using either the planned quota or the actual quota in the quota arrangement book. You do this by setting the *Planned quota arrangement* or *Actual quota arrangement* indicator in the valuation variant.

Features

The system selects a vendor in the following way:

4. If a vendor exists in the quota arrangement book, this vendor is selected.
5. If no vendor exists in the quota arrangement book, the vendor in the source list is selected.
6. If no entry exists in the source list, the vendor is selected using a purchasing info record (such as a dummy info record, or preferred info record), provided that the corresponding indicator is set.

   Otherwise, the vendor with the lowest net price is selected from the purchasing info record. For more information, see Determining Vendors [Seite 737].

You determine in Customizing for Product Cost Planning which price is selected for subcontracting by defining a valuation variant and assigning it to the costing variant.

You can access the following prices:

- From the purchasing info record (purchasing):
  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant. By defining the *planned* or *actual quota arrangement* for subcontracting in the valuation variant, you can specify whether the selection of the source of supply or vendor is dependent on the actual quota or the planned quota.

The valuation variant contains a search sequence that has a maximum of three prices.

You have defined the following strategy sequence for the valuation of subcontracting:

3. Net quotation price
4. Net order price

   If a purchasing info record with a quotation price exists for the material, the system uses this price. If no purchasing info record exists for the quotation, the system uses the price from the purchase order.

See also:

Implementation Guide (IMG) for Product Cost Planning

Overhead

Use

Overhead costs are costs which can only indirectly be attributed to the product, such as electricity or general storage costs. You can allocate these overhead costs in the following ways:

- Overhead application [Seite 741]

  In the conventional method, overhead is applied to the reference object as a percentage rate or a quantity-based rate. The overhead is applied by means of costing sheets.

- Template allocation [Seite 748]

  Here, cost drivers are used to assign overhead to the reference object on a source-related basis according to usage. The overhead is applied by means of templates. Sender objects can be business processes or cost centers/activity types.

- Integration of business processes into the routing [Seite 748]

  Assigning process costs to routing operations is particularly suitable for direct production processes. On the other hand, indirect processes should be assigned using templates.

Integration

Overhead is assigned from *Financial Accounting (FI)* to the cost centers in *Cost Center Accounting (CO-OM-CCA)*. If you use *Activity-Based Costing (CO-OM-ABC)*, overhead is passed on from Cost Center Accounting to the business processes of Activity-Based Costing.

The overhead costs are in turn passed on from Cost Center Accounting or Activity-Based Costing to Product Cost Controlling (CO-PC).

You can transfer the costs from Cost Object Controlling to the following:

- *Financial Accounting (FI)*, to valuate finished and unfinished products, for example
- *Profit Center Accounting (EC-PCA)*
- *Profitability Analysis (CO-PA)*
- *Material Ledger/Actual Costing (CO-PC-ACT)*

You can pass on overhead costs that have not been applied to a cost object (such as sales and marketing costs) directly from Cost Center Accounting or from Activity-Based Costing to Profitability Analysis.

Features

You can calculate both planned and actual overhead costs. You can also apply overhead to process costs. You can use overhead calculation for all the cost objects in the R/3 System.

You can calculate **planned overhead costs** in the following:

- Product Cost Planning (non-order-related material costing)
- Preliminary costing of manufacturing orders (production orders and process orders), and product cost collectors
- Sales order cost estimates

- Order BOM cost estimates
- Calculation of planned costs for general cost objects
- Preliminary costing for internal orders

You can calculate **actual overhead costs** at period-end closing in Cost Object Controlling based on the actual costs or quantities incurred thus far.

For more information about calculating overhead in manufacturing orders, product cost collectors, general cost objects, and sales order items see the following sections:

- Product Cost by Order [Extern]
- Product Cost by Period [Extern]
- Product Cost by Sales Order [Extern]
- Costs for Intangible Goods and Services [Extern]

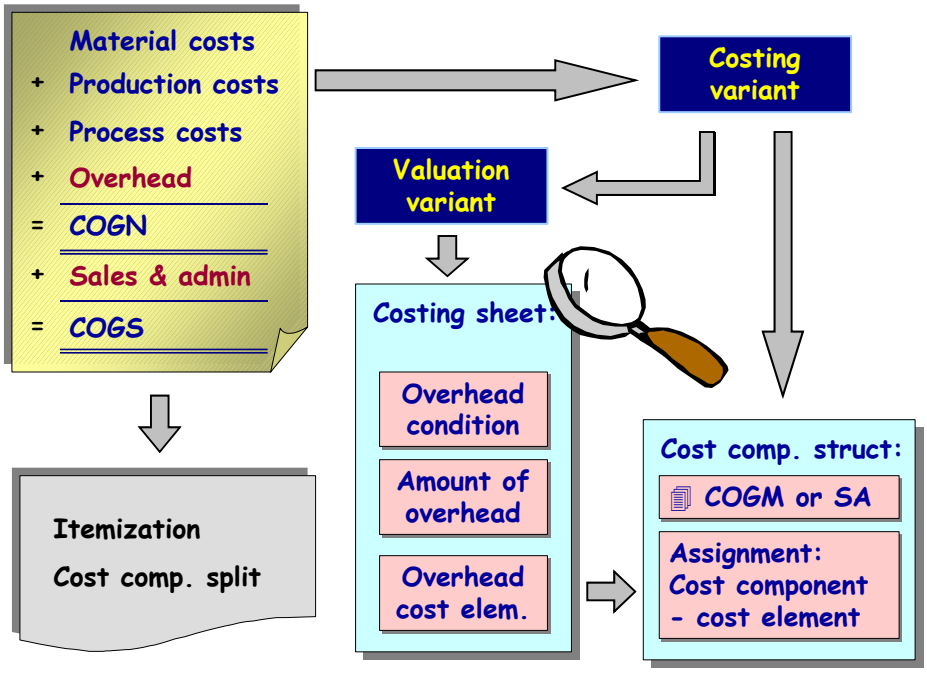
For more information about calculating overhead costs, see the following sections in the R/3 Library:

- Overhead Cost Controlling [Extern]
- Activity-Based Costing [Extern]

Applied Overhead

Use

You can apply both percentage overhead and quantity-based overhead to reference objects. In the R/3 System, you can assign the overhead to a product by creating a costing sheet [Seite 744] in Customizing for Product Cost Planning. Using this costing sheet, you specify the level of overhead and the conditions under which it is calculated.



You can calculate the following:

- Material and production overhead
- Administration and sales overhead

  The costing sheet thus specifies the cost elements under which the sales and administration costs are updated in costing. The cost component structure [Seite 460] determines the cost components [Seite 462] under which these costs are shown. It flags these cost components as sales and administration costs.

  In make-to-order production, the sales and administration costs are generally assigned to the product as applied overhead. The cost of goods sold for the product is passed on to Profitability Analysis. (See also: Product Cost by Sales Order [Extern])

  In order-related production, repetitive manufacturing and process manufacturing, the sales and administration costs are generally passed on from Cost Center Accounting directly to Profitability Analysis. The cost of goods manufactured for the product is

passed on to Profitability Analysis. (See also: Product Cost by Order [Extern] or Product Cost by Period [Extern])

Prerequisites

To be able to calculate overhead in the R/3 System, you must do the following:

- Create a costing sheet [Seite 744] in Customizing
- Assign the costing sheet to the valuation variant in Customizing
- In the initial screen of the cost estimate, enter a costing variant that either contains this valuation variant or that assigns the costing variant to the order type

To define particular overhead conditions for certain reference objects, you must do the following:

- Enter an **overhead group** in the master record of the reference object (such as the material master record, base object master record, cost object)
- Enter an overhead key [Seite 746] in the **costing sheet** that is linked to this overhead group in Customizing for Product Cost Controlling.

Features

Applied Overhead Using Planned Data

The applied overhead is calculated using the information in the itemization for the material costed. Because the system updates an itemization for each cost component view, you can calculate applied overhead for a specific cost component view. Overhead is only calculated on one basis, such as the cost of goods manufactured or cost of goods sold. As a general rule, the cost of goods manufactured is used as the basis for calculating overhead. You make the assignment in the costing type in Customizing.

When calculating overhead, the system inserts a costing category of type **G**. The applied overhead is updated under the cost elements that you specified in the costing sheet in Customizing for Product Cost Controlling.

In **costing with a quantity structure**, overhead is calculated automatically by the system when you carry out costing.

In **unit costing** (such as costing without a quantity structure and base object costing), overhead is calculated when you save the cost estimate. You can calculate overhead manually by choosing the menu option *Calculate overhead*.

To calculate the overhead application in **unit costing** (such as in a cost estimate without quantity structure, or a base object cost estimate), you must assign all the costing items to cost elements. Non-assigned costing items will not be included in the overhead application.

If you want to calculate overhead in unit costing, you must enter the key of the costing sheet in the master record of the reference object. To define overhead conditions for certain reference objects, you must enter an overhead key in the master record of the reference object and create a costing sheet that refers to this key.

Applied Overhead Using Actual Data

You can calculate actual overhead for cost objects in *Cost Object Controlling (CO-PC-OBJ)*. You can find further information under Calculating Overhead in Cost Object Controlling [Extern].

See also:

Implementation Guide (IMG) for Product Cost Controlling

Applied Overhead

- In Product Cost Planning under *Basic Settings* → *Overhead*.
- In Product Cost Planning under *Reference and Simulation Costing* → *Overhead*.
- In Cost Object Controlling, under:
  - ***Product Cost by Period*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Order*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Sales Order*** → *Basic Settings* → *Overhead*
  - ***Costs for Intangible Goods and Services*** → *Basic Settings* → *Overhead*

Costing Sheets

Definition

The costing sheet links all the functions of overhead calculation.

Use

In the costing sheet, you determine the following:

- The direct costs to which overhead is applied (calculation base)
- The conditions under which overhead is applied (dependency)
- Whether overhead is allocated on a percentage basis or on a quantity basis
- The amount of the overhead percentage, or the amount of overhead for each unit of measure (overhead)
- The validity period for the overhead
- Which object (cost center, process, or order) is credited, and under which cost element in the case of actual postings (credit key)

If you use Activity-Based Costing (CO-OM-ABC), the costing sheet also controls the allocation of process costs. For more information about the allocation of process costs, see Process Costs [Seite 748].

In **material costing**, you enter the costing sheet in the valuation variant in Customizing.

In **Reference and Simulation Costing**, you enter the costing sheet in the master record of the base planning object.

Structure

The costing sheet contains the following:

- **Calculation Base**

  The calculation base consists of a group of cost elements to which overhead is to be applied according to the same conditions. This process involves assigning individual cost elements or cost element intervals for each controlling area to a calculation base.

  You can apply different overhead amounts to the fixed and variable portions of the same base cost element. You can also make the amount of the overhead dependent on not only the direct costs, but also on the material itself. You can define material-specific calculation bases by entering the origin groups in the material master record and by specifying them in the calculation bases.

- **Overhead Rates**

  You use overhead to specify whether the overhead applied to the calculation base should be quantity-based or percentage-based. You also specify the validity period and the conditions under which the overhead should be calculated. The system calculates the overhead either as a percentage or based on the quantity.

  The conditions under which overhead is to be charged are laid down in condition tables. The standard condition table is linked to a controlling area, an overhead type (planned or actual), and to one other field of the object's master record (such as the plant, or

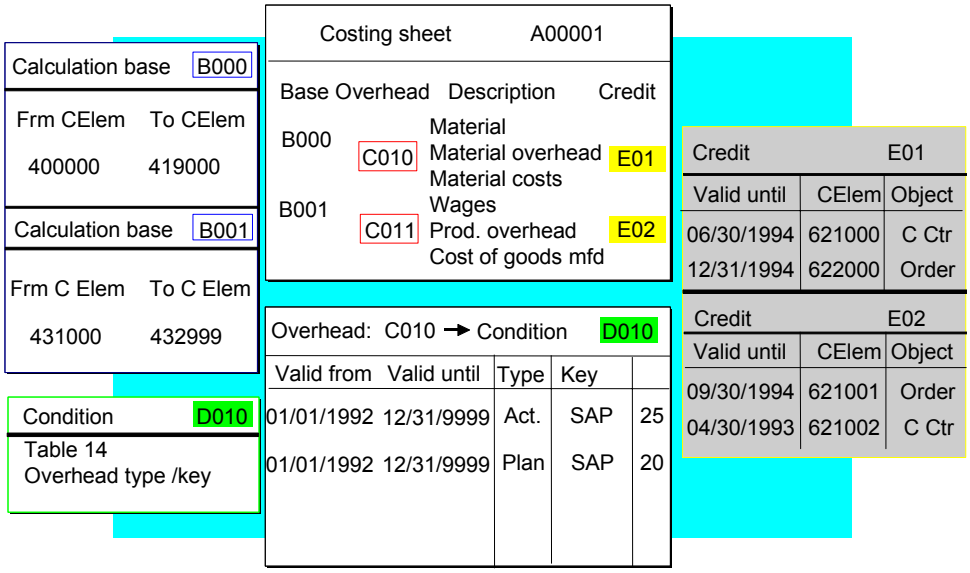
overhead key). Hence the conditions for overhead calculation can relate to all the reference objects of an organizational unit, or to an overhead key [Seite 746].

These lines also contain a **credit key**. The credit determines the (overhead) cost element under which the overhead is to be updated, and which cost center, business process or order is to be credited. You can also specify which part of the overhead is to be flagged as fixed costs.

- **Totals Lines**

  These lines show subtotals.

The following graphic provides an overview of the various components of the costing sheet:



See also:

For more information about the costing sheet, see the *Implementation Guide for Product Cost Controlling*.

Overhead Keys

Definition

Specifies which overhead is applied to a reference object (such as a material), thus forming the link between overhead conditions and the following:

- A particular material master record
- A particular cost object node of a cost object hierarchy
- A particular general cost object
- A particular sales order item

Use

You can define particular overhead conditions for certain reference objects.

Overhead key for materials

To link materials with certain overhead conditions, you must do the following:

- Enter an overhead group in the costing view of the material master record.
- Enter an overhead key in the costing sheet that is linked to this overhead group in Customizing for Product Cost Controlling.

Using the overhead key, the overhead is assigned to a particular material via the overhead group in the costing view of the material master.

The overhead group and overhead key are included in the following:

- In Product Cost Planning in material costing
- In Cost Object Controlling:
  - In a preliminary cost estimate for the product cost collector or for the manufacturing order
  - In period-end closing for the product cost collector or for the manufacturing order

Overhead Key for Cost Object Hierarchies

To link cost object hierarchies to overhead conditions, enter the overhead key in the cost object master record.

The overhead key is included in the cost object node when overhead is applied at period-end closing.

Overhead Key for Sales Order Items

To link sales order items to overhead conditions, enter an overhead key for the sales order item. To do this, go into the sales order and choose *Extras* → *Account assignment*.

The overhead key is included in Product Cost by Sales Order

- In Product Cost by Sales Order, to calculate the planned costs
- When overhead is calculated at period-end closing

Overhead Keys

Overhead Key for General Cost Objects

The overhead key is included:

- When planned costs are calculated for general cost objects
- At period-end closing

The standard system has various costing sheets containing an overhead key. You can apply overhead to materials by modifying these costing sheets to suit your needs.

You have defined two overhead groups in order to apply overhead to materials. These two overhead groups are linked to two overhead keys. An overhead of 10% is specified for overhead key 01. An overhead of 20% is specified for overhead key 02.

You have more than one plant. You want to apply overhead only if the material is assigned to a certain plant and overhead key.

The system checks these dependencies when the overheads are calculated. If the dependencies are met, the system calculates an overhead percentage. You must define this percentage for each of your dependencies.

Overhead Key for Base Planning Objects

In base object costing, you enter the overhead key in the master data for the base planning object.

Process Costs

Use

You can use Activity-Based Costing in *Product Cost Controlling (CO-PC)* in order to do the following:

- Include costs for production resources/tools and in the actual data
- Calculate overhead based on the output quantity

  In traditional overhead costing, you can calculate quantity-based overhead based on the input quantities, but not on the output quantities. Through the use of Activity-Based Costing, you can, in non-order-related costing, assign overhead to a material dependent on the costing lot size.

  In *Cost Object Controlling (CO-PC-OBJ)*, you can calculate process costs as follows:

  - Dependent on the planned order quantity (for example, in a preliminary cost estimate for the manufacturing order)
  - Dependent on the quantity delivered to stock, in order to calculate the actual costs for a material
  - In Sales-Order-Related Production, dependent on the quantity ordered of a material produced in make-to-order production
- In Sales-Order-Related Production, to allocate transportation costs to the sales order item matched with costs and revenue. For example, you may receive a collective invoice from your carrier with several amounts that are assigned to various sales orders.
- To carry out statistical cost accounting in parallel. In such cases, the cost object is not debited.

Prerequisites

You have maintained the appropriate templates, environments, and function hierarchies in Customizing for Product Cost Controlling.

For more information about settings in Customizing, see the Implementation Guide for *Product Cost Controlling (CO-PC)*. For more information about Activity-Based Costing, see Activity-Based Costing (CO-OM-ABC) [Extern] and the Implementation Guides for Activity-Based Costing and for Product Cost Controlling.

However, for the above-mentioned options, it is not imperative that you implement the complete version of Activity-Based Costing. You also do not have to carry out an all-embracing analysis of your process structure. You can use Activity-Based Costing in this context as an additional tool to assign your costs on a source-related basis.

Features

You can use the costs for business processes in a cost estimate as either a replacement for, or supplement to, the traditional method of allocating overhead.

Process Costs

In cost center accounting, the costs are structured according to organization and responsibility center. This means that although it is possible to pinpoint a company's costs where they arise, this does not explain the purpose for which the resources are used.

The process-oriented approach, on the other hand, considers the costs of all the functions in accordance with the company's process structure. A business process is debited with costs that are related to the usage of the resources. Overhead costs are traced back to the source and assigned through the valuation of the process quantities at the process price.

Overhead is assigned to the business processes according to the resources used. This allows costs to be applied to the cost objects on a source-related basis.

You can include process costs in a material cost estimate by means of the following:

- Templates [Seite 751]

  The template determines which process costs are used and how these costs are further applied to the product. The template is determined through the costing sheet in the valuation variant. This form of cost application provides you with a highly flexible method of specifying the processes and of calculating the activities and processes used.

  Template allocations also enable you to use cost centers/activity types as senders.

- Integrating business processes into the routing through the PP component

  The business processes are linked to the operations of the routing. This enables the process to be more closely linked to a specific material or order. It also makes it possible to link a specific process to a particular quantity. Work centers and routings are given a process assignment. The business processes are transferred from the work center into the routing. You enter the formula to determine the process quantity in the work center. The activity price of the business process is used for the valuation. In the cost estimate, the process quantities are determined with this formula and then valuated with the activity price. A credit is applied to the process, while the confirmed reference object is debited. The formula is also used to determine the process quantities used at the time of order confirmation of the routing operations; these quantities can also be adjusted. The actual allocation is arrived at in **Product Cost by Order** or **Product Cost by Period** using the process quantities following the valuation process.

You can include process costs using **planning data** in:

- Non-order-related costing

  In the **cost estimate with quantity structure**, process costs are calculated automatically by the system.

  In the cost estimate without a quantity structure, in additive costing and in Reference and Simulation Costing, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

- Preliminary costing for a cost object

  Process costs are calculated automatically by the system when you carry out costing in preliminary cost estimates of manufacturing orders, process orders, and sales order cost estimates (using the product costing method).

  When you carry out preliminary costing of manufacturing orders without a quantity structure, sales order costing (using the unit costing method), and plan general cost

objects, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

You can include process costs using **actual data** in order to allocate the process costs to cost objects. To do this, you carry out a dynamic process allocation at period-end closing of Cost Object Controlling. For further information, see the following:

- Period-End Closing in Product Cost by Order [Extern]
- Period-End Closing in Product Cost by Period [Extern]
- Period-End Closing: General Cost Objects [Extern]

To manually measure the resources (tracing factors) and cost drivers would require excessive organizational effort. The required data is often already in the system in statistical form, and can be transferred from LO-LIS (Logistics Information System). For more information about transferring data from LO-LIS, see the SAP Library under *Logistics General (LO).*

See also:

- Activity-Based Costing (CO-OM-ABC) [Extern]
- Use of Templates in the Standard Cost Estimate [Extern]
- Template-Allocation to Cost Objects [Extern]
- Quantity Input Methods (Pull) [Extern]

Templates

Definition

Tool for incorporating Activity-Based Costing in the cost estimate.

Use

The template enables process costs to be included in the cost estimate. It enables you to dynamically determine and valuate the process quantities used at the time of costing.

Templates have various uses:

- You can use a template for several cost objects. When you carry out costing, you can use a determination strategy in the costing sheet to specify which template is to be used.
- You can define methods to determine processes dynamically at the evaluation stage.
- You can use formulas to determine the process quantities used.
- If separate sub-processes are valid only for certain cost objects, you can set individual lines to be active or inactive. When evaluating the template, only the active items are included.
- You can use sub-templates if process sequences are required in several processes. You define these process sequences in sub-templates.

Since templates are not dependent on the reference object, the appropriate template must be selected at the time of evaluation. It is selected through the costing sheet, the overhead key and the environment.

- For material costing, you select the costing sheet in the valuation variant. The valuation variant is entered in the costing variant.

  The costing sheet is determined from the master data when the process costs are allocated to cost objects and base planning objects.
- The overhead key is determined during material costing from the overhead group in the material master of the material to be costed. For more information, see Overhead Key [Seite 746].
- The environment of a template determines the information that can be accessed when a template is defined.

Depending on the controlling area, costing sheet, overhead key, and environment, you can specify which template should be used for the cost estimate. You can enter a template more than once.

See also:

You can find further information under the following:

- *Activity-Based Costing (CO-OM-ABC)* in the SAP Library in the documents Templates [Extern] and Use of Templates in the Standard Cost Estimate [Extern]
- *Implementation Guide (IMG) for Product Cost Controlling*

Process Cost Planning

Purpose

Process cost planning enables you to do the following:

- Include process costs in Product Cost Planning
- Include process costs in the preliminary costing of cost objects

Prerequisites

In Customizing for Activity-Based Costing, you check

- The planner profiles and planning layouts

  Planning is based on the predefined planning layouts that are stored in planner profiles. Planning layouts are entry screens for planning. You can use those supplied with the standard system, or define your own.
- Whether a distribution key should be created
- Whether versions have been created for alternative forms of planning (if necessary, create new versions)
- Whether it should be possible to copy versions (if necessary, allow copying in the source version)
- Whether planning changes should be documented

In Customizing for **Product Cost Controlling**, you define a template, the template determination, environments, and function hierarchies. You can find further information in the Implementation Guides (IMG) for *Activity-Based Costing* and *Product Cost Controlling*.

Process Flow

In Activity-Based Costing, the entire planning flow can be performed in dialog.

The planning process is not a single operation, but an interactive process that generally consists of several cycles. This is also reflected in the saving of the planned data. To this end, the system provides for the parallel saving of alternative versions.

Where business process planning is concerned, there is no fixed methodology. However, SAP recommends the following procedure:

7. You plan statistical key figures that can be used as the basis for the allocation of process costs in the planning data and actual data.
8. Carry out activity type planning. The planning of business processes is based on Cost Center Accounting with the activity types and allocation bases.
9. Carry out primary cost planning.
10. Carry out secondary cost planning.
11. Carry out activity price calculation and process assessment.
12. Create the corresponding cost estimates for the reference object.

You carry out steps 1 to 5 in **Overhead Cost Controlling** (Cost Center Accounting or Activity-Based Costing).

You can find further information about Process Cost Planning and its requirements in the R/3 Library and in the Implementation Guide for *Activity-Based Costing (CO-OM-ABC).*

Result

The planning results are available on a real-time basis and can be analyzed at any time through the information system.

Calculating Overhead

Use

When you save a unit cost estimate, overhead costs (that is, overheads and/or process costs) are automatically calculated and inserted as items under category G or X.

You can also calculate overhead and process costs manually. You use the function *Calculate overhead* for this.

Prerequisites

You are in the list screen of the unit cost estimate.

A costing sheet has been entered in the valuation variant, and an overhead key has been entered (if applicable) in the master data of the reference object (such as the material).

For the Base Planning Object:

The costing sheet and overhead key have been entered in the master data of the base planning object.

Procedure

Choose *Functions* → *Calculate overhead*.

Result

The system calculates overhead and process costs based on the costing sheet and overhead key used. Items of category **G** (for overhead) and **X** (for process costs) are inserted.

See also:

Prices in Unit Costing [Seite 726]

Overhead [Seite 569]

Overhead in Base Object Costing [Seite 739]

Costing Dates

Use

The following dates are relevant for a material cost estimate and a costing run:

- Quantity structure date
- Valuation date
- Costing date from/to

You can define a date control ID in **Customizing** for Product Cost Planning that determines the following:

- Which dates are proposed
- Whether the user can change the proposed dates

The date control ID is assigned to a **costing variant**.

Features

The **quantity structure date** determines how the system selects a valid quantity structure for the cost estimate. Based on this date, a BOM and a routing are selected, exploded and costed. The quantity structure date also determines which additive cost estimate is selected.

The **valuation date** determines how the system searches for valid data to calculate the following prices:

- Prices for stock materials from the material master record
- Activity prices for activity types from cost center planning
- Prices for externally-procured materials from purchasing
- Prices for externally-processed operations from purchasing

You set the **validity period of the cost estimate** with the *Costing date from* and *Costing date to* indicators.

You use the costing type in Customizing for Product Cost Planning to specify whether cost estimates are updated in the database with a date. You have the following options:

- Without date
- With date
- With start of period

For costing types which have the *With date* or *With start of period* indicator set, the system uses the date or period start that is entered in the *Costing date from* field.

- For the **standard cost estimate**, the *With start of period* indicator must be set. This means that the period and the fiscal year of costing are parts of the costing key in the database. This ensures that
  - Only one standard cost estimate can be stored within a period
  - Only this standard cost estimate can be transferred into the material master record as the standard price

Costing Dates

- For the **modified standard cost estimate**, the *With start of period* indicator is automatically set. If you want to save several modified standard cost estimates for the same material in one period, set the *With date* indicator. The date of the cost estimate is saved as part of the costing key in the database.
- For the **current cost estimate**, the *Without date* indicator is automatically set. The date is not included in the costing key.

Depending on whether you carry out costing manually or automatically, you must remember the following:

- If costing is carried out **automatically**, the *Costing date from* applies. The *Costing date to* is just for informational purposes.

  You cannot create more than one cost estimate with the same validity period, because cost estimates with the same *Costing date from* would overwrite one another.

  On the other hand, you can create automatic cost estimates whose validity periods overlap. In this case, the entries in the field *Costing date from* are different.

- If costing is carried out **manually**, then both the *Costing date from* and the *Costing date to* apply.

  The validity periods of the additive cost estimates must not overlap.

  The validity period of the cost estimate is also relevant for Cost Object Controlling. The results of the standard cost estimate are used in the calculation of:

  - Variance calculation
  - Scrap calculation
  - Work in process calculation

  If the standard cost estimate is not valid on the date on which these functions are to be performed, the system issues an error message.

See also:

Implementation Guide for Product Cost Planning

Revaluating Costing Items

Use

The prices you see in the cost estimate are those that were valid either when the cost estimate was created or when the *Revaluate* function was last used.

If the master data changes, this data is not automatically updated in unit costing. However, you can revaluate the costing items manually and thus take into account the current prices.

You can select the following:

- All items
- Selected items only
- Items of a specific item category only, such as all the material items or all base planning objects. (This is not possible in Easy Cost Planning.)

The costing items are **revaluated automatically** if you execute the functions *Explode base planning object, Material explosion*, *Create cost estimate with reference* or *Copy cost estimate…* (this is not possible in Easy Cost Planning).

The *Revaluate* function is **not** available for the detailed planning of a cost element.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Procedure

1. Decide which items you want to revaluate.
   a. Choose to revaluate all items of the unit cost estimate. You do not have to select any items for this.
   b. Choose if you want to revaluate selected items of the unit cost estimate only. You must select the items concerned before choosing this menu option.
   c. Choose *Functions* → *By item category…* to revaluate only items of a certain category, such as materials and internal activities only (this is not available in Easy Cost Planning).
2. Save the cost estimate and, if applicable, the reference object (such as the base planning object or sales order).

Result

The system revaluates the relevant items with the current prices as per the valuation variant. For more information, see Preparing for Costing [Seite 72].

If you are revaluating all items, the raw material costs [Seite 735] and overhead [Seite 569] are also recalculated. If you are revaluating certain items only, the overhead is not recalculated until the cost estimate is saved or when the function Calculate overhead [Seite 755] is executed.

Revaluating Costing Items

In respect of costing items that you have changed manually, the system sets the *Manual price* indicator. Such items are not revaluated.

See also:

- Valuation of Costing Items [Seite 726]
- Revaluating Base Planning Objects [Seite 681]

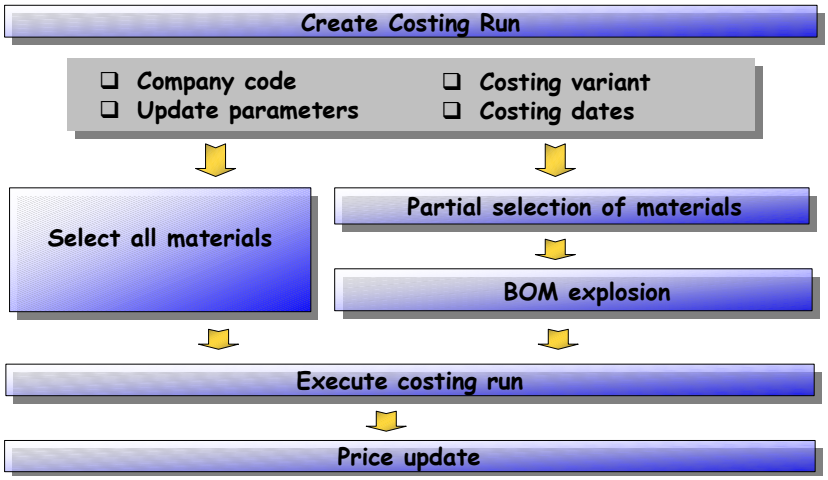
Costing Run

Purpose

You can use the costing run to process mass data. It enables you to cost, mark, and release more than one material at the same time.

Every processing step involved in costing with quantity structure is performed by the costing run, from the same screen.

The following graphic gives you an overview of the costing run:



Process Flow

You access the costing run functions by choosing *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Edit Costing Run*. The *Edit Costing Run* screen appears. This is divided into the following areas:

General Data
In this screen area, you enter the general data for the costing run, such as the costing variant, company code, and transfer control ID. Before you can proceed further (with material selection, for example), you have to create and save the costing run with the general data. To create a costing run, choose . To create a costing run with reference, choose *With reference*. For more information, see Creating the Costing Run [Seite 328].

Process Flow

Costing Run

In this screen area, you carry out the following steps:

- Material selection (Selecting Materials for a Costing Run [Seite 330])
- BOM explosion (Exploding BOMs for a Costing Run [Seite 333])
- Costing (Executing the Costing Run [Seite 335])
- Analysis (Analyzing the Costing Run [Seite 337])
- Price update (Updating Prices [Seite 339])

These functions are only available if you have created the general data for the run and have saved the run with .

To carry out a processing step, choose (*Change parameters*). Once you have selected the parameters, you can proceed with the processing step by choosing (*Execute)*.

The system generates a **log** for each step of the costing run, which you can save and print. To display the log, choose (*Log*) in the relevant step. To print the log, choose *Accounting → Controlling → Product Cost Planning → Tools → Costing Run → Print Logs.* For more information, see Logs in Material Costing [Seite 589] and Printing Costing Reports in the Background [Seite 838].

The system sets a costing status [Seite 598] for each step in the costing run. The status is displayed in graphic form, as follows:

- (Free of errors)
- (No errors, warning messages have been issued)
- (With errors; error messages have been issued)

You can execute each step of the costing run both online and in the background [Seite 375]. For background processing, set the *Background processing* indicator when you define the parameters ( ).

You can cost, mark, and release, and update other prices, using parallel processing [Seite 374]. To do this, set the *Parallel processing* indicator when you define the parameters ( ), and enter the server group in the *General Data*.

Costing Results

In this screen area, you can analyze the costing results using the following:

- The costing level overview [Seite 345]
- The material overview [Seite 346]
- The report created in the screen area *Processing*

You can carry out more than one costing run using the same quantity structure and thus access existing cost estimates. For further information, see Reference Costing [Seite 629].

See also:

- Cost Estimate with Quantity Structure: Process Flow [Seite 120]
- Origin of Costing Data [Seite 129]
- Master Data for Costing with Quantity Structure [Seite 131]
- Quantity Structure Determination [Seite 179]
- Valuation of the Quantity Structure [Seite 203]
- Use of Existing Costing Data [Seite 607]
- Overhead [Seite 569]
- Date Control [Seite 567]

Creating a Costing Run

Use

The costing run enables you to simultaneously cost and analyze multiple materials, and update them in the material master. The first step in creating the costing run is establishing the general data.

Procedure

Without Reference

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Edit Costing Run*.

   The *Edit Costing Run* screen appears.

2. Choose .

   The *Create Costing Run* screen appears.

3. Enter the following data:

   a. A name identifying the costing run

   b. Description of the costing run, such as "Standard cost estimate plant 1000"

   c. Date of the costing run

4. Enter the following data in the *Costing data* tab page:

   a. Costing variant used to create and valuate the quantity structure and calculate overhead

      The costing variant also determines whether the costing results can be written to the material master record. For more information, see Preparing for Material Costing [Seite 73].

   b. Costing version [Seite 619]

   c. The controlling area in which the costing run is to be executed

   d. The company code in which the costing run is to be executed

      If costing across company codes [Seite 618] has been activated in Customizing for Product Cost Planning, you can transfer existing cost estimates from other company codes within the active controlling area.

   e. If applicable, the transfer control ID for the transfer of existing cost estimates

      The transfer control ID is proposed from the costing variant. The costing variant also specifies whether the transfer control ID can be changed at this point. For more information, see Use of Existing Costing Data [Seite 607].

   f. If applicable, the server group (parallel processing [Seite 374])

5. Choose .

6. Check the proposed costing dates in the tab page *Dates* (quantity structure date, valuation date and costing validity period) and change them if necessary.

   The dates proposed are based on the date control [Seite 567] and date of the costing run. However, you can still change the dates if the appropriate setting has been made in the date control.

7. Choose to save the costing run.

With Reference:

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Edit Costing Run*.

   The *Edit Costing Run* screen appears.

2. Choose *With reference.*

   The *Create Costing Run* screen appears.

3. Enter the following data:
   a. A name identifying the costing run
   b. Description of the costing run, such as "Standard cost estimate plant 1000"
   c. Date of the costing run
4. In the *Copy from* screen area, enter the costing run (and its date) to be used as the reference.
5. Choose .

   The system proposes the dates of the costing run reference in the tab pages *Costing dates* and *Dates*.

6. Check these dates and change them if necessary.
7. Choose to save the costing run.

Result

After you have saved the costing run, you can proceed with the step *Processing* in the order specified.

See also:

- Selecting Materials for a Costing Run [Seite 330]
- Exploding BOMs for a Costing Run [Seite 333]
- Executing the Costing Run [Seite 335]
- Analyzing the Costing Run [Seite 337]
- Updating Prices [Seite 339]

Selecting Materials for the Costing Run

Use

After you have created the costing run, you can select the materials to be costed. How you select the materials depends on whether you work with closed BOMs (which cannot be configured) or open (configurable) BOMs.

- Closed BOMs (non-configurable materials)

  For materials that are often produced in the same way, BOMs and routings for each material are defined in Production Planning.

- Open BOMs (configurable materials)

  For multi-variant products, BOMs and routings are defined in the PP component for what is called a *standard product*. You create a material master record that refers to the standard product for every variant of the standard product. You create a BOM and a routing for the standard product. You also define dependencies between the different components in the BOM and the activities in the routing. On the basis of these dependencies, the system can determine precisely which BOM components and routing activities are required to produce the variant.

Prerequisites

You have created the costing run [Seite 328].

Procedure

1. In the **Selection** step, choose *(Change parameters)*.

   The screen *Costing Run: Selection - Change Parameters* appears.

2. Enter a range of material numbers, low-level codes, material types and/or plants. You can select the following:

   a. All materials in all plants

   b. Specific materials

   c. Specific material types

3. To be able to recost all materials in the BOM, you can set the *Always recalculate material* indicator for the selection.

   In the costing run, you can use the transfer control ID to specify whether existing cost estimates are transferred for certain materials. By doing so, you can prevent the materials from being reselected for costing. To be able to recost all materials in the BOM, you can set the *Always recalculate material* indicator for the selection. This restricts the transfer control function.

4. If you want to select and cost configured materials (stock types) only, set the indicator *Select configured mats only*.

If you work with open BOMs, you **must** carry out the processing step *Selection* to select the configured materials in a plant. Standard products have the material type KMAT and cannot be costed.

The BOM for a configured material does not usually consist of configured materials only. To increase performance, you can do the following:

a. Cost all non-configurable materials

b. Define a transfer strategy from which you can access these costing results (see also: Transfer of Costing Data [Seite 607])

c. Select and cost the configured materials

5. Decide whether this step should be carried out in the background.

   If you want to cost online, turn off the *Background processing* indicator. For more information, see Background Processing [Seite 375].

6. If you want to print the log for this step, turn on the *Print log* indicator.

7. Save the selection parameters with .

8. Choose .

   You return to the dialog box *Edit costing run:*

9. To execute material selection, choose in the **Selection** processing step.

   After selecting the materials, you can display the section *Costing results* and display a list of the materials and their data (such as the plant and costing lot size) through the material overview [Seite 346].

   If you have set the *Background processing* indicator, the materials are not selected; instead, the system displays the *Background Processing: Job Parameters* dialog box. Enter the start date and other start criteria for the background job.

   Choose *Copy* to schedule or start the job. Choose *Goto* → *Job Overview* to branch to an overview of all background jobs.

   If you choose *Goto* → *Schedule Manager*, you access the Schedule Manager [Extern].

10. Choose to update the displayed costing run data.

11. Save the costing run with .

Result

After selecting the materials, you see the status, the number of materials selected and the number of materials selected with errors.

To check all the messages that occurred during the selection, choose (*Display Log*). The message log [Seite 589] provides an overview of the results of the material selection and the option to prevent potential errors before carrying out further steps.

See also:

- Schedule Manager [Extern]

Selecting Materials for the Costing Run

- Single Functions of the Schedule Manager [Extern]

Exploding BOMs for the Costing Run

Use

This processing step involves the exploding of material BOMs after you have selected the materials to be costed.

If you select all materials in all plants, you can skip the step *Explode BOM*. This step is only necessary if not all materials are selected, such as finished products only. If you have selected all the relevant materials, this step is not applicable.

How you explode BOMs depends on whether you work with variant BOMs (which cannot be configured) or configurable BOMs.

- Variant BOMs

  If you are working with variant BOMs, you only have to carry out the step *Explode BOM* if you selected specific materials for costing.

  If you are costing **all** materials in a plant, you can skip the step *Explode BOM*.

- Configurable BOMs

  If you are working with configured materials, you **must** explode the BOMs to determine a quantity structure for the cost estimate. The quantity structure of the configured material is created using the material components and operations that you select in configuration.

Procedure

1. In the BOM explosion step, choose (*Change parameters*).

   The screen *Costing Run: BOM Explosion - Change Parameters* appears.

2. Specify whether the run should be executed online or in the background.

   If you want to explode the BOM online, turn off the *Background processing* indicator. For more information, see Background Processing [Seite 375].

3. Set the indicator *Print log* if you require the messages for the run in print form.

   For more information, see Logs in Material Costing [Seite 589].

4. Save your entries with .

5. Choose .

   You return to the *Edit Costing Run* screen.

6. Choose *(Execute)* to **explode the BOM**.

   After the BOM explosion, you can display the section *Costing results* and display a list of the materials and their data (such as the plant and costing lot size) through the costing level overview [Seite 345] or material overview [Seite 346].

If you have set the *Background processing* indicator, the materials are not exploded; instead, the system displays the *Background Processing: Job Parameters* dialog box. Enter the start date and other start criteria for the background job.

Choose *Copy* to schedule or start the job. Choose *Goto* → *Job Overview* to branch to an overview of all background jobs.

Choose *Goto* → *Schedule Manager* to access the Schedule Manager [Extern].

7. Choose to update the displayed costing run data.
8. Save the costing run with .

Result

After exploding the BOM, the system displays the status, number of materials exploded, number of materials processed with errors, and the number of materials that have yet to be processed.

To check all the messages that occurred during the BOM explosion, choose (*Display Log*). The log [Seite 589] provides an overview of the results of the BOM explosion and the option to prevent potential errors before carrying out further steps.

Note that a BOM can include materials which

- Have multiple BOMs

  Multiple BOMs comprise several alternative BOMs for different lot size ranges or production alternatives, for example. You specify which procedure the system uses to look for the alternative BOM in Customizing for Product Cost Planning. (See also: Quantity Structure Control in Customizing [Seite 183])

  You can display information on the selected alternative BOM by choosing *Settings* → *Field selection*. If the *BOM data* indicator is set, the system lists the BOM number, the alternative BOM and the BOM usage for each material.

- Were costed in another plant

  The special procurement type [Seite 443] specifies the plant in which the system searches for costing data. You control how the system looks for costing data by defining a transfer control [Seite 607] ID in Customizing for Product Cost Planning.

  BOM explosion is not required if other plants subject to special procurement have already been costed. If you have stock transfers between plants that have not yet been costed, you can dispense with the BOM explosion, provided you select all the relevant plants. Therefore, you do not necessarily have to explode the BOM in cross-company costing. It is only a requirement when the above conditions do not apply.

Executing a Costing Run

Use

In this section, you cost the materials in the costing run.

Prerequisite

You can only cost the materials in the costing run after you have selected [Seite 330] them.

Procedure

1. In the *Costing* step, choose *(Change parameters)*.
2. Set the indicator *Cost ests with errors only* if you have already costed the run once and now want to recost only those cost estimates with errors.
3. Set the indicator *Log per costing level* to generate a separate log for each costing level.

   This action is recommended if you anticipate a large number of messages. It is then easier to manage messages and to trace the causes of errors.
4. Choose *Costing levels* to select the costing levels.

   For larger structures containing multiple costing levels, you can cost each costing level individually. This enables you to ensure that each costing level has been costed without errors before you proceed to the next level.
5. Set the indicator for Parallel Processing [Seite 374] if this is required for the costing levels when different processors are used for the costing run. Enter the maximum number of servers.
6. Specify whether the run should be executed online or in the background. If you want to cost online, turn off the *Background processing* indicator.

   The background mode is recommended if you are costing a large number of materials.

   With background processing [Seite 375], you can also request a log for each costing level by setting the *Log per costing level* indicator.
7. Set the indicator *Print log* if you require the messages for the run in print form. (See also: Logs in Material Costing [Seite 589] and Displaying, Editing, and Printing Logs [Seite 592])
8. Save your entries with and choose .

   You return to the *Edit Costing Run* screen.
9. Choose .

   The system costs the materials.

If you have set the *Background processing* indicator, the materials are not costed; instead, the system displays the *Background Processing: Job Parameters* dialog box. Enter the start date and other start criteria for the background job.

Choose *Copy* to save or start the job. Choose *Goto* → *Job Overview* to branch to an overview of all background jobs.

If you choose *Goto* → *Schedule Manager*, you access the Schedule Manager [Extern].

10. Save the costing run with .
11. Choose to actualize the displayed data.

Result

The system calculates the costs for all materials with BOMs (assemblies) and all materials without BOMs (material components). For more information, see Origin of Quantities, Prices, and Dates [Seite 129].

After costing, the system displays the status, number of materials costed, number of materials costed with errors, and the number of materials that have yet to be costed.

To check all the messages that occurred during costing, choose (*Display Log*). The log [Seite 589] provides an overview of the costing results as well an opportunity to correct possible errors before carrying out further steps. (

You can use one of the following functions to analyze the costing results:

- Generate Report
- Go to *Costing Results*

See also:

Schedule Manager [Extern]

Single Functions of the Schedule Manager [Extern]

Analyzing the Costing Run

Use

You can update [Seite 634] the results of costing runs in the price fields of the material master. You can transfer the results of the standard cost estimate as well as those of the inventory cost estimate, modified standard cost estimate and the current cost estimate into the material master. Before you mark [Seite 340] and release [Seite 342] a costing run, you should check the costing results.

There are various reports you can use to analyze the costing run. With these reports, you can do the following:

- Display the result of a costing run
- Compare the selected cost estimates with a particular price in the material master
- Simulate the anticipated revaluation of warehouse stocks brought about by releasing the cost estimate
- Compare two costing runs with each other

Procedure

Analyze Step in *Processing* Area

1. Choose *(Change parameters)*.
2. Enter the selection criteria for the report.

   If you are using this function for the first time, you receive a selection of display variants. Select the relevant report. For example, this could be a report comparing the results of the costing run with a price from the material master record or with another costing run.

   If you have already generated a report, the system always takes you to this report when you choose *(Change parameters)*. However, if you choose *Settings* → *Reference for report*, you can choose a different display variant.
3. Save your entries for the report with and choose .
4. Choose to display the report.

Analysis via Screen Area *Costing Results*

1. Go to the screen area *Costing Results*.
2. To display the costing level overview [Seite 345], choose *Costing levels*.
3. Choose *Material overview* to display a list [Seite 346] of all the materials in the costing run.

   You can branch from the material list to the costing results for a material by double-clicking on the material. The screen *Display Cost Estimate with Quantity Structure* appears. For more information about analyzing the costing results, see Analyzing Results [Seite 494].
4. Choose in the screen area *Analyze Costing Results* to display the report defined above.

Printing the Log

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* →*Costing Run* → *Print Logs*.

   The screen *Print Error Logs for Costing Run* appears.

2. Enter the costing run and date.

3. In the screen area *Print parameters*, specify the logs to be printed.

   You can generate and print a log for every step of the costing run, such as for material selection and costing.

4. If you want to print the logs in the background, turn on the *Background processing* indicator.

5. Choose .

6. Check the print parameters and choose *Continue*.

   The logs are printed.

   If you have turned on the *Background processing* indicator, the logs are not printed immediately; instead, the *Background Processing: Job Parameters* dialog box appears.

   Turn on the indicator *Immediate start* if you want the background job to start immediately, or enter the start date. You can specify further start criteria for the background parameters. For example, you can specify that the job should not start until another job has been completed, or after a certain event has taken place.

   If you want to check the print parameters once more, turn on the *Print parameters* indicator, and choose *Copy*.

   Choose *System* → *Own jobs* to go to a job overview. For more information, see Background Processing [Seite 375].

Updating Prices

Use

You can update the results of costing runs in various price fields of the material master. However, before you update, you should analyze the costing results, such as by comparing them with the current price in the material master.

This step is only relevant if the costing variant specifies the updating of the costing results in the material master.

Procedure

1. Marking the costing run [Seite 340]

   This step applies only to updating the standard price. If you update other prices, you do not need to execute the *Marking* function. For more information about marking, see Allowing Marking and Displaying What Is Allowed [Seite 640].

2. Releasing the costing run [Seite 342]

   This step enables you to transfer the costing results into the material master as the current standard price or other prices.

   You can execute costing runs based on costing versions [Seite 619]. Cost estimates and costing runs can be updated using all the costing versions in the material master. SAP therefore recommends the following procedure when you update the standard price (which also applies to other prices):

   – Cost more than one run with different costing versions.

   – Compare the costing results with the current standard price (or another price) in the material master **before** you mark and release. You use the Information System reports of Product Cost Controlling for this. (See also Analyzing the Costing Run [Seite 337])

   – Mark only the run whose results you want to update in the material master.

See also:

- Price Update [Seite 634]
- Updating the Standard Prices [Seite 636]
- Tax-Based and Commercial Prices [Seite 650]
- Update of Other Planned Prices [Seite 655]

Marking for Standard Price

Prerequisites

Marking standard cost estimates has been allowed [Seite 640].

Before marking a standard cost estimate, you should check the results of the cost estimate. For more information, see Costing Results [Seite 451] and Analyzing the Costing Run [Seite 337].

Procedure

1. In the **Marking** step, choose *(Change parameters)*.

   The dialog box *Price Update: Mark Standard Price* appears.

2. Turn on the appropriate indicator to specify the marking procedure.

   You can use the following functions:

   – Test run

     Marking is in test run only. The database is not changed.

   – With list output

     The system displays a list of the marked cost estimates.

   – Parallel processing [Seite 374]

   – Background processing [Seite 375]

6. If you want to further restrict the marking criteria, choose *Edit* → *All Selections*.

   The costing run which you are currently editing is displayed. You can change this default value. You can also specify that only certain materials are marked (a particular company code or plant only).

7. Choose , then .

   You return to the *Edit Costing Run* screen.

8. In the **Marking** step, choose .

   If you have set the *Background processing* indicator, the materials are not marked; instead, the system displays the *Background Processing: Job Parameters* dialog box. Enter the start date and other start criteria for the background job.

   Choose *Copy* to schedule or start the job. Choose *Goto* → *Job Overview* to branch to an overview of all background jobs.

   If you choose *Goto* → *Schedule Manager*, you access the Schedule Manager [Extern].

Result

Marking enables the results of the standard cost estimate [Seite 63] to be updated as the future standard price in the material master.

Updating the Standard Price or Other Prices

Prerequisites

The standard cost estimates have been marked for release.

After you release a cost estimate for a material in a company code, you cannot carry out marking or release again for the current period. Before you release a cost estimate, you should therefore make sure that the future standard prices are correct. For more information, see Analyzing the Costing Run [Seite 337].

Procedure

Releasing the Standard Price

1. In the **Release** step, choose *(Change parameters)*.

   The dialog box *Price Update: Release Standard Price* appears.

2. Specify the release procedure. You can use the following functions:

   – Test run

     Release in test run only; the database is not changed.

   – With list output

     The system displays a list of the released cost estimates.

   – Parallel processing [Seite 374]

   – Background processing [Seite 375]

3. Choose *Edit* → *All Selections* to enter further selection criteria.

   The costing run which you are currently editing is displayed. You can change this proposal. You can also further restrict the selection to a particular company code or plant, for example.

4. Save your entries with .

5. Choose .

   You return to the *Edit Costing Run* screen.

6. In the **Release** step, choose to update the prices.

   The results of the standard cost estimates [Seite 63] are updated in the material master record as the current standard price. At that time, the stock value of the material is changed and the new standard price for valuating material movements is active.

   If you have set the *Background processing* indicator, the costing results are not released; instead, the system displays the *Background Processing: Job Parameters* dialog box. Enter the start date and other start criteria for the background job.

Choose *Copy* to schedule or start the job. Choose *Goto* → *Job Overview* to branch to an overview of all background jobs.

If you choose *Goto* → *Schedule Manager*, you access the Schedule Manager [Extern].

Updating Other Prices

1. Choose .
2. Choose *Other prices.*
3. Specify the price field of the material master to which the costing results should be written.
4. Specify the following:
   - Whether the update should take place in a test run first
   - Whether a list of cost estimates should be issued
   - Whether release should take place in the background
   - Whether parallel processing should be used
5. Choose *Edit* → *All Selections* to define further selection criteria.
6. Save the selection criteria, and choose *Back*.
7. In the **Release** step, choose to update the prices.

Managing the Costing Results

Use

In addition to the Information System reports, there is now a range of tools which you can use to analyze material cost estimates.

- Costing Level Overview [Seite 345] (cost estimate with quantity structure only)
- Material Overview [Seite 346] (cost estimate without quantity structure only)
- Costing Status [Seite 598]
- Logs in Material Costing [Seite 589]

The following functions are also available to manage material cost estimates:

- Saving Material Cost Estimates [Seite 600]
- Archiving Material Cost Estimates [Seite 602]
- Deleting Material Cost Estimates [Seite 604]
- Deleting the Costing Run [Seite 365] (Cost estimate with quantity structure only)

See also:

For more information about the costing results and the Information System reports, see Reports in Product Cost Planning [Seite 790].

Costing Level Overviews

Definition

Overview of all the costing levels that will be or were costed.

Use

You can display the costing level overview for the following:

- A cost estimate with quantity structure [Seite 123]
- The BOM explosion [Seite 333] in the costing run
- Following execution [Seite 335] of a costing run

Structure

The costing level determines the sequence in which the material is costed in the cost estimate. For further information, see Multilevel BOMs [Seite 159] and Concept of Cost Rollup [Seite 467].

The following data is displayed for each costing level:

- Number of the costing level

  The lower the number, the lower the level of the material in the BOM

- Number of materials in this costing level
- Number of materials costed

  This number indicates how many materials with BOMs were costed in this costing level.

  This information is only available to you after costing has been completed; it is not available at the BOM explosion stage of the costing run.

- Costing status [Seite 598]

  The costing status indicates whether the BOM explosion or costing was carried out successfully for each costing level. *SE* means selected without errors, while *KA* means costed without errors.

- Number of system messages

  This information is an initial overview of the quality of selection or costing. For more information, see Message Logs [Seite 589].

By using display variants, you can adapt the information in the costing level overview to your requirements. For example, you can hide superfluous data and include other information, and save the changes under a new display variant. For more information, see Display Variants [Extern] and ABAP List Viewer [Extern].

Material Overview

Definition

Overview of the materials that were selected or costed.

Use

You can display the material overview in accordance with the following:

- A cost estimate with quantity structure [Seite 123] (via *Goto* → *Material overview*)
- The material selection [Seite 330] for a costing run (in the *Costing results* screen area)
- The BOM explosion [Seite 333] for a costing run (in the *Costing results* screen area)

Structure

The following information is displayed for each material:

- Costing status [Seite 598]
- Material and plant
- Costing level [Seite 345]
- Number of system messages
- Costing lot size and unit of measure
- Material component indicator
  - If this indicator is set, the material was included in the cost estimate as a material component (without its own BOM).
  - If this indicator is not set, the material was included in the cost estimate as an assembly (with its own BOM).
- Description of material

If the material has already been costed with a quantity structure or within a costing run, you can go to the cost estimate by double-clicking on the material. For more information, see Analyzing the Results [Seite 494].

Costing Status

Use

The costing status does the following:

- Informs you about the current processing status

  The cost estimate has the status *KA* (costed without errors). The cost estimate has therefore yet to be marked or released.

  The cost estimate has the status *VO* (marked without errors). Costing has been carried out, and the cost estimate has been marked but not released.

- Informs you of error messages

  The cost estimate has the status *KF* (costed with errors). Error messages (type *E*) have occurred.

  The cost estimate has the status *KA* (costed without errors). No messages information messages (type *I*) or warning messages (type *W*) have occurred.

- Prevents incorrect data from being passed on

  The results of cost estimates with the status *KF* cannot be transferred to the material master.

- Prevents the system from repeating a function

  If a standard cost estimate has already been released (status *FR*), it cannot be costed, marked or released again. The system issues an error message.

Features

The system can set a costing status for the following:

- Costing run
- Cost estimate
  - A costing level within the cost estimate

The status can point to either an error or a success, as follows:

Error

If error messages (type *E*) were issued during costing, the system sets the status **With errors** (such as *KF* if the material was costed with errors, or *VF* if it was marked with errors).

Costing Status

The results of cost estimates with the status **With errors** cannot be transferred to the material master. You must correct the errors that occurred and carry out costing again before you can transfer the results to the material master.

If the system sets an error status when selecting the materials or exploding a BOM for the costing run, you cannot carry out the next step of the costing run (BOM explosion or costing). For more information about costing runs, see Costing Run [Seite 325].

Only messages of type *E* lead to the costing status **With errors**. You can define for a whole range of messages whether the message concerns an error, a warning, or information. For more information, see User-Defined Message Types [Seite 594].

Success

If costing was completed without errors, the system sets the status **KA** (costed without errors).

If the system sets a success status, this status can prevent the step from being repeated. If, for example, you release a cost estimate, the system sets the status **FR**. If the cost estimate has this status, the system issues an error message if you try to release it again.

The system sets the status for each costing level. This means that you can release the costing results for specific costing levels [Seite 345] , even though the costing run [Seite 325] itself has the status **KF**.

The following are examples of costing statuses that can be set by the system:

Status	Definition
ER	Opened (for example, an order)
SE	Selected without errors
SF	Selected with errors
KA	Costed without errors
KF	Costed with errors
VO	Marked without errors
VF	Released with errors
FR	Released without errors
FF	Released with errors
FM	Release through material ledger settlement

Message Logs

Use

A log collects the system messages created by the execution of a function. You can adapt the list of messages to your requirements, and sort them according to various criteria.

A log is generated when the following functions are executed:

- *Product Cost Planning*
  - Creating a Material Cost Estimate with Quantity Structure [Seite 123]
  - Costing Run: Material Selection [Seite 330], BOM Explosion [Seite 333], Execution [Seite 335], Price Update [Seite 339]
  - Marking [Seite 642] and Releasing Standard Cost Estimates [Seite 647]
  - Updating Other Prices [Seite 657]
- *Cost Object Controlling*
  - Creating Preliminary Cost Estimates for Product Cost Collectors [Extern]
  - Sales Order Costing [Extern]
  - Creating and Marking Order BOM Cost Estimates [Extern]
  - Calculating Work in Process [Extern]
  - Calculating Variances [Extern]
  - Performing Results Analysis [Extern]

Prerequisites

When you display a material cost estimate [Seite 493], you can only view the log after you have saved it. The same applies to preliminary cost estimates for product cost collectors, for sales orders, and for order BOMs.

You can only save a log for a material cost estimate or preliminary cost estimate if the costing variant allows the log to be saved. The following table provides an overview of the effects of an entry in the costing variant in the *Error management* field.

Error Management	Effect
0 (Online messages)	Messages are displayed individually in the status bar. The *Log* function is not active.
1 (Collect and save messages in the log/Mail active)	Messages are logged and can be sent to the person responsible for removing the error(s). The log can be saved.
2 (Collect and save messages)	Messages are logged. The log can be saved. The messages cannot be sent.
3 (Collect messages only)	Messages are logged. The log cannot be saved. The messages cannot be sent.

For more information, see Saving Material Cost Estimates [Seite 600].

Message Logs

In respect of preliminary cost estimates for manufacturing orders, the log is never saved. By contrast, the log is always saved in WIP calculation, variance calculation and results analysis.

You can assign individual messages to the appropriate areas of responsibility, in order to sort the messages by department and, if necessary, to inform the person responsible for correcting the error. In *Cost Object Controlling*, you can only assign messages to areas of responsibility for sorting purposes.

To assign individual messages to areas of responsibility (see also: Assignment of Messages to Areas of Responsibility [Seite 595]), you make the settings in Customizing for *Product Cost Planning* and *Cost Object Controlling*.

You can specify which messages appear in the log, and which error severity they should have (see also: User-Defined Message Types [Seite 594]) in Customizing for *Product cost Planning* and *Cost Object Controlling*. See also: User-Defined Error Mänagement in Cost Object Controlling [Extern]).

In Customizing for *Product Cost Planning*, you can also assign messages and/or areas of responsibility for the log to the message control parameters (see also: Message Control [Seite 597]).

Features

The log contains the following information:

- Reference object (such as cost estimate for material XYZ in plant 1000)
- Message lists containing the following information:
  - Message type with graphical display:
    - : Information message (type I). The cost estimate receives the status *Without errors*, such as KA (costed without errors) or VO (marked without errors).
    - : Warning message (type W). The cost estimate receives the status *Without errors*, such as KA (costed without errors) or VO (marked without errors).
    - : Error message (type E). The cost estimate receives the status *With errors*, such as KF (costed in errors) or VF (marked with errors).
  - Reference object (such as material to which the message refers) and plant
  - Application area and output number
  - Message text

    The short text for the message contains the possible cause of the error. To display detailed information on how to remove the error, double-click on the message concerned (either the message number or the text) to go to the long text.
  - Indicator showing whether the message concerns a type kept in stock
  - Item number of the itemization [Seite 828]

    The costing items are the individual materials, activities and overhead items whose costs were calculated.

You can adapt the log to your requirements. For more information, see Editing and Printing the Log [Seite 592].

Editing and Printing the Log

1. Changing Display Variants

Display variants enable you to specify which information is to be displayed in a list (such as the log). To change the current display variant or create your own, choose (in certain logs, you can also choose with the quick info *Current Display Variant*, *Display Variant* and *Save*).

Display variants enable you to display additional fields (such as the area of responsibility or grouping term), or hide unnecessary ones, and so adapt the list to suit your requirements. For more information, see Functions of the ABAP List Viewer [Extern].

2. Sorting the Log

a. To sort the messages in the log, select the column(s) to be sorted and choose to sort in ascending order or to sort in descending order.

b. To create a partial list from the complete list of messages for each message type, area of responsibility, material, or grouping term, select a column and choose . You can select several columns by holding down the *Ctrl* button.

3. Displaying the Long Text

If you want to go to the long text of a message, place the cursor on the desired line and choose . The long text of a message (particularly warning and error messages) contains detailed information about the cause of the error and how it can be removed.

4. Changing Message Types

To change a message type, proceed as follows:

a. Choose (or in certain logs, *Error Management*).

The system display a list of user-definable messages whose type you can change.

b. In the *Message* column, click on the message whose type is to be changed.

The dialog box *Allowed message types* appears.

c. Select the message type by double-clicking on it.

The *Message processed* column in the list of user-definable messages shows the message type was changed.

The graphical display in the *Exception* column is updated. For more information, see User-Defined Message Types [Seite 594] and User-Defined Error Management in Cost Object Controlling [Extern].

d. If you want to restore the default setting, choose .

e. If you want to display all the user-definable messages, choose .

f. To go back to the log, choose .

5. Printing the Log

To print the log that is currently displayed, choose . In certain logs, you can obtain a print preview by choosing .

To print the logs generated by the costing run, choose *Environment* → *Costing Run* → *Print Logs* in the Product Cost Planning menu. For more information, see Printing the Log [Seite 338].

6. Sending Messages

The error management key in the costing variant determines whether you can send messages through message control [Seite 597].

The message is sent on the date that was specified in Customizing for *Product Cost Planning* (for example, when you save the cost estimate). For more information, see the *Implementation Guide (IMG)* for *Product Cost Planning* under → *Basic Settings for Material Costing* → *Error Management* → *Define Message Control*.

To send messages, select the messages in the log and choose or *Extras* → *Send messages*.

Messages are normally only sent in *Product Cost Planning* via message control. If you want to use this function for sales order costing, order BOM costing or preliminary costing for product cost collectors, you must first of all change the setting in the costing variant and then make the necessary settings in Customizing for *Product Cost Planning*.

See also:

- Assignment of Messages to Areas of Responsibility [Seite 595]
- Costing Status [Seite 598]
- Message Logs [Seite 589]
- User-Defined Message Types [Seite 594]

User-Defined Message Types

Use

The message type identifies the message as an information message (type I), warning message (type W), or error message (type E). It determines the costing status of the cost estimate. For more information, see Costing Status [Seite 598].

You can select a message type for a whole range of system messages. This enables you to determine how the message is handled by the system and whether it is entered in a log.

If you have indicated a message as a warning, you can either ignore the message by choosing *Enter* or correct the data entered.

If you have indicated a message as an error message, you must make a correction before you can continue with the cost estimate.

Activities

You make these settings in Customizing for *Product Cost Planning* or *Cost Object Controlling*.

You can also change the type of message yourself in the application.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- *Implementation Guide (IMG) for Cost Object Controlling*
- Message Logs [Seite 589]
- Editing the Log [Seite 592]
- User-Defined Error Management in Cost Object Controlling [Extern]

Assignment of Messages to Areas of Responsibility

Use

The area of responsibility is the organizational unit within the company that is responsible for correcting the error.

In the standard system, the most important messages relating to costing are assigned to areas of responsibility. You can also assign further system messages to a department.

You can assign the system messages in Customizing to two further, user-defined, groups. To do this, enter a group in one or both of the *Group* columns. When you display the log, you can sort the messages by these groups. You can define, for example, a grouping term for errors that need to be corrected immediately. For more information, see Editing and Printing the Log [Seite 592].

Features

You can assign the system messages in the log of a cost estimate with a quantity structure to various areas of responsibility. When you display the log, you can

- Sort the messages by area of responsibility
- Inform the employees in these areas of responsibility about the contents of the message if the *Mail* function in the costing variant is active (*Error management* field)

  For more information, see Message Logs [Seite 589], Message Control [Seite 597] and Editing and Printing the Log [Seite 592].

  The standard cost estimate for a material is incorrect due to errors in the BOM and routing. The Work Scheduling area of responsibility is responsible for correcting errors in the routing, while the Engineering area of responsibility is responsible for correcting errors in the BOM. You use Message Control in Customizing for Product Cost Planning to specify that a message about the errors is sent to the persons responsible in the Engineering and Work Scheduling areas of responsibility.

  This function is only available for costing purposes. It cannot be used for WIP calculation, results analysis, variance calculation or preliminary costing for manufacturing orders.

  It can only be used for the preliminary costing of product cost collectors, sales order costing, and order BOM costing if you have changed the settings for the costing variant beforehand.

Some areas of responsibility are linked to organizational units in the R/3 System so that you can send messages to the persons responsible in the groups within an area of responsibility. The following table lists the areas of responsibility in the system and the organizational units to which they are linked:

No.	**Area of responsibility**	**Organizational Unit**
1	Purchasing	Purchasing group
2	Engineering	Engineering laboratory

Assignment of Messages to Areas of Responsibility

3	Work scheduling	Work scheduling group
4	Cost center	Cost center
5	Cost estimate	(none)
6	Accounting	(none)
7	Plant maintenance	(none)
8	Capacity requirements planning	Capacity planning group
9	Materials planning	MRP controller
99	System support	(none)

Message Control

Use

To be able to send system messages as user messages, you can create the link between error management and message control in Customizing for *Product Cost Planning*. You can specify the following:

- Who should receive the message
- Which role this person has (for example, mail partner)
- How the message should be created and sent (such as by mail or fax)
- When the message should be sent (for example, when the cost estimate is saved)
- The language of the message

Features

You can define the parameters for message transmission for a certain message or for a group of messages. You have the following options:

- Area of responsibility and functional specification

  Here you link the control parameters for message transmission to a area of responsibility (such as Purchasing) and to one of the organizational units within the area of responsibility (for example, purchasing group).

- Area of responsibility

  Here you link the control parameters for message transmission to a particular area of responsibility (for example, Costing).

- Application area and output number

  Here you link the control parameters for message transmission to a particular message. The application and output number identify the system messages.

The system uses the following sequence when it searches for a receiver of a message:

1. Area of responsibility and functional specification
2. Area of responsibility
3. Application area and output number

See also:

WF Message Control

Implementation Guide (IMG) for Product Cost Controlling

Saving Material Cost Estimates

Use

When you create a cost estimate, you always link it to a costing variant. You can specify the following in **Customizing** for the costing variant:

- That the costing results can be saved
- That system messages can be saved in a log [Seite 589]
- Whether (in addition to the cost component split) the itemization [Seite 828] and the log are always or optionally saved

If saving the costing results has been allowed for in the costing variant, the cost component split [Seite 824] is always saved. You cannot save the cost component split on an optional basis.

The itemization is required to carry out reference costing [Seite 629], variance calculation, scrap valuation, and the calculation of work in process (WIP) for target costs.

The cost element itemization cannot be saved. Cost element itemizations are required for cost element reports in the Information System. However, this information can be extracted from the itemization.

If you use your own programs or reports to evaluate cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Features

When you save a material cost estimate [Seite 120], a dialog box appears in which you can specify which costing results you want to save.

You can suppress this dialog box is suppressed if the indicator *Defaults can be changed by user* has not been turned on in the costing variant in Customizing. In this case, the system automatically saves the costing results that were flagged to be saved in the costing variant.

When you create a costing run [Seite 325], you enter update parameters that specify which costing results you want to save. For more information, see Creating the Costing Run [Seite 328].

Activities

In Customizing for *Product Cost Planning*, check the settings of the following parameters for saving the costing results:

Costing Variant

- To be able to save the costing results [Seite 451], turn on the indicator *Saving allowed*.
- To save system messages in a log [Seite 589], set the relevant indicator for *Error management*.
- If, in addition to the cost component split [Seite 824], you want to save the itemization [Seite 828] and the log (either always or when desired), set the relevant indicator.
- If you want to these settings to be changeable when the user saves the cost estimate, set the indicator *Defaults can be changed by user*.

Costing Type

You use the costing type to determine the field in the material master record in which the results of the cost estimate are updated [Seite 634] (such as the *standard price*, *tax price*, or *commercial price* field), and to determine the valuation view to be costed.

Date Control

Define or check the date control [Seite 567]. The system uses the date control ID to propose the validity period of the cost estimate. If you intend to perform the following business transactions, make sure the cost estimate is valid in the periods in which you carry out the transactions:

- Variance calculation
- Scrap calculation
- Work in process calculation

Cost Component Structure

Assign a cost component structure [Seite 460] to the costing variant. The costing variant specifies a cost component structure containing the complete control parameters for the assignment of costs to cost components [Seite 462].

See also:

Implementation Guide (IMG) for Product Cost Controlling

Archiving Material Cost Estimates

Use

Material cost estimates that you no longer need can be removed from the database and archived.

Integration

You can archive cost estimates independently of data in other archiving sessions.

Prerequisites

You define the technical data for archiving cost estimates (such as the name, path, and size of the archive file) in Archive Management under *Customizing*. For additional information, see:

- Customizing [Extern]
- General Customizing [Extern]
- Archiving-Object-Specific Customizing [Extern]

Archiving material cost estimates does not require any additional settings in Customizing.

A material cost estimate to be archived cannot be marked, and it cannot be the currently released cost estimate. That is, it cannot be linked to the material master record. This ensures data consistency. You can only archive cost estimates that have a *Valid from* date in the past. This means you can archive cost estimates at any time during the year.

To archive material cost estimates, you need a general authorization for archiving as well as authorization for the K_KEKO archiving object with activity 06. For more information, refer to Authorization Check [Extern].

Depending on the system environment and the amount of data, you can archive approximately 13,000 cost estimates per hour. A cost estimate requires approximately 5,000 bytes, depending on the amount of data.

Activities

You can call these functions from the menu as follows: *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Tools* → *Archiving* → *Material Cost Estimate*.

The screen *Archive Management: Initial Screen* appears. In the *Object name* field, the archiving object CO_COPC [Extern] is shown as a default. If you require further information, see Archive Management [Extern].

The following table provides an overview of the functions available from this initial screen:

Function	***Use this function to:***
Archive	Generate archive files (archive material cost estimates)
Delete	Schedule and start the deletion program
Restore	Schedule and start the reload of an archive
Analyze	Schedule and start an analysis program

Index	Construct or remove an index for existing archive files
Management	View and change management information for archiving runs
	Call up a network graphic [Extern] to view the dependencies between archiving objects
Customizing	Check the Customizing settings
Job overview	View a list of all archiving jobs. You can then: • Display the log for a specified job (*Job log*) • Branch to detailed information for a specified job () • Release a job (*Release*) • Delete a job from the database () • Cancel an active job ()
DB tables	List all archiving objects that are part of a table [Extern]
Information system	Access the central Archive Information System (SAP AS) [Extern]

See also:

- Introduction to Data Archiving [Extern]
- Archive Selection [Extern] and Archive Management [Extern]
- The Archiving Procedure [Extern] and Archiving Procedure [Extern]
- Basic Archiving Terms [Extern] and Background Information [Extern]
- Archiving Features [Extern]

Deleting Material Cost Estimates

Use

You can delete costing results that are no longer required from the database when you specify certain criteria. This function is called **Reorganization**.

Prerequisites

A cost estimate can only be deleted if it is not locked.

A standard cost estimate is used to determine the standard price for the valuation of a material. Some countries legally require that the cost estimate used to calculate a standard price be kept on hand. You should therefore find out whether there is a legal requirement to archive your standard cost estimate. It is also recommended that you contact the accounting department and inventory management before deleting cost estimates.

If you delete a current standard cost estimate, the fields for the current standard cost estimate in the material master record (Costing *details*) are reset to zero. If you use the Material Ledger, when you delete a standard cost estimate the standard prices are also deleted in the Material Ledger master data. The master record for the material then no longer contains a current standard price from a standard cost estimate.

If you are going to delete a large number of cost estimates, the background mode is recommended.

Procedure

Online:

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* →*Material Costing* → *Delete Test Data*.

   The *Reorganization of Cost Estimates* screen appears.

2. Specify which cost estimates you want to delete:

   a. Enter the company code, plant and material number.

   b. Select one of the following options under *Control parameters*:

      - Future standard cost estimates
      - Current standard cost estimates
      - Previous standard cost estimates
      - Cost estimates not in material master

      You can only select one of the 4 options.

   c. If these selection criteria are insufficient, you can further restrict your selection via , for example by

- costing status, costing variant or costing version
- costing run
- all cost estimates, only additive cost estimates or only cost estimates without quantity structure

3. If you want to simulate the deletion run first, select *Test run*.
4. Set the *With list* indicator if a log is to be issued listing all deleted material cost estimates (or in the case of a test run all material cost estimates to be deleted).
5. Choose .

In the Background:

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* → *Material Costing* → *Delete Test Data*.

   The *Reorganization of Cost Estimates* screen appears.
2. Choose *Program* → *Execute in background*.

   The dialog box *Background Print Parameters* appears.
3. Enter the required data (background print parameters) and choose .
4. If you want to execute the program in the background **immediately**, choose *Immediately.*
5. If you want to **schedule** the job, enter the necessary data:
   a. Specify when the program is to be executed. The program is executed automatically at the specified time.
      i. Choose *Date/Time* to specify the exact point at which background processing should start.
      ii. Choose *After job* if you want to specify that background processing should not start until another job has been completed, or *After event* if processing should not start until an event has occurred.
      iii. Choose *At operation mode* if you want to specify that the job should run only at the weekend, for example.
   b. Specify whether the program is to be executed once or at regular intervals.
      i. If the job is to be repeated regularly, set the indicator *Execute job periodically*.
      ii. Choose *Period values* to specify how often the job should run, such as weekly or monthly.
6. Choose to save the data for background processing.
7. To display the job, choose *System* → *Own jobs*. For more information, see Background Processing [Seite 375].

Result

When you delete a material cost estimate, the following data is deleted:

- Basic costing data
- Cost component split

Deleting Material Cost Estimates

- Itemization
- Log

In test run mode, a list appears showing the cost estimates that can be deleted.

In the reorganization mode, the system issues a message detailing the number of cost estimates deleted.

Deleting Costing Runs

Procedure

Online:

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* → *Costing Run* → *Delete Costing Run*.

   The *Delete Costing Run* screen appears.
2. Enter the name and date of the costing run.
3. Do **not** set the *Background processing* indicator.
4. Choose .

   Data is displayed on the costing run that is to be deleted.
5. Choose to delete the costing run.

In the Background:

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* → *Costing Run* → *Delete Costing Run*.
2. Enter the name and date of the costing run.
3. Set the *Background processing* indicator.
4. Choose .

   The system displays the dialog box *Background Processing Job Parameters.* You use this box to make the settings for background processing.

   a. Check the job name proposed by the system and change it, if required.

   b. Set the indicator *Immediate start* or enter the date from which the job should be started. The following options are available:

      i. *Date/time* to enter an exact date

      ii. *After job* or *After event*, if the job should only be started after another job has ended or after a particular event

   c. Choose *Confirm*.
5. Choose *System* → *Own jobs* to display all jobs. For more information, see Background Processing [Seite 375].

Result

If you delete a costing run, the data for	
Selection	is deleted
Structure explosion	is deleted
Cost estimate	is not deleted

Deleting Costing Runs

Marking	is not deleted
Release	is not deleted

The administrative data for the costing run (name, description, selection and structure explosion) is deleted. The material cost estimates themselves are not deleted. You have to delete them in a second step. For further information, see Deleting Material Cost Estimates [Seite 604].

Use of Existing Costing Data

Use

A BOM may contain the following types of materials:

- Materials that have already been costed
- Materials already produced or stored in another plant, and costed in that plant

You can use this existing data in costing, and transfer it to other cost estimates. You can transfer existing **material cost estimates with and without quantity structure**.

You can do the following:

- Transfer an existing cost component split using *Transfer control*
  - Single-plant transfer [Seite 610]
  - Cross-plant transfer [Seite 611]
- Using reference costing [Seite 629], transfer the costed quantity structure and, for every item category (such as M, G, and X), decide whether it should be recosted or revaluated

Prerequisites

Settings for Transfer Control

You define transfer control in Customizing for Product Cost Controlling. You use transfer control to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate.

You enter the transfer control ID in the costing variant that you are going to use for the cost estimate.

When you create a standard cost estimate, any cost estimate that has already been **released** is automatically transferred, irrespective of whether you use transfer control. For further information, see Releasing Standard Cost Estimates [Seite 645].

If you set the *Transfer control can be changed* indicator in the costing variant, the system displays the *Transfer control ID* field in the *Control parameters* dialog box when you create a cost estimate. If you have entered a transfer control ID in the costing variant, this ID is proposed by the system. You can overwrite this default value manually. If you do not set the *Transfer control can be changed* indicator in the costing variant, the system determines the transfer control automatically from the costing variant, if it has been entered there.

Settings for Reference Costing

You define a reference variant in Customizing for Product Cost Controlling. It enables you to specify the costing items that should be revaluated. You define the reference variant in the costing variant.

See also:

For further information about the Customizing settings for transfer control and the reference variant, see the *Implementation Guide (IMG)* under *Product Cost Planning → Cost Estimate with Quantity Structure*.

Features

Using the **transfer control**, you can transfer the data of the following types of cost estimate:

- Future standard cost estimates

  The system searches for an existing future (marked) standard cost estimate.

- Current standard cost estimates

  The system searches for an existing current (released) standard cost estimate.

- Previous standard cost estimates

  The system searches for an existing previous standard cost estimate.

- Cost estimates with period-based transfer control

  The system searches for an existing cost estimate that has the same costing version and date in the costing variant (that is, the costing type and valuation variant) as the cost estimate you are currently working on. You define the date that is relevant for selecting the cost estimate in the costing type (that is, with period, with date or without date).

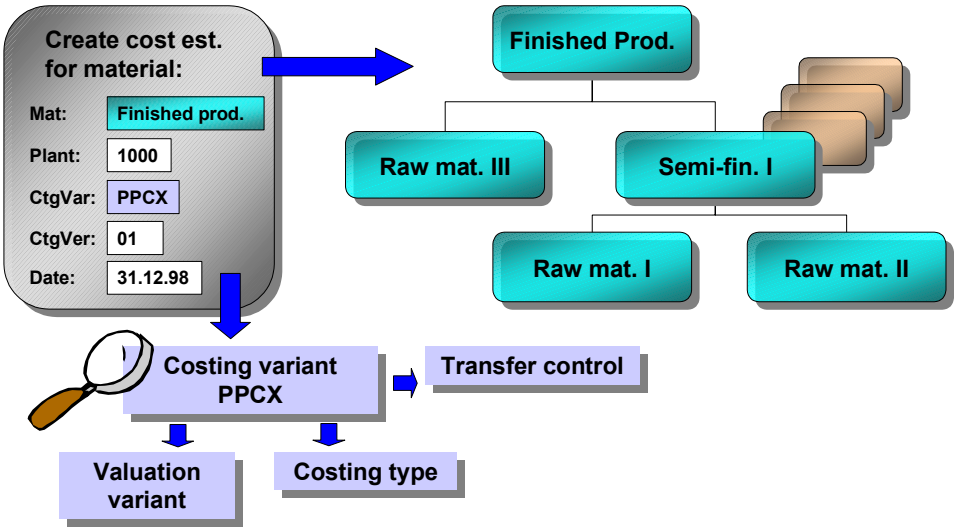
- Other cost estimates

  The system searches for an existing cost estimate that corresponds with your criteria. These criteria can be the costing variant and costing version.

Whether the system transfers a **cost estimate with or without quantity structure** depends on the *With quantity structure* indicator in the costing view of the material master. If this indicator is set, the system looks for cost estimates with quantity structure. If this indicator is not set, the system looks for cost estimates without quantity structure. For more information, see Material Master Costing View: Basic Data [Seite 505].

You are creating a cost estimate for a finished product (12.31.98), using costing variant PPCX. The finished product contains semi-finished product I, for which the following cost estimates already exist in the system:

- A marked (future) standard cost estimate (costing variant PPC1)
- A released (current) standard cost estimate (costing variant PPC1)
- Another cost estimate (costing variant XPCX)
- A cost estimate with period-based transfer control (costing variant PPCX, costing version 01, **from 12.01.98**)



You don't want to recost the semi-finished product. Instead, you want to transfer the results of an existing cost estimate, being either one with period-based transfer control (your main priority), or, if not, a current standard cost estimate. Before creating the cost estimate, therefore, you have entered in Customizing the following transfer control in costing variant PPCX:

1) Cost estimate with period-based transfer control

2) Current standard cost estimate

3) Other cost estimate

When costing the finished product using costing variant PPCX, the system searches for existing cost estimates for all the materials in the BOM structure in the sequence which you specified.

Since a cost estimate with period-based transfer control exists, this cost estimate is transferred. The first strategy has been completed successfully. The cost estimate for the semi-finished product has also been executed using costing variant PPCX, costing version 01. Although the existing cost estimate is from 12.01.98, it is period-based if the relevant indicator (that is, *Saving with period* and not *Saving with* or *without date*) has been switched on in the costing type.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Single-Plant Transfer

Use

The strategy sequence for single-pant transfer in the transfer control enables you to specify that new cost estimates will not be created for materials being used in a finished product. Instead, the cost estimate for the finished product will transfer data from existing cost estimates.

Features

The strategy sequence is the sequence in which the system is to search for costing data.

You specify that the system searches first for a current standard cost estimate, then for a future standard cost estimate, and finally for a previous standard cost estimate.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

The selected data is grouped into cost components [Seite 462] and transferred to the cost estimate.

If the system cannot find a cost estimate that meets the criteria, the material is costed afresh using the BOM and routing.

See also:

Implementation Guide for Product Cost Planning

Cross-Plant Transfer

Use

You use the strategy sequence for cross-plant transfer to specify how the system is to proceed with special procurement [Seite 443].

You enter the special procurement type in the costing view of the material master record. If you do not enter a special procurement type in this view, the system uses the special procurement type from the MRP view.

Features

The following special procurement types are taken into account for the transfer to a material cost estimate:

- Stock transfer from another plant
- Production in another plant

The special procurement type specifies the plant in which the system is to look for costing data. The strategy sequence is the sequence in which the system is to search for costing data.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

  The results of standard cost estimate in the second plant can only be transferred to the cost estimate in the first plant if they have the same cost component structure as the results of the standard cost estimate in the first plant.

  For this reason, you must assign the costing variants for the standard cost estimate to a cost component structure at the company code level in Customizing for *Product Cost Planning*. When you cost across company codes [Seite 618], the cost component structures in the controlling area must be the same.

If the system cannot find a cost estimate that meets the criteria, the material is costed again on the basis of the BOM and routing in the other plant. However, the system will only cost the material in the other plant if the plant is in a different company code and cross-company costing has been activated.

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Parallel Processing

Use

Parallel processing allows you to improve considerably the processing time of your system.

Features

You can use parallel processing in the following circumstances:

- When you execute a costing run [Seite 325]
- When you mark and release standard cost estimates [Seite 642] and costing runs [Seite 340]
- When you update other prices [Seite 657]

and thereby improve the system performance. You activate parallel processing at the start of the costing run, or when you mark and release standard costing estimates, by setting the *Parallel processing* indicator in the relevant screen.

Activities

To be able to use parallel processing, you must do the following:

- Define a server group

  Choose *Tools* → *Administration* → *Administration* → *Network* → *RFC destinations* → *RFC* → *RFC groups*.

  The system distinguishes between lower and upper case letters.
- When executing the costing run, and when marking, releasing and updating:
  - Set the *Parallel processing* indicator
  - Enter the server group
    - in the general data [Seite 328] of the costing run
    - when carrying out marking/price update [Seite 634]

See also:

BC Computing Center Management System

- Parallel Processing of Jobs with Asynchronous RFC [Extern]
- Background Processing: Concepts and Functions [Extern]
- Defining RFC Groups for Parallel Processing Jobs [Extern]

Background Processing

Use

If you want to process mass data (such as executing a costing run), SAP recommends that you execute the function in the background.

You can carry out the following costing run steps in the background:

- Selecting Materials for a Costing Run [Seite 330]
- Exploding BOMs for a Costing Run [Seite 333]
- Executing the Costing Run [Seite 335]
- Marking the Standard Price [Seite 340] and Updating the Standard Price or Other Prices [Seite 342]
- Deleting Costing Runs [Seite 365]
- Printing the Log [Seite 592]

You can also execute the following functions in the background:

- Marking [Seite 642] and Releasing Standard Cost Estimates [Seite 647]
- Updating Other Prices [Seite 657]
- Deleting Material Cost Estimates [Seite 604]
- Calculating the Value Added [Seite 86] and Distributing the Cost Component Split by ALE [Seite 79]

Features

You can execute the program in the background **immediately**, or else **schedule** a job for background processing. A job consists of a chain of programs which are controlled by a set of commands executed sequentially.

For further information, see Background Processing: Concepts and Functions [Extern] (*BC system service*).

Activities

Choose *System* → *Own jobs* and *Job overview* to display the existing jobs. The screen *Select Background Jobs* appears.

You can select jobs according to their status (planned, released, ready, active, finished, canceled). By choosing *Expanded job selection*, you can enter further selection criteria. By choosing , you can display more information about the selection of jobs. To start the selection, choose *Execute*.

Having made the selection, the screen *Job Overview* appears. From this screen, you can execute the following functions:

Release	You can release planned jobs for background processing.

Background Processing

	You can ascertain the status of current jobs.
	You can display detailed information about a job, such as the job class, job status, and start time.
Job log	You can display the job log. The job log displays all the system messages that were issued while the job was being executed. *Long text* displays detailed information on the message.
	You can cancel active jobs.
	You can delete jobs from the database.
, ,	You can filter and sort the list of jobs by various criteria, such as displaying only jobs with a particular start date and in ascending order.

Other Functions

Use

You can use the following functions in the cost estimate with quantity structure:

- Connection of Non-SAP PPS Systems [Seite 615]
- Cross-Company Costing [Seite 618]
- Costing Scrap [Seite 382]
- Costing Configured Materials [Seite 395]
- Costing Versions [Seite 619]
- Costing in the Process Industries [Seite 399]
- Group Costing [Seite 621]
- Mixed Costing [Seite 426]
- Partners and Direct Partners [Seite 628]
- Standard Cost Estimates for Configurable Materials [Seite 437]
- Production Lot Costing (Seiban) [Seite 438]
- Reference Costing [Seite 629]
- Raw Material Costing [Seite 735]
- Currencies in Costing [Seite 633]

For more information about these functions, see the relevant sections.

Connection of Non-SAP Production Planning Systems

Use

You can carry out a cost estimate for materials even if the quantity structure data (such as BOMs and routings) is located in a non-SAP Production Planning system. You create this type of cost estimate in the R/3 system using the reference cost estimate [Seite 629]

Features

You can also create a cost estimate or costing run for materials for which no BOMs or routings exist in the R/3 System but only the material master record. A prerequisite for this is the existence of itemizations [Seite 828] with information about the structure connection.

In order to create these itemizations, you have to construct the quantity structure manually. To do this, you create a cost estimate without quantity structure [Seite 449] (unit cost estimate) for each material in the BOM. The sequence in which you do this is of no importance. Following this, you can cost the materials using reference costing [Seite 629] via the cost estimate with quantity structure, or execute a costing run.

Activities

You must do the following:

- Define a costing variant in Customizing, specifying that the itemization is saved
- Create an itemization for the materials to be costed, using a **cost estimate without quantity structure** for the costing variant defined above

  This enables you to define the quantity structure manually. The sequence when you create the unit cost estimate is of no importance. You must also create a cost estimate without quantity structure for raw materials. You can use a raw material cost estimate [Seite 735] for this.
- Define a transfer control ID in Customizing that specifies the transfer of cost estimates created using the costing variant defined above
- Define a reference variant in Customizing containing the transfer control ID.
- Enter the reference variant in the costing variant that you want to use in order to cost the materials via the cost estimate with quantity structure

  Since the transfer control ID has already been entered in the reference variant, there is no need to enter it in the costing variant.

  Using the reference variant, the system can access the data in the itemization from the cost estimate without quantity structure, determine the costing sequence, and calculate the costs.

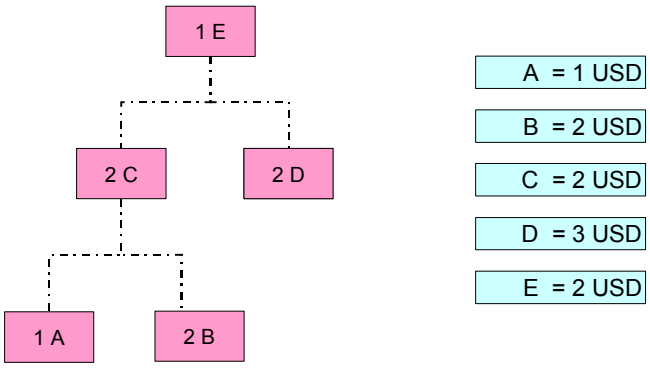
You can find further information about performing costing with and without quantity structure in the following:

- Cost Estimate with Quantity Structure: Process Flow [Seite 120]
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating the Cost Estimate Without Quantity Structure [Seite 480]

- Costing Run [Seite 325]
- Creating the Costing Run [Seite 328]
- Executing the Costing Run [Seite 335]

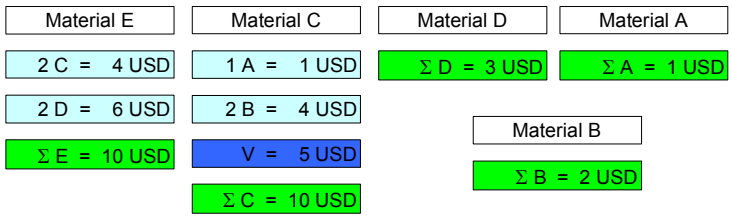
If you select all the materials to be costed for a costing run [Seite 325], you can bypass the step Exploding BOMs for the Costing Run [Seite 333] and proceed with the costing run.

You want to cost Material E in the R/3 System, for which there is a quantity structure only in a non-SAP PP system. In the R/3 System, there are only the material masters and their prices for these materials:



You now want to create a cost estimate without quantity structure for each material (including raw materials A and B). To do this, you define costing variant XPC1 in Customizing. You have specified in Customizing that the itemization is to be saved.

You now create a cost estimate for each material using costing variant XPC1. You can choose your own sequence. This is particularly useful when there is a large number of materials in the BOM, where the complexity of the structure makes viewing difficult. You can, for example, create first the cost estimate without quantity structure for Material E, and then for Material C:



For Material E, the costs resulting from the cost estimate without quantity structure are USD 10 per piece. The material goes into the cost estimate at a price of USD 2 per piece. However, for Material C, the costs resulting from the cost estimate without quantity structure are USD 10 per piece. The costing results are not consistent.

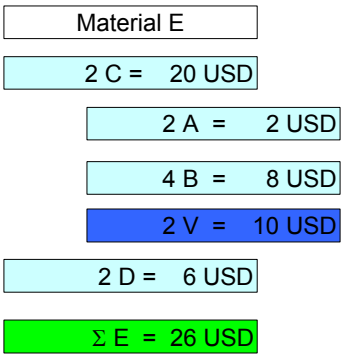
To calculate the correct price for Material E, create a cost estimate with quantity structure and reference the cost estimate without quantity structure in the process. To do this, you define the following in Customizing:

– Transfer control ID PC01, in which you specify the transfer of cost estimates with costing variant XPC1.

Connection of Non-SAP Production Planning Systems

- Reference variant 01, in which you enter transfer control PC01, specifying that all the items should be revaluated. This ensures that quantity structure costed with the cost estimate without quantity structure is transferred.
- Costing variant PPC1, in which you enter reference variant 01. Since the transfer control ID has already been entered in the reference variant, there is no need to enter it in costing variant PPC1.

Finally, create a cost estimate with quantity structure for Material E, using costing variant PPC1.



Costs of USD 26 are calculated for Material E.

Cross-Company Costing

Use

A material can consist of components that come from a different plant to that of the finished product. This plant may even be assigned to a different company code.

In such cases, you have the option to carry out cross-company costing *across company codes* **within a controlling area**. However, cross-controlling area costing is not supported.

Prerequisites

You activate costing across company codes in Customizing for *Product Cost Planning*.

Features

Costing across company codes enables you to do the following:

- Access cost component splits for costs of goods manufactured in different company codes in a controlling area and transfer them.
- Include manually entered cost components (such as those for transportation costs) with planned stock transfers
- Release the costing results either for all company codes in the controlling area, or only for the company code in which you carry out the costing run

  The legal valuation level is updated.

See also:

- Special Procurement in Costing [Seite 443]
- Materials in Other Plants [Seite 445]
- Costing Multilevel BOMs [Seite 159]
- Partner Cost Component Split [Seite 812]
- Group Costing, Multiple Valuation Approaches [Seite 621]

Costing Scrap

Use

Scrap is that portion of a material which does not conform to quality standards and which is not reworked. You can plan the scrap that is expected to be produced in the Logistics master data (in %), so that requirements planning can react with regard to production. Material requirements can be increased or reduced depending on the amount of scrap.

You can include the planned scrap quantity in the cost estimate, and display it in the costed multilevel BOM [Seite 823]. You can also display the costs for the planned scrap in the itemization.

Features

You can plan various types of scrap:

- Assembly scrap [Seite 384] in the material master record *(MRP view 1)*
- Component scrap [Seite 387] in the material master record *(MRP view 4)* or in the BOM
- Operation scrap [Seite 390] in the BOM or routing

The types of scrap have differing effects, as follows:

- Scrap in the material master or BOM increases the requirement of a component or all components of an assembly, and thus increases the material costs.
- Scrap in the operation of a routing reduces the quantity of subsequent operations and thus reduces the production costs.

Costing includes the cost of planned scrap by creating the quantity structure (the BOM and routing) using the entries for scrap in the Logistics master data. The quantities and activities used are costed using this quantity structure. When you calculate the standard price for a material in a cost estimate, this price contains the costs for planned scrap.

Scrap costs are assigned to the relevant cost components (such as raw material or machine costs) and can be shown separately for a material in the costed multilevel BOM.

It is not possible to plan scrap in the itemization [Seite 683] (such as the cost estimate without quantity structure [Seite 449]).

You can also calculate scrap variances (that is, the value of unplanned scrap quantities) when you are calculating variances [Extern] at period-end closing in Product Cost by Order [Extern] and Product Cost by Period [Extern]. This value is determined by valuating the scrap quantities with the amount of the actual costs less the planned scrap costs. You can settle the scrap variances to Profitability Analysis.

See also:

For more information, see the following sections in the R/3 Library:

- *Cost Object controlling:* Scrap Variances [Extern], Addendum: Scrap in Product Cost Controlling [Extern]
- *PP Routings*

- *PP BOMs:* Scrap Data [Extern]
- *PP Requirements Planning*
- *LO Management of Material Master Data*

Assembly Scrap

Definition

Scrap expected to occur during the production of a material that is used as an assembly.

Use

An assembly is a material with a BOM, that is, a group of components of a product which form a technically coherent whole in the production process. The assembly can be contained as a component in another assembly.

If a certain amount of scrap always occurs during the production of an assembly, the quantities and activities used must be increased by the system so that the required lot size can be produced.

To increase the lot size of an assembly, you can enter a percentage, flat-rate assembly scrap in the *MRP 1* view of the material master record [Seite 689]. This assembly scrap is reflected in all the subordinate components. The system increases the quantity to be produced by the calculated scrap quantity. This increases both the materials consumed and the activities consumed.

You are producing 100 circuit boards. In the material master of the finished circuit boards, you have entered an **assembly scrap** of 10%. When you produce the circuit boards, the system increases the required quantities and activities so that the required lot size of 100 units can be costed or produced.

When you produce the boards, requirements planning increases the requirement for the boards to 110 units. This means that the requirement for the components in this assembly are also increased. The **quantity and activity consumption** for the subordinate components is increased as though 110 boards were to be costed or produced. The system costs the 100 boards based on 110 units and calculates a scrap quantity of 10 units for the three subordinate components. The activity consumption for the two operations is also increased by 10% to 110 units.

	Quantity without scrap	Quantity costed	Assembly scrap	Component scrap
Finished PCBs	100 PC	100 PC	0 PC	0 PC
PCBs	100 PC	110 PC	10 PC	0 PC
BIOS	100 PC	110 PC	10 PC	0 PC
Operation 1	*100 h*	*110 h*	*10 h*	-
Processor	100 PC	110 PC	10 PC	0 PC
Operation 1	*100 h*	*110 h*	*10 h*	-

Integration

Assembly and Operation Scrap

You can have the system calculate assembly scrap using the operation scrap [Seite 390]. The system calculates assembly scrap from the operations in the routing [Seite 166] when you schedule a routing and then update the scheduling results in the material master record.

If you have not entered an operation scrap, or do not want to determine the assembly scrap through scheduling, you can also enter the assembly scrap manually in the material master record. However, if you do so, the system cannot calculate any scrap variances.

The assembly scrap is ignored if the *Net* indicator is turned on in the BOM item. This indicator controls the calculation of the operation scrap based on the net input quantity (without assembly scrap).

- If you enter operation scrap in the BOM, you must set this indicator. If operation scrap has been entered in the BOM, the system uses the operation scrap.
- If no operation scrap has been entered in the BOM and the indicator has been set, the system does not include either operation scrap or assembly scrap.

Assembly and Component Scrap

When both assembly and component scrap has been entered for a material, the entries are dependent on whether the material is being used as an assembly or as a component.

Assembly and Component Scrap (I)

You are producing 100 circuit boards. In the material master for the finished circuit boards, you have entered an assembly scrap of 10%, while in the material master for the processor you have entered a component scrap of 5%.

The system costs the 100 boards based on 110 units and calculates a scrap quantity of 10 units for the subordinate components. Due to the component scrap for the processor, the system determines a total scrap quantity of 16 units, being 10 units assembly scrap and 6 units component scrap. The activity consumption is increased accordingly.

Assembly Scrap

	Quantity without scrap	Quantity costed	Assembly scrap	Component scrap
Finished PCBs	100 PC	100 PC	0 PC	0 PC
PCBs	100 PC	110 PC	10 PC	0 PC
BIOS	100 PC	110 PC	10 PC	0 PC
Operation 1	*100 h*	*110 h*	*10 h*	-
Processor	100 PC	116 PC	10 PC	6 PC
Operation 1	*100 h*	*110 h*	*10 h*	*6 h*

Assembly and Component Scrap (II)

In the material master for the finished circuit boards, you have entered assembly and component scraps of 10% and 5% respectively. The question of whether the finished circuit boards are used as an assembly or component determines which of the scrap entries is included by the system. If the circuit boards are used as a component, the system includes the component scrap, and vice versa.

For more information about the effects of component scrap, see Component Scrap [Seite 387].

See also:

- Scrap Data [Extern]
- Assembly Scrap [Extern]
  - Maintaining Assembly Scrap [Extern]
  - Excluding Assembly Scrap [Extern]
  - Assembly Scrap: Example [Extern]

Component Scrap

Definition

Scrap of a material that is expected to occur during production if the material is a component.

Use

Component scrap is used in MRP to determine the input quantity of the components. When you produce an assembly with this component, the system has to increase the component quantity to enable you to reach the required lot size. You can enter component scrap in the BOM item or in the material master. When exploding the BOM, the system increases the input quantity of the components by the scrap quantity calculated.

The unplanned component scrap is shown as input quantity variances at period-end closing in Product Cost by Order and Product Cost by Period,.

For components in an assembly with assembly scrap [Seite 384], the following applies:

The system first calculates the assembly scrap, then the component scrap. The scrap quantities calculated are added and the quantity required is increased accordingly.

You can maintain component scrap:

- In the BOM item [Seite 157]

  In this case, the component scrap is only relevant for this particular BOM.

- In the *MRP 4* view of the material master record [Seite 689]

  In this case, the component scrap is relevant for all the BOMs that contain this material.

  If component scrap has been included in the BOM, the value entered there applies. Otherwise, the value entered in the material master record applies.

  If you maintain component scrap in the BOM item **and** in the material master record, the entry in the BOM takes priority.

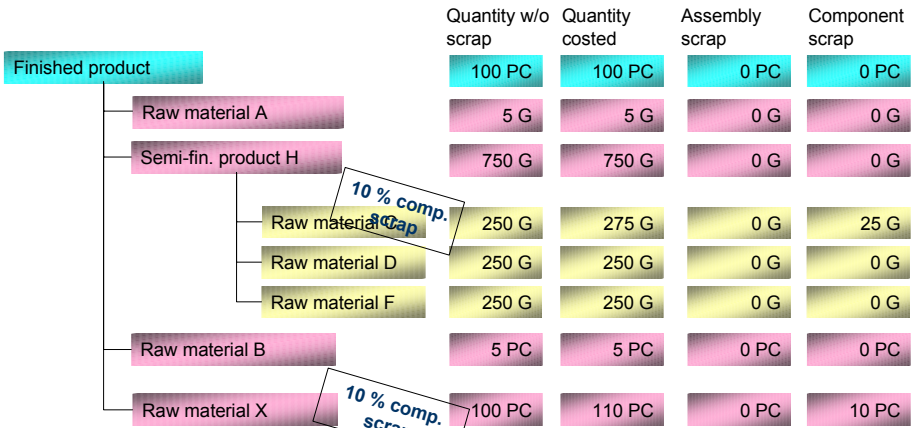
  Component scrap does not affect the production periods.

Example 1

For the component raw material C of semifinished product H, an assembly scrap of 10% has been entered in the material master. The system thus costs 100 pieces of the finished product with 275g (250 + 10%) of raw material C, not with 250g. The component scrap is 25g.

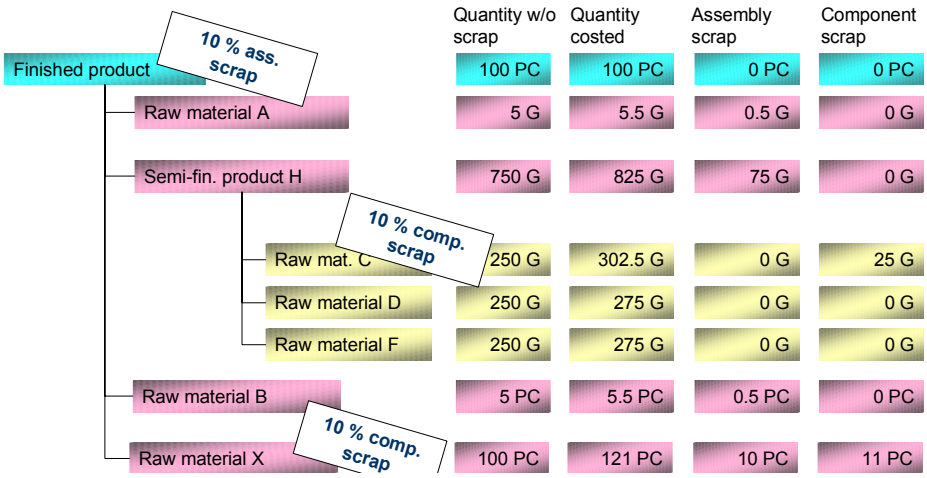
For the component raw material X of the finished product, an assembly scrap of 10% has been entered in the material master. The system costs 110 pieces of raw material X (100 pieces + 10%) The component scrap is 10 pieces.

Component Scrap



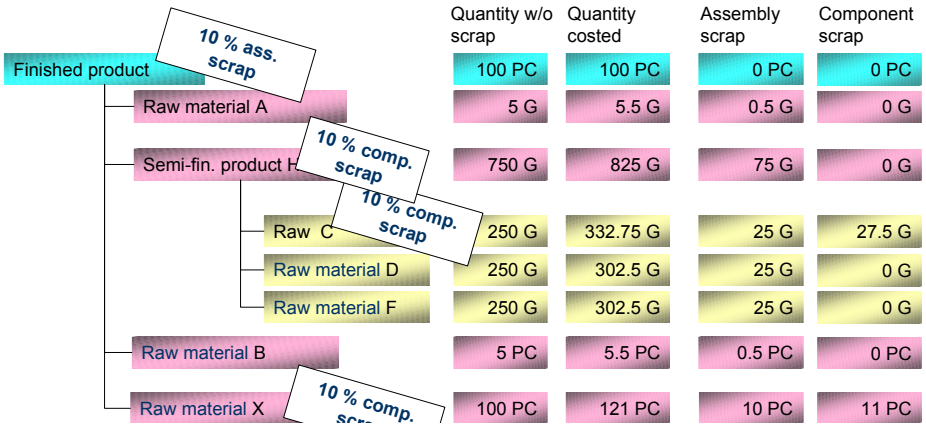
Example 2

For the finished product, you have entered an assembly scrap of 10% in the material master. For the components raw material X and raw material C, you have entered an assembly scrap of 10%.



Example 3

For the finished product and for semifinished product H, you have entered an assembly scrap of 10% in the material master. For the components raw material X and raw material C, you have entered an assembly scrap of 10%.



See also:

For more information, see the following sections in the R/3 Library:

- Cost Object Controlling: Scrap Variances [Extern]
- PP Bills of Material:
  - Scrap Data [Extern]
  - Component Scrap [Extern]
    - Maintaining Component Scrap in the BOM [Extern]
    - Maintaining Component Scrap in the Material Master Record [Extern]
    - Component Scrap: Example [Extern]

Operation Scrap

Definition

Scrap that is expected to occur in an operation during production.

Use

Operation scrap is used for objects such as valuable materials, to reduce the planned input quantities in follow-up operations and to calculate the precise amount of assembly scrap.

You can display the unplanned operation scrap of the routing in the variance category *scrap variances* at period-end closing in Product Cost by Order and Product Cost by Period.

You can enter operation scrap (in %) in the routing and in the BOM. The operation scrap entered in the routing refers to the activity quantity consumed, while the operation scrap entered in the BOM refers to the material quantity used. In this case, the net indicator must be turned on.

- In the operation in the routing [Seite 166]

  If you only enter operation scrap in the routing of the costed material (and not the BOM), the costing lot size is reduced by this percentage.

  If you enter the operation scrap in the routing and schedule the routing, the system calculates a percentage for assembly scrap and then writes this to the material master record.

- In the BOM item [Seite 157]

  If operation scrap is entered in the BOM, the planned input (not the output quantity) is increased accordingly, and any assembly scrap is reduced. For material requirements planning to include operation scrap, you have to maintain it in the BOM.

  If you enter operation scrap for a component in the BOM, this entry refers to the quantity to be processed of an operation of this component, and replaces any assembly scrap entered in the material master.

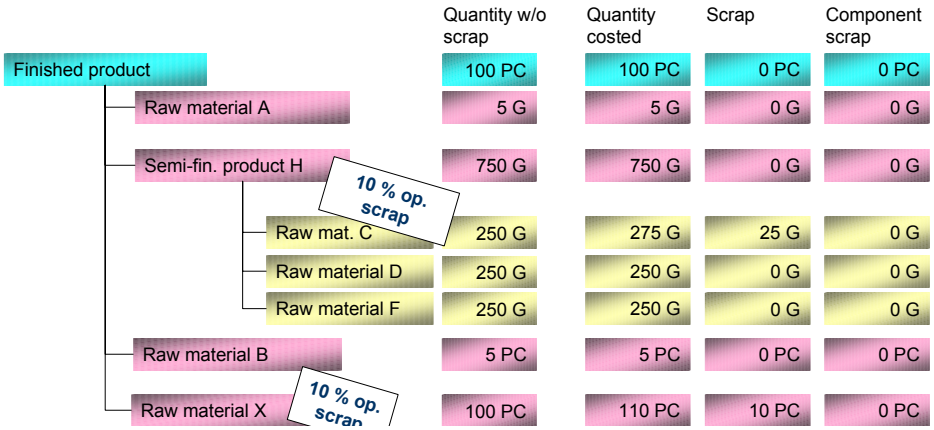
  If no operation scrap has been maintained in the BOM, the system uses the assembly scrap from the material master.

  If operation scrap has been entered in the BOM, the system ignores the assembly scrap. If, for example, a material appears in an assembly for which assembly scrap has been entered, the system ignores the assembly scrap and uses the operation scrap from the BOM. The operation scrap in the BOM overrides the assembly scrap in the material master.

  If you enter operation scrap in the BOM, you must set the *Net* indicator at the same time. The *Net* indicator controls the calculation of the operation scrap based on the net input quantity (without assembly scrap).

Operation Scrap in the BOM

In the BOM for the finished product, an operation scrap of 10% has been entered for raw material X. In the BOM for the semifinished product, an operation scrap of 10% has been entered. The input quantities for raw materials C and X are increased by 10%.



See also:

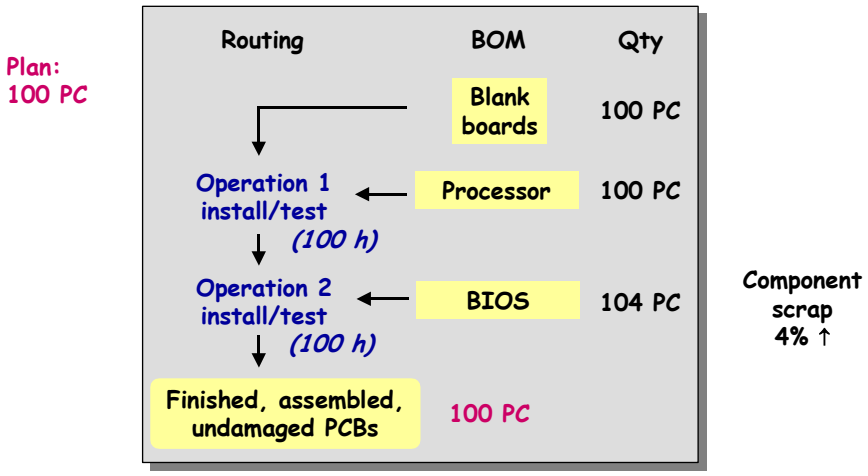
For more information, see the following sections in the SAP Library:

- Cost Object Controlling: Scrap Variances [Extern]
- PP Bills of Material:
  - Scrap Data [Extern]
  - Operation Scrap [Extern]
    - Maintaining Operation Scrap [Extern]
    - Operation Scrap: Example [Extern]

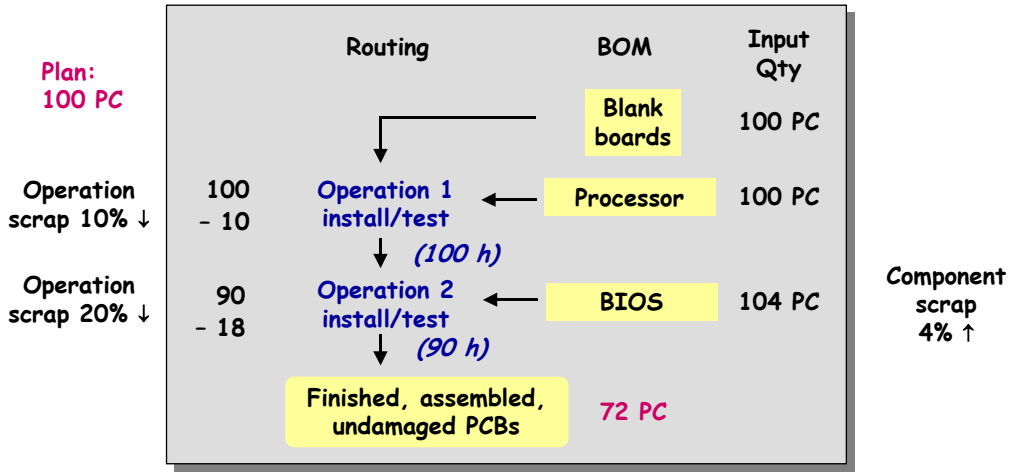
Example: Different Scrap Data

According to the BOM, 100 blank boards, 100 processors, and 100 BIOS assemblies are required to manufacture 100 circuit boards. The routing for the finished circuit boards contains two operations for which production activities are consumed. The blank boards and processors are assembled in operation 1, and the BIOS assemblies are added in operation 2.

To manufacture 100 circuit boards, 104 BIOS assemblies are actually required. Therefore, a component scrap of 4% is entered in the BOM or in the material master for the BIOS assembly. If this scrap is entered in the material master, it applies to all materials containing the BIOS assemblies as components. If it is entered in the BOM, it applies to the BOM only.

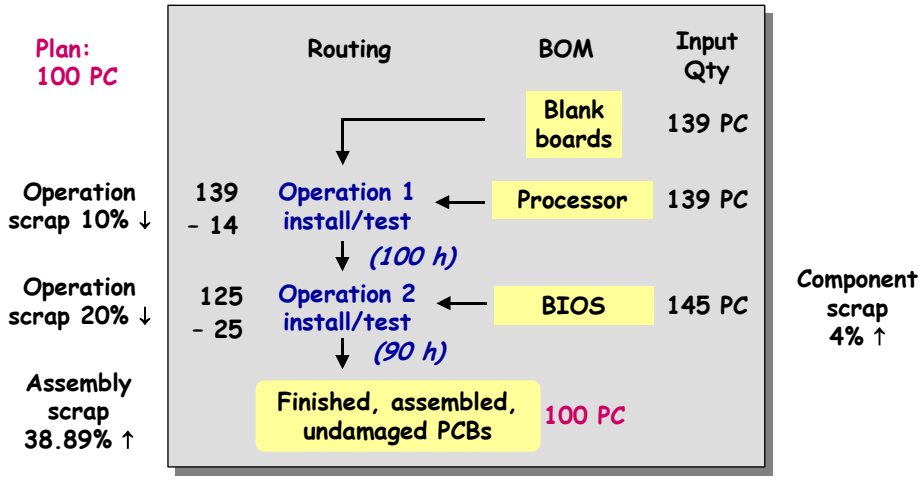


It is now established that an operation scrap of 10% always occurs in operation 1, and for operation 2 the amount is 20%. Since you want to take this into account when the system calculates the cost of goods manufactured, you enter the relevant amount for each operation in the routing. This ensures that the quantity of production activities corresponds to the actual component quantity processed (in this case, it is reduced).

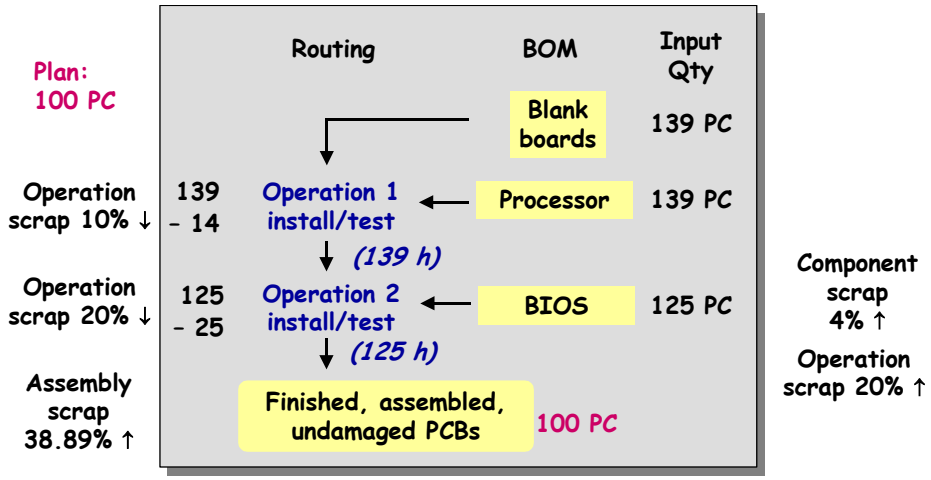


Example: Different Scrap Data

The target is now to manufacture 100 units, instead of 72. The operation scrap entered in the routing reduces the quantity used in subsequent operations. To obtain 100 circuit boards despite the operation scrap, the initial quantity must be increased. To do this, an assembly scrap of 38.89% must be entered for the circuit boards in the material master that increases the quantities of the components used so that 100 boards are produced. You can determine the assembly scrap by scheduling the routing and transferring the assembly scrap into the material master.

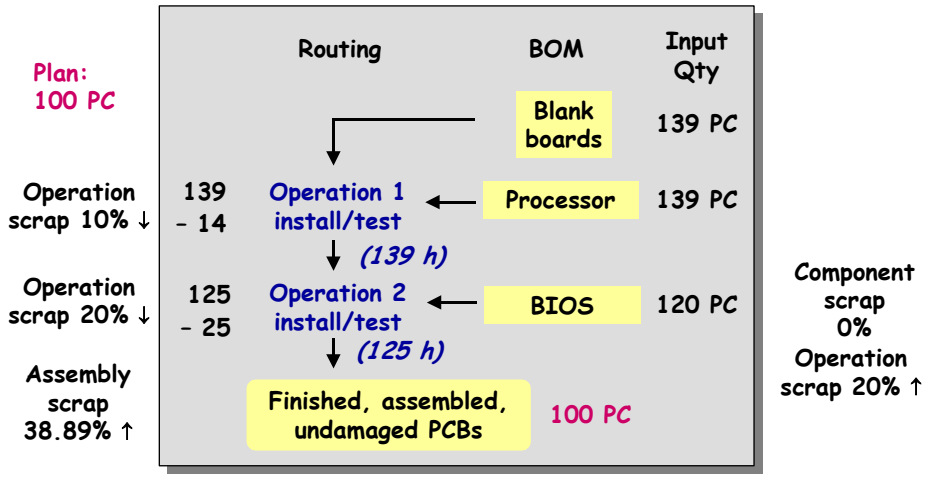


To ensure that the component quantities are adjusted, you also enter the operation scrap in the BOM. The scrap entered in the routing affects the quantity of production activities only, not the amount of components used. To ensure that the actual quantity of BIOS assemblies required is removed, you enter another operation scrap of 20% in the BOM:



Without component scrap for the BIOS assembly, only 120 units would be required for operation 2:

Example: Different Scrap Data



See also:

For more information about different types of scrap, see the following:

- Assembly Scrap [Seite 384]
- Component Scrap [Seite 387]
- Operation Scrap [Seite 390]

Costing Configured Materials

Use

For frequently sold variants of a product, you can create a material master record that specifies a configurable material. For these products, a standard cost estimate [Seite 63] can be created.

Between the various material components, dependencies (object dependencies) are defined. The standard cost estimate for configured materials is carried out using standard dependencies. On the basis of these dependencies, the system can determine precisely which BOM components and routing activities are required to produce the variant.

Prerequisites

A product with many variants is stored in the system as a **configurable material**. A BOM and routing are created in Production Planning for this purpose. The maximum BOM contains the material components required for the product, and the maximum routing contains all the operations required to produce the product. You define characteristics (such as *color*) and characteristic values (red, *green*, *blue*, and so forth). A specific variant of the material is configured by selecting the characteristics and their values. You can configure the material in a **sales order** and manufacture the material based on the sales order. Where a variant is frequently used or produced for stock, you can store the variant as a **material master record** and configure it there.

Object dependencies link the selected characteristic values to the material components required to manufacture the variant. Using this information, the system calculates the corresponding BOM components (from the maximum BOM) and operations (from the maximum routing) for the configurable material.

Features

You define whether the indicator *configurable material on the Basic Data 2 view of the material master record is* preset using material types in Customizing. You can also change these default settings. In the standard system, material type KMAT is used for configurable materials. If you work with valuated sales order stock you can not use the material type KMAT. For more information see valuated sales order stock [Extern]. You can also set further material types for configurable materials. When you want to cost such materials with product costing, you must first of all configure the material in the **sales order**, and then call the cost estimate from the sales order.

For further information about configurable materials, see Selected logistical processes and cost objects [Extern]

For frequently sold variants create a **material master record** and use a material type that can be costed. In the material master record, you link this variant to the configurable material and valuate the characteristics.

There is no routing or BOM for this variant; costing is carried out based on the configuration of the maximum routing and maximum BOM.

You can create and save a cost estimate for this material.

The costing header indicates whether costing was carried out for a configurable material (indicator *2*) or for a configured material (indicator *1*).

Costing Configured Materials

You can calculate the planned costs of a simulated variant in a **simulated configuration**. Choose *Logistics* → *Central functions* → *Variant configuration* → *Environment* → *Configuration simulation*. In the screen for characteristic valuation, choose *Environment* → *Costing*.

When you have valuated the characteristics, the system determines which BOM components are required from the maximum BOM and which operations are required from the maximum routing for the variant.

If you have not valuated any characteristics, the system costs on the basis of the materials and operations that exist in every variant.

You cannot save the cost estimate for this material.

See also:

LO Variant configuration

CO Cost Object Controlling

Costing Versions

Use

You can create material cost estimates (with and without quantity structure) and costing runs based on costing versions. Together with the costing variant and the costing date, the costing version is saved to the database as the key which identifies the cost estimate as an individual entity.

Features

The costing variant enables you to define how costing is controlled. In view of the fact that the costing variant contains all the parameters for costing, it is very time-consuming to create new costing variants if you only want to include minor costing changes. You can use costing versions for such changes. You can make the following changes to the control of costing without having to define new costing variants:

- **Variants for the Determination of Transfer Prices for** Group Costing [Seite 621]

  You can define time-dependent transfer prices [Extern].

- **Exchange Rate Type for Currency Translation**

  If you work without costing versions, the exchange rate type is determined through the valuation variant (CO version in the valuation strategy for internal activities). Costing versions enable you to specify that another exchange rate type has priority.

You also use costing versions to carry out mixed costing [Seite 426]:

For such costing, you create various procurement alternatives and their mixing ratios.

The mixing ratios are based on a quantity structure type. If you want to create a mixed cost estimate for a material, you have to assign a costing version to the quantity structure type and execute the cost estimate based on this costing version.

However, you can also use costing versions without these Customizing settings. Here, you use the costing version to save several cost estimates for the same material, with the same costing variant and the same costing date.

Cost estimates with the same key (costing variant, validity of cost estimate and costing version) cannot be saved to the database. Since the costing version is also part of the key, you can still save multiple cost estimates with the same costing variant to the database for analysis purposes.

You create two cost estimates without quantity structure for one material. The only difference between these cost estimates is the costing version and in one costing item of type E (internal activity). You can compare both unit cost estimates in the Information System.

Activities

If you want to use the above Customizing settings or mixed costing, define the appropriate costing versions in *Customizing* for *Product Cost Planning*.

When you cost run schedule headers, you must incorporate the costing types for repetitive manufacturing under version zero - do not enter any other fields. This ensures that the various versions are consistent in repetitive manufacturing.

When you create the cost estimate, use this costing version.

See also:

- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating the Cost Estimate Without Quantity Structure [Seite 480]
- Creating the Costing Run [Seite 328]
- Mixed Costing [Seite 426] and Editing Procurement Alternatives [Seite 428]
- Creating/Changing Mixing Ratios [Seite 431]
- *Implementation Guide (IMG) for Product Cost Planning*

Costing in the Process Industries

Usage

The following functions are available in Product Cost Planning for companies in the process industries:

- Joint production [Seite 400]
- Processing Campaigns [Seite 410]
- Costing Recursive Structures [Seite 417]

The types of companies to whom these functions are suited include those in the chemical and pharmaceutical industries, as well as discontinuous plants in the food and allied industries, and the process-oriented electronics industry, where

- Products, co-products, by-products, and residual materials are produced in various production steps
- Materials are processed that are included in their own BOMs

Joint Production Costing

Use

Joint production is a production process that yields two or more products simultaneously. A production process can yield co-products [Extern] and by-products [Extern] (residual materials).

The costs for such products can be calculated by means of a non-order-related material cost estimate. The co-products are valuated differently, depending on whether they are co-products or by-products.

Prerequisites

The prerequisites for joint production are fulfilled in the master data (material master and BOM):

- For co-products, the *Co-product* indicator is set in the material master [Seite 689].
- In the BOM [Seite 157] for the leading co-product, the by-products are represented by items with negative values. The *Co-product* indicator is also set for co-products in the BOM for the leading co-product.

Features

Co-products are costed using **production versions**.

These are processed and stored in the costing view of the material master.

For more information, see Quantity Structure Control in Joint Production [Seite 404].

How the costs are calculated depends on whether the product is a co-product or a by-product. The costs for co-products are calculated using the apportionment method, and those for by-products are calculated using the net realizable-value method. However, it should be noted that co-products designated as fixed-price co-products are costed in accordance with the net realizable-value method.

The costs for **fixed-price co-products** and **by-products** are subtracted from the total costs. If a price is used from the material master, this value can be contained in a single cost component. If a fixed-price co-product or by-product has its own cost estimate, the cost component split of the cost estimate is taken into account when the costs are deducted from the total costs. In the process, the costs in a cost component are deducted from the total costs in the cost component to which it belongs.

After the costs for by-products and fixed-price co-products have been taken into account, the total costs of the production process are apportioned for all cost components to the **co-products**. Equivalence numbers are used for the apportionment process. To apportion the costs, an apportionment structure is available. Each production version can have its own apportionment structure. You maintain the apportionment structure in the costing view in the material master.

A cost component split [Seite 824] is created for the costed co-product of a manufacturing process. The cost component split is created when the apportionment structure is applied to the total costs of the process.

The system also creates an itemization [Seite 828] and a costed multilevel BOM [Seite 823]. When the costing result of a co-product is displayed, the other co-products are represented as individual lines with item category A. In such items of category A, the output quantity of the co-product has a negative quantity and negative value. The negative value is equal to the cost

portion of the co-product that was calculated through the apportionment structure. By-products are displayed as items of category M, also with negative quantities and values.

For more information, see the following sections in the *Product Cost Controlling Information System* of the SAP Library:

- CO-PC Information System [Extern]
- Features of Joint Production [Extern]
- Reports in Product Cost Planning [Seite 790]

To cost a co-product using the recipe of a process material, you must create a costing view for the process material. For **process materials** (material type PROC), information is stored in the costing view of the material master for use when costing the co-products:

- For the application of overhead to co-products, the overhead group from the material master of the process material is used. (The overhead groups in the material master of the co-product are not included in this case.)
- The costing lot size of the process material is used when costing the co-products.

To calculate WIP and variances, all the co-products must be costed (not just the leading co-product), and the cost estimate saved. For more information, see Special Features in Joint Production in Cost Object Controlling [Extern].

Costing Co-Products

Use

You can calculate the cost of goods manufactured for co-products by using an apportionment structure to allocate the total costs of the manufacturing process to the individual products involved.

Prerequisites

The apportionment structure is defined in the costing view of the material master for the leading co-product. You enter equivalence numbers in this structure for the co-products in the production process.

Features

In the **apportionment structure**, you can use equivalence numbers to control how the costs of the entire manufacturing process are apportioned for the co-products.

You assign an equivalence number to each co-product in the apportionment structure. This number is used to apportion the total costs to the co-product in the cost estimate. You also specify the period for which the equivalence number is valid in the apportionment structure.

The costs can be split according to cost element groups. For this, you must define a **source structure** in Customizing for *Product Cost Planning*. You can assign a cost element interval to each source line of this structure. Each cost element that was determined during the costing of the manufacturing process must be assigned to a source line.

In the apportionment structure, you can specify which equivalence numbers are to apply, per source structure line and per co-product, for the apportionment of the costs.

The total costs of the process are split, cost component by cost component, to the co-products.

If no apportionment structure has been defined for a leading co-product or process material, an error message is issued.

Including the Costs for By-Products

Use

Residual materials (by-products) can occur in a production process as a direct result of the manufacture of co-products. The net realizable-value method is used to calculate the costs for the by-products, whereby the cost of goods manufactured for the primary product is produced by deducting the values for the by-products from the total costs of the production process. The costs of the by-product thus represent a reduction in the costs of the primary product or process.

Prerequisites

The *Co-product* indicator is **not** set on the BOM item under which the by-product is entered; instead, a negative quantity is entered.

Features

In the material list or BOM for the primary product or process, you enter the by-product with a negative quantity. If the by-product is indicated as “relevant to costing”, the total costs for the process are reduced by the amount of the costs of the by-product.

You can calculate the cost of goods manufactured for a by-product in two ways:

- A price from the material master is used. The cost of goods manufactured for the by-products are arrived at by multiplying the output quantity by the price, and they appear in the itemization of the cost estimate with a negative value.

  If you do not want to include the costs of the by-product, you must turn off the “relevant to costing” indicator in the material list item.

- The by-product can be manufactured using an alternative production structure, and there is already a corresponding cost estimate for the by-product. In this case, this cost component split of the by-product is subtracted, cost component by cost component. The cost of goods manufactured for the by-products is arrived at by multiplying the output quantity by the costing results of the by-product from the alternative cost estimate.

Quantity Structure Control in Joint Production

Use

The quantity structure to be costed is determined by data from the material master.

Features

To determine the quantity structure for costing co-products, enter one of the following parameters in the material master:

- A production version with BOM and routing entries
- A production version that refers to a leading co-product or a process material

This link enables you to cost a co-product from the quantity structure of another leading co-product. This ensures that when you cost this co-product, costing is carried out using the BOM and routing of the leading co-product.

The costing lot size is dependent on the costing lot size of the leading co-product and the component quantity in the BOM.

If no entries were made in the material master of the co-product, the system attempts to determine the quantity structure through the quantity structure determination of the costing variant. It first attempts to determine the quantity structure via valid production versions.

See also:

For further information, see Determination of Quantity Structure [Seite 179] and Quantity Structure Determination Using the Material Master Record [Seite 187].

Fixed-Price Co-Products

Use

Joint production is a production process that yields two or more products simultaneously. Calculating the prices for the co-products of the production process is usually carried out using a cost apportionment structure, which is stored in the material master.

However, you can indicate in the material master that the co-product is a fixed-price co-product. Once you have done this, the material is entered in the cost estimate with the price that you specified, and price calculation does not involve a cost apportionment structure.

Prerequisites

You flag the material in the costing view of the material master as a co-product and also as a fixed-price co-product.

Features

If you flag a product as a fixed-price co-product, the quantity produced is multiplied by a price from the material master or material cost estimate. The result is subtracted from the total joint production process costs by means of the net realizable-value method (as with by-products [Seite 403]). The remaining costs are allocated to the co-products [Seite 402] via an apportionment structure.

You can do the following with the price for a fixed-price co-product:

- Enter it manually in the material master
- Calculate it using a material cost estimate

  You can calculate the price using a cost estimate with or without quantity structure. However, in the case of a cost estimate without quantity structure, the co-product must have its own production process.

  For materials with S price control, the fixed price equals the standard price.

  For materials with V price control, the fixed price equals the price entered in the goods received valuation for the order delivery.

In the itemization [Seite 828], fixed-price co-products are shown as items of type M, albeit with negative quantities and negative values, as is the case with by-products.

Note that in **Cost Object Controlling**, the order item is credited following the goods receipt of the fixed-price co-product in accordance with the cost element, which is determined via the material account assignment.

The debiting of the order item is based on the co-product distribution. All the costs posted to the order header under the cost element with which the order header was debited are distributed to the order items.

In joint production, the actual costs of the production process are collected on the order header of the production order. At period-end closing, you can distribute the

actual costs from the order header to the order items. One co-product is entered for each co-product. The actual costs are distributed from the order header to the order items in accordance with defined equivalence numbers.

In joint production, the functions WIP calculation, variance calculation, and settlement are carried out at the order item level. By using the Distribution Co-Products function, you ensure that all the actual costs relevant at the time of WIP calculation, variance calculation, and settlement are included.

See also:

Information System: Features of Co-Products [Extern]

Costing Co-Products [Seite 400]

Features of Joint Production [Extern]

Apportionment Structure

Definition

Determines how the total cost for a material is apportioned to the individual co-products [Extern]

- For a primary product [Extern] or process material, the apportionment structure lists the co-products to which costs are to be distributed
- Assigns equivalence numbers to those co-products

Use

The apportionment structure can be used to cost co-products [Seite 400] in *Product Cost Planning* and to distribute actual costs (Preliminary Settlement for Co-Products [Extern]) in *Cost Object Controlling*.

The cost of the primary product or process material is distributed to the co-products on the basis of equivalence numbers. You can also specify the source assignments of a source structure [Seite 409] in the apportionment structure.

Structure

An apportionment structure consists of the following:

- A key identifying the apportionment structure
- A text describing the apportionment structure
- A list of co-products to which the total costs are distributed

Integration

You can maintain the apportionment structure in the following places:

- In the material master record in the *MRP* view or *Costing* view

  If you are using the component *Production Planning for the Process Industries* (PP-PI), the information in the material master record in the apportionment structure is transferred into the material list and from there into the manufacturing order.

- Directly in the header of the manufacturing order

  If you specify the apportionment structure directly in the manufacturing order, you cannot use a source structure.

  When you create a manufacturing order [Extern] in *Cost Object Controlling*, the system generates a settlement rule on the basis of the apportionment structure. You can see this settlement rule in the manufacturing order. The equivalences specified in the apportionment structure are transferred into the settlement rule.

You can also specify an apportionment structure in the production version.

See also:

Maintaining the Apportionment Structure in the Material Master Record [Seite 408]

Maintaining the Apportionment Structure in the Material Master Record

Procedure

1. Go into the *MRP view* or the *Costing view* of the material master record.

   The screen *Display Material: MRP* or *Display Material: Costing* appears.

2. Choose *Joint production*.

   The dialog box *Cost Apportionment to Co-products: Apportionment Structures* appears.

3. To display the equivalence numbers, choose *Equivalence numbers*.

   The dialog box *Cost Apportionment to Co-products: Equivalence Numbers* appears.

Result

The apportionment structure shows you which equivalence number is assigned to which co-product.

If you have defined a source structure, the apportionment structure shows the equivalence number for each co-product and source assignment.

See also:

Apportionment Structure [Seite 407]

Source Structures [Seite 409]

Source Structure

Use

A source structure can be used to group total costs by *source assignment*. If you do not use a source structure, the costs must be apportioned equally to all cost elements. Source structures therefore enable you to define distribution rules that only refer to specific cost elements.

Prerequisites

You define a source structure in Customizing for *Product Cost Planning* under *Cost Estimate with Quantity Structure* → *Costing in Joint Production* → Define Source Structure [Extern]. You assign a source assignment to each cost element group for which you want to apportion the cost separately.

You specify the source assignment in the material master record of the primary product or process material in the *MRP view* in the apportionment structure [Seite 407].

When you create a source structure, make sure that each debit cost element is assigned to a source assignment. If you are using a cost object hierarchy, the cost elements distributed to the manufacturing orders assigned to the lowest node in the cost object hierarchy must also be included.

Features

Example for the Cost Apportionment in Joint Production Without a Source Structure

Cost Element Groups	Equivalence Number, Primary Product	Equivalence Number, Co-Product
Material costs	2	1
Production costs	2	1
Overhead	2	1

If you define a source structure, you can specify how the costs for each cost element group are apportioned. This allows you to account for the fact that the material usage for the first co-product, for example, is significantly higher than that for the second co-product even though the production costs for both products are the same.

Example for Cost Apportionment in Joint Production with a Source Structure

Source Assignment	Equivalence Number, Primary Product	Equivalence Number, Co-Product
Material costs	2	1
Production costs	3	1
Overhead	1	1

Planning and Analysis of Campaign Costs

Use

Campaigns enable you to group together material and production costs.

A typical production campaign consists of the following:

- Manufacturing orders (process orders or production orders) with a material reference
- Manufacturing orders without a material reference:

  Setup orders, clean-out orders and teardown orders (setup/clean-out orders), the activities of which are included in every process order or production order in the campaign.

You can find additional information about campaign management in the SAP Library under Production Campaigns [Extern].

You can distribute the setup/clean-out costs (costs for setup, clean-out, and teardown) to the manufacturing orders by means of the following:

- Business processes
- Overhead calculation
- Internal orders

This section describes how production campaigns are managed with business processes. The advantages of this method are as follows:

- The costs can be passed on by period to the manufacturing orders for which the costs were incurred.
- By using the template in Activity-Based Costing, keys can be created which assign the setup/clean-out costs to the cost objects according to how they were incurred.
- There are no problems with follow-up costs.

Integration

Production campaigns can be managed based on business processes [Extern]. The setup/clean-out orders provide activities for the manufacturing orders. The costs for these activities are assigned to the process orders of the campaign according to how they were incurred.

- Those costs which cannot be assigned (from clean-out, setup, teardown, and so on) are settled to one or more business processes.
- The costs of all the business process in the campaign are credited periodically and allocated to the process orders in accordance with the quantities used.

Prerequisites

If the campaign is managed using business processes, you must do the following in Customizing:

- Maintain environments and function hierarchies
- Maintain the templates

In the template, you enter a formula to enable you to determine the process quantities used.

- Assign templates

  To carry out the above steps, go into Customizing for *Product Cost by Order* under *Basic Settings for Product Cost by Order*,. then choose *Process Costs*. Read the documentation in the Implementation Guide (IMG) that you find there.

- Plan the business processes

  By planning the business processes, you calculate the planned activity prices with which the business processes are credited and which are allocated at period-end closing to the process orders that commenced in the current period. This enables you to allocate the fixed campaign costs, such as setup, clean-out, and teardown costs, to the source of the costs (plant materials in the campaign) via the business processes.

You can find additional information about business processes and templates in the SAP Library under Activity-based Costing [Extern].

Create a business process group for the business processes that you use in the production campaign. Enter the business process group in the campaign. By doing this, process costs involved in the campaign production are differentiated from other process costs. This avoids a duplication of the campaign process costs in the campaign reports. (See Reports for the Controlling of Production Campaigns [Extern]). If you do not enter a business process group in the campaign, the process costs will appear in the reports for orders both with and without material reference.

In Customizing for *Product Cost by Order* under *Manufacturing Orders* → *Check Order Types for PP and CO Manufacturing Orders*, enter a settlement profile allowing settlement to business processes in the order type of the non-material-based orders. You define the settlement profile in Customizing for *Product Cost by Order* under *Period-End Closing* → *Create Settlement Profile*.

For more information, see Production Campaign Management [Extern].

For standard cost estimates for materials produced in campaigns, define a template. You can also represent setup/cleanout costs in the standard cost estimate by, for example, overhead calculation.

Features

General Information

You can represent single-product campaigns in the R/3 System. Single-product campaigns involve the production of a plant material in a product line. By contrast, multiproduct campaigns involve the production of multiple plant materials in an optimal sequence in a production plant. At present, multiproduct campaigns cannot be managed in the R/3 System. However, you can create a single-product campaign for a leading co-product (primary product) or for a process material (see Features of Joint Production [Extern]).

Features in Cost Accounting

For production campaigns whose setup/clean-out costs are allocated with business processes, you can do the following:

- In *Product Cost by Order*

- Calculate the costs for the manufacturing orders (see Preliminary Costing for Manufacturing Orders [Extern])
- Enter the actual costs for the manufacturing orders (see Actual Postings in Cost Object Controlling [Extern])
- Carry out the period-end closing transactions of *Product Cost by Order* (such as calculating work in process and variances) for the manufacturing orders (process orders or production orders) and setup and clean-out orders. (See Period-End Closing in Product Cost by Order [Extern])

  In order to include setup/clean-out costs allocated by dynamic process allocation to the manufacturing orders in the calculation of work in process, you should calculate the work in process at actual costs. (See: Work in Process in Product Cost by Order [Extern] and Example: Value Flow – Work in Process for Actual Costs [Extern]).

  To calculate work in process at target costs, the confirmed yield at the operation level is multiplied by the target costs. In this case, the process costs debited to the manufacturing order are not included in the work in process.

  You should include the setup/clean-out orders in WIP calculation, because debiting them with costs has caused postings to expense accounts in *Financial Accounting* (FI), for which there is no corresponding posting affecting income.

  If a business process is debited with costs that are so high that you cannot ignore the WIP posting in FI, make a manual posting in FI for the amount of the business process balance.
- Display the planned, target, and actual costs for the manufacturing orders

- In the *Information System for Product Cost Controlling*
  - Compare target costs to actual costs, and planned costs to actual costs, of the orders in a campaign
  - Summarize the orders of a campaign, in order to control and assess the costs with regard to the economic efficiency of the production campaign
- Calculate variances for the business processes in *Activity-Based Costing*

  This enables you to calculate process variances, and thus create more accurate planned activity prices for the business processes.

A business process can include the activities of more than one campaign, and the resources of more than one cost center.

Periodic Allocation of Setup/Clean-out Costs

If you create a production campaign using business processes, you can pass on setup, clean-out, and teardown costs by period to the production orders.

- The costs of the setup/clean-out orders are debited by period to the business processes. This is carried out during *settlement* of the setup/clean-out orders to the business processes.
- The business processes in the campaign are credited with the planned activity prices that were calculated when the business processes were planned. The credits, which are based on the process quantities used, are applied at period-end closing of *Product Cost*

by Order through the *Dynamic process allocation* function. The manufacturing orders are debited with the costs for setup, clean-out, teardown, and so on, through *Dynamic process allocation*. By periodically debiting manufacturing orders with process costs, the problem of follow-up costs is removed.

If you create production campaigns via internal orders, as opposed to business processes, you may want to debit the manufacturing orders in a period with the follow-up costs relating to setup, clean-out, and so on, for which

- The deletion indicator for the manufacturing order has already been set.

  If the deletion indicator has been set for a manufacturing order, you cannot calculate any more costs for the order.

- The FI period has already been closed.

  In such cases, you cannot pass on any more costs to FI for this period.

- The manufacturing order has not used the corresponding activities.

These costs are not settled to FI in the period that produced the costs (such as settlement to stock, or price differences) or to CO-PA.

- A balance is produced on the business process from the difference between the debit and credit.

  The business process is debited with the actual costs from the setup/clean-out order and the actual costs settled to the business process in the period.

  The business process is credited with the costs allocated to the manufacturing orders through the *dynamic process allocation*. The process quantities used are multiplied by the planned activity prices of the processes.

  You can settle the balance of a business process resulting from the difference between the debit and credit to *Profitability Analysis* (CO-PA).

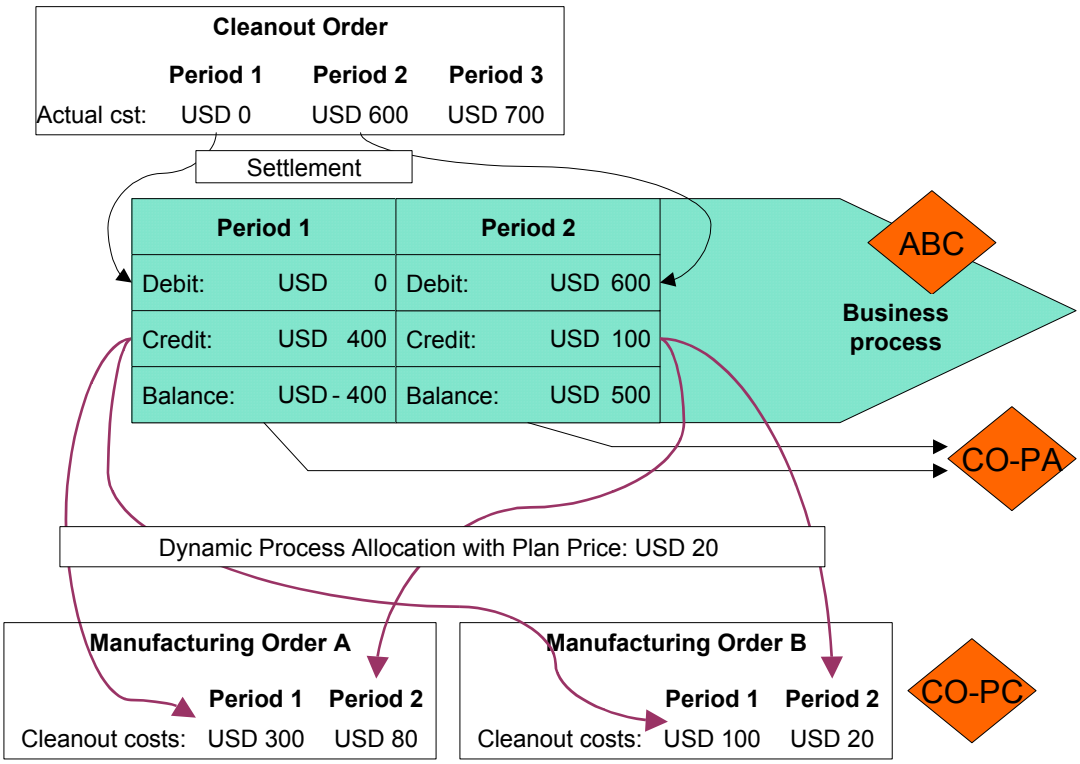
Reports for Production Campaigns

You can access the reports for production campaigns by choosing the following:

- *Logistics* → *Production process* → *Production campaign* → *Environment*
- *Information systems* → *Accounting* → *Product Cost Controlling* → *Product Cost by Order* → *More reports* → *Production Campaigns*

You can access the reports on the business processes involved from the report selection in Activity-Based Costing [Extern]. Here, you can compare the planned, target, and actual costs of the business process from both the debit and credit sides.

Example



You create a campaign. In this campaign you create:

- a setup/clean-out order for cleanout
- manufacturing orders for the production of material FERT 1.

You create a business process and a template. In the template, you enter a formula to enable you to determine the process quantities used in relation to the amount delivered. In *Activity-Based Costing*, you calculate the activity price for the business process. The plan price is USD 20.

Actual costs for the cleanout appear for the first time in period 2 amounting to USD 600.

You would like to allocate the cleanout costs (dependent on the quantity of materials produced in-house in period 1) to the relevant orders according to both how the costs were incurred and when.

Period 1

You have two manufacturing orders for the material to be produced in the campaign. In the first period, manufacturing order A produced 15 pieces of material FERT 1. Also in the first period, manufacturing order B produced 5 pieces of material FERT 1

Dynamic process allocation debits manufacturing orders A and B in period 1 as follows:

Manufacturing order A: 15 pieces output quantity multiplied by Planned price USD 20 = USD 300.

Manufacturing order B: 5 pieces output quantity multiplied by Planned price USD 20 = USD 100.

The business process is credited with USD 400.

The business process is debited during settlement. However, since there were no actual costs for the cleanout order in period 1, the business process is not debited in period 1.

The balance for the business process is USD -400. You transfer this balance to a profitability segment in CO-PA using the reposting function in the *process costs allocation* menu.

The process costs allocated to the manufacturing orders are passed on to Financial Accounting at settlement. However, there is as yet no expense involved. You can create a manual posting in FI, in order to carry reserves for unrealized costs as liabilities for the amount of USD 400.

Period 2

Actual costs of USD 600 are incurred on the cleanout order in period 2.

In the second period, manufacturing order A produced 4 pieces of material FERT 1. Also in the second period, manufacturing order B produced 1 piece of material FERT 1

Dynamic process allocation debits manufacturing orders A and B in period 2 as follows:

Manufacturing order A: 4 pieces output quantity multiplied by Planned price USD 20 = USD 80.

Manufacturing order B: 1 piece output quantity multiplied by Planned price USD 20 = USD 20.

The business process is credited with USD 100.

The business process is debited during settlement. Actual costs of USD 600 are incurred on the cleanout order. The costs are settled to the business process.

The balance for the business process is USD 500. You transfer this balance to a profitability segment in CO-PA using the reposting function in the *process costs allocation* menu.

The process costs allocated to the manufacturing orders are passed on to Financial Accounting at settlement. In this period, your expense is higher. You write off the reserves for unrealized costs that were carried as liabilities in FI in the previous period by a manual posting in FI.

You can create a manual posting in FI for work in process at USD 500.

Through the manual activation of work in process or carrying of reserves for unrealized costs as liabilities, you can carry out accruals/deferrals by period of operations affecting revenue and expense in Financial Accounting.

See also:

For detailed information about production campaigns, see ***Production Planning for Process Industries (PP-PI)*** in the SAP Library under the following sections:

- Production Campaign [Extern]
- Production Campaign Management [Extern]
- Creating Production Campaigns [Extern]
- Converting Production Campaigns [Extern]

For general information about *Cost Object Controlling* for manufacturing orders, see Product Cost Order [Extern].

Costing of Recursive Structures

Use

You can create a cost estimate or execute a costing run for materials and assemblies with recursive structures. Cycles in recursive BOMs are recognized by the system and costed iteratively. Cycles normally occur in the process industries in joint production and processes using production versions.

Features

The materials to be costed are determined automatically by selection and, if applicable, by BOM explosion in the costing run, or by BOM explosion in the material cost estimate with quantity structure. (See also Cost Estimate with Quantity Structure: Process Flow [Seite 120] and Costing Run: Concept [Seite 325].)

The system then searches automatically for cycles and assigns them to costing levels. When it does this, the system does not interpret the recursiveness in the BOM, but evaluates the previously-created cost estimates.

Materials in a cycle or between two cycles are costed iteratively. Iteration ends after the convergence criterion “Total amount of all price changes is zero” has been reached. In other words, the price of the in-going material is the same as the price of the costed material.

Prerequisites for a successful cost estimate are as follows:

- The solution is positive
- The usage is less than the yield
- The yield is significantly higher than the usage

When no solution exists and the cost estimate does not converge, the system recognizes this and issues an error message.

The number of iterations required increases with proportion of the quantity used and produced of a material within a cycle. For the cost estimate to be successful, this ratio should be less than approximately 0.95.

To produce 100 kg of A, 80 kg of A is used.

The system costs material A.

To produce 100 kg of A, 99 kg of A is used.

The system cannot cost material A and issues an error message.

If overhead is applied to a cyclic material in a cycle, the quantity proportion that is yet to be costed is reduced by the amount of the overhead.

To produce 100 kg of A, 90 kg of A is used. An overhead of 10% is applied to the material costs of A.

The system cannot cost material A and issues an error message.

Costing of Recursive Structures

If a cyclic material is produced as a co-product, the above condition applies as follows: The ratio of the used and produced quantity multiplied by the portion of costs assigned to the material in accordance with the apportionment structure must be lower than approx. 0.95.

To produce 50 kg of A and 200 kg of B, 100 kg of A is used.

– The costs are split between A and B according to the apportionment structure using a 1:1 ratio.

  The system cannot proceed with costing and issues an error message.

– The costs are split using a 1:2 ratio.

  The system can proceed with costing.

Activities

You create a cost estimate with quantity structure or execute a costing run for the materials and assemblies that you want to cost. You do not require special settings in Customizing.

For more information, see Creating the Cost Estimate with quantity Structure [Seite 123] and Creating the Costing Run [Seite 328].

See also:

- Bills of Material in Costing [Seite 157]
- Recursive BOMs [Seite 161]
- Costed Multilevel BOMs [Seite 823]

Group Costing and Multiple Valuation Approaches

Use

Group costing provides a detailed display of complex procurement, production and sales relationships. Cost structures and value-added segments of each partner (such as plants and profit centers) are passed on to the next partner, retaining the costs of the previous level.

You can use group costing for the following:

- Planning and simulation invoicing
- To interpret Profitability Analysis
- Price update and the stock valuation of group values

Prerequisites

All the company codes are assigned to the same controlling area.

If you want to mark and release the results of group costing, or carry parallel values in actual data, you must define a currency and valuation profile in Customizing for *General Controlling*, and activate multiple valuation. If you only want to carry out planning simulation, you do not need these settings.

Integration

- Multiple Value Flows in Financials [Extern]
- Multiple Value Flows in Controlling [Extern]
- Representing Multiple Valuation Approaches in Individual Applications [Extern]

Features

Costing Using Multiple Valuation Approaches

In material costing, you can calculate prices using any of the legal, group, or profit center views. Material movements can be costed using three valuation approaches, as follows:

- **Legal Valuation**

  Deliveries between companies that carry out their own accounting are valuated using the **legal view** in accordance with the statutory accounting requirements for individual account closing.

- **Profit Center Valuation**

  Internal income calculations with independent valuation bases (that is, transfer prices) can be valuated in the **profit center view**. A fixed transfer price [Extern] can be agreed for stock transfers between profit centers, and this can be included in the cost estimate.

  To include transfer prices in the profit center cost estimate, define transfer prices based on a transfer price variant in Customizing for Profit Center Accounting. This transfer price variant is determined through the CO version. You can also define a different transfer price variant through the costing version in Customizing for Product Cost Planning. The entry in the costing version has priority over the CO version.

For more information, see Assigning Valuation Approaches to CO Versions [Extern] and Determining Transfer Prices [Extern].

- **Group Valuation**

  Goods movements between affiliated companies not involving intercompany profits are processed using the **group view**. This view determines the actual cost of goods manufactured for the group, and does not include any intercompany profits. You can, however, display internal profits as delta profits in the legal and/or profit center views.

  When you define cost components, you can specify that internal profits between company codes and/or profit centers are shown in detail in the cost component split. You activate these delta profits for the group valuation in the attributes of the cost components.

  For each cost component structure, there can only be one cost component under which the delta profit is shown. This means that neither the legal view nor the profit center view can have more than one cost component for the delta profit.

To **cost** multiple values, you define a costing type for each valuation approach in Customizing for Product Cost Planning. You use the costing type to specify which valuation approach you require. You define each costing type in a new costing variant and carry out a cost estimate with this costing variant.

If you want to cost several different values, you can use the reference costing [Seite 629] functions. You create a cost estimate for each valuation approach. In order to ensure that the various cost estimates are based on the same quantity structure, you can carry out costing based on a valuation approach and use this it as a reference for the other valuation views.

First you cost a valuation view, such as the operational valuation, then the other valuations. You make the setting for the operative valuation view in Customizing for *General Controlling* under *Organization* → *Maintain Versions* in the operative version (000). In order to cost the other valuation views, and in the process reference the valuation view costed, you define a reference variant in Customizing, and enter it in the costing variant.

If you are applying percentage overhead, you must use reference costing for the various valuation views, in order to obtain data which is both consistent and useful for analysis purposes.

In-Depth Detail of the Value-Added Chain: Partner Cost Component Split

You can display **in detail** the costs of materials and services of every company department in the **value-added chain** for every stage of the production process. The partner can be traced for every material used. To do this, you define a partner version, which enables the value-added portions of each manufacturing level to be displayed in detail. For further information about this, see Partners and Direct Partners [Seite 628].

The group cost component split can be displayed according to your partner definition. You can display the cost structures of the partners hierarchically according to your requirements, such as the company code segments on the highest level and the plant or profit center segments underneath.

To display partner cost component splits, define a partner version in Customizing and enter it in the costing type.

Additive Costs

In addition to the automatic cost estimate with quantity structure, you can enter additive data in the form of a unit cost estimate. (See Additive Costs [Seite 246] and Unit Costing [Seite 683]).

ALE

Group costing can use the ALE functions. Partner cost component splits can be transferred from one system to another. For more information, see ALE/Distribution in Product Cost Planning [Seite 79] and Group Costing in Distributed Systems [Seite 86].

See also:

For further information about the concept of transfer prices, see Transfer Prices [Extern] and Update of Multiple Values by Material Costing [Extern] in the SAP Library under *Profit Center Accounting (EC-PCA).*

For further information about multiple valuation approaches, see Multiple Currencies and Valuations for Materials [Extern] in the SAP Library under *Actual Costing/Material Ledger (CO-PC-ACT).*

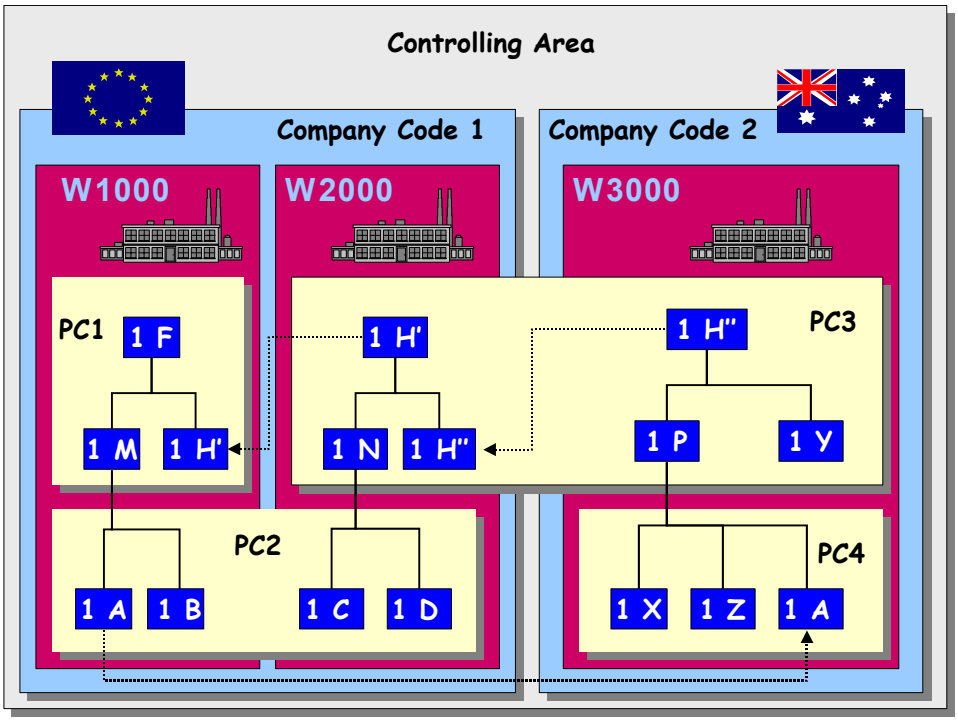
For more information about including transfer prices in Cost Object Controlling, see Transfer Prices in Cost Object Controlling [Extern] in the SAP Library under *Cost Object Controlling (CO-PC-OBJ)*.

For more information about the relevant settings in Customizing, see the following:

- *Implementation Guide (IMG) for Enterprise Controlling → Profit Center Accounting → Transfer Prices*
- *Implementation Guide (IMG) for General Controlling → Multiple Valuation Approaches/Transfer Prices*
- *Implementation Guide (IMG) for Product Cost Controlling → Product Cost Planning*

Group Costing: Scenario

Company and Product Structure:

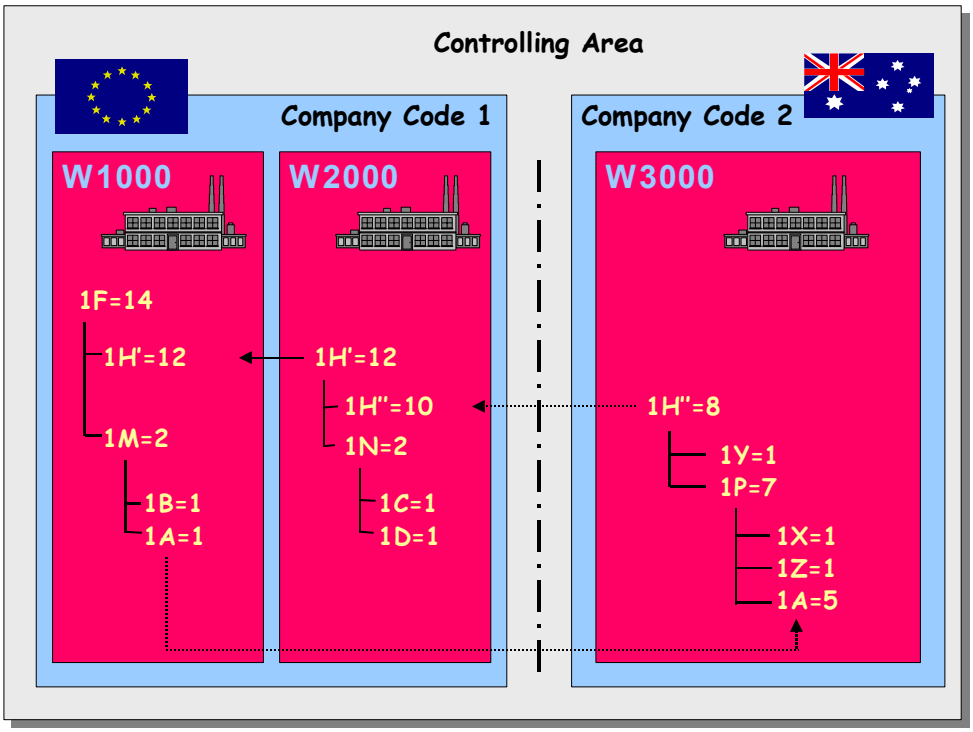


Two company codes are assigned to one controlling area. Company code 1 contains plants W1000 and W2000, and company code 2 contains plant W3000.

Product F is manufactured and costed in plant W1000. To manufacture F, materials from other plants are required. One of these plants, W3000, is in a different company code.

In addition, Profit Center Accounting is used; instead of all the materials being assigned to a single plant, they are each assigned to one of profit centers PC1, PC2, PC3 and PC4.

Costing F from Legal View



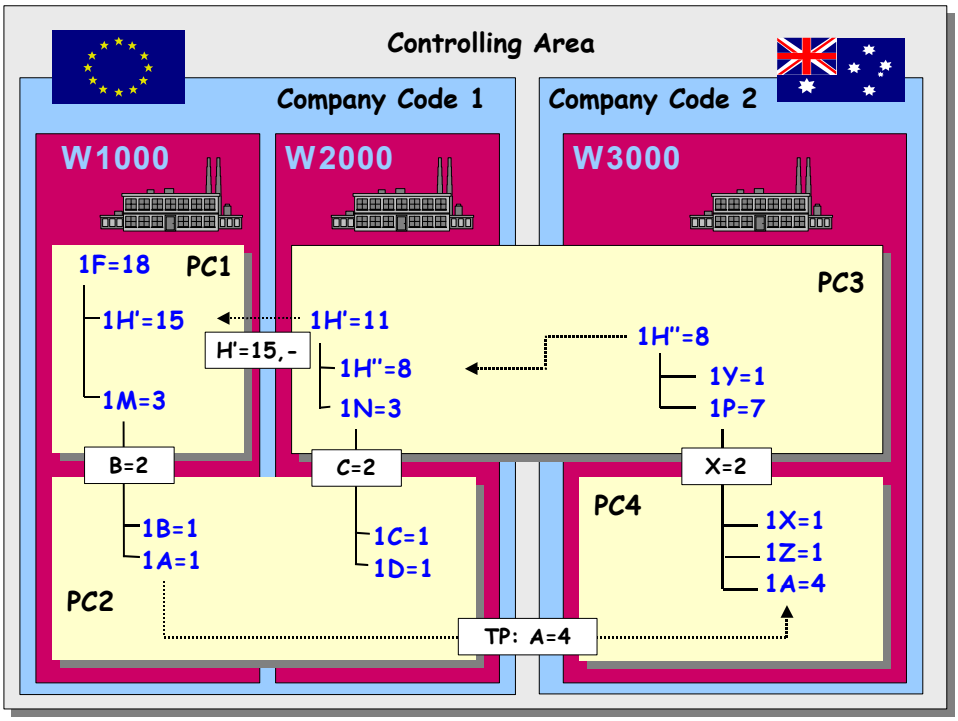
For 1 F, the cost of goods manufactured is 14 per piece in plant W1000. The BOM is only exploded to the company code level; that is, to H''. Although H'' originates in W3000 and is manufactured there from Y and P, costing considers H'' as a material component without its own BOM and valuates it with a price in accordance with the valuation strategy (10).

H'' is manufactured in W3000 from Y and P in a different company code. P, however, is manufactured from X, Z and A. A is delivered from W1000 for 5, although it only costs 1 in W1000. A goes into the costs for P at a price of 5.

Although it costs 8 to manufacture H'' from the legal view in W3000, it is delivered to W2000 for 10. F is now costed from the legal view with a price of 10. The cost of goods manufactured for F of 14 thus contains intercompany profits between company codes of 6: 4 for A and 2 for H''.

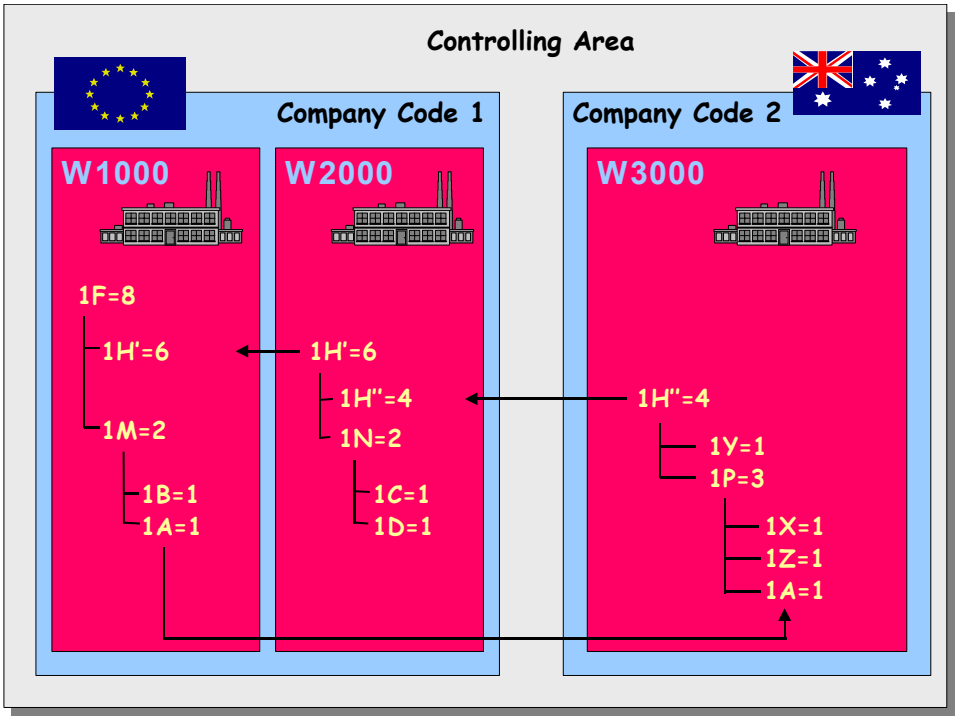
Costing from Profit Center View

Group Costing: Scenario



Transfer prices also apply between profit centers. If you create a profit center cost estimate for F, the BOM will only be exploded to the profit center level. A price of 18 is calculated for F from the profit center view.

Costing from Group View (Cross-Company Code)



The actual cost of goods manufactured are now calculated for F from the group view without intercompany profits. This totals 8. Material A goes into plant W3000 with a price of 1, and H" goes in with a price of 4.

The difference between the actual cost of goods manufactured and that from the legal view is the delta profit between company codes. The difference between the actual cost of goods manufactured and that from the profit center view is the delta profit between profit centers.

The actual cost of goods manufactured was calculated by exploding the BOM fully to the controlling area level and valuating the material components in accordance with the valuation strategy.

Mixed Costing

Use

You can use this function when you

- use different production processes to manufacture a product
- use different sources for procuring a material

The costing of either of these alternatives leads to differing manufacturing costs or purchase prices. Within a mixed costing you can calculate a **mixed price.**

Prerequisites

- You have defined the Procurement alternatives [Seite 428]
- You have defined a **quantity structure type** in Customizing
- You have defined mixing ratios [Seite 434] for the procurement alternatives in the application as based on the quantity structure type defined above
- You have assigned this quantity structure type to a costing version [Seite 619] in Customizing
- You have carried out the material costing based on the above-defined costing version

For procurement alternatives with process categories *Purchase order* or *Subcontracting*:

Check the settings for the valuation variant in Customizing for Product Cost Planning. In order for the system to be able to include the conditions of the different vendors, the strategy *Price from purchasing info record* must be used. If this strategy is entered, the valuation of procurement alternatives and configured raw materials will always be completed using this strategy first; in other words any specified strategy sequence will be ignored. This strategy can also be entered as the end of the sequence, if other valuations use other strategies.

Features

A mixed cost estimate allows you to calculate a mixed price. You can update the mixed price as a standard price, and also use this mixed price to valuate materials controlled with S price.

The mixed price is arrived at by applying a weighting factor for each of the cost estimates to the procurement alternatives using equivalence numbers. You create a mixed cost estimate as described in Creating a Cost Estimate with Quantity Structure [Seite 123]. It is based on the costing version, to which the quantity structure type is assigned.

The system first costs the procurement alternatives, before mixing the cost estimates (using the defined mixing ratios) and calculating the mixed price.

All mixed cost estimates contain a cost component split [Seite 824], a costed multilevel BOM [Seite 823], and a special itemization [Seite 828]. Each row of the itemization corresponds to a procurement alternative by means of the equivalence number with which the procurement alternative is weighted. There is also an indicator showing that a mixed cost estimate is involved. You can transfer the cost component split for the mixed cost estimate to the *Profitability Analysis (CO-PA)* module. For more information, see Features of using Mixed Costing [Extern].

You can execute more than one mixed cost estimate for the same plant material at the same time. Costing versions [Seite 619] enable you to distinguish between different mixed cost estimates for the same material. You define costing versions in Customizing for Product Cost

Planning. You specify which mixed cost estimate is to be used to update the standard price in the material master by marking and releasing [Seite 636]. This is carried out with reference to a particular costing version.

You can calculate **mixed price variances** between the standard price that was calculated by the mixed cost estimate and the calculated price of the procurement alternative. The mixed price variance is a separate variance category of the output side of an order (product cost collector or manufacturing order). **Target cost calculation** and **target credit** refer, in this context, to the cost estimate created for the respective procurement alternative. **Actual credit** of the order is calculated with the standard price arrived at from the mixed cost estimate. The mixed price variance is calculated from the difference between the actual credit of the mixed cost estimate and the target credit calculated based on the procurement alternative. For more information about variance calculation, see Variance Calculation [Extern].

See also:

Implementation Guide for Product Cost Controlling

Editing Procurement Alternatives

Prerequisites

If you use the following:

- Different processes to manufacture a product
- Different sources for procuring a material

these different manufacturing processes or supply sources can produce different prices for the same material. You can avail yourself of mixed costing to determine a price for this material. To be able to create the mixed price, there must exist a procurement alternative [Extern] for each of the production processes or supply sources.

Procedure

Displaying Procurement Alternatives

1. Choose *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Master Data for Mixed Cost Estimate → Edit Procurement Alternatives.*

   The screen *Display Procurement Alternatives* appears.

2. Enter the material and plant for which you would like to display the procurement alternative. If a valuation category [Extern] is also maintained for the material, you can enter a valuation type [Extern]. For more information, see Joint Production and Split Valuation [Seite 435]

3. Choose .

   All existing procurement alternatives for this material are hierarchically displayed, sorted by process category [Extern].

   a. To expand or collapse this hierarchical list, choose and .

   b. If you want to select a different layout for the list, or change the current layout, choose . For more information, see Layouts [Extern].

   c. If you want to display detailed information about the procurement alternative, **double-click** on the required procurement alternative, or select it and choose .

      The system then displays the detailed information.

      Depending on the material and process category, certain information is either shown or hidden. If the procurement alternative contains data such as the valuation type, this information is displayed. If the procurement alternative does not contain a valuation type, this information is not displayed.

   d. To delete a procurement alternative, select the procurement alternative and choose .

Changing Procurement Alternatives

1. Choose *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Master Data for Mixed Cost Estimate → Edit Procurement Alternatives.*

   The screen *Display Procurement Alternatives* appears.

2. Enter the material and plant for which you would like to change a procurement alternative. If a valuation category is also maintained for the material, you can enter a valuation type.
3. Choose .

   All existing procurement alternatives for this material are hierarchically displayed, sorted by process category.

   The process category [Extern] (that is, type of procurement) specifies which entries have to be made in a procurement alternative. For the process category *Purchase order*, for example, you are required to enter the purchasing organization and the vendor. For more information, see Procurement Alternatives [Extern] and Controlling Level [Extern].
4. Double-click on the procurement alternative in the list to be changed.
   a. Make the desired changes. For example, you can change a modifiable name or the costing lot size. You cannot change the process category. Instead, create a new procurement alternative and delete the old one.
   b. Choose *Transfer*, to transfer the changes to the hierarchical list of the procurement alternatives.
   c. Choose to save the procurement alternatives.

Creating Procurement Alternatives

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Master Data for Mixed Cost Estimate* → *Edit Procurement Alternatives.*

   The screen *Display Procurement Alternatives* appears.
2. Enter the material and plant for which you would like to change or display a procurement alternative. If a valuation category [Extern] is also maintained for the material, you can enter a valuation type [Extern]. For more information, see Joint Production and Split Valuation [Seite 435].
3. Choose .
4. In the *Controlling Level* screen area, choose the process category for which the procurement alternative is to be created: *Purchasing*, *Subcontracting*, *Stock transfer*, *Purchase order* or *Inventory change*. For more information, see Controlling Level [Extern] and Process Category [Extern].

   In the *Names* screen area, a technical name is generated (*Generated name*). You cannot change this name. However, you can enter a further name, which you can change at a later time (*Changeable name*).

   The lot size is transferred from the material master as the default value (screen area *Costing data*). You can change this default value.
5. Enter data as required. The type of data required by the system is determined by the process category that you selected in step 4.
   – For the **process category *Purchase Order***:

     You can enter the purchasing organization and the vendor. You cannot enter either the vendor or the purchasing organization only. However, it is possible to enter neither. The price for the material is then determined in accordance with the valuation strategy from the material master or the purchasing data.

- For the **process category *Subcontracting***:

  You must enter the vendor, the purchasing organization and the BOM for the material.

- For the **process category *Inventory change***:

  Check the lot size.

- For the **process category *Stock Transfer***:

  You must enter the special procurement plant.

- For the **process category *Production***:

  If no production version exists for the material, you must enter the BOM and routing. If a production version exists, you must decide in a dialog box whether the procurement alternative is to be created using the production version or the BOM and routing. A production version determines the various production techniques that can be used to produce a material. You define production versions in the MRP view or the costing view in the material master record.

  If you create a procurement alternative using a BOM/routing, you must specify the complete quantity structure, that is, the BOM and the routing. You cannot enter the BOM or routing only.

  If you have already created a procurement alternative for the material using the production version, you cannot create another procurement alternative using the BOM/routing, and vice versa. This applies even if you delete all the existing procurement alternatives.

6. Choose *Transfer*, to transfer the procurement alternative to the list.
7. Choose to save the procurement alternatives.

Creating/Changing Mixing Ratios

Use

There are various options to manufacture or procure a material, producing prices that differ according to the manufacturing process or supply source used. In order to calculate a mixed price for the material, you must create procurement alternatives for the individual manufacturing processes and procurement options. The mixed price is created by weighting the procurement alternatives using equivalence numbers. This section tells you how to define mixing ratios for the procurement alternatives.

Prerequisites

Before you can define mixing ratios, you must do the following:

- Create procurement alternatives for the material [Seite 428] in the application
- Define quantity structure types in Customizing for Product Cost Controlling.

  The quantity structure type controls the following for costing:

  – Whether, and how, mixed costing should be performed

  – Which procurement alternative should be costed with which mixing ratio (validity period of the mixing ratio)

  If you create a mixing ratio for a material with split valuation [Extern], note the following:

  For each material, a mixing ratio can contain either procurement alternatives without valuation types only, or procurement alternatives with valuation types only. If both types of procurement alternatives exist, the system asks you whether you want to create a mixing ratio with or without valuation types.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Master Data for Mixed Cost Estimate* → *Mixing Ratios* → *Create/change.*

   The *Change Mixing Ratios* screen appears.
2. Enter the material number and plant.
3. In the *Mixing ratio* screen area, enter the following data:

   – Quantity structure type

   – Period and year

   These entries are required if the quantity structure type is time-dependent. You can also define time-independent quantity structure types.
4. Choose .

   The system displays all the existing procurement alternatives, including those for which the indicator *MR* (*Procurement Alternative Provided for Mixed Costing*) was not set.

Creating/Changing Mixing Ratios

Choose *Mixing ratio only* if you want the system to list only those procurement alternatives for which mixed costing is intended (the indicator *MR* has been set). Choose *All alternatives* to display all the procurement alternatives for the material again.

You can set a filter in this list. To do this, select at least one column, and choose .

You can sort the list in ascending or descending order. Select at least one column, and choose or .

5. Enter the mixing ratios or change the existing ratios, as desired. You can enter equivalence numbers or percentages.

   If you enter a weighting in the mixing ratio field, the system sets the *MR* indicator automatically and the procurement alternative is used in the mixed cost estimate.

   You can also set this indicator manually for procurement alternatives for which you have not entered a mixing ratio. In this way, you can ensure that procurement alternatives with a zero portion are included in the mixed cost estimate.

6. To go to the detailed information for the procurement alternatives, double-click on the alternative(s) concerned.

   If you are editing a procurement alternative of the process category *inventory change*, you can enter a valuation variant and the valuation date in the detailed information for the procurement alternative. This enables you to determine the price or cost component split with which the opening stock is valuated, as well as the date on which valuation is to take place. If you do not make any entries, the system determines this data from the costing variant used for the mixed cost estimate.

7. To **delete mixing ratios**, select the desired procurement alternatives and choose .

   The mixing ratios and valuation dates for the selected procurement alternatives are deleted.

   To select or deselect all the procurement alternatives, choose or respectively.

8. You can **undo** all the **changes** that you have made since you last saved. To do this, choose .

   All the changes are cancelled.

9. If you want to change or create procurement alternatives, choose *Goto* → *Procurement alternative* → *Change* or *Create*.

10. Choose to save the mixing ratios.

    If you set the *100% Check* indicator when you defined the quantity structure type in Customizing, the system checks whether the mixing ratios equal 100% when saving. You can then only save the mixing ratio if the ratios total 100%.

Result

The mixing ratio contains information as to which procurement alternative is involved with which portion of the mixed cost estimate. A procurement alternative can be assigned to several mixing ratios, or to no mixing ratios. A mixing ratio is clearly identified by the material number, plant, quantity structure type, fiscal year, and period.

You can execute a mixed cost estimate as soon as you have created the mixing ratios for the material. You can transfer the resultant mixed price to the material master. For example, if you have created a standard cost estimate, you can update the costing results as the standard price in the material master.

Displaying Mixing Ratios

6. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Master Data for Mixed Cost Estimate* → *Display Mixing Ratios.*
7. Enter the material and plant.
8. Enter the following data for the mixing ratio:
   - Quantity structure type
   - Period and year

     These entries are required if the quantity structure type is time-dependent. You can also define time-independent quantity structure types.

4. Choose .

   The screen *Display Mixing Ratios* appears.

   The system displays a list of the procurement alternatives for the material to be included in the mixed cost estimate. The indicator *Procurement Alternative for Mixed Costing* is turned on in the *MR* column. The factor (that is, equivalence numbers or percentages) applicable to the procurement alternatives in the mixed cost estimate is displayed in the *Mixing Ratio* column.
5. The equivalence numbers or percentages are displayed in the *Mixing Ratio* field.
6. You can **sort** the list in ascending or descending order. To do this, select the column and choose or . If you select more than one column, the sorting is carried out from the column that is farthest to the right.
7. To set a **filter**, select at least one column and choose . In the ensuing dialog box *Set filter*, define the criteria for the display of the procurement alternatives, and choose .

   To delete the filter, choose , in the dialog box *Set filter* choose and .
8. To display detailed information about a procurement alternative, select the procurement alternative and choose .
9. If you want to change or create procurement alternatives, choose *Goto* → *Procurement alternative* → *Change* or *Create*.
10. To change the mixing ratios, choose .

See also:

Editing Procurement Alternatives [Seite 428]

Creating/Changing Mixing Ratios [Seite 431]

Joint Production and Split Valuation

Use

The following features of joint production and split valuation require particular attention:

The system checks first to see whether joint production applies to the material entered. If it does, a dialog box appears, in which you can enter the process material. If you do not enter a process material, or joint production does not apply to the material, you cannot make any entries for joint production.

If you enter a process material, you can create a procurement alternative for joint production. If you create the procurement alternative through the BOM/routing (that is, the quantity structure of the process material, not the co-product), you must enter an apportionment structure. You define apportionment structures in the material master.

If you create the apportionment structure through a production version, the apportionment structure is transferred from the production version. If no apportionment structure has been specified in the production version, you cannot create the procurement alternative.

Instead of the lot size of the process material, you enter the procurement quantity of the co-product. The system converts this procurement quantity to the production lot size of the process material.

If this is not possible, you cannot create the procurement alternative.

A joint production process can consist of one process material and several co-products. These co-products all have their own material masters, but they are all based on the same process material and the same production process. You can create a separate procurement alternative for each co-product. A process can have several procurement alternatives and only one lot size and one apportionment structure. If you then create or change a procurement alternative, the system establishes that the process already exists. In such cases, you are asked whether the new lot size or apportionment structure should be transferred into the process. This transfer affects all the other procurement alternatives.

The same situation applies if more than one valuation type (such as EIGEN, FREMD, and so on) exist for one material: the lot size is always linked to the process. The process is created without a valuation type. There is only one lot size for procurement alternatives with the same material and master data, but different valuation types.

See also:

- Joint Production Costing [Seite 400]
- Apportionment Structure [Seite 407] and Maintaining the Apportionment Structure in the Material Master Record [Seite 408]
- Procurement Alternative [Extern]

Joint Production and Split Valuation

- Production Version [Extern] and Creating the Production Version [Extern]
- Split Valuation [Extern] and Split-Valuated Stocks [Extern]
- Valuation Type [Extern] and Valuation Category [Extern]

Standard Cost Estimate for Configurable Material

Use

The standard cost estimate for a configurable material can be used as follows:

- To determine the standard price for a **configurable** material. This price can then be used to valuate a material manufactured for a sales order (**configured** material). This type of valuation is usually appropriate when the variants of the material do not differ significantly from each other. Note that the standard price is not exactly the same as the value of the configured material. For more information, see Standard Price with Valuated Sales Order Stock [Extern].
- To automatically confirm activities in repetitive manufacturing in a sales-order-related production environment [Extern]. In repetitive manufacturing, the activities in the routing do not normally differ significantly among the different characteristic values of a configurable material.

In a sales-order-related production environment in repetitive manufacturing, the system generates a planned order that lists the material components of the material being manufactured.

You enter a goods receipt posting in the menu of *repetitive manufacturing* to debit the cost object with the costs for the material components. The cost object is the following:

- If you are using a valuated sales order stock [Extern], the cost object is the product cost collector in sales-order-related production [Extern].
- If you are using a nonvaluated sales order stock [Extern], the cost object is the sales order item that carries costs and revenues [Extern].

See also: Selected Logistical Processes and Cost Objects [Extern]

If you have specified in Customizing for *Product Cost by Period* under *Simultaneous Costing* → *Check Control Data for Repetitive Manufacturing Profiles* that activities are to be posted on the basis of the standard cost estimate for the material, and you have created a cost estimate for a configurable material, the cost object is automatically debited with the costs for the activities specified in the cost estimate for the configurable material at the time of the goods receipt.

Prerequisites

In the *Basic Data* view of the material master record, the indicator *Material is configurable* is selected.

Enter the material number of the configurable material in the *MRP 3* view of the master record of the configurable material in the *Configurable mat.* field. The result is that the configurable material references itself. You enter particular characteristic values in the *MRP 3* view under *Variant configuration*. You can create a standard cost estimate for the material on the basis of the object dependencies under *Variant configuration*.

See also:

Standard Cost Estimate [Seite 63]

Production Lot Costing (Seiban)

Use

Using a standard cost estimate, you can calculate the planned costs for the production lot of a material. To do this, you create a production lot cost estimate.

Integration

The planning of production lots is represented in the R/3 System in the form of project make-to-order production. The system generates a WBS element for the production lot. This WBS element is used as a reference for maintaining the master data and for planning, production and cost calculation.

Prerequisites

You have checked the costing variant for the production lot cost estimate and its costing type in Customizing for Product Cost Planning.

Features

A production lot is a specific amount of a material that is planned and produced with reference to a number. This number is a WBS element that is automatically generated by the system when you create the production lot number. Using the production lot number, you can calculate the planned costs for a specific quantity of the material. The planned costs calculated form the basis for the valuation of the stock.

You can access this function by choosing *Accounting* → *Controlling* → *Product Cost Planning* → *Material Costing* → *Material Lot Cost Estimate.*

For more information about Seiban processing, see Planning Production Lots [Extern] and Standard Cost Estimates for Production Lots [Extern].

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Raw Material Costing

Use

There are no BOMs or routings for raw materials in the system. You can, however, use these functions to create a cost estimate for raw materials. Instead of simply taking the price from the material master, an actual cost estimate (including overhead calculation) is created.

The raw material cost estimate enables you to include delivery costs, allocate overhead and include additive costs at the material component level.

Features

You are able to do the following:

- Access the purchasing data (MM_PUR), in order to include delivery costs such as freight charges and insurance costs (see also Purchasing Master Data [Seite 691])
- To include overhead and process costs

  You can define a special costing sheet for raw material costing in the costing variant in Customizing. (Overheads [Seite 569])

  You can only calculate overhead for raw materials in the **planning** data, not in actuals. The overhead, should not, therefore, be stock-relevant
- Create additive costs (see also Additive Costs [Seite 246])
- Save an itemization (in addition to the cost component split) for the costing of raw materials.
- Arrange the delivery costs in different cost components [Seite 462]
- Calculate a mixed price, if you have several supply sources for one material component. For more information, see Mixed Costing [Seite 426].

Activities

In Customizing for Product Cost Planning, check the following:

- Valuation variant

  You should use strategy **L** (price from purchasing info record) for the material valuation in the valuation variant

  Using this strategy for configurable material components means that only one material variant price will be included The same applies for material components with procurement alternatives The conditions of different vendors will only be taken into consideration if you implement this strategy. This strategy will be executed in both of these cases first, in other words the strategy sequence will be ignored to start with for configurable materials and when costing procurement alternatives. You can enter the strategy Price from purchasing info record as the last position in the strategy sequence, if a different strategy should be used.

Raw Material Costing

- Costing variant

  Enter the valuation variant defined above in the costing variant. If required, enter a special costing sheet for the application of overhead in raw material costing.

- The assignment of condition types to origin groups

  If you want to handle different conditions from *Purchasing (MM)* in different ways, you can assign condition types to origin groups. When assigning cost elements to the components, you can maintain different origins, and use this to assign the delivery costs to different cost components.

Create the cost estimate for the material as described in Creating a Cost Estimate with Quantity Structure [Seite 123].

In the cost estimate without quantity structure [Seite 480], you activate or deactivate raw material costing, by choosing *Functions* → *Raw material costing* → *Switch on/Switch off*. The cost estimate then inserts items of **type I** (Raw material costs) in the list screen.

Special Procurement in Costing

Use

A BOM can include materials produced not in the plant of the finished product, but in another plant, or externally.

You can include the costing data for materials from other plants within the controlling area in the cost estimate. You determine the link between the plants through the **special procurement type**.

Features

You use the special procurement type to determine whether the material

- Is produced in another plant in the company code of the finished product, or in another company code (materials in other plants [Seite 445])
- Is provided by you, and is processed by an external supplier (subcontracting [Seite 446])
- Represents a logical grouping of materials that is not produced as an assembly, yet is managed together (Phantom Assemblies [Seite 446])
- Is delivered directly to stock without the semifinished products (direct production [Seite 446])

You can enter a special procurement type in the material master record in both the *MRP* and the *Costing* views.

- If you have no special procurement type in the *Costing* view, the system uses the special procurement type in the *MRP* view when costing.
- If you have different special procurement types in the *Costing* and *MRP* views, the entry in the *Costing* view is used.

Special procurement types are defined in Customizing for Product Cost Planning or in Customizing for Requirements Planning. They consist of the combination:

- Procurement type (either F: *External procurement* or E: *In-house production*)
- Special procurement (for instance, M: *Direct production*, L: *Subcontracting*)

If a material is not specially procured, it is costed with BOM and routing. If no valid BOM can be found by the system, a price for the material is determined according to valuation strategy and the routing is ignored.

If you want to cost a material that has no valid BOM but does have a routing, you can include the routing in the cost estimate when you create a new special procurement type in Customizing (procurement type: E and special procurement: E) and enter this special procurement type in the *Costing* view of the material.

If you want to cost a material as externally procured by ignoring the existing quantity structure in the system when costing, the following options are available:

- In the *Costing* view in the material master record, enter procurement type F and no special procurement type (in either the *MRP* or the *Costing* view).

Special Procurement in Costing

- In Customizing of the special procurement types, create a new special procurement type (procurement type: F, special procurement: empty) and enter the special procurement type in the *Costing* view of the material.

Materials in Other Plants

Use

The following special procurement types are taken into account in costing:

- stock transfer from another plant
- Withdrawal from another plant
- Production in another plant

Features

If you entered one of these special procurement types in the costing view of the material master record, the system proceeds as follows:

- Materials in plants that are assigned to the company code of the plant in which the cost estimate was created are either recosted, or an existing cost estimate is transferred in accordance with the transfer control (this does not occur for *Withdrawal from another plant*).
- For materials in plants that are assigned to a different company code, the *Cost across company codes* indicator in the costing variant determines how the system proceeds:
  - If the *Cost across company codes* is set, these materials are either recosted or an existing cost estimate is transferred in accordance with the transfer control (this does not occur for *Withdrawal from another plant*).
  - If the *Cost across company codes* indicator is not set, a price is determined in accordance with the valuation variant.

See also:

Transfer of Costing Data [Seite 607]

Cross-Company Costing [Seite 618]

In the plant of the finished product there is a material master record for a semifinished product that has a special procurement type. According to the special procurement type, the material is produced in another plant and then transferred to the plant of the finished product.

When costing the finished product, the system looks for costing data for the semifinished product in the other plant. The search proceeds according to a strategy in the transfer control:

- If the system can select an existing cost estimate, the results [Seite 451] of this cost estimate are rolled up [Seite 467] in the cost estimate of the finished product.
- If the system cannot select a cost estimate, the semifinished product is costed in the other plant and the results are rolled up directly into the cost estimate of the finished product.

Direct Production, Subcontracting, Phantom Assemblies

Use

Direct production

If you create a production order for a material whose BOM contains materials with a special procurement type for direct production, further orders for the production of the material will be created automatically. The planned costs are calculated separately for each order in the order network.

In material costing, materials with a special procurement type for direct production are regarded as semifinished products. They are costed and the cost estimate results are updated for the respective materials.

Phantom assemblies

If a material is flagged as a phantom assembly (meaning that the material has a special procurement type with procurement type *In-house production* and special procurement *Phantom assembly*), costing explodes the BOM and calculates the planned costs for all the material components in the phantom assembly. These material components are displayed and updated in the cost estimate of the higher-level material. The results of the cost estimate are also updated with reference to the phantom assembly.

If you want to cost a material as a phantom assembly, you must enter special procurement type 50 in the *MRP* view of the material master record and leave the special procurement type empty in the *Costing* view.

Subcontracting

If subcontracting has been specified for a material (meaning that it has a special procurement type *External procurement* and special procurement *Subcontracting*), you can define a strategy in the valuation variant in Customizing for Product Cost Planning to access a price in the purchasing info record [Seite 691] or in the purchase order. For more information, see Determining Vendors [Seite 737].

The subcontracting company can be selected either using the planned quota arrangement or the actual quota arrangement in the purchasing system. You determine which quota arrangement is used as the basis in the valuation variant.

With subcontracting, the cost estimate contains the production costs of the subcontractor as well as the material costs of the material components provided by the subcontractor.

See also:

For more information, see the following sections in the SAP Library:

- *PP BOMs* under Special Procurement Type [Extern]
- *MM - Inventory Management*, in the following sections:
  - Subcontracting [Extern]
  - Subcontracting for Sales Order Stock and Projects [Extern]
  - Subcontracting in Purchasing [Extern]

- Subcontracting in Inventory Management [Extern]
- Subcontracting in Invoice Verification [Extern]

- *PP - Requirements Planning* under Subcontracting [Extern]

Currencies in Costing

Use

You can update and display the costing results (cost component split, and itemization) in both the company code currency and the controlling area currency. The cost component split is then rolled up in both currencies. The controlling area currency is only valid for the legal valuation level.

If the controlling area currency is different from the company code currency, the itemization will be updated in both currencies. The value in the company currency is converted into the controlling area currency.

The additional currency information is required in variance calculation to calculate the target costs.

If the material ledger is active, you can update raw material prices in the material master record in three currencies. You can transfer the material price in the controlling area currency directly into the cost estimate. For semi-finished products, the cost estimate is updated in both currencies.

If the material ledger is active, the marked and released costing results are updated in the company code currency and the controlling area currency in the material ledger master data, provided that the corresponding currency types are used in the material ledger. (In this case, release is carried out in material price determination.)

Costing can also access prices in company code currency and controlling area currency in the Material Ledger master data.

See also:

Actual Costing/Material Ledger

Implementation Guide for Product Cost Planning

Activities

You activate the cost component split in the controlling area currency in Customizing for Product Cost Planning.

Material Cost Estimate Without Quantity Structure

Purpose

The cost estimate without quantity structure is a tool for planning costs and establishing prices for materials without reference to quantity structure data from Production Planning (*PP* and *PP-PI*). It is intended for materials with insufficient or no quantity structure data.

Material costing without a quantity structure enables you to:

- Plan costs for raw materials, internal activities, and external activities for a product in the form of a unit cost estimate [Seite 683]
- Assign overhead [Seite 569] to the product in the production and material areas
- Assign the calculated costs to the cost components as well as when saving them
- Group the costs of the materials used for semifinished products into cost components

It can also be used to enter data from non-SAP systems. (See also Connection of Non-SAP PP Systems [Seite 615])

Integration

A cost estimate without quantity structure can access data in the following components of the R/3 System:

- Materials Management (MM), such as material master records and services
- Production Planning (PP), for example work centers and resources
- Controlling (CO), such as cost centers and activity types

For further information ,see Master Data for Unit Costing [Seite 688].

Features

If you want to carry out costing without a quantity structure (consisting of BOMs and routings) existing in the R/3 System, you can create the material cost estimate as a unit cost estimate (cost estimate without quantity structure) and enter the data manually.

You can thus calculate the costs for a multilevel production structure without access to the BOMs and routings from PP. You create the quantity structure manually using unit costing [Seite 683]. For each semifinished product, you create a cost estimate that assigns the costs to cost elements and cost components. You specify these semifinished products as material items when costing the highest-level material. The costing results of the highest-level material then contain the costs of the lower materials.

You create a spreadsheet, which can consist of materials, internal activities, external activities, services, processes, variable items and overhead. The system determines the prices for the costing items entered.

Because the cost elements remain transparent in the itemization [Seite 828], you can compare the cost estimate with the following:

- The preliminary cost estimate of a production order
- With actual postings from other areas of the R/3 System

See also:

Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Unit Costing [Seite 683]

Master Data for Unit Costing [Seite 688]

Creating Costing Items [Seite 703]

Valuation of Costing Items [Seite 726]

Costing Results

Use

After you have executed a material cost estimate, you can analyze the costing results. The material cost estimate gives you the following information:

- Cost Component Split [Seite 824]
- Itemization [Seite 828]
- Itemizations by Cost Element [Extern]
- Costed Multilevel BOMs [Seite 823]
- Partner Cost Component Splits [Seite 812]

See also:

- Reports in Product Cost Planning [Seite 790]
- Analyzing the Results [Seite 494]
- Displaying Material Cost Estimates [Seite 493] and Analyzing the Costing Run [Seite 337]
- Saving Material Cost Estimates [Seite 600]
- Logs in Material Costing [Seite 589]
- Costing Status [Seite 598]

Cost Components

Use

This report shows the costs calculated in a material cost estimate or sales order cost estimate across all production levels, broken down into cost components. You can analyze the costs of the cost component split for the cost of goods manufactured and the costs of the primary cost component split.

The results of a cost estimate are updated as cost components (this is called a *cost component split*). The cost components break down the costs of a material across the entire production structure into material costs, production costs, material overhead, production overhead, and other costs. The costs for internal activities normally flow into the cost component split under secondary cost elements. In order to present primary costs for internal activities, you can use a primary cost component split as an alternative way of outlining the cost components.

The cost component split enables you to do the following:

- Analyze the cost origin across multiple production levels.

  You can analyze the value added within a multilevel production structure. The costs of the upper level consist of the internal activities and the overhead costs that are incurred at that level. The costs of the lower level include the materials and raw materials. The total costs of the upper level and lower level equal the total costs of the production level being analyzed.

- View the costs by original production factors (primary cost component split).
- Structure the costs according to the requirements of other areas (such as material valuation or profitability analysis).

  In the cost component view, you can specify which cost elements are displayed in the report. For example, you can select the cost of goods manufactured or the cost of goods sold, or the costs that are relevant to inventory valuation. You specify various cost component views in Customizing for *Product Cost Planning*. For each cost component, you can decide which share of the costs contained therein (fixed, variable, full) is displayed in which cost component view.

Prerequisites

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material in the BOM. For this to occur, you must have already defined a cost component structure in Customizing.

You specify the following in a cost component structure:

- Which cost components the calculated costs should be assigned to
- Which cost elements are grouped into which cost component

The cost component structure is selected through the company code, plant, and costing variant. You specify this assignment in Customizing for Product Cost Planning under *Basic Settings for Material Costing → Define Cost Component Structure.*

If you want to see a primary cost component split for the cost components, you must first generate a primary cost component split in *Cost Center Accounting* or *Activity-Based Costing*.

If you are using mixed costing, you can display the costing results for a specific procurement alternative broken down into cost components. Call up the desired procurement alternative in the report call using the menu option *Settings*. To display the cost component split for a mixed cost estimate that was formed from different cost estimates and procurement alternatives and weighted with equivalence numbers, do not enter a procurement alternative. The split for the mixed cost estimate is displayed automatically if a mixed cost estimate was created for the costing version.

Features

Main Cost Component Splits and Auxiliary Cost Component Splits

You can display the costs as a cost component split for the cost of goods manufactured and/or primary cost component split.

- You can calculate the cost component split for the cost of goods manufactured and primary cost component split simultaneously. You can switch between the two cost component views (under *Settings* → *Type of cost component split)*. However, you can also generate only the cost component split for the cost of goods manufactured or the primary cost component split.
- If you want to cost both cost component splits simultaneously, you must determine which cost component split is the **main cost component split** in Customizing for *Product Cost Controlling*. You can also generate a further cost component split as an **auxiliary cost component split** for comparison purposes.

  The update of the standard price [Seite 636] in the material master is effected by the main cost component split.

  An itemization is only created for the main cost component split.

In the report, you can switch between the main cost component split and the auxiliary cost component split. With the appropriate setting, you can switch between the cost component split for the cost of goods manufactured and the primary cost component split.

Upper Level / Lower Level / Aggregate Level

The cost estimate enables you to analyze the value added within a multilevel production structure. You can apportion the costs for each material according to the **lower level** and **upper level**.

You can find the cost component split display under *Costs* → *Display Cost components.* You can make this setting with *Settings* → *Layout*. You can create your own report from a large number of selections options.

When you display the costs:

- For the **upper level**, you see the production costs, overhead costs and costs for external activities that are expected for this production level
- For the **lower level,** you see the costs of all material components that are processed in this production level

Cost Components

In both cases, the costs are apportioned according to cost components [Seite 462]. The total cost of the upper level and lower level equals the total costs of the production level being analyzed.

You can go to the following other reports in the same report group:

- Total values
- Upper level
- Lower level

When the costs are apportioned according to cost components, the original identity of the costs (for example, costs of materials or fixed and variable production costs) are maintained throughout all production levels. At every production level, the value added at that level and the costs of the lower level can be separated through the cost component split.

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material. For more information on saving costing results, see Saving Costing Results [Seite 600].

If you want to create a cost component split for raw materials and purchased parts, you can enter additive cost components for each material for these costs. You can then group these cost components in an "External procurement" cost component structure that only contains such costs. For more information, see Additive Costs [Seite 246].

Cost Component Split for the Cost of Goods Manufactured

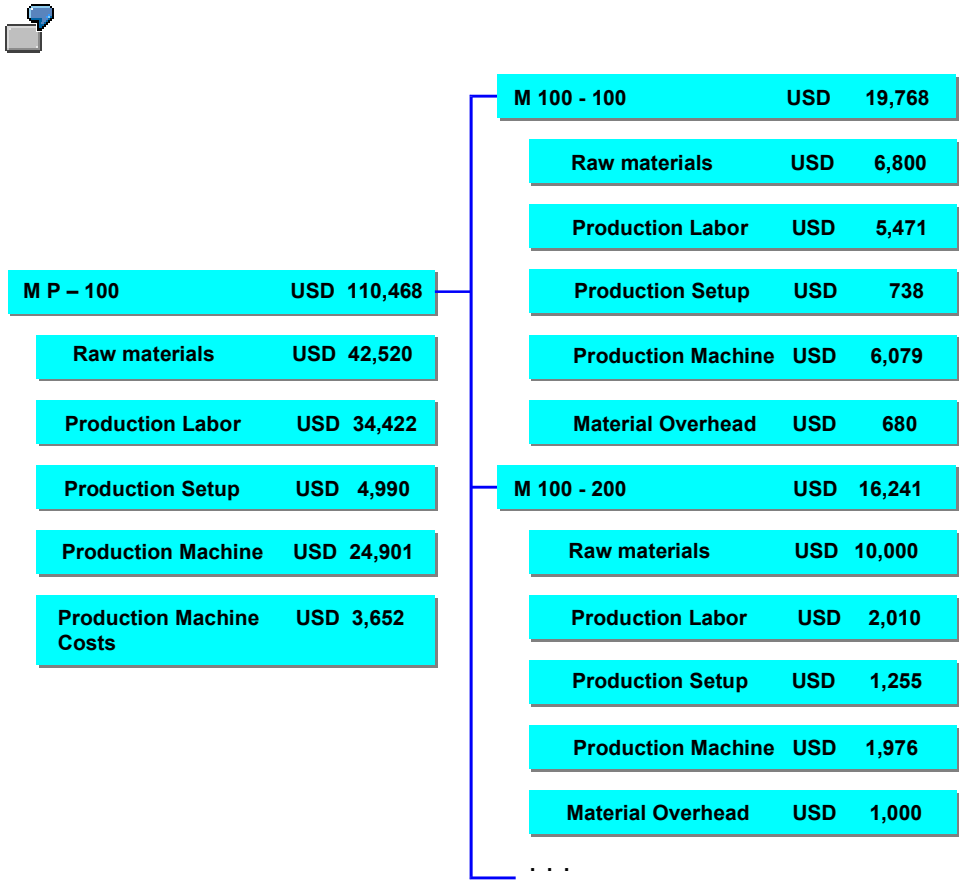
Definition

A report that enables you to do the following:

- Show the value added for each manufacturing level
- Compare the material cost estimates

Use

Typical cost components [Seite 462] of the cost component split for the cost of goods manufactured are raw materials, internal activities, external activities, material overhead, and so on. You define the structure of the cost components for the cost of goods manufactured in Customizing. For further information, see the Implementation Guide for Product Cost Controlling under *Product Cost Planning* → *Basic Settings for Material Costing*.



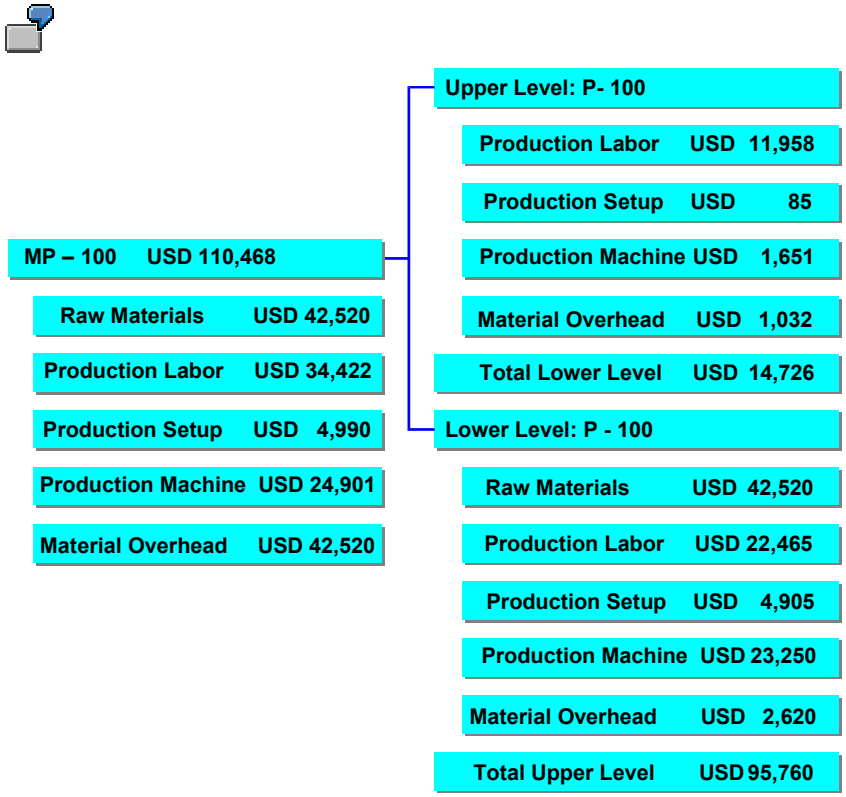
In this example, the cost of goods manufactured are assigned to five cost components (raw materials, labor production, setup production, machine production, and material overhead). This structure enables the costs of assemblies 100-100, 100-200, and so on to be transferred into the cost estimate for material P-100 as raw

Cost Component Split for the Cost of Goods Manufactured

materials costs, production costs, overhead costs and so on, instead of as material costs.

The cost component split thus enables an analysis to be made of the value added at each manufacturing level. You can switch from the reports for the upper level of the cost estimate to the lower level.

- With the **upper level** report, you can display the costs that occurred with assemblies 100-100, 100-200 and so on for material P-100. The costs of the subordinate assemblies are added together to make the total of the lower level.
- With the **lower level** report, you can view the alternative display of the costs for P-100. In this report, the costs of assemblies 100-100. 100-200 and so on are displayed broken down into cost components. The costs of the assemblies are added together to make the total of the upper level.



Primary Cost Component Splits

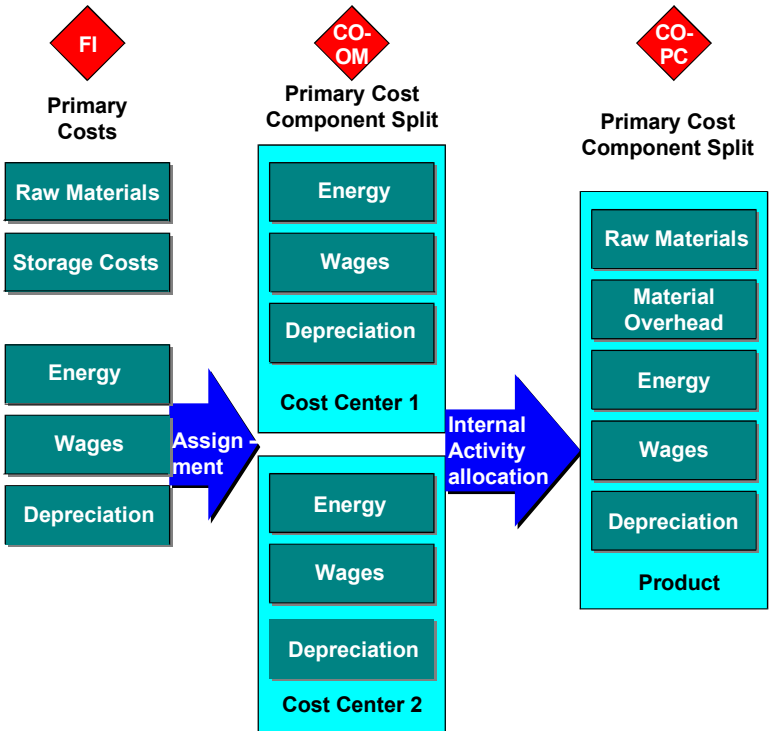
Definition

A report that displays the costs of the internal activities and the process costs broken down into their original production factors. For example, depreciation on production facilities can be included in the cost estimate, and is not encrypted under the secondary cost element for the activity allocation.

Use

The primary cost component split can be created in the **cost estimate with** and **without quantity structure**, as well as when **costing a sales order**. You define the structure of the primary cost components in Customizing for Product Cost Controlling. Typical cost components of the primary cost component split are raw materials, wages, energy, depreciation, and so on. For more information, see the Implementation Guide for Product Cost Controlling under *Product Cost Planning → Basic Settings*.

The costs of a product are grouped into primary costs in the same way as the cost component split for the cost of goods manufactured [Seite 455]: the costs are collected as cost components [Seite 462], to which you assign intervals of primary cost elements. You can also subdivide the costs into fixed and variable costs.



The primary cost component split is an alternative way of showing the cost of goods manufactured of a product. This cost component split assigns the primary cost elements for the cost center or the process to the cost components, insodoing sending information necessary for setting the activity price for the activity type or the costs for the process.

Primary Cost Component Splits

A feature of the primary cost component split in Product Cost Planning is that it provides an indication of future cost developments of a particular product. Since the amount of labor costs or energy costs of a product is visible, the effects of changes to these costs can be better predicted.

The primary costs from Overhead Cost Controlling can either be transferred directly into the primary cost component split of the product, or assigned to other cost components. In this way, you can explode the costs for specific internal activities partly by their primary costs, and combine them partly as secondary costs.

You can transfer the primary cost component split of the internal activities directly into the cost estimate, or assign it to other cost components. It is also possible to break down certain activities only partially into their primary costs, or report them as secondary costs.

Integration

- The primary cost component split in costing requires the use of the primary cost component split created in Cost Center Accounting when calculating the activity price.

  When determining the primary cost component split for products, the costs for internal activities and process costs (valuated in CO-ABC), with their primary cost component splits from Cost Center Accounting, are included in costing.

- Manually-created cost component splits are included when creating the primary cost component split.
- It is also possible to update the standard price in the material master via the primary cost component split.

See also:

Transfer Structure for the Primary Cost Component Split [Seite 459]

Transfer Structure for the Primary Cost Component Split

Definition

Controls the transfer of costs from the cost components of one cost component structure into the cost components of another cost component structure.

Use

The transfer structure determines how the costs of the sending cost component split (such as the primary cost component split of an internal activity) are transferred to the receiving cost component split.

Through the transfer structure, a single cost component of the receiving cost component split can be assigned to every cost component of the sending cost component split.

If the cost component structure of the primary cost component split [Seite 457] for the cost center activity prices is not the same as the cost component structure of the primary cost component split for the products, you can use the transfer structure to specify how the cost component split of an internal activity or process for a material cost estimate is transferred into the cost component splits of the material costed.

In contrast to the switching structure in Cost Center Accounting, which reassigns cost components within a single cost component structure, the transfer structure assigns cost components between two different cost component structures.

You define transfer structures in Customizing for Product Cost Planning under *Basic Settings* → *Define Cost Components*.

See also:

Implementation Guide for Product Cost Planning

Cost Component Structures

Definition

Specifies which costs are contained in the cost component split.

Use

You can use the cost component structure to specify that certain costs

- Remain visible in the cost estimate
- Are passed on to Profitability Analysis

You can define a cost component structure so that the cost estimate for a finished product shows the origin of the costs for the semifinished products and raw materials.

You can define the cost component structure to have a validity period. You can specify the date from which the structure is to be valid. This means that you can use an alternative cost component structure for the cost estimate without having to change an existing structure. In addition, cost estimates that have already been saved can still be interpreted by the system.

Through the cost components [Seite 462] that you list in the cost component structure, you specify the following:

- Which costs are included
- Whether the variable costs or the total costs are included
- Whether the cost of goods manufactured or the sales and administration costs are included
- Whether the costs for stock valuation, tax-based inventory valuation, and commercial inventory valuation are included

If you use a cost component structure in Customizing to create a **primary cost component split** for products, the cost component splits of the items that are relevant to costing are included in the primary cost component split. In addition to materials, internal activities and process costs can also have cost component splits.

You can create **cost component views** on the basis of the Customizing settings for the cost components. When you display a material cost estimate, cost component views [Seite 465] show the costing results according to different viewpoints.

The cost component view *Cost of goods sold* contains all the cost components that are indicated as the cost of goods manufactured and sales and administration costs.

See also:

For more information, see the *Implementation Guide (IMG)* under *Product Cost Planning → Basic Settings for Material Costing → Define Cost Components*.

Cost Components

Definition

Grouping of cost elements with or without origin groups.

Use

The costs from a cost estimate are assigned to cost elements and cost components. (You can use the origin groups in the material master records to subdivide the material costs within a cost element.)

You can use cost components to specify that costs should be included in the relevant inventory valuation, for example.

You create origin groups and cost components for in Customizing for Product Cost Planning under *Basic Settings for Material Costing*. Based on the cost components that you have defined in Customizing, you can do the following:

- Create cost component views [Seite 465] that contain costs such as the cost of goods manufactured, sales and administration costs or the costs for inventory valuation
- Group cost components differently according to the purpose for which costing was carried out (such as stock valuation or inventory valuation)

Integration

The definition of the cost components in Customizing for Product Cost Planning determines how the costed material is valuated. For each cost component, you specify whether the assigned costs are included with the following **valuations**:

- Inventory valuation
- Physical inventory valuation based on commercial law
- Physical inventory valuation based on tax law
- Transfer price surcharge

For each valuation, you define the relevant **proportion** of the costs:

- You flag the cost component as ***not relevant***.

  This prevents certain costs (such as production overhead) from being used in inventory costing.

- You flag the cost component as ***variable costs***.

  This means that only the variable portion of certain costs (such as internal activities) are used in inventory costing.

- You flag the cost component as ***fixed and variable costs***.

  This means that the full costs (such as for raw materials) are used in stock valuation.

You also specify the following for each cost component:

- Whether the costs assigned to the cost component are to be treated as the cost of goods manufactured

- Whether the costs assigned to the cost component are included in an initial cost split (a cost component split for raw materials). You can create an additive cost estimate [Seite 246], to include freight charges and insurance costs for raw materials. Alternatively, you can create a raw material cost estimate [Seite 735].
- Whether delta profits (profits between company codes and profit centers) should be updated. This indicator must be set when you create a group cost estimate [Seite 621].

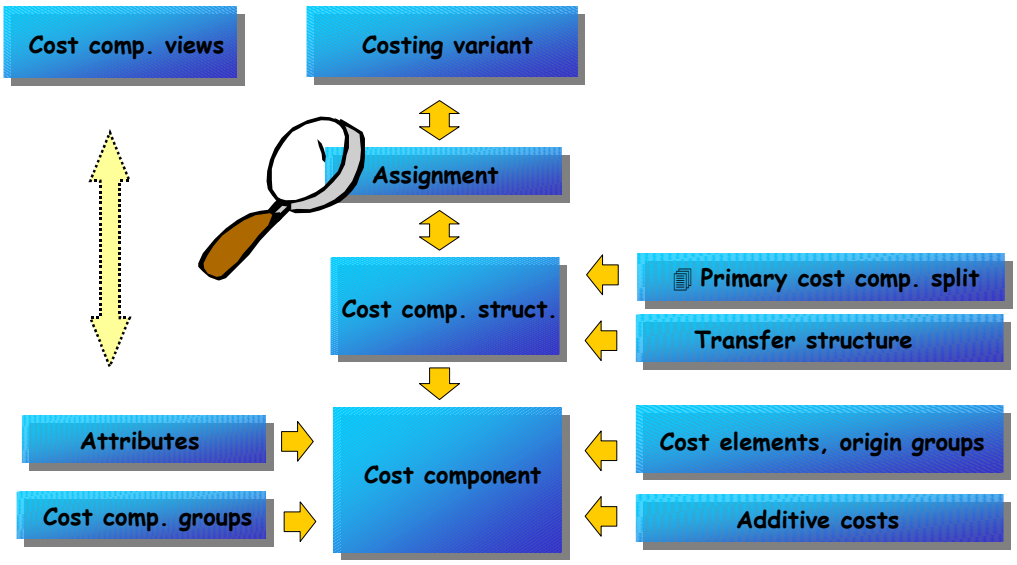
These settings are then included when the costing data is transferred into the material master record.

Type of cost estimate whose results are transferred to the material master	Type of valuation	Resultant price
Standard cost estimate	Inventory valuation	Future planned price
Inventory cost estimate	Physical inventory based on commercial law	Price based on commercial law
	Inventory based on tax law	Price based on tax law

If you transfer the results of a modified standard cost estimate or a current cost estimate into the material master record, you can specify which cost component view should be transferred.

Features

The following graphic illustrates how cost components, cost component structures, and cost views are customized:



Cost components are grouped into a cost component structure. A cost component structure can have up to 40 cost components. However, if the cost components contain both fixed and variable costs, the number of costs components is limited to 20.

Examples of cost components are:

- Raw materials

Cost Components

- Personnel costs
- Production costs
- Overhead: material
- Overhead: production
- Overhead: administration
- Overhead: sales and distribution
- External activities
- Other costs

If you are using a particular costing variant, the system determines the cost component structure [Seite 460] for this costing variant and creates the cost component split for the costing results accordingly.

All costing variants for the standard cost estimate in a company code must be linked to the same cost component structure. Otherwise you cannot transfer costing results from other plants for specially-procured materials.

For costing variants that are not set for the standard cost estimate, you can assign the cost component structure separately for each plant or for each costing variant.

The values for each cost component are updated in the currency of the company code to which the material is assigned.

See also:

For further information about defining cost components, see the *Implementation Guide (IMG) for Product Cost Controlling* under *Product Cost Planning* → *Basic Settings for Material Costing* → *Define Cost Components*.

Cost Component Views in Material Costing

Use

You can display the costing results [Seite 451] in various views. The cost component view is one of these views. Examples of cost component views are:

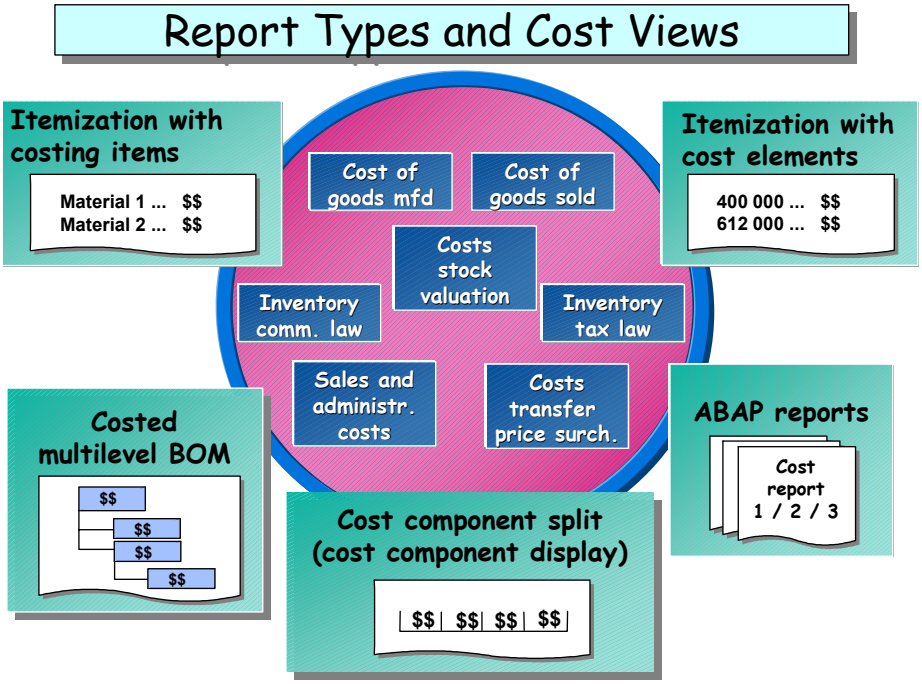
- Cost of goods manufactured
- Cost of goods sold

Prerequisites

You assign the cost components to a cost component view in Customizing for Product Cost Planning.

Features

The following graphic details the types of report available:



The costing results, which are contained in reports such as the itemization and the cost component split, are displayed in various cost component views.

For Profitability Analysis, the view for the cost of goods sold determines which costs are compared with the sales revenues to calculate the contribution margin for each product.

Cost Component Views in Material Costing

For Materials Management, the view for stock valuation determines which costs go into the standard price and the inventory cost estimate.

Also affecting Materials Management is the view for tax-based inventory valuation, which determines which costs are included in the inventory cost estimate based on tax law.

When you define a cost component view in Customizing for Product Cost Planning, you enter a name for the cost component view and define which cost components are contained in the cost component view.

The cost component view *Cost of goods sold* contains all the cost components that are indicated as the cost of goods manufactured and sales and administration costs.

With the cost component view in Customizing for Product Cost Planning, you can also define what costs are used in the calculation of material overhead surcharges.

You want to calculate material overhead for the semifinished products used in the finished product. The cost estimate for the semifinished product contains costs such as the cost of goods manufactured and sales and administration costs.

In Customizing for Product Cost Planning, you use the calculation base in the costing type to specify that the applied material overhead for the semifinished products should only be calculated on the basis of the cost of goods manufactured. Overhead is not applied to the sales and administration costs for the semifinished product.

See also:

Implementation Guide (IMG) for Product Cost Planning

Analyzing the Results [Seite 494]

Concept of Cost Rollup

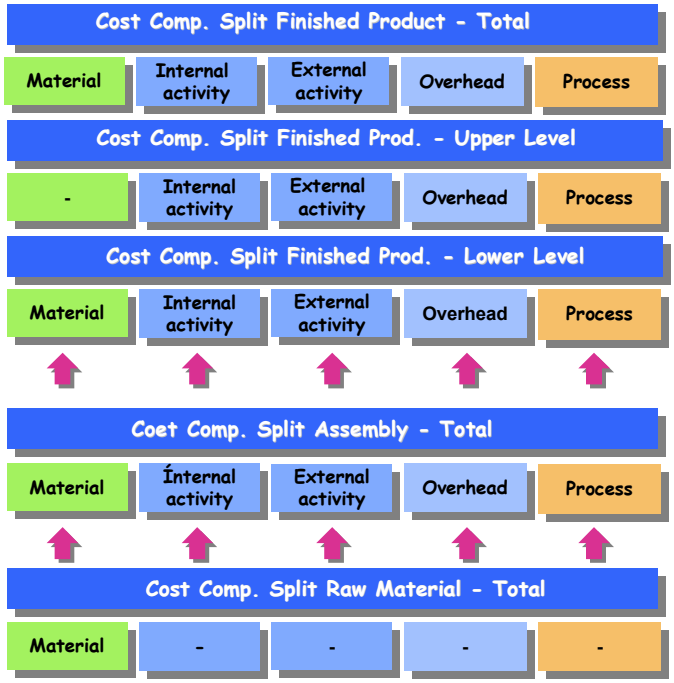
Use

The purpose of cost rollup is to include the cost of goods manufactured [Seite 26] of all the materials in a multilevel production structure within the costs of the material located at the top of the structure. The costs are rolled up **automatically** using the costing levels.

7. The system first calculates the costs for the materials with the lowest costing level and assigns them to cost components.
8. The materials in the next highest costing level (such as semifinished materials) are then costed. The costs for the materials costed first are rolled up and become part of the costs of goods sold in the next highest level.

This process is continued until the costing results [Seite 451] of the highest material in the structure (such as the finished product) contain the cost of goods manufactured [Seite 26] for every material in the structure.

For costing, you assign the costs in a cost estimate to **cost components** in Customizing for Product Cost Planning. The cost components [Seite 462] split the costs of a material. In the cost rollup process, the data for these cost components is passed on to the costing results of the next-highest material (see graphic).



The data structure is called a **cost component split**. The results of the cost estimate (with [Seite 92] and without [Seite 449] quantity structure) are always saved in the form of a cost component split. The structure of the cost component split (that is, the number of cost components) is the same for all materials in the cost estimate.

However, a multilevel production structure [Seite 159] may also contain costs that should not be rolled up, such as sales and administration costs. In Customizing for Product Cost Planning you specify whether the assigned costing results should be rolled up for each cost component.

Features

The materials in a BOM [Seite 157] are called **BOM components**; these can consist of a material without its own BOM (such as a material component, purchased part, or raw material), or a material with its own BOM (assembly). If the product has a multilevel BOM [Seite 159], the costs for the material components are calculated and taken into account when the next-highest assembly is costed.

The structure of the BOM determines the sequence in which the materials are costed. After exploding the BOM from top to bottom and assigning costing levels, the system then costs from the bottom up. The BOM components with the lowest costing level (or the highest low-level code) are costed first, then the BOM components (assemblies) with the next highest costing level, and so on up to the highest material. The resultant costs are, in the process, rolled up towards the top.

For each BOM component costed, a cost component split is created, which groups the costs into costs such as material costs, production costs, and costs for external procurement. The cost component [Seite 462] *Material costs* for the finished product thus contains all the material input costs of the subordinate BOM components. You define the structure of this cost component split in Customizing for Product Cost Planning in a cost component structure [Seite 460].

Costing can also determine the cost of goods manufactured for materials produced in another plant if the two plants are assigned to the same controlling area, and the company codes of the plants use the same cost component structure. In such cases, the structure of the cost component split must be the same in both works. For more information, see Transferring Existing Costing Data [Seite 607] and Special Procurement in Costing [Seite 443] .

If a cost estimate for the material already exists, the system can transfer the calculated costs (grouped in cost components) into the cost estimate of the next-highest material.

If the system cannot find a cost estimate for the material, it uses a price in the material master record according to the valuation variant (see also Raw Material Costing [Seite 735]).

You can add manually entered costs to the material costs by means of an additive cost estimate [Seite 246] that contains separate cost components. This enables you to include in the cost estimate costs that, although they actually exist, cannot be taken into account automatically by the system. Examples of such costs are freight charges, insurance costs, stock transfer costs, incomplete BOMs, and routings. You can also create a separate cost estimate for raw materials. For further information, see Raw Material Costing [Seite 735].

The manually entered (that is, additive) costs can only be used for planning purposes in the R/3 System.

The cost component split is updated in the currency of the company code to which the material is assigned.

In addition, the costing results can be updated and displayed in the controlling area currency. The cost component split is then rolled up in both currencies. (See also: Currencies in Costing [Seite 633]).

You can represent cost accounting in the R/3 System as **absorption costing** and as **variable costing**. When you use variable costs, make sure that when you define cost components [Seite 462], you indicate only the variable part of the activity types as being **relevant to stock valuation**. This ensures that, when allocating costs to internal activities, only the variable activity type prices are credited, even when you carry out confirmations. You can pass on the fixed portion for each assessment at period end directly to Profitability Analysis (CO-PA). The variable costs of goods manufactured are passed on by billing documents to CO-PA.

See also:

- Quantity Structure Determination [Seite 179]
- Valuation of the Quantity Structure [Seite 203]
- Cost Estimate with Quantity Structure: Process Flow [Seite 120]

Itemization

Definition

Report that lists the calculated costs and contains detailed information on cost origins and elements that make up costs.

Prerequisites

An itemization is generated automatically with a cost estimate. If you want to display the itemization information in the cost estimate display and the information system, you must set the *Itemization* indicator when saving the cost estimate.

During preliminary costing for a production order or a production campaign, an itemization is generated dynamically. However, this itemization is not stored in the system and therefore cannot be analyzed in the information system. The itemization is available for analysis immediately after you carry out costing. For more information on the itemization of production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Use

You can use itemization to analyze a costed material, base planning object or sales document item in more detail.

Depending on the questions you need answered, there are different layouts of the itemization available in the SAP standard system. Through the selection of certain fields, you can find various information that is also partially grouped. The costs can be broken down for analysis by cost elements, by operations, or by costing items. The following layouts are described in more detail:

- Itemization by Costing Items [Extern]
- Itemization by Cost Components/ Cost Elements [Extern]
- Itemization by Operations [Extern]
- Itemization by Cost Elements [Extern]

You can modify this structure to suit your own requirements by creating your own layouts [Extern]. You can create your own layouts to be able to see other information in the itemization. For example, you can add the purchasing info record and the purchasing organization or the origin groups to the report display, or add the text of the activity types or item categories.

The origin group provides detailed information on the source of the material costs or on the origin of the overhead. With material costs, the origin group is entered in the material master record. With overhead costs, the origin group is entered in the credit key of the costing sheet and offers more information on the origin of the overhead.

In the itemization, you can also display the costs broken down into cost elements. Material costs, external activity and non-stock material are assigned to primary cost elements. In this itemization, they are shown under cost elements determined by the system. Costs for internal activity are displayed under the allocation cost element of the activity type that was entered in the master record of the activity type. Overhead costs and process costs are also displayed under

secondary cost elements. Because all actual costs are also assigned to these cost elements, a plan/actual comparison is possible later.

Only a limited selection of layouts are available for **base planning objects**.

Structure

In the standard system. the itemization is displayed with the layout *Item Categories (grouped)*. Here, the costing items are listed according to item categories. The item categories indicate, for example, whether it is a material (M), internal activity (E), or overhead rate (G).

The costing item for a material (M) indicates the plant, the relevant material number, the price of the material, the text in the material master data and the quantity used.

The costing item for an internal activity (E) indicates the cost center, the work center, the activity type, a text, the price of the activity and the quantity used.

See Creating and Deleting Subtotals [Extern] for general information on grouping in layouts.

For *joint production*, the itemization provides two types of display. You can switch between the process view and the product view in the report. While the product view shows only the costs of the co-product, the process view provides information about the costs of the other co-products, as well as an overview of the total costs of the production process. The other co-products are shown under item category A with negative quantities and values. This negative value is the amount of costs for the co-product that was calculated using the apportionment structure.

Integration

The itemization is a prerequisite for variance calculation in Product Cost by Period and Product Cost by Order.

From the report, you can display the master data of a costing item.

For operations that are carried out externally, the costs are either entered in the routing, or are determined using a purchasing info record. For operations that are carried out internally, the costs are determined using *Cost Center Accounting*. For the valuation of internal activity using a cost estimate with quantity structure, the system assumes that price calculation was already done in *Cost Center Accounting*.

The system determines overhead on the basis of input quantities, or proportionally on the basis of direct costs (material or production) or costs of goods manufactured. You define the conditions for determining this overhead in a costing sheet in Customizing.

Process costs are determined in Activity-Based Costing [Extern] and are generally assigned to the product using a template. The template specifies which process costs are consumed and the basis on which these costs are further allocated to the product.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

If you are working with production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Cost Elements

Use

The report displays a cost estimate broken down into cost elements. The cost elements show the costs according to origin, such as material costs or labor costs. The cost element itemization thus tells you which costs have arisen for what purpose.

Integration

If you enter an *origin group* in the material master record or in the credit key of the costing sheet, you can have this displayed in an additional field to further break down the costs into material cost elements and the overhead costs into origin groups.

The values in the cost element itemization are determined from the values in the itemization. Subsequent changes of the quantity structure or the costing items are not displayed. To display such changes, costing must be repeated.

If you use your own programs or reports to evaluate your cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Prerequisites

If you want to see the cost element itemization in the information system, you must select the *itemization* indicator when you save the cost estimate.

Activities

In the standard system, you can choose between predefined layouts or adapt the information to your requirements by creating custom layouts. For more information, see Creating, Changing, and Managing Layouts [Extern].

See also:

Cost Analysis [Extern]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Partner Cost Component Split

Definition

Report with which you can display the value added of the organizational units (partners [Seite 628]) involved in the production process organized according to cost component groups in a hierarchy graphic.

Use

If production involves more than one partner (for example, multiple profit centers in multiple plants and company codes), you can analyze the value added for each partner [Seite 628].

You can analyze the following reports:

- Reports that show the total costs of a product broken down according to cost components [Seite 462]
- Reports that show the portion of the partners broken down according to cost component groups

In Customizing, you specify which organizational units the system considers as partners. You can select from the organizational units company code, plant, profit center and business area.

For every resource used, the system can derive the organizational unit that provided this resource. The cost estimate generates a separate cost component split for every involved partner. You can also only display the direct partner's [Seite 628] portion.

The partner cost component split can be arranged in multiple dimensions, according to the definition of the partner. The cost component split can be displayed in hierarchy sequences of the partner, as required.

Structure

The partner cost component split provides a hierarchical graphic in which the partners that you have defined are displayed with their costs. The costs are grouped in cost components and shown as totals. Through *Settings* → *Sort Sequence of Partner Cost Splits* in the report, you can change the sort sequence of partner cost splits (order in which the partners are shown in the hierarchy).

Through *Settings* → *Cost Component Groups, y*ou can switch between cost component groups 1 and 2 in the report. You can also switch between the main and auxiliary cost component splits.

Unless you specify a different lot size, the lot size of the cost estimate is displayed. If you want to use a specific lot size, enter it in the report parameters under *cost base*. The costs are then converted to that lot size. The values displayed depend on the cost component view selected.

Integration

Through *Settings* → *Partner View*, you can branch from the partner cost component split to reports for the direct partners. The reports on the direct partners are also hierarchical graphics, although they are only single-level. If you choose and display, for example, the profit center as the direct partner, you will see (in addition to the profit center of the material costed) only the profit center that has directly issued your activity or delivery to the profit center of the material costed.

Prerequisites

To generate and display a partner cost component split, you must do the following in Customizing:

- Define cost component groups
- Define a partner version
- Enter this partner version in the costing type
- Enter this costing type in the costing variant that you use for costing

See also:

Preparing for Material Costing [Seite 73]

Cost Component Report [Seite 824]

Partners and Direct Partners

Definition

- **Partner**

  Business unit that is involved in the value added process

- **Direct Partner**

  Business unit that passes on its delivery or service directly to another partner

Use

Partners and direct partners provide an in-depth view of how the value added portions are broken down. Within the context of **partner versions** in Customizing for Product Cost Planning, *partners* or *direct partners* can consist of any combination of the organizational units *profit center*, *plant*, *business area*, and *company code*.

If you do not want the portion of the value added that the direct partner procured to be visible when the product or service is transferred to the receiving partner, it can be subsumed under the value added of the **direct partner** (single-level partner). In such a case, only the portions of the directly-procured deliveries and activities are displayed. Value-added portions that the direct partner has received from others are passed on directly to the direct partner.

In conjunction with the partner version settings in Customizing, the cost estimate generates a separate cost component split [Seite 812] for each **partner**, providing an in-depth display of all the valued-added portions at each stage of the production process. The materials and services of a production level do not appear in the next level as material costs; instead, the structure of the costs and profits, together with the partner portions, are retained at all levels and for all partners.

In the context of group costing [Seite 621], the company code is a particularly important partner. However, you can also use the partner information if your company costs the legal view only, instead of group costing as a whole; even here, you can break down the portion of each organizational unit, such as the plant, to analyze the value-added chain.

See also:

For more information, see the *Implementation Guide (IMG)* for *Product Cost Planning* under *Selected Functions in Material Costing*.

Working with the Cost Estimate Without Quantity Structure

Use

The material cost estimate without quantity structure enables you to:

- Plan costs for raw materials, internal activities and external activities for a product, in the form of a unit cost estimate
- Assign the material overhead and production overhead to the product
- Assign the costs to cost components and save them
- Display the material usage costs for semi-finished products grouped according to cost components

See also:

- Cost Estimate without Quantity Structure [Seite 449]
- Cost Estimate Without Quantity Structure: Process Flow [Seite 478]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]
- Unit Costing [Seite 683]
- Multilevel Unit Costing [Seite 671]
- Managing the Costing Results [Seite 588]
- Use of Existing Costing Data [Seite 607]

Cost Estimate Without Quantity Structure: Process Flow

Use

You can create a cost estimate without quantity structure for a material that does not yet have a PP quantity structure. For such materials, you create a quantity structure using a unit cost estimate.

Integration

You can also use existing R/3 data for material cost estimates without quantity structure, data such as materials, internal activities, work centers, material cost estimates, and base planning objects.

Prerequisites

You have checked the settings in the costing variant. For more information, see Preparing for Material Costing [Seite 73].

Features

1. You create a material cost estimate without quantity structure using a costing variant as the basis for costing.

   For more information, see Creating a Cost Estimate Without Quantity Structure [Seite 480].

2. You enter the costing data manually using the unit cost estimate.

   For further information, see the following:

   – Unit Costing [Seite 683]

   – Creating Costing Items [Seite 703]

   – Creating Cost Estimates with Reference [Seite 716] and Copying a Cost Estimate [Seite 719]

   – Origin of Data in Unit Costing [Seite 687]

   As an alternative to single-level unit costing, you can edit the cost estimate without quantity structure on a multilevel basis. For more information, see Multilevel Unit Costing [Seite 671].

3. The system determines the prices for materials and internal activities as well as overhead and process costs.

   For further information, see the following:

   – Valuation of Costing Items [Seite 726]

   – Use of Existing Costing Data [Seite 607]

4. You analyze the results and save the cost estimate.

   For further information, see the following:

- Costing Results [Seite 451]
- Saving Material Cost Estimates [Seite 600]

5. You can update the costing results in the material master record, and transfer them into Profitability Analysis.

   For further information, see the following:

   - Purpose of Product Cost Planning [Seite 23]
   - Price Update [Seite 634]

6. You can archive and delete material cost estimates.

   For further information, see the following:

   - Archiving Material Cost Estimates [Seite 602]
   - Deleting Material Cost Estimates [Seite 604]

Creating a Cost Estimate Without Quantity Structure

Procedure

Without Reference:

1. Choose *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate Without Quantity Structure → Create.*

   The *Create Material Cost Estimate Without Quantity Structure* screen appears.

2. Enter the material and plant.

3. Enter the following data in the *Costing data* tab page:

   – Costing variant

     For more information, see Costing Sequence [Seite 59] and Preparing for Material Costing [Seite 73].

   – Costing version

     For more information, see Working with Costing Versions [Seite 619].

   – Costing lot size

     If you do not enter a lot size, the system uses the lot size from the material master. You can change the lot size later, if desired.

   – Transfer control

     If you have entered a transfer control ID in the costing variant, this ID is automatically proposed by the system. The costing variant also specifies whether you can change or enter the transfer control ID.

     For more information, see Use of Existing Costing Data [Seite 607].

4. If required, set the indicator *Cost comp. str. with texts*.

   If you set this indicator, the system inserts a costing item of item category V (with description, cost component and cost element) in the cost component structure [Seite 460] for each cost component [Seite 462] when you enter costing items in the list screen of the unit cost estimate.

5. Choose .

6. Check the costing dates proposed in the tab page *Dates*.

   For more information, see Date Control [Seite 567].

7. Choose .

   The list screen [Seite 706] for unit costing appears.

8. Enter the costing items [Seite 703].

   You can use the detail screen [Seite 711] for this. Place the cursor on the desired costing item, and choose .

   For more information, see Creating Costing Items [Seite 703].

9. Choose and check the header screen [Seite 685].
   a. If you want to change the lot size at a later time, choose *Change lot size…* and enter the new amount.
   b. To return to the list screen, choose *List screen.*
10. Choose to save the costing items.

    If the costing variant contains a costing sheet, overhead or process costs are calculated automatically when you save the costing items. For further information, see Overhead [Seite 569].

    The material cost estimate is saved temporarily. You return to the *Create Material Cost Estimate Without Quantity Structure* screen. In addition to the *Costing data* and *Dates* tab pages, further tab pages were created. The material costs calculated and costing status [Seite 598] are displayed in the *Costs* tab page.

    You can analyze the costs or go back to the list screen of the unit cost estimate. The following options are available:

    – Goes back to the list screen of the unit cost estimate
    – Displays the itemization
    – Displays the cost component split
    – *Partner* Displays the Partner cost component split [Seite 812] (if one exists)
    – Displays the log [Seite 589] and the messages therein
    – Displays further information about the cost estimate, such as the material master

    For more information, see Analyzing the Results [Seite 494].
11. Choose to save the material cost estimate without quantity structure to the database.

With Reference:

1. Choose *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate Without Quantity Structure → Create.*
2. Enter the material and plant.
3. Enter the costing variant and costing version in the *Costing data* tab page.
4. Choose .
5. Enter the data in the screen area *Copy from* for the material cost estimate that you want to use as a reference.

   Choose *Cost est.* to search for the material cost estimate concerned. The dialog box *Selection of material cost estimates - w/o qty struct* appears. Enter the selection criteria and choose . The system displays a list of the material cost estimates found. Select the required material cost estimate with a double click.
6. Choose .

7. Check the costing dates proposed in the tab page *Dates*.
8. Choose .

   The list screen of the unit cost estimate [Seite 706] appears. The costing items from the referenced cost estimate have been inserted and revaluated.
9. Check or edit the costing items [Seite 703] as required.

   You can use the detail screen [Seite 711] for this. Place the cursor on the desired costing item, and choose .

   For more information, see Creating Costing Items [Seite 703].
10. Choose and check the header information [Seite 685].
11. Choose to save the costing items.

    The costing items are saved temporarily.

    For more information, see Step 10 of the above procedure.
12. Choose to save the material cost estimate without quantity structure.

Result

Price Update

If you created a standard cost estimate [Seite 63] , you can transfer the marked results into the material master record as the future standard price and the released results as the current standard price. For more information, see Updating Standard Prices [Seite 636].

If you created a inventory cost estimate, you can transfer the results into the material master record as the tax-based or commercial price. For more information, see Tax-Based and Commercial Prices [Seite 650].

If you created a standard cost estimate, inventory cost estimate, modified standard cost estimate, or a current cost estimate, you can transfer the results into the material master record as the planned prices. For more information, see Updating the Other Planned Prices [Seite 655].

Use as Reference

You can use a material cost estimate as a reference for another one. For more information, see Creating a Cost Estimate with Reference [Seite 716].

See also:

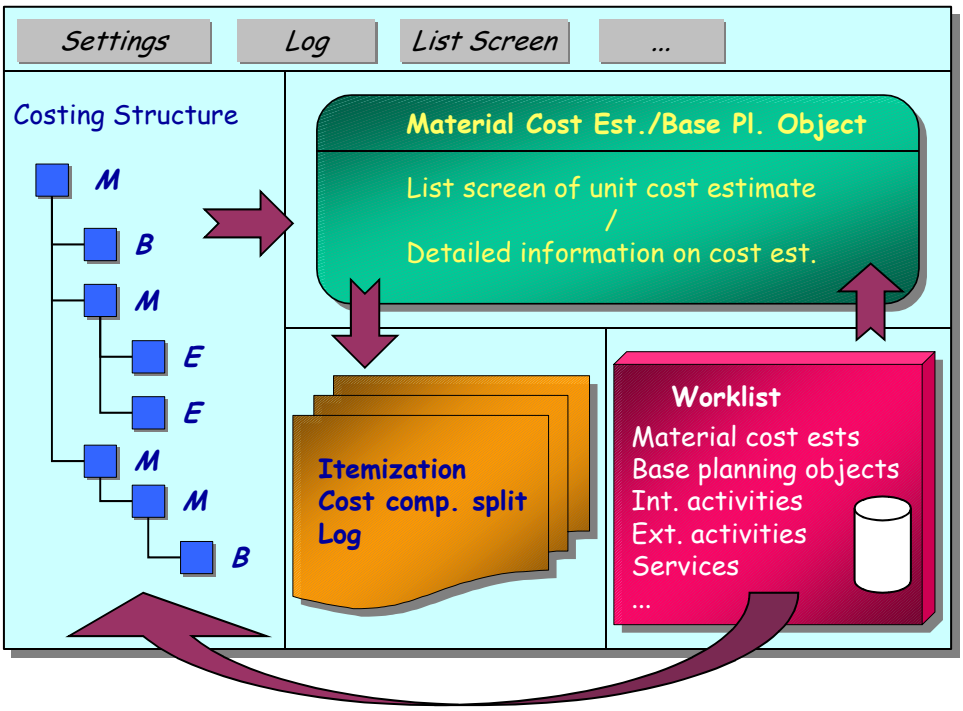
- Costing Results [Seite 451]
- Changing the Cost Estimate Without Quantity Structure [Seite 492]
- Displaying Material Cost Estimates [Seite 493]
- Analyzing the Results [Seite 494]

Multilevel Unit Costing

Use

Multilevel unit costing uses a highly flexible screen layout for the editing of material cost estimates without quantity structure and base planning objects.

The following graphic illustrates the functions of multilevel unit costing:



Multilevel unit costing differs from "classic" (that is, single-level) unit costing in the following ways:

- The costing structure can be displayed hierarchically
- The screen layout can be arranged in various ways, such as by positioning the hierarchical costing structure and the list screen of the unit cost estimate next to each other
- A worklist facilitates access to frequently used data, such as internal activities, business processes, material cost estimates, and base planning objects
- You can display material cost estimates with quantity structure and use them as a reference
- You can access numerous functions simply by clicking on the right mouse button. These functions include creating material cost estimates and base planning objects, and inserting items into the worklist
- Drag and drop functions are available, which you can use to move costing items from the worklist to the costing structure, for example
- You can branch to Materials Management to create new materials

Prerequisites

To enjoy the full range of the multilevel unit costing functions, SAP recommends that you use a 21" screen.

Features

The screen is divided into various areas (see the above graphic):

- ***Costing Structure***

  This screen area can be used to display or edit a material cost estimate or base planning object.

  By **double-clicking** on a costing item, you can go to the list screen for that item or to the costs display. You can use the **drag and drop** function to move items from the worklist to the costing structure.

  For more information, see Editing Multilevel Cost Estimates [Seite 674].

- ***Worklists***

  This screen area is used to manage and sort information that you require on a regular basis to edit a material cost estimate or base planning object on a multilevel basis.

  You can move costing items from the worklist to the costing structure or the list screen of the unit cost estimate using the **drag and drop** function. By **double-clicking** on a material cost estimate or base planning object in the worklist, you can go to other sources of information such as the list screen of a unit cost estimate, or the detailed information on a material cost estimate.

  For more information, see Using the Worklist [Seite 678].

- ***Detail List***

  This screen area displays detailed information, such as the itemization, the cost component split or the message log [Seite 589].

- ***List Screen*** or ***Costing Information***

  This screen area is used for the following:

  – To display or edit the list screen of a unit cost estimate [Seite 706]

    or

  – To display the costing data for a material cost estimate both with and without quantity structure

    The type of information displayed depends on whether the cost estimate involved is a unit cost estimate (that is, a base object cost estimate or a material cost estimate without quantity structure) or a product cost estimate (a material cost estimate with quantity structure).

You can do the following:

- Change the size of the individual screen areas with the mouse pointer
- Display or hide the screen areas using the following:
  – *Costing structure on* or *off*

- *Worklists on* or *off*
- *Detail list on* or *off*

The following functions are also available:

Button	Function
	Enables you to define the default values for the copying of cost estimates (example: costing variant)
	Displays legend explaining the symbols in the costing structure and worklist of multilevel unit costing
	Displays information about a costing item in the list screen of the unit cost estimate, such as details on the costing type or material The type of information available depends on the type of costing item; for example, you can only go to the material master from a material item.
	Displays a log [Seite 589] containing the system messages shown in the *Detail list* screen area
	Goes to the SAP Library and displays the documentation

Editing Multilevel Cost Estimates

Prerequisites

You are in the *Multilevel Unit Costing* screen. You can reach this screen by either of the following menu paths:

- *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate Without Quantity Structure → Edit Multilevel*

  or

- *Accounting → Controlling → Product Cost Controlling → Reference and Simulation Costing → Edit Base Planning Object - Multilevel*.

If applicable, you have created a worklist so that Multilevel Unit Costing can quickly access frequently used data. For more information, see Using the Worklist [Seite 678].

You have arranged the size of each screen area to your satisfaction.

If the size of a screen area is too small, you may not be able to see all of the toolbar. This often occurs when the costing structure is displayed too narrowly on the left margin of the screen.

Remember that several functions, including the creation of cost estimates and materials, can be accessed via both the toolbar and the right mouse button.

Procedure

Creating, Copying, Changing and Displaying Cost Estimates

1. In the *Costing structure* screen area, choose from the following:
   - *Create material cost estimate* to create a material cost estimate without quantity structure and insert it in the costing structure:
     - Enter the necessary data, such as the material, plant and costing variant, and choose .
     - Enter [Seite 703] the costing items in the list screen [Seite 706] and save them together with the material cost estimate without quantity structure. For more information, see Creating a Cost Estimate Without Quantity Structure [Seite 480].
     - Edit the material cost estimate using multilevel unit costing. Using **drag & drop**, insert items from the worklist [Seite 678].
   - *Create base planning object* to create a base planning object and insert it in the costing structure:
     - Enter the name of the new base planning object, the controlling area and, if applicable, a reference, and choose .

- Edit the master data of the base planning object (for example, base unit of measure, plant and description) and choose .
- Enter a costing variant and reference if required and choose .
- Enter [Seite 703] the costing items in the list screen [Seite 706] and save them together with the base planning object. For more information, see Creating Base Planning Objects [Seite 668].
- Edit the base planning object using multilevel unit costing. Using **drag & drop**, insert items from the worklist [Seite 678].

2. In the *Costing structure* screen area, choose from the following:
   - *Copy material cost estimate* to select and copy an existing material cost estimate
   - *Copy selected cost estimate* to copy a cost estimate that has been selected in the costing structure
3. In the *Costing structure* screen area, choose from the following:
   - *Change selected cost estimate* to change a material cost estimate or base planning object that has been selected in the costing structure

     You cannot change material cost estimates with quantity structure. You can only display them, or use them as a reference for a material cost estimate without quantity structure.
   - *Change material cost estimate or base planning object* to select and change a material cost estimate or base planning object

     The dialog box *Selection of material cost estimates* or *Selection of base planning objects* appears. Enter the selection criteria to search for the cost estimate.
4. In the *Costing structure* screen area, choose from the following:
   - *Display selected cost estimate* to display a cost estimate that has been selected in the costing structure
   - *Display material cost estimate with quantity structure* to display the material cost estimate with quantity structure

     The dialog box *Selection of Material Cost Estimates* appears. From here, you can have the system search for an existing material cost estimate with quantity structure and display it.
5. To go to a material cost estimate without quantity structure or a base planning object in the list screen of the unit cost estimate [Seite 706], **double-click** on the cost estimate in the structure.
   - Edit the list screen [Seite 706]. Add or delete costing items as required. Choose with the quick info *Information on costing item* to analyze further information, such as the cost element.
   - To display the header information about the cost estimate, choose . From here, you can choose with the quick info *Information on Cost Estimate Header* to analyze

further information, such as the settings for the costing variant [Seite 76] or for the costing sheet [Seite 744].

In respect of material cost estimates with quantity structure, the **double-click** takes you to the cost estimate display, not to the list screen of the unit cost estimate. For more information, see Analyzing the Results [Seite 494].

6. To insert an item into the cost estimate from the worklist, select the item and use **drag and drop** to add it to the costing structure or to the list screen of the unit cost estimate. For more information, see Using Worklists [Seite 678].

Creating Materials

To create a new material, choose *Create material master* in the *Costing structure* screen area.

The screen *Create Material: Initial Screen* appears.

a. Enter the necessary data, such as the material number and material type, and choose .

b. Create accounting and costing views, and save the material.

For further information, see Material Master Records [Seite 689].

Editing the Costing Structure

1. In the *Costing structure* screen area, choose from the following:

a. *Display hierarchy above* or *left* to move the item to the structure above or left

b. *Show all items* or *Hide items* to display either every item in the costing structure or only the material cost estimates and base planning objects

c. *Change layout* to show or hide information

d. *Save layout* to save the changes under a new layout

e. *Manage layouts*. Here you can define a layout as an initial layout, for example.

f. *Choose layout* to select from various existing layouts

For more information, see Creating, Changing and Managing Layouts [Extern].

g. or to expand or collapse the costing structure or sub-area

h. *Print preview of view* or *Print preview of entire hierarchy* to go to the print preview of the displayed or entire costing structure (all items)

i. *Print view* or *Print entire hierarchy* to print the displayed or entire costing structure (all items)

j. to search for a particular term in the costing structure

2. To delete a cost estimate from the costing structure, place the cursor on the cost estimate and choose *Delete cost estimate* with the **right mouse button**.

3. To delete all cost estimates from the costing structure, place the cursor on the *Costing structure* node and choose *Delete all cost estimates* with the **right mouse button**.

Using Worklists

Use

You use worklists to manage data that you access on a regular basis. Examples of such data are material cost estimates, base planning objects, services and internal activities. You can use the worklist to structure the data in such a way that you have speedy access to information that is frequently required.

The worklist consists of containers ( ) in which this information is assembled. You decide which information or data a container holds. You can specify that a container holds all item categories, such as internal activities, material cost estimates and base planning objects (*Item category-independent*) or certain item categories only (*Item category-dependent*).

Information in the container of a worklist, such as material cost estimates or base planning objects, can be

- Transferred by **drag and drop** into the costing structure or the list screen of the unit cost estimate
- Displayed by **double-click** in the *Detail list* screen area

Prerequisites

You are in the *Multilevel Unit Costing* screen. You can reach this screen by either of the following menu paths:

- *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate Without Quantity Structure → Edit Multilevel*

  or

- *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Reference and Simulation Costing → Edit Multilevel*.

Procedure

1. Choose *Worklists on* to display the *Worklist* screen area.
2. In the screen area *Worklist*, choose to create a worklist.

   Enter the name, and specify the following:

   – Whether the worklist should contain more than one container or only one container with items of a certain category (such as internal activities)

   – That only you can access the worklist, or alternatively that all users can access it
3. To add an item to the container of a worklist, position the cursor on the container and choose *Select* with the **right mouse button**.

   The system offers you the permitted item categories for the container. You can use the search help to insert the data in the container.
4. To delete an item from a container, use the **right mouse button** to choose *Delete item*.
5. To display the costing items of a material cost estimate or of a base object cost estimate, **double-click** on the relevant cost estimate in the worklist.

If you are displaying material cost estimates without quantity structure and base planning objects, the list screen of the unit cost estimate [Seite 706] appears. If you are displaying material cost estimates, the detail screen of the cost estimate appears.

For more information, see Analyzing the Results [Seite 494] and Displaying Material Cost Estimates [Seite 493].

6. In the *Worklist* screen area, you can choose the following:
   - *Convert container to worklist* to convert a container to a worklist
   - *Insert container* or *Delete container* to insert a container into, or delete a container from, a worklist

     You can also access these functions using the **right mouse button**.

     If you are inserting a container into the worklist, you must do the following:

     - Create a name for the new container
     - Choose whether all items or only items of a certain category are to be included in the container
   - to copy one worklist into another
   - to rename the displayed worklist
   - to save the dismayed or edited worklist
   - to delete the displayed worklist

Result

You can display up to three worklists. To do this, choose *Worklist* from the list field and confirm the display with .

The worklists are displayed in the form of tab pages. For the heading of the tab page, the name of the worklist and one of the symbols , or is used. By using and with the quick info *Move worklist*, you can rearrange the tab pages so that, for example, two different worklists are shown next to each other.

After creating a worklist, you can use the data for *Multilevel Unit Costing*. To insert an existing cost estimate or item from the worklist into the costing structure or list screen of the unit cost estimate, place the cursor on the item in the worklist and use the **drag and drop** function to move the item.

If you transfer a material cost estimate, you can decide whether it is to be transferred as the original or as a copy.

This feature is only of limited use for base planning objects. For example, you cannot insert a material cost estimate into a base planning object.

Changing the Cost Estimate Without Quantity Structure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate Without Quantity Structure* → *Change.*

   The screen *Change Material Cost Estimate Without Quantity Structure* appears.

2. Enter the material and plant.

3. In the *Costing data* tab page, enter the selection criteria for the cost estimate to be changed (*Costing variant*, *Costing version*, *Valid on*).

   Choose *Cost ests* to search for the material cost estimate without quantity structure. The dialog box *Selection of material cost estimates - w/o qty struct* appears. Enter the selection criteria and choose . The system displays a list of the cost estimates found. You can transfer the desired cost estimate from the list by double-clicking on it.

4. Choose .

   The list screen of the unit cost estimate [Seite 706] appears.

5. Edit the costing items.

   You can also use the detail screen for this. Place the cursor on the desired costing item, and choose .

6. Choose and check the header information.

7. Choose to save the costing items.

   When you save, the overhead is calculated. The costing items are saved temporarily. You return to the screen *Change Material Cost Estimate Without Quantity Structure*.

8. Choose to save the material cost estimate without quantity structure.

See also:

- Displaying Material Cost Estimates [Seite 493]
- Analyzing the Results [Seite 494]

Displaying Material Cost Estimates

Procedure

5. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate with* or *Without Quantity Structure* → *Display.*

   The screen *Display Cost Estimate with* or *Without Quantity Structure* appears.

6. Enter the material and plant.
7. Enter additional search and display criteria, such as the costing variant and costing version.
8. Choose *Cost ests* to find any existing cost estimates.

   c. The dialog box *Selection of material cost ests* appears, in which you can enter further selection criteria.

   d. Choose .

      A list of material cost estimates corresponding to your search criteria appears. Display a material cost estimate by double-clicking on it.

6. Choose .

Result

You see the results of the material cost estimate. From here, you can call the reports for analysis purposes. For more information, see Analyzing Results [Seite 494].

Analyzing the Results

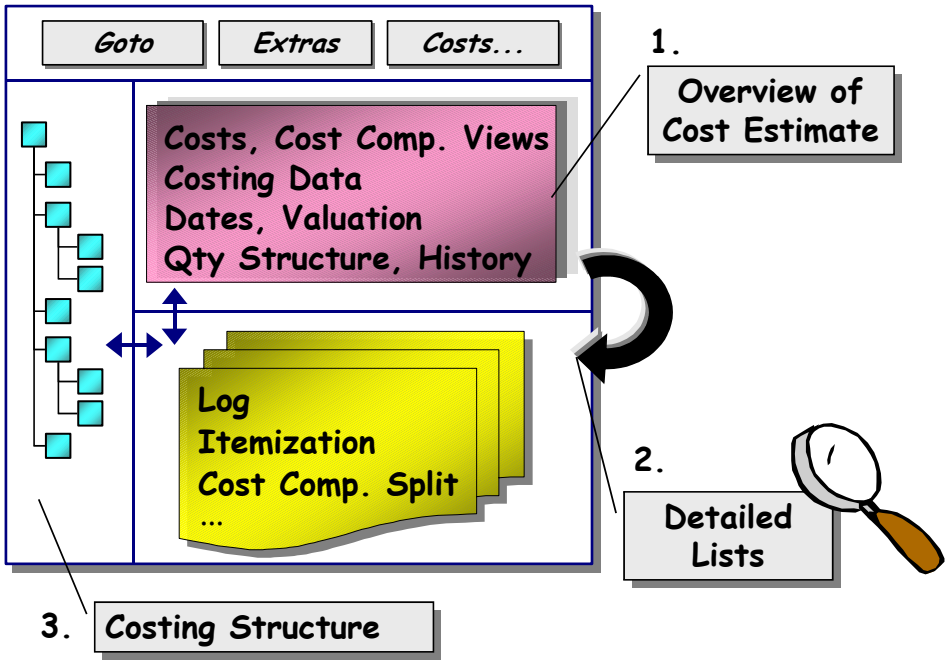
Use

You can analyze the results of a material cost estimate in this way if you:

- Create a material cost estimate with quantity structure [Seite 123]
- Create a material cost estimate without quantity structure [Seite 480]
- Create [Seite 248], change or display [Seite 251] additive costs
- Display a material cost estimate [Seite 493]
- Have executed a costing run [Seite 337] and double-click on a material in the material overview to access detailed information on the cost estimate for that material
- Display a material cost estimate from the archive [Seite 602]

Features

The screen is divided into three areas:



Note that it is not possible to display a costing structure directly after performing unit costing [Extern]

You can arrange this screen to your own requirements by doing the following:

- Altering the size of the screen areas

  To see all the pushbuttons and displayed fields for the costing structure, it may be necessary to increase the size of this screen area.

- Displaying or hiding the screen areas *Detailed list* and *Costing structure* via *Detail list on/Detail list off* and *Costing structure on/Costing structure off*
- Using *Hold* to save these settings so you can call up this function (user-dependent) later: it is up to you whether you save the settings independent of the costing variant or not.

Cost Estimate Overview

This screen area contains tab pages which provide the following cost estimate data:

***Costs* tab**
Contains the calculated costs The costs displayed are based on the costing lot size. However, you can also see the costs based on the price unit in the material master, or based on a figure you have already defined, by selecting a cost base from the list field. Note that if a cost base is changed, all costing items are adjusted proportionally, including those that contain fixed costs (such as setup costs). displays the log [Seite 589] containing the messages for the material displays the itemization [Seite 828] displays the cost component split [Seite 824] *Partner* displays the partner cost component split with cost component groups [Seite 812] displays the costed multilevel BOM [Seite 823] (displayed in the screen area *costing structure*) *Additive Costs* displays the additive costs These reports, which refer to a cost component view, are displayed in the screen area *Detailed list*. To display another cost component view, select the desired view from the list field in the *Costs* tab page. The information in the screen area *Detailed list* is updated automatically.

Tab page	***Contains***
Costing data	The costing variant and costing version used in the cost estimate
Dates	The costing dates used for the cost estimate
Quantity structure	The quantity structure data used for the cost estimate
Inventory costing	• Currency in which the costing results are displayed • Costing sheet, overhead key, and template used to calculate overhead
History	Information on who created, marked, and released the cost estimate, and when

Further Costing Information and Settings for the Cost Estimate

	You can branch from the toolbar to the master data used. For example, you can go to the material master of the material costed. For more information, see Origin of Costing Data [Seite 129].

◀ or ▶	Previous/next material (only when you **create** a cost estimate with quantity structure, not when you display it)

Goto → *Material overview*	You can display an overview of all the materials costed. You can adapt the list to your own requirements, for instance by setting filters and by sorting. By double-clicking on a material, you can branch from this list to the detailed information.
Goto → *Highest material cost estimate*	You go back to the costing information for the highest material.
Costs → *Cost element itemization*	The cost element itemization [Seite 827] is only available when you **create** a cost estimate, not when you display it.
Costs → *View selection*	Here you can change the view for all three screen areas at the same time.
Settings → *Cost display*	Here you can change the cost base and the currency (providing a cost component split has been generated for the currency to be set) for all three screen areas at the same time. You can change the content of the table on the tab page *Costs* under *Costs for view*.

Unit Costing

Use

Unit costing is a universal tool for planning costs and setting prices. You can use it to plan costs for various reference objects:

- Materials (material cost estimate without quantity structure [Seite 449])
- Additive costs [Seite 246] for a material cost estimate with quantity structure [Seite 92]
- Base planning objects [Seite 702]
- General cost objects [Extern]
- Production orders without quantity structure [Extern]
- Sales order items [Extern]
- Projects (WBS) [Extern]
- General costs activities [Extern]
- Network components [Extern]
- Internal orders [Extern]
- Primary cost elements [Extern]

Some objects, such as general cost objects and production orders without quantity structure, can only be planned using unit costing. The cost estimate results are valid for the entire life of the object.

For WBS elements and internal orders, you can use unit costing in addition to other forms of planning such as cost element planning and structure planning. The cost estimate results can be valid for the entire life of the object or for a fiscal year.

You can calculate the costs for production orders, materials, and sales orders either using unit costing or product costing. Product costing is generally used in connection with the Production Planning (PP) Module, while unit costing can be used to enter manually data relevant to costing or to transfer it from non-SAP systems.

Features

Unit costing is a type of spreadsheet that, due to its integration, can use existing master data and prices in the R/3 system, such as activity prices from Cost Center Accounting. You can use the spreadsheet to create totals, subtotals, and formulas for mathematical operations.

You can use unit costing in the R/3 System as follows:

- **As a Spreadsheet Without Accessing Data in the R/3 System**

  You can carry out simple cost planning without accessing information in the R/3 System. For example, you can enter variable items, create subtotals, and enter text items. For more information, see Creating Costing Items [Seite 703].

- **Spreadsheet with Access to Data in the R/3 System**

  If you are using the *Materials Management* and *Controlling* components, you can create costing items that can access information from these areas, such as the standard price

from the material master record, and the price for performing a certain activity type from activity type planning. For more information, see Master Data for Unit Costing [Seite 688] and Creating Costing Items [Seite 703].

- **As a Reference when Planning Specific Reference Objects**

  If you create a unit cost estimate for a reference object, you can use a reference for this. The reference object of the cost estimate (base planning object, material, order, and so on) determines which existing objects you can copy.

  For more information, see Creating a Cost Estimate with Reference [Seite 716] and Copying a Cost Estimate [Seite 719].

You have costed a product with a cost estimate with quantity structure [Seite 92] You would like to simulate the effects on the costs of using different materials, for example. You can create a cost estimate without quantity structure and use the cost estimate with quantity structure as a reference.

You have costed the items of a sales order with product costing, and would like to simulate the effects on the costs of using different internal activities, for example.

See also:

For more information about the unit costing functions, see the following sections:

- List Screens in Unit Costing [Seite 706]
- Detail Screens in Unit Costing [Seite 711]
- Headers in Unit Costing [Seite 685]

For more information about creating unit cost estimates for reference objects, see the following:

- Creating Additive Costs [Seite 248]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]
- Creating Base Planning Objects [Seite 668]
- Creating a Preliminary Cost Estimate for a CO Production Order [Extern]
- Planning Costs for General Cost Objects [Extern]
- Creating a Unit Cost Estimate for a Sales Order Item [Extern]
- Unit Costing in the General Costs Activity [Extern]
- Unit Costing for Material Components [Extern]
- Creating a Unit Cost Estimate in the Network [Extern]
- Unit Costing for Internal Orders [Extern]
- Detailed Planning of a Primary Cost Element [Extern]

Header Information About the Unit Cost Estimate

Use

You can go to the header screen of the unit cost estimate by choosing in the list screen [Seite 706].

The button takes you to information that was used in the cost estimate, such as the material master and the costing variant.

By choosing with the quick info *History*, you can display information such as who created the unit cost estimate and when, and who changed or closed it.

The button *List Screen* takes you back to the list screen of the unit cost estimate.

Change lot size… enables you to alter the lot size for the costing items.

The header screen also contains the following information:

Field	Definition
Reference object	This indicates the object for which the cost estimate is created (base planning object, order, project, material).
Costing variant	The costing variant [Seite 72] determines, among other things, how the costing items are valuated and which costing sheet is used to calculate overhead.
Controlling area	This specifies the controlling area to which the cost estimate is assigned.
Costing version	Costing versions [Seite 619] enable you to create more than one cost estimate for the same material without having to define new costing variants.
Indicator *Material component*	Flags the material as a material component If you turn on this indicator, a raw material cost estimate is created and an item of category I is inserted. You can switch off the raw material cost estimate by deselecting the indicator or by choosing *Functions* → *Switch off raw material costing* in the list screen.
Total value in CO area currency	This is the sum of the item values in the currency of the controlling area.
Fixed costs in CO area currency	This is the portion of the item values that is flagged as fixed costs.
Total value in foreign currency (header)	This is the sum of the item values in the object currency (header foreign currency).
Fixed costs in foreign currency (header)	This is the portion of the item values in object currency (header foreign currency) flagged as fixed costs.
Total value in foreign currency (item)	This is the total of the item values in the transaction currency (item foreign currency).

Header Information About the Unit Cost Estimate

Fixed costs in foreign currency (item)	This is the portion of item values in transaction currency (item foreign currency) flagged as fixed costs.
Pricing date	This is the date on which the prices of the items are calculated from the master data. If the reference object of the cost estimate is a production order, this date is the same as the order start date.
Lot size	Quantity which you entered on creating the cost estimate or which you changed using the function *Change lot size*.
Status	Not currently used
Description	Text as required
Description	Text as required; enables you to create a long text

Origin of Data in Unit Costing

Use

You create a unit cost estimate for a reference object to calculate the cost of goods manufactured and cost of goods sold. The costing items are:

- Entered manually by you (most items)

  Material items (category M), internal activity items (category E), base planning objects (category B), process costs (category P), variable items (category V)

- Costed by the system based on your entries

  Overhead (category G) and process costs (category X)

See also:

For more information about creating costing items, see Creating Costing Items [Seite 703].

For more information about the master data you can use in unit costing, see Master Data for Unit Costing [Seite 688].

For more information about how costing items are valuated and how overhead is calculated, see Valuation of Costing Items [Seite 726].

For more information about using multilevel unit costing, see Multilevel Unit Costing [Seite 671].

Master Data for Unit Costing

Use

You can access a range of master data from other components to calculate the cost of goods manufactured and the cost of goods sold in unit costing:

Component	Data
MM	Material master records [Seite 689] and purchasing data [Seite 691]
PP and PP-PI	Work centers [Seite 693] and resources [Seite 693]
CO	Cost centers [Seite 698], activity types [Seite 698], business processes [Seite 701] and base planning objects [Seite 702]

Unit costing can also access **services** in Materials Management. You can plan them as items of category **N** in unit costing. A service is assigned to a cost element via the valuation class in the service master record.

Prices for services are time-dependent. Costing selects the price that is valid on the date in the header of the cost estimate. To check the service master, choose *Logistics → Materials management → Service master → Service master → Display.*

To check the price for a service, choose *Logistics → Materials management → Service master → Service master → Service conditions → For service → Display.* For more information, see MM - Services [Extern].

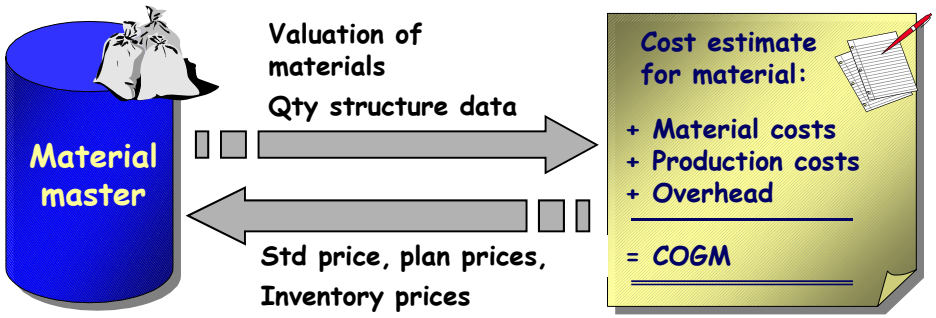
Material Master Records

Use

Material costs appear in the itemization as costing items of category M. These items are determined automatically in material costing with quantity structure. In unit costing (that is, material costing without quantity structure or base planning objects), you enter the materials manually as items of category M.

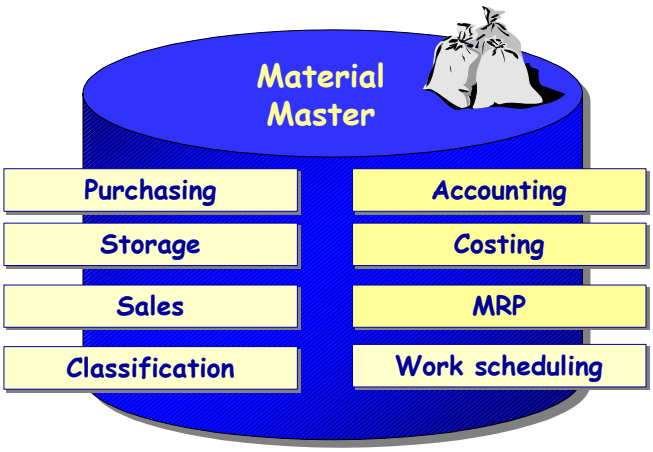
You can access the data of these materials in the material master record, in order to determine the prices of the materials for costing purposes. You can also transfer the results of material cost estimates into the material master record.

In addition, the material master record contains information about the determination of the quantity structure and about the procurement of the material to be costed.



Features

The material master record contains all information needed for managing a material. This data is arranged in **views**. The views correspond to the user departments [Extern] within the company in which the material is used. For material costing, the costing [Extern], accounting [Extern] and MRP [Extern] views are particularly relevant.



The cost estimate accesses **data in the accounting and costing views** of the material master record, in order to do the following:

Material Master Records

- Determine a price for externally-procured materials (in accordance with the valuation strategy for material valuation)
- Assign the material costs of a cost element using the valuation class
- Find the currency and price unit of the cost estimate
- Establish parameters for the calculation of overhead [Seite 569] for specific materials
- Determine a lot size for the cost estimate

The cost estimate accesses **data in the costing and MRP views** of the material master record, in order to do the following:

- Select parameters to determine BOMs and routings (material costing with quantity structure only), such as the BOM and routing or production version
- Select parameters to determine costing data in other plants (Special Procurement in Costing [Seite 443])

Material costing provides the following **information for the accounting view or costing view** of the material master record:

- Standard prices for materials with standard price control
- Tax-based prices and commercial prices for inventory valuation 1, 2, 3
- Other planned prices 1, 2, 3

See also:

- Determining the Quantity Structure in Costing with Quantity Structure [Seite 179]
- Valuating the Quantity Structure in Costing with Quantity Structure [Seite 203]
- Creating Costing Items in Unit Costing [Seite 703]
- Valuating Costing Items in Unit Costing [Seite 726]
- Price Update [Seite 634]

For more information about the material master record, see *LO Material Master* under the following:

- Material Master [Extern] and Material Master Record [Extern]
- Creating Material Master Records [Extern] and Creating a Material Master Record [Extern]
- Material Valuation [Extern] and Define Split Valuation [Extern]

General Data

Use

The costing view for the material contains the following general information:

- Base unit of measure

  Unit of measure in which the stocks of the material are managed.

- *With quantity structure* indicator

  This determines:

  – Whether the material is usually costed using material costing either with or without a quantity structure

  – Whether the system searches for existing material cost estimates with or without quantity structure when costing data is being transferred (see also: Transfer of Existing Costing Data [Seite 607])

- *Material origin* indicator

  Determines whether the material number is updated in addition to the cost element.

- *No costing* indicator

- Origin group

  Used to separate materials whose costs are updated under the same cost element for cost accounting purposes.

  If you enter origin groups in the relevant material master records, you can calculate overhead surcharges and production variances for each cost element/origin, for example. You cannot analyze overhead surcharges at origin group level in the unit cost estimate.

- Overhead group

  The overhead group is used when calculating overhead for a group of materials which have the same conditions. You assign the overhead group to an overhead key in Customizing for Product Cost Planning.

  You control the calculation of overhead via a costing sheet. When you create a costing sheet, you must ensure that it contains the corresponding overhead key.

- Variance key

  The variance key contains control parameters for the variance calculation. When you create an order for the production of the material, the system enters the variance key you specified here in the order master data.

- Plant-specific material status

  Restricts the use of the material and determines the functions for which a warning or error message is issued. You define whether the material status allows material costing in Customizing for *Logistics General* or *Product Cost Planning*.

- Profit Center

Price Fields and Valuation Data

Use

The accounting and costing views in the material master record contain price fields which can be accessed by costing to valuate the materials and which can be updated with the costing results. These price fields are as follows:

- Standard price and information relating to future, current and previous standard cost estimate

  The standard price is calculated by a standard cost estimate [Seite 63], and is written to the material master record when the cost estimate is released [Seite 636]. The standard price should not change during a planning period. When you create a costing view for the first time, you enter a provisional price (such as 1 euro).

  As soon as you mark the standard cost estimate, the costing results are transferred to the material master as the future standard price. As soon as you release [Seite 645] the standard cost estimate for the material this price becomes the current standard price, overwriting the existing current standard price.

  For more information, see Updating Standard Prices [Seite 636].

- Moving average price

  The moving average price changes due to goods movements and invoice entries. The system calculates the price automatically by dividing the material value in the material stock account by the total of all warehouse stocks in a plant. This price cannot be calculated via a material cost estimate.

- Planned prices 1, 2, 3 with *validity date from*

  You can either enter these prices manually, or determine them using a material cost estimate, and transfer the costing results as the other planned prices in the material master using the *Price Update* function.

  For more information, see Updating the Other Planned Prices [Seite 655].

- Tax-based and commercial prices 1, 2, 3

  You can either enter these prices manually, or determine them using a material cost estimate, and transfer the costing results as tax-based and commercial prices in the material master using the *Price Update* function.

  For more information, see Tax-Based and Commercial Prices [Seite 650].

The valuation data in the costing view controls the valuation of the material and the assignment of the material to a cost element (G/L account). If you have already created an accounting view for the material, certain data will also be displayed here.

- Valuation class

  Together with account determination in Customizing for valuation and account assignment, the valuation class determines the G/L accounts to which costs are updated by a valuation-relevant business transaction (such as a goods issue).

  For material costing, the valuation class controls the cost element to which the planned costs for this material are assigned, and the cost element under which the actual costs are updated when the material produced is delivered to stock.

Price Fields and Valuation Data

- Valuation category

  The valuation category specifies the criterion according to which partial stocks are distinguished from one another. Valuation category **B**, for example, differentiates the stock according to whether the material is produced in-house or procured externally. Stocks produced in-house are valuated differently from those procured externally. The value of the total stock equals the total of the stock values and stock quantities of the individual sub-stocks. With material costing, a separate valuation of the stocks is possible only to a limited degree.

  The stocks of a material with split valuation are carried separately for each valuation type. They are consolidated in the valuation header record. The data calculated by the standard cost estimate is updated in this valuation header record and under the *In-house* valuation type, if just one *In-house* valuation type was defined.

  You cannot split the costing results by origin or quality.

  For more information see Valuation category [Extern], Valuation type [Extern], Split valuation [Extern] and Split-Valuated Stocks [Extern].

- Price control

  The price control indicator specifies whether the stock of the material (and therefore also every business transaction for the material, such as usage) is valuated with the standard price or with a moving price.

  For material costing, you can go into Customizing for Product Cost Planning and create your own valuation strategy for the calculation of material costs. This strategy defines a search sequence for the selection of the different prices stored in the material master record (such as the standard price, future standard price, previous standard price, and moving average price)

  For more information, see Control of Material Valuation [Extern].

- Price unit

  Defines the number of units of measure to which the price in the material master record refers

- Currency

  Determined automatically from the company code.

See also:

For further information, see the following:

- *MM Inventory Management* under Material Master [Extern]
- *MM Material Valuation* in the following documents:
  - Material Valuation [Extern] and Control of Material Valuation [Extern]
  - Valuation Type [Extern] and Valuation Category [Extern]
  - Valuation Level [Extern], Valuation at Valuation Area Level [Extern] and Valuation Level: Example [Extern]

- Standard Price: Value Calculation [Extern] and Moving Average Price: Calculation [Extern]
- Split Valuation [Extern]

Material Types

Definition

Divides materials with the same properties into groups.

Use

So that different materials can be managed consistently in accordance with company requirements, those materials with the same properties are divided into groups and assigned to a material type. Examples of such groups are:

- Raw materials (ROH)
- Semifinished products (HALB)
- Finished products (FERT)
- Materials procured externally (FREMD)
- Process materials (PROC)
- Trading goods
- Operating supplies

Each material is assigned to a material type so that ii is designated as, for example, a raw material, a semifinished product, or a finished product. This defines various control parameters for processing the material.

For costing, the material type controls

- Whether a costing view can be created in the material master record for a material of this material type
- Whether a material of this material type is normally costed using costing with a quantity structure (that is, using BOMs and routings), or costing without a quantity structure (manually, using unit costing)
- Whether the value and quantity for the material for the relevant plant is shown in the material master record
- How the material is assigned to the stock and consumption accounts in Financial Accounting

You determine which control parameters are linked to the material type in Customizing for **Logistics General**.

A costing view can only be created by the system if the *Costing* indicator is set for a material type. If no costing view exists in the material master record, the system creates a costing view when costing is carried out.

You can use the material type to specify that the *With quantity structure* indicator is set as a default when you create a material master with this material type. The *With quantity structure* indicator specifies that materials of this material type will generally be costed using material costing. If the indicator is not set, the system looks for an existing material cost estimate without

quantity structure. If no cost estimate without quantity structure exists, the material is costed as a raw material.

In the standard system, the material types for raw materials, semifinished products, and finished products are defined in such a way that materials with these material types can be costed with material costing.

You can reset the *With quantity structure* indicator manually in the costing view of the material master record.

Master Data in Purchasing

Use

Purchasing contains information for the procurement of a material or service from a certain vendor, such as conditions negotiated with the vendor. Costing enables you to access this information in the following areas:

- Valuation of Materials [Seite 728]
- Raw Material Costing [Seite 735] (not relevant for Reference and Simulation Costing)
- Valuation of subcontracted [Seite 446] materials
- Valuation of external processing [Seite 210]

Prerequisites

In order to access the prices from purchasing (that is, the purchasing info record or purchase order), you must enter the following in Customizing for *Product Cost Planning*:

- In the valuation variant:
  - Enter strategy **L** (price from purchasing info record) for material valuation
  - Enter a strategy for the valuation of subcontracting and external processing
- Enter this valuation variant in the costing variant that you want to use for the cost estimate

Features

The link between material/activity and vendor is established in purchasing. It manages information about the vendor, and about the materials and activities that you have obtained from the vendor, such as quantities, prices, price changes, and other costs.

When costing, you can access information in the purchasing info record and purchase order, for the following purposes:

- To include delivery costs (such as freight charges, duty costs, and insurance costs) in the costing results

  This enables you to carry out raw material costing. Instead of the price being taken from the material master, an actual cost estimate including overhead calculation for material components is executed. This cost estimate does not have a quantity structure (BOM, routing).

- To valuate subcontracted materials with a price from purchasing

  For more information, see Valuation of Subcontracting [Seite 733].

- To valuate externally-processed items with a price from purchasing

  For more information, see Valuation of Externally-Processed Operations [Seite 210].

You can access the following prices:

- The price from the operation in the routing (not applicable to unit costing)
- From the purchasing info record (purchasing):

  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for *Product Cost Planning* and assigning it to the costing variant.

The valuation variant contains a search sequence that has a maximum of three prices.

You have defined the following strategy sequence for the valuation of external activities:

g. Net quotation price

h. Net order price

i. Price from operation

If a net quotation price exists in the purchasing info record, the system transfers this price. If no such price exists, the system transfers the net order price from the purchase order. If no purchase order was created for the operation, the system uses the price in the externally-processed operation in the routing.

See also:

For more information about purchasing master data, see the following in the SAP Library under MM Purchasing [Extern]:

- Purchasing Info Records [Extern]
- Source Lists [Extern]
- Quota Arrangements [Extern]

For more information about performing costing, see the following:

- Working with the Cost Estimate with Quantity Structure [Seite 119].
- Working with the Cost Estimate Without Quantity Structure [Seite 477]
- Working with Reference and Simulation Costing [Seite 665]

Work Centers and Resources

Use

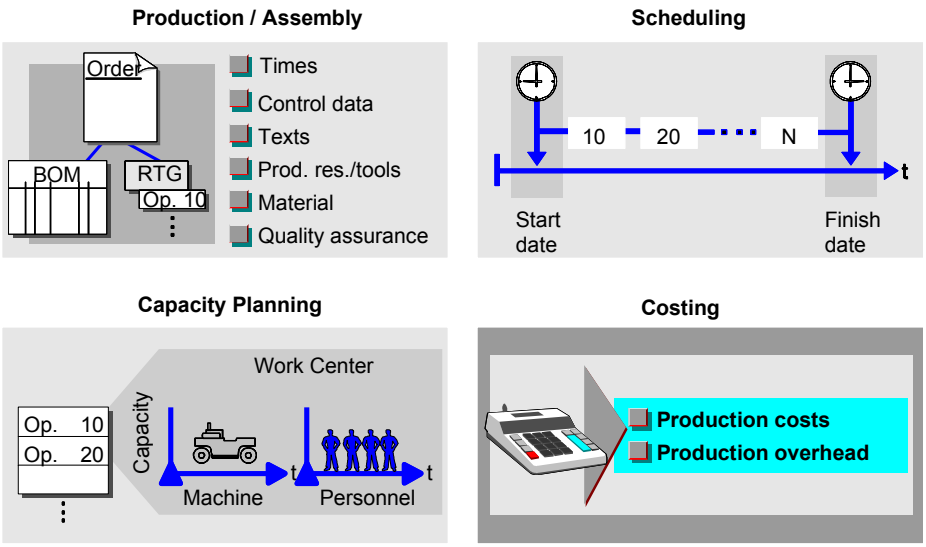
The work center or resource is the organizational unit where an operation is carried out. A work center or resource specifies exactly one cost center and various activity types, or a business process. In this way, the work center or resource link the entries in Cost Center Accounting or Activity-Based Costing with the entries in PP or PP-PI.

In **costing with quantity structure**, the work center is included in the cost estimate through the routing and the resource through the master recipe. For more information, see Routings in Costing [Seite 166].

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the work center or resource in the list screen manually. For more information, see List Screen of the Unit Cost Estimate [Seite 706].

Features

The following graphic shows how the data in work centers and routings can be used in the R/3 System.



The following entries in the **basic data screen** of the work center or resource are relevant to costing:

Work Center Category

The work center category determines which data you can maintain in the work center and which values are proposed. You define work center categories in Customizing for Production.

Standard Value Key

This key determines how many default values you can maintain (maximum of six), and assigns a meaning (such as setup time, machine time, or labor time) and a dimension (such as minutes) to the standard values.

Standard values are used in formulas to calculate the execution time, the capacity requirements and the production costs.

You define the standard value key in Customizing for Production.

Efficiency Rate

The performance efficiency rate is the relationship between the predefined target time and the actual time. You can use the efficiency rate key in costing to correct the default values. You define the efficiency rate key in Customizing for Production.

Suppose the performance efficiency rate is 150% and the standard time is 120 minutes for one operation. If the price for the activity type is USD 60 per hour, the planned costs for the operation are calculated as follows:

120 min /150% x 100% = 80 minutes (planned time)

The planned cost for the operation is therefore USD 80.

You can define default values for the routing or master recipe in the work center or resource respectively. If you assign an operation in the routing or a phase in the master recipe to this work center or resource then these default values are transferred to the operation or phase.

The following **default values** are relevant to costing:

Control Key

The control key specifies the following:

- whether the operation or the phase are included in the costing
- whether the operation or the phase are processed internally or externally
- whether they are confirmed and in what form

You can check these settings in the control key by using the *possible entries* function (*F4)* on the *Control key* field and choosing the *Detailed information* function for the corresponding control key.

Reference indicator

Setting this indicator prevents the control key from being changed in the routing.

See also:

For more information, see the SAP Library under PP - Work Centers [Extern] and in the following sections:

- Work Center Categories [Extern]
- Performance Efficiency Rate Keys [Extern]
- Default Values [Extern]
- Control Keys [Extern]
- Reference Indicators [Extern]

Linking of Cost Centers and Business Processes

Use

So that the system can access the planned prices for the activity types in Cost Center Accounting, the work center must be linked to a cost center and the activity types defined for that cost center.

To allocate to process costs using the integration with the work center (and thus with the routing), you must enter a business process and a formula to determine the process quantity in the work center.

The following data is relevant to costing:

Cost center

A work center can only be assigned to one cost center. However, you can assign more than one work center to a cost center. For more information, see Linking Work Centers to Cost Centers [Extern].

Activity types

The standard value key determines how many activity types you can specify for each work center. For production work centers, you can specify a maximum of six activity types. For network work centers and plant maintenance work centers, you can only specify one activity type.

You create activity types in Cost Center Accounting and define, for each cost center, the costs that are charged to a product when it uses activities of this cost center. For more information, see Activity Types [Extern].

Reference indicator

Setting this indicator prevents the control key from being changed in the routing. For more information, see Reference Indicators [Extern].

Formula key

In the work center, you assign a formula key to each activity type or to the business process. This key is linked to a formula that determines how the activity input for each operation is calculated.

Formulas are used to calculate capacity requirements, lead times, and costs.

If you want to use a formula to calculate costs, you must set the *Allowed for costing* indicator in the definition of the formula.

You define formula keys and formulas in Customizing for Production under *Basic data* → *Work center* → *Costing*.

The standard system contains formula key SAP002 *Prod.: Machine time*.

You see in the definition of the formula key, that

- The *Allowed for costing* indicator is set
- The formula defined was: SAP_02 x SAP_09 / SAP_08 / SAP_11

Linking of Cost Centers and Business Processes

In the definition of the formula parameters you see the accompanying text (for instance SAP_02 for *Machine*, SAP_09 for the *Operation quantity*).

Business process

You can only enter one business process. The business process is transferred from the work center into the routing. For more information, see Linking Work Centers to the Business Process [Extern].

For further information, see the following sections in the SAP Library:

- PP Work Centers [Extern]
  - Standard Value Key [Extern]
  - Costing [Extern]
  - Formulas [Extern]
- Process Costs [Seite 748]

Cost Centers and Activity Types

Use

Cost Center Accounting (CO-OM-CCA) [Extern] determines the type and amount of costs incurred at the individual cost centers. Products and/or orders are debited with these costs according to the activities used relative to the cost centers.

In **costing with quantity structure**, the cost center is taken into account for costing purposes via the work center. For further information, see the following:

- Work Centers in Costing [Seite 693]
- Linking of Cost Centers and Business Processes [Seite 696]
- Overhead [Seite 569]
- Valuation of Internal Activities [Seite 731]

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the cost center or work center manually in the list screen. For more information, see List Screen of the Unit Cost Estimate [Seite 706] and Overhead Costs in Base Object Costing [Seite 739].

Features

The **cost center** is the organizational unit where costs are incurred. A work center specifies one cost center only.

For each cost center, the following are planned:

- Which activities are performed from the cost center
- Which costs are debited to a product when it uses the activities of the cost center

For costing, the valuation date of the cost estimate must correspond to the validity period of the cost center.

To check the master data for the cost center, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Cost center* → *Individual processing* → *Display*.

The activity of the cost center is expressed in **activity types**. You specify in the work center the activity types used to manufacture the product. You use **activity type planning** in Cost Center Accounting to assign activity types to cost centers.

Activities are valuated using activity prices, which are either set by you according to policy or are calculated by the system using cost planning in the form of iterative activity price calculation. Here, the planned costs of a cost center which are assigned to the activities are divided by the planned activity (or by capacity, depending on your system settings) to find iterative activity prices.

Actual costs are entered for each cost center. You can calculate actual activity prices for the individual activity types and use these values in costing to valuate the activities.

The following are relevant for costing:

- Activity type category

The activity category determines whether the activity type is taken into account in costing.

- Cost element

  The activity type must be assigned to a secondary cost element, so that the costs for this activity type can be included in costing under this cost element. This cost element must have cost element type 43 (internal activity allocation).

  The valuation date of the cost estimate must fall within the validity period of the cost element.

To check the master data for the activity type, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Activity type* → *Individual processing* → *Display*.

See also:

For more information, see *Cost Center Accounting* in the following sections of the SAP Library:

- Cost Centers [Extern]
- Cost Elements [Extern]
- Activity Types [Extern]
- Activity Type Categories [Extern]

Internal Activities

Usage

Costing can access the internal activities in Cost Center Accounting.

Features

Internal activities are planned in Cost Center Accounting. The company is divided into cost centers. For each cost center you can plan the following:

- Which activities are performed in the cost center
- With which costs an object is debited when it uses the activities of the cost center

An activity type master record exists for each internal activity. This determines, among other things, under which secondary cost element the costs are updated.

Activities are valuated using activity prices that you either set as 'policy' prices, or that the system determines on the basis of an iterative activity price determination. Here, the planned costs of a cost center which are assigned to the activities are divided by the planned activity (or by capacity, depending on your system settings) to find iterative activity prices.

A number of plan versions are used in Cost Center Accounting. For the standard cost estimate, you must work with plan version **zero**. For inventory costing, you can choose another plan version.

Actual costs are entered for each cost center. You can calculate actual activity prices for the activities, and revaluate the object which used the activities of the cost center.

You can enter your own planned activity prices for activity-independent and activity-dependent activity input. The system uses this data to determine which costs are to be treated as fixed costs.

See also:

Displaying Activity Prices for Each Cost Center [Seite 700]

Valuation of Internal Activities [Seite 731]

Valuation of Externally-Processed Operations [Seite 210]

Cost Center Accounting (CO-OM-CCA)

Displaying Activity Prices for Each Cost Center

Use

Internal activities are displayed in the cost estimate as category E items. The quantities used for such an internal activity are determined using the entries in the operation of the routing for the *Cost Estimate with Quantity Structure* or specified using your manual entry for the *Unit Costing.*

A price from Cost Center Accounting is used to valuate this activity quantity. You determine which price is used to valuate the internal activity in the cost estimate via the valuation variant in Customizing. It is possible for you to use for instance the plan price of the period or the actual price of the previous period to value the internal activity.

Procedure

3. Choose *Accounting* → *Controlling* → *Cost Center Accounting* → *Planning* → *Activity Output/Prices* → *Display*.
4. Enter the selection criteria, for example period and CO version.

   You must enter version 000 (operative version) for the standard cost estimate. For inventory costing, you can use other plan/actual versions.
5. Choose *Overview screen*.
6. Check the activity prices for the activity type.

See also:

CO Overhead Cost Controlling

Business Processes

Use

You can include the costs for business processes used when you calculate the cost of goods manufactured and the cost of goods sold. The system inserts costing items of category **X** in the cost estimate. In a unit cost estimate [Seite 683], you can also enter process costs manually by using item category **P**.

See also:

For more information about business processes and including them in costing, see the following:

- Business Processes [Extern]
- Activity-Based Costing Approaches [Extern]
- Parallel Activity-Based Costing [Extern]
- Process Costs in Costing [Seite 748]

Base Planning Objects

Use

You can use base planning objects for the following purposes:

- At the beginning of the planning phase
- When you are at the draft stage of planning new products and services
- When there is no master data in the R/3 System (material master, BOM, routing, master recipe)
- When you want to change existing material cost estimates

Integration

You can also access existing data in the R/3 System when you are creating base planning objects. This data includes materials and material cost estimates, internal activities, services, cost centers, cost elements and activity types, work centers, and other base planning objects.

See also:

- Reference and Simulation Costing [Seite 659]
- Creating Base Planning Objects [Seite 668]
- Unit Costing [Seite 683]

Creating Costing Items

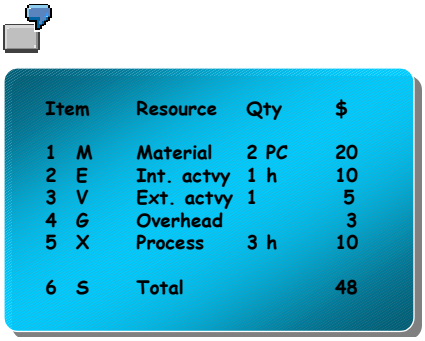
Use

You can edit costing items in the list screen of the unit cost estimate [Seite 706] or in the detail screen [Seite 711] for the costing item. The list screen gives you an overview of all the costing items. The detail screen gives you an overview of a particular costing item.

Alternatively, or as an extension of the classic (single-level) unit costing which uses a list screen and detail screen, you can use the functions of multilevel unit costing [Seite 671] to create costing items.

Features

In unit costing, you enter the costing items manually. In addition, each costing item must be assigned to an **item category**.



Item		Resource	Qty	$
1	M	Material	2 PC	20
2	E	Int. actvy	1 h	10
3	V	Ext. actvy	1	5
4	G	Overhead		3
5	X	Process	3 h	10
6	S	Total		48

The item category determines which data you have to enter and which data is read by the system:

Item category	Your entry	Object(s) found by system
B (base planning object)	Name of the base planning object, quantity	Price, unit of measure, cost element, text, item value
E (internal activity)	Cost center, activity type, quantity	Price, unit of measure, cost element, text, item value
F (external activity)	Purchasing info record, plant, purchasing organization, quantity, cost element	Price, unit of measure, text, item value
G (overhead)	-	Overhead, cost element
I (raw material costing) → cost estimate without quantity structure only	-	Raw material costs (see also raw material costing [Seite 735])
L (subcontracting)	Purchasing info record, plant, purchasing organization, quantity, cost element	Price, unit of measure, text, item value
M (material)	Material number, plant, quantity	Price, unit of measure, cost element, text, item value

N (service)	Service, quantity	Price, unit of measure, cost element, text, item value
O (operation)	Formula, cost element	Result of formula
S (total)	-	Total of item values above this item or above the item values that you specify in a formula
P (manual process costs)	Quantity, process	Process costs, activity price
T (text)	Description	-
V (variable item)	Quantity, price, cost element	Item value
X (process costs determined)	-	Process costs, quantity, unit of measure, cost element, text

If you do not enter an item category, the system proposes **V** (variable).

You can also enter the prices of individual costing items manually. If you do so, the item is indicated accordingly, and the field *Price entered manually* is set for the item.

The system finds cost elements for the individual items as follows:

Item category	Used by system to find cost element
B (base planning object)	The master data of the base planning object
E (internal activity)	Activity type master record
F (external activity)	Your manual entry
L (subcontracting)	Your manual entry
G (overhead)	Costing sheet
P (manual process costs)	Your manual entry
X (process costs determined)	Process template
M (material)	Automatic account determination
N (service)	Service master
V (variable item)	Your manual entry

In unit costing, you can check whether the system found a cost element for each costing item by choosing *Functions → Check cost elem.*

For base object cost estimates, you can specify in the costing variant in Customizing whether cost elements can or must be entered, or whether cost elements cannot be specified. For further information, see Preparing for Base Object Costing [Seite 76] and the *Implementation Guide (IMG)* for *Reference and Simulation Costing*.

List Screen of the Unit Cost Estimate

Use

The costing items in the list screen are displayed in the form of a list. Each line in the list corresponds to a costing item and contains all the data for that item.

There are various functions which you can use to process this list screen and/or costing items. These include the following:

- Changing the width of the columns in the list screen.

  To do this, place the cursor on the line between the columns and pulling the line to the desired position with the mouse button.

- Saving your own column settings as a variant (see Saving Column Settings as Variants [Seite 710])

Features

The following table provides an overview of the functions you can use to edit the list screen of the unit cost estimate or the costing items.

Function	Use
	The system calculates process costs and overhead, and inserts the costing items. The costing items are saved.
	This takes you to the itemization. There, you can edit the display and print out the cost estimate.
and	You can choose from various views of the unit cost estimate.
	This takes you to the header of the unit cost estimate [Seite 685].
	You can also edit costing items in the detail screen. (See also: Detail Screen of the Unit Cost Estimate [Seite 711])
	You can revaluate [Seite 756] the costing items with the current prices. The function is not available for the detailed planning of cost elements.
and	You can filter the cost estimate according to column when you display and change the unit cost estimates. You can display only the items of a certain item category, for example.
	You can total all the values that are not hidden.
	You can insert a formula [Seite 713]. The item category is predefined with **O**.

	Removes the selected costing item(s) and moves them to the clipboard.
	Copies one or more costing items to the clipboard.
	Inserts the costing items which you had previously cut or copied to the clipboard with the functions or .
	Selects all costing items for further editing.
	Reverses all selections.
	Selects a group of costing items for further editing.
	Deletes the selected item(s) from the list screen.
	Inserts a new item before the line where the cursor is positioned.
	Inserts more items. This function is only available when you change a cost estimate.
	You can display a unit cost estimate as a graphic based on the item category or cost element.
	Takes you to information about the costing item or header, such as the material master or cost element.
	Calls the log containing the system messages that affect multiple costing items.

Other Menu Functions

Goto →	
Text (header)	You can enter or display detailed information about the cost estimate.
History	You receive the following information: – Who created the cost estimate and when – Who last changed the cost estimate and when – Who closed the cost estimate and when
Technical information...	Contains technical information about the cost estimate, such as the costing type, costing version, costing sheet, template, and so on.
Exchange rate...	Contains information about the exchange rate used in the cost estimate.

List Screen of the Unit Cost Estimate

Functions →	
New exchange rate (header)	You can change the translation rate for the foreign currency manually in the header. To do so, you must choose *Goto* to call the cost estimate header.
Change lot size	You enter the lot size when you create a cost estimate. If you do not enter a quantity, the system automatically sets the lot size to 1. If you use this function, all the quantities in the list screen will be adapted to the new lot size. To mark costing items as lot-size independent, enter **F** in the field *Item indicator*. The quantities for these items will then not be affected if you change the lot size.
Switch on/off raw material costing	You can activate raw material costing [Seite 735] to include items such as delivery costs for materials. If you switch on raw material costing, items of type **I** (information from purchasing info records [Seite 691]) are included. (This applies only to Material Costing Without Quantity Structure [Seite 449])
Close	You can close the cost estimate, to prevent further changes being made to it. The close is recorded in the history. If you process the cost estimate any further, the system will display a warning. You can still change the cost estimate, however.
Revaluate	You can revaluate the costing items with the current prices [Seite 756].
Determine cost element	With this function, you can assign the costing items of the category **V** to cost elements. You can also check whether the system was able to find a cost element for the other costing items. Every cost posting in the R/3 System is automatically assigned to a cost element. For planning purposes, you can assign the individual costing items to cost elements. The costing variant determines whether the individual items have to be assigned to cost elements. You define costing variants in Customizing for *Product Cost Planning*. For more information, see Preparing for Costing: Customizing [Seite 72].
Calculate overhead	You can use this function to calculate overhead [Seite 569] and process costs manually. The cost estimate inserts items of category G or X.
Explode material cost estimate…	If the spreadsheet contains a material item with a cost estimate, you can explode the material cost estimate [Seite 721] and display the items containing the material costs.
Explode base planning object	You can replace [Seite 724] all the base planning objects (item category B) in the cost estimate with the costing items (such as materials and internal activities) in this unit cost estimate.
Copy cost estimate	You can use a base object cost estimate as a reference [Seite 719].
Distribute	You can distribute the costs to the plan periods. It is only active for the planning of primary cost elements in Cost Center Accounting. (See also: Distribution Keys [Extern])
Settings →	

Display Currency In	You switch between various currency displays.
Column Freeze	You can fix columns that you have selected.

Saving the Column Setting as a Variant

Use

You can change the list screen and adapt it to your requirements. This list can then be saved as a variant.

Procedure

5. Choose to the right of the column headers.

   The dialog box *Table settings* appears.

6. In the *Variant* field, enter a new name for the variant.

7. Choose *Create*.

   The variant is saved.

8. Choose *Close*.

Result

Choosing enables you to do the following:

- Set the indicator *Use as standard setting* for the variant that you want to use as the standard variant
- Select the desired variant from the list and display it with *Copy*

  In the *Choose variants* group box, you see which variant is being currently displayed and which variant is flagged as the standard setting
- Remove obsolete variants with *Delete*

Detail Screens in Unit Costing

Use

You can process costing items in the list screen or detail screen of unit costing. The list screen gives you an overview of all the costing items. The detail screen gives you an overview of a particular costing item. By choosing in the list screen, you access the detail screen of a costing item.

Function

Depending on the item category, the detail screen of a costing item contains the following data:

Field	Definition
Item Category	Indicates an item as a material, base planning object, internal activity and so on, and specifies which data is determined by the system and which data must be entered by you.
Resource	Depending on the item category, contains the required master data (such as material master record for materials, activity type and cost center for internal activities)
Indicator *No cost comp. split*	For item categories M, E and P, stipulates that the value of the item shall not be determined through a cost component split If you set this indicator, the system uses a price in accordance with the valuation strategy (for example, for a material from the material master). You can also enter the value for the item manually. This function is **only applicable** to material costing without quantity structure. In all other cases, such as base planning objects, the system valuates the items in accordance with the valuation variant and not using cost component splits.
Work center and *Plant of work center*	This indicates which work center [Seite 693] was assigned to the item and in which plant. The work center and the plant of the work center can be entered for each item. With item category E (internal activity), the cost center is determined from the work center and plant.
Description	This is either transferred automatically (for example, material, activity type, base planning object) or entered manually.
Formula	The formula for the operation with item categories S and 0 is entered manually.
Cost element	This is either determined automatically (material, activity type, base planning object) or entered manually.
Quantity	You must enter this manually.
Unit of measure	This is either determined automatically (material, activity type, base planning object) or entered manually.

Indicator *IndepOfLotSize*	Item is independent of lot size. Items flagged as lot-size-independent are not adjusted if the lot size changes.
Total price	This is either calculated automatically (material, activity type, base planning object) or entered manually (variable items). The currency is in accordance with the currency display you selected.
Fixed price	Portion of the total price that is treated as fixed costs.
Indicator *Price entered manually*	Set by system if you have entered the price for an item manually
Total value	Item quantity multiplied by the total price for each unit of measure
Fixed value	Portion of the total value that is treated as fixed costs
Currency	Depending on the currency display, this is either the controlling area currency, the foreign currency of the item, or the foreign currency of the costing header (menu option *Settings*).

Formulas for Costing Items

Use

If you are using item categories **S** (total) and **O** (operation), you can enter a formula in the *Formula* field.

You can also enter a text for the formula to have a better overview of the costing items.

Features

The formulas must meet the following criteria:

- A formula can have up to 50 characters.
- A formula starts with **=**.
- The number of an item is put in quotation marks: **'1'**.
- A range of items starts with **(** and ends with **)**.
- The items in a continuous range are separated by **:** .
- The items in a split range are separated by **;** .
- Formulas cannot contain any additions or subtractions of constant values.

The following editing functions affect the formulas in a cost estimate:

- Insert item as a new entry

  Ranges in formulas with this item are extended.

  Formulas whose items have been changed by the insertion are adjusted.

- Delete or cut item

  Ranges in formulas with this item are made smaller.

  Formulas whose items are changed are adjusted.

  If you delete an item that was directly named in a formula, the system issues an error message and marks the position in the formula with **#**.

  If you delete more than one item which made up a range in a formula, the system issues an error message and marks the position in the formula with **#**.

- Insert item from the clipboard

  Formulas whose items have been changed by the insertion are adjusted.

  If the items got into the clipboard via *Copy*, the formulas in the copied items are not adjusted.

  If the items got into the clipboard via *Copy from...*, the formulas in the copied items are adjusted (based on the place at which they were inserted).

- Explode base planning object

  Items of category **S** from the base planning object to be exploded are not added. Items of category **O** from the base planning object to be exploded are assigned to item category **V** (variable). The operation value becomes the variable item value.

Formulas for Costing Items

Formulas in the cost estimate in which you are working are adjusted if the items of the cost estimate are moved by inserted base planning objects.

Example of Formulas for Costing Items

Item	Item Category	Formula	Definition
1	M		
2	M		
3	S	`=('1':'3')`	Total of items 1 and 2
4	E		
5	E		
6	E		
7	O	`=('6')*0.5`	Item 6 multiplied by 0.5
8	S	`=('1':'2';'4':'7')`	Total of items 1, 2, 4, 5, 6 and 7
9	V		
10	S	`=('1':'10')`	Total of items 1, 2, 4, 5, 6, 7 and 9

The system proposes the formula in item 10 when you enter the item category **S**. The formula is a continuous range which excludes items of category **S**. If you want to total the two totals items 3 and 8, you have to enter a formula with a split range: `=('3';'8')`

Decimal places are always separated by a point in the formulas, irrespective of the user settings.

Further Examples:

Item No.	Item category	Value	Formula	Definition
1	V	0.10	-	-
2	V	0.05	-	-
3	V	10.00	-	-
4	O	5.00	=('3')/2	Item 3 divided by 2
5	O	10.10	=('3')+('1')	Total of items 3 and 1

6	O	9.95	=('3')+('2')-('1')	Addition of items 3 and 2, subtraction of item 1
7	S	35.20	=('1':'6')	Total of items 1 through 6
8	O	-	=('3')+2	Invalid use of constants
9	O	-	=('3')-2	Invalid use of constants
10	O	10.10	=('3';'1')2	Constant is ignored

Exploding Material Cost Estimates

Use

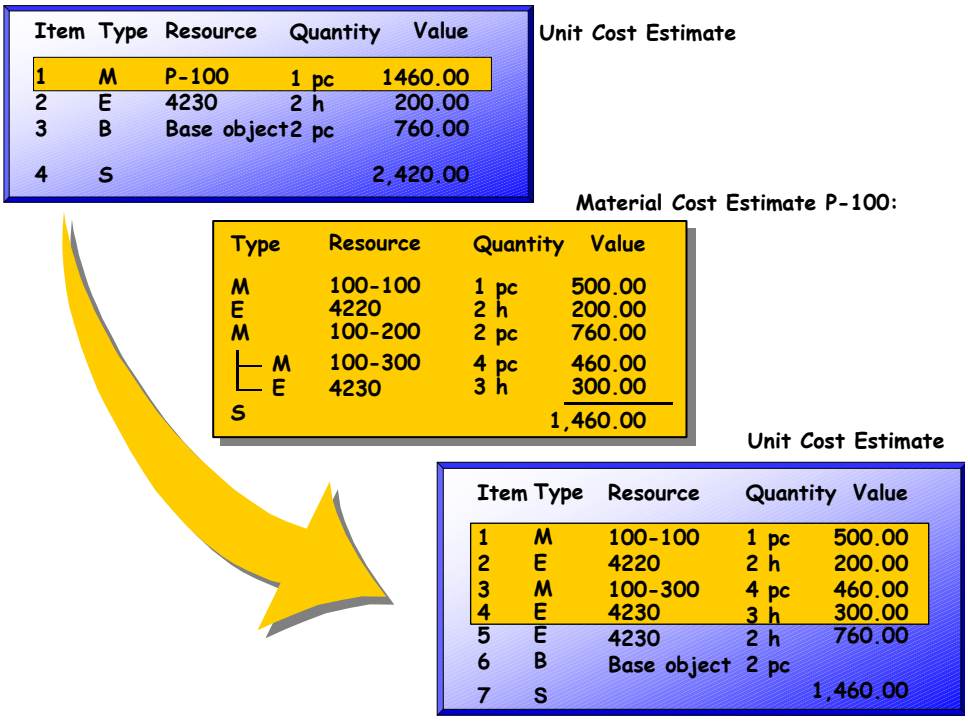
You can replace all the materials (item category M) of a unit cost estimate with the individual costing items (such as materials, and internal activities) in this unit cost estimate.

You can do the following:

- Explode existing material cost estimates (with and without quantity structure) and cost estimates for sales documents and copy them to other unit cost estimates (see graphic)
- Edit the copied costing items
- Simulate changes

You have costed a product with a cost estimate with quantity structure [Seite 92] and would like to simulate the effects on the costs of using different materials, for example.

You have costed the item of a sales order with product costing, You would like to simulate the effects on the costs of using different internal activities, for example.



In costing without quantity structure, you can copy a cost estimate for the material but not for the sales document.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Procedure

Exploding a Cost Estimate for a Material

2. Choose *Functions* → *Explode base planning object*

   The dialog box *Material Explosion* appears.

3. Specify whether you want to explode all levels, or to a certain level only.

5. If required, set the *Only materials* indicator.

   If this indicator is set, only material items are transferred from the cost estimate.

6. Check the proposed cost component view.

   If you choose a cost component view [Seite 465] that contains only a portion of the costs, overhead will be applied to this portion only in accordance with the costing sheet [Seite 744] specified in the costing variant [Seite 72] if you choose Revaluate [Seite 756].

6. Set the *Material* indicator, enter the material whose cost estimate is to be exploded, and choose ✔.

   The *Selection of Material Cost Estimates* screen appears.

   d. Enter a plant and other selection criteria as required, in order to find the material cost estimate that is to be copied into the unit cost estimate.

   e. Choose .

      A list is displayed containing the existing cost estimates for the material according to your selection criterial.

   f. Choose the required material cost estimate with a double click.

      The system copies the costing items into the clipboard.

10. In the list screen, choose .

    The items are copied from the clipboard to the unit cost estimate and revaluated. For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

11. If desired, change the costing items [Seite 703] to simulate changes to materials or internal activities.

12. Choose to check the header [Seite 685], for example the name or description.

13. Save the costing items and, if applicable, the reference object (such as the base planning object or sales order).

Procedure

Exploding a Product Cost Estimate for a Sales Document

8. Choose *Functions* → *Explode base planning object*

   The dialog box *Material Explosion* appears.

9. Check the cost component view proposed in the *Material Explosion* dialog box.

   If you choose a cost component view containing only part of the costs, choosing *Revaluate* will apply overhead only to this portion in accordance with the costing sheet specified in the costing variant.

10. Set the *Sales document* indicator, enter the sales document and the item, and choose ✔.

    The system copies the items into the clipboard.

11. In the list screen, choose .

    The items are copied from the clipboard to the unit cost estimate and revaluated. For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

12. If required, change the costing items [Seite 703], for simulation purposes.

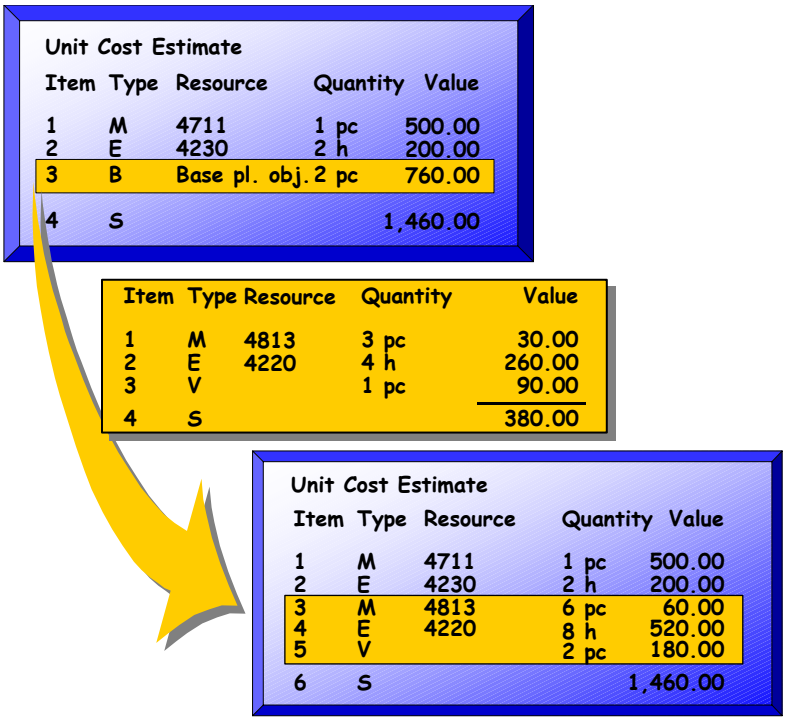
13. Choose to check the header [Seite 685], for example the name or description of the reference object.

14. Save the costing items and, if applicable, the reference object (such as the base planning object or sales order).

Exploding Base Planning Objects

Use

You can create a multilevel structure by using a base planning object as an item in another cost estimate. This allows you to combine a group of frequently-occurring costing items for a base planning object and to use it as a "building block" in further cost estimates. Exploding the base planning object enables you to replace items that refer to a base planning object by their costing items (see graphic below).



You have two options:

- Set the flag *All levels.* The system replaces each level of the base planning object with the items of the cost estimate.
- Set the *Number of levels* indicator and enter a level. The system replaces every base planning object with the costing items down to the level specified.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706]. You have entered items of item category B (base planning objects) in the list screen.

Procedure

4. Choose *Functions* → *Explode base planning object…*

   The dialog box *Copy reference…* appears. All the base planning objects contained in the list screen as costing items are shown.

5. Select the base planning object to be exploded.
6. Decide whether you want to explode all levels, or certain levels only.
   c. Set the *All levels* indicator, if you want the system to replace all levels of the base planning objects.
   d. Set the *Number of levels* indicator, if you want the system to explode to a particular level. Enter a level with this.
5. Choose *Explode.*

Result

The system copies the item values that were in the exploded base planning object into the list screen of the current unit cost estimate.

Items of category **S** (total) from the cost estimate to be exploded are not inserted. Items of category **O** (operation) are assigned to item category **V** (variable). The operation value becomes the variable item value.

Whether the inserted items are revaluated depends on whether you are exploding all or a certain number of levels. If you explode all levels, the items will be revaluated. If you explode a certain number of levels, the system will only revaluate up to this level.

See also:

- List Screens in Unit Costing [Seite 706]
- Costing Items in Unit Costing [Seite 703]
- Revaluating Costing Items [Seite 756]

Creating Unit Cost Estimates with Reference

Use

If you create a unit cost estimate for a reference object, you can use a reference for this. The reference object of the cost estimate (base planning object, material, order, and so on) determines which existing objects you can copy.

Type of reference object	Cost estimate(s) that can be accessed
Base planning object	Base planning object
Cost object ID	Base planning object or other cost object ID
Production order	Base planning object, material
Sales document	Base planning object or other sales document
Work breakdown structure (WBS) element	Base planning object or other WBS element
Internal order	Base planning object or other internal order
Material	Material
Additive costs	Material

Depending on the reference object, the system displays various fields in which you can specify which costing data you want to access. If, for example, you create a base planning object, you can use another base planning object as a reference. If you create a unit cost estimate for a sales order, for example, you can use a base planning object or another sales document as a reference.

You use the cost estimate for a similar product as the basis for a customer quotation, and add the required costing items.

To do this, specify the quotation in the dialog box *Copy Cost Estimate*. All costing items for the quotation are copied into the new cost estimate and revaluated.

Procedure

Using a Base Planning Object as a Reference for a Unit Cost Estimate for the Sales Order:

9. Select *Accounting* → *Controlling* → *Cost Object Controlling* → *Product Cost by Sales Order* → *Master Data/Planning* → *Sales Order* → *Change.*

   This brings you to *Change Sales Order: Initial Screen.*

10. Enter the order number and choose *Enter*.

11. Select the order item and choose *Item* → *Costing*.

    The dialog box *Copy Cost Estimate* appears.

12. Enter the costing variant.

13. Enter the name of the base planning object or sales order whose cost estimate you want to copy.
14. Choose *Enter*.

    The system copies the costing items to the cost estimate and revaluates them.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
15. Create [Seite 703] more costing items as required or simulate changes to existing items.
16. Save the cost estimate and the sales order.

Using the Material Cost Estimate as a Reference for a New Cost Estimate Without Quantity Structure:

6. Choose *Accounting* → *Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate Without Quantity Structure* → *Create*.
7. Enter the material and plant.
8. In the *Costing data* tab page, enter the data required for the new cost estimate, such as the costing variant.
9. Choose .

   The *Copy from* group box is displayed.
10. In the *Copy from* group box, enter the data for the material cost estimate that you want to use as a reference.

    d. Choose *Cost ests* if you want the system to search for any existing cost estimates.

       The dialog box *Selection of Material Cost Estimates* appears.

    e. Enter the selection criteria and choose .

       A list of existing material cost estimates corresponding to your search criteria appears.

    f. Choose the required cost estimate with a double click.

       It is transferred to the *Copy from* group box.

9. Choose and check the proposed costing dates in the tab page *Dates*.
10. Choose .

    The screen *Unit Costing List Screen: Initial Screen* appears.

    The system copies the costing items from the reference and revaluates them.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
11. Edit the costing items and save the cost estimate.

See also:

For more information, see Creating a Cost Estimate Without Quantity Structure [Seite 480].

Copying a Cost Estimate

Use

You can use an existing **base planning object** as a reference for your unit cost estimate (which could be for a material or production order without quantity structure), and insert either all or some of the base planning object items in the unit cost estimate.

Cost Estimate for a Sales Order that Accesses Existing Costing Items

You create a base object cost estimate for a group of product variants. This cost estimate contains all material components and activities required to produce one of these variants. This cost estimate serves mainly as a template for selecting costing items. The total value of the cost estimate is therefore ignored.

To create a cost estimate for a sales order to produce one of these variants, call up a list of all costing items for the product group and select those items required to produce the variant. You may need to insert additional costing items.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Copying All Items

9. Choose *Functions* → *Copy cost estimate…*

   The dialog box *Copy Cost Estimate* appears.

10. Enter the name of the base planning object that you want to copy.
11. Do not set the flag *All items*.
12. Choose ✔.

    All the items are copied into the clipboard.

13. Position the cursor on the row in which you want to insert the items.
14. Choose .

    The items are copied from the clipboard to the list screen of the unit cost estimate and revaluated.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

15. Enter [Seite 703] more costing items as required and save the cost estimate.
16. If applicable, save the reference object (such as the base planning object or sales order).

Copying Selected Items

10. Choose *Functions* → *Copy cost estimate…*

    The dialog box *Copy Cost Estimate* appears.

11. Enter the name of the base planning object that you want to copy.
12. Do **not** set the flag *All items*.
13. Choose ✔.

    The system displays a dialog box with a list of the costing items.
14. From this list, select those costing items you want to copy, and select *Confirm*.

    These costing items are copied to the clipboard.
15. Position the cursor on the row in which you want to insert the items.
16. Choose .

    The items are copied from the clipboard to the list screen of the unit cost estimate and revaluated.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
17. Enter more costing items as required and save the cost estimate.
18. If applicable, save the reference object (such as the base planning object or sales order).

Valuation of Costing Items

Use

In unit costing, you enter specific costing information manually in the form of costing items such as materials, internal activities and business processes. Other costing items are determined and inserted by the system, including overhead items (category G) and process costs (category X).

The following table describes the sources of the prices used by the system for the costing Items:

Price/value determined by unit costing	From
The price for a material (item category M)	The material master record [Seite 148] or the purchasing info record or purchase order (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
The activity price for an internal activity (item category E)	Cost Center Accounting (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
The price for a process (item category P or X)	Activity-Based Costing [Extern] (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
Overhead	The entries in the costing sheet
The value of a base planning object (item category B)	The master data of the base planning object [Seite 659]
The price for a service (item category N)	The service conditions [Extern]
The price for an external activity (item category F)	The purchasing info record [Extern] specified by you (in accordance with the valuation strategy)

The price for a subcontracting item (item category L)	The purchasing info record [Extern] specified by you (in accordance with the valuation strategy)
The price for a variable item (item category V)	Your entries

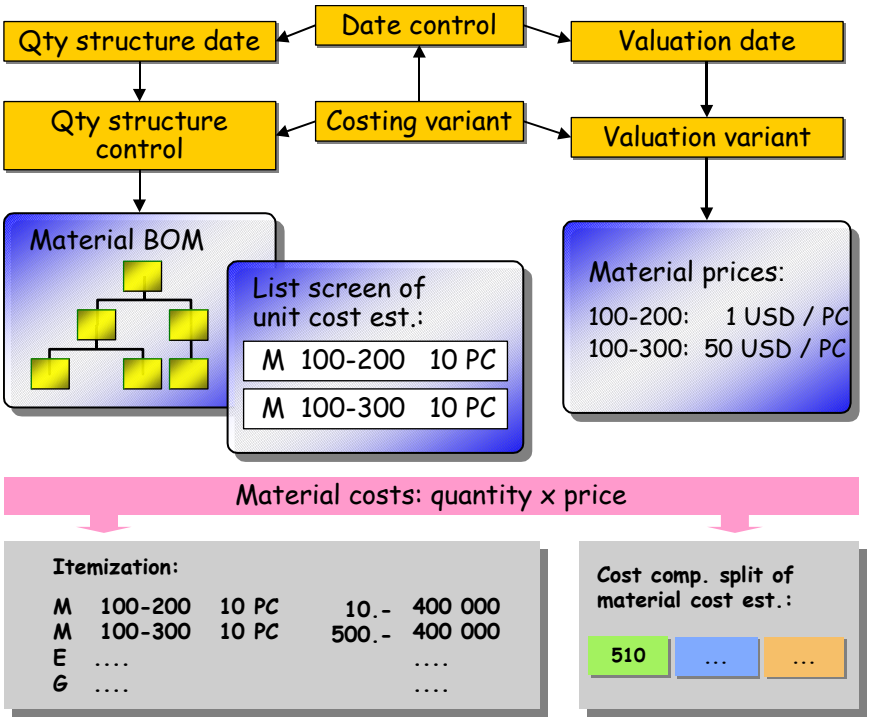
Valuation of Materials

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs. The material costs are displayed as follows:

- In the itemization as items of type "M"
- In the cost component split, in the cost component "Material costs"

To calculate the material costs, the materials required for production must be determined and valuated with a price. In material costing with quantity structure, the system determines the materials automatically using the quantity structure control. In unit costing, you enter the materials manually. They are then valuated with a price (see graphic below).



Integration

To valuate the materials, you can access various prices in the material master record and in the purchasing data, such as the following:

- Future, current or previous standard price
- Moving average price
- Tax-based or commercial prices 1, 2 and 3
- Planned prices 1, 2, 3
- Quotation and purchase order prices

Prerequisites

In Customizing for Product Cost Planning, you define which price is to be used to valuate items such as raw materials and purchased parts. To do this, you define a valuation variant and assign it to the costing variant. The valuation variant contains a search sequence that has a maximum of five prices. For the cost estimate, the system searches in the sequence specified for these prices.

For **prices from the purchasing info record**, enter strategy **L** and create a separate strategy sequence for prices from purchasing data. You can access various prices, such as net or gross quotation prices, and net or gross order prices. For more information, see Determining Vendors [Seite 737].

Features

Material Cost Estimate with Quantity Structure

The system first finds a valid BOM and explodes it from top to bottom. It then calculates the costs for the materials in the costing levels with the lowest number. Using the valuation variant and valuation date, the system selects a price for the materials. For further information, see Multilevel BOMs [Seite 159], Date Control [Seite 567] and Parameters for Quantity Structure Control [Seite 180].

The system then calculates the costs for the materials in the next highest level while including the costs for the materials in the previous level. For further information, see Concept of Cost Rollup [Seite 467].

- For materials that have already been costed, you can transfer values from earlier cost estimates provided you have defined the appropriate transfer control ID (see also Transfer of Costing Data [Seite 607]).
- For specially-procured materials, you can transfer values from cost estimates in other plants provided you have defined the appropriate transfer control ID.
- You can include the results of an additive cost estimate in an automatic cost estimate for the material provided you have made the setting in the valuation variant for additive costs to be included. (See also Additive Costs [Seite 246])

The price for non-stock items is taken directly from the BOM. (See Bills of Material in Costing [Seite 157])

Unit Costing *(Base Object Costing, Material Costing Without Quantity Structure, Additive Costing):*

If you create a unit cost estimate, you enter the costing items manually. For materials, you select item category M. Using the valuation variant, the system takes a price from the material master or purchasing. For further information, see Creating Costing Items [Seite 703] and Valuation of Costing Items [Seite 726].

See also:

Implementation Guide (IMG) for Product Cost Planning

If you use the Material Ledger component, you can find more information about valuating materials under *Actual Costing/Material Ledger (CO-PC-ACT)* in the following sections:

Valuation of Materials

- Price Change [Extern]
- Maintaining Future Valuation Prices [Extern]
- Releasing Planned Prices [Extern]
- Automatic Release of Planned Prices [Extern]
- Marking Prices for Future Valuation [Extern]

For more information about material valuation in the SAP System, see Material Valuation in the SAP System [Extern].

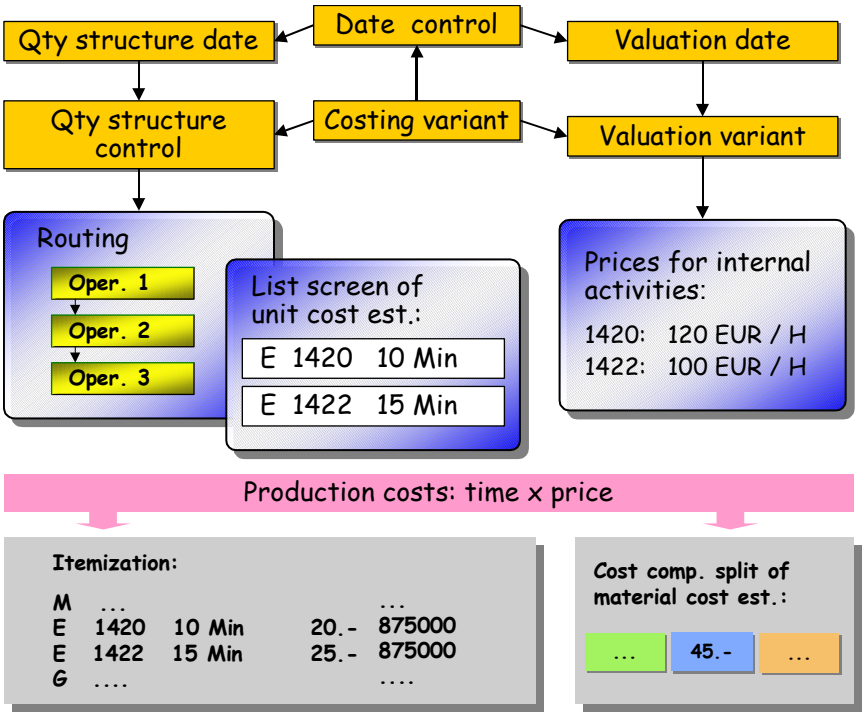
Valuation of Production Activities

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs.

The production costs are listed in the itemization as items of category E (internal activity) and can be assigned to cost components in the cost component split (such as the production costs component).

To calculate the production costs, the activities required for production must be valuated with a price.



Prerequisites

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant.

More than one activity price can be carried in Cost Center Accounting at the same time. You use the planned/actual version in the valuation variant to determine which version is relevant for costing.

- You will generally use version zero for the standard cost estimate, the modified standard cost estimate and the current cost estimate.
- For inventory costing, you can use versions other than version zero if you want to use activity prices that contain components that are not to be capitalized.

In Cost Center Accounting, you can

- Set the price for each activity type according to policy
- Calculate iteratively the activity price for each activity type
- Calculate the actual costs for each activity type using the actual costs incurred for the cost center

Features

Material Cost Estimate with Quantity Structure

You calculate the costs for internal activities with the following entries:

- The formula and the performance efficiency rate key in the work center
- The standard values for the operation in the routing
- The prices for the activity types in Cost Center Accounting

Unit Costing

You enter the costing items of category E manually. The system determines the price in accordance with the valuation variant from Cost Center Accounting.

See also:

Implementation Guide (IMG) for Product Cost Planning

Valuation of Subcontracting

Use

The special procurement type in the costing view of the material master record specifies that subcontracting is to be carried out for the material. If you have not entered a special procurement type in the costing view, the entry in the *MRP* view applies.

For costing, you can choose the source of supply or the vendor using either the planned quota or the actual quota in the quota arrangement book. You do this by setting the *Planned quota arrangement* or *Actual quota arrangement* indicator in the valuation variant.

Features

The system selects a vendor in the following way:

7. If a vendor exists in the quota arrangement book, this vendor is selected.
8. If no vendor exists in the quota arrangement book, the vendor in the source list is selected.
9. If no entry exists in the source list, the vendor is selected using a purchasing info record (such as a dummy info record, or preferred info record), provided that the corresponding indicator is set.

   Otherwise, the vendor with the lowest net price is selected from the purchasing info record. For more information, see Determining Vendors [Seite 737].

You determine in Customizing for Product Cost Planning which price is selected for subcontracting by defining a valuation variant and assigning it to the costing variant.

You can access the following prices:

- From the purchasing info record (purchasing):
  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant. By defining the *planned* or *actual quota arrangement* for subcontracting in the valuation variant, you can specify whether the selection of the source of supply or vendor is dependent on the actual quota or the planned quota.

The valuation variant contains a search sequence that has a maximum of three prices.

Valuation of Subcontracting

You have defined the following strategy sequence for the valuation of subcontracting:

5. Net quotation price
6. Net order price

   If a purchasing info record with a quotation price exists for the material, the system uses this price. If no purchasing info record exists for the quotation, the system uses the price from the purchase order.

See also:

Implementation Guide (IMG) for Product Cost Planning

Raw Material Costing

Use

There are no BOMs or routings for raw materials in the system. You can, however, use these functions to create a cost estimate for raw materials. Instead of simply taking the price from the material master, an actual cost estimate (including overhead calculation) is created.

The raw material cost estimate enables you to include delivery costs, allocate overhead and include additive costs at the material component level.

Features

You are able to do the following:

- Access the purchasing data (MM_PUR), in order to include delivery costs such as freight charges and insurance costs (see also Purchasing Master Data [Seite 691])
- To include overhead and process costs

  You can define a special costing sheet for raw material costing in the costing variant in Customizing. (Overheads [Seite 569])

  You can only calculate overhead for raw materials in the **planning** data, not in actuals. The overhead, should not, therefore, be stock-relevant
- Create additive costs (see also Additive Costs [Seite 246])
- Save an itemization (in addition to the cost component split) for the costing of raw materials.
- Arrange the delivery costs in different cost components [Seite 462]
- Calculate a mixed price, if you have several supply sources for one material component. For more information, see Mixed Costing [Seite 426].

Activities

In Customizing for Product Cost Planning, check the following:

- Valuation variant

  You should use strategy **L** (price from purchasing info record) for the material valuation in the valuation variant

  Using this strategy for configurable material components means that only one material variant price will be included The same applies for material components with procurement alternatives The conditions of different vendors will only be taken into consideration if you implement this strategy. This strategy will be executed in both of these cases first, in other words the strategy sequence will be ignored to start with for configurable materials and when costing procurement alternatives. You can enter the strategy Price from purchasing info record as the last position in the strategy sequence, if a different strategy should be used.

Raw Material Costing

- Costing variant

  Enter the valuation variant defined above in the costing variant. If required, enter a special costing sheet for the application of overhead in raw material costing.

- The assignment of condition types to origin groups

  If you want to handle different conditions from *Purchasing (MM)* in different ways, you can assign condition types to origin groups. When assigning cost elements to the components, you can maintain different origins, and use this to assign the delivery costs to different cost components.

Create the cost estimate for the material as described in Creating a Cost Estimate with Quantity Structure [Seite 123].

In the cost estimate without quantity structure [Seite 480], you activate or deactivate raw material costing, by choosing *Functions* → *Raw material costing* → *Switch on/Switch off*. The cost estimate then inserts items of **type I** (Raw material costs) in the list screen.

Currencies in Costing

Use

You can update and display the costing results (cost component split, and itemization) in both the company code currency and the controlling area currency. The cost component split is then rolled up in both currencies. The controlling area currency is only valid for the legal valuation level.

If the controlling area currency is different from the company code currency, the itemization will be updated in both currencies. The value in the company currency is converted into the controlling area currency.

The additional currency information is required in variance calculation to calculate the target costs.

If the material ledger is active, you can update raw material prices in the material master record in three currencies. You can transfer the material price in the controlling area currency directly into the cost estimate. For semi-finished products, the cost estimate is updated in both currencies.

If the material ledger is active, the marked and released costing results are updated in the company code currency and the controlling area currency in the material ledger master data, provided that the corresponding currency types are used in the material ledger. (In this case, release is carried out in material price determination.)

Costing can also access prices in company code currency and controlling area currency in the Material Ledger master data.

See also:

Actual Costing/Material Ledger

Implementation Guide for Product Cost Planning

Activities

You activate the cost component split in the controlling area currency in Customizing for Product Cost Planning.

Use of Existing Costing Data

Use

A BOM may contain the following types of materials:

- Materials that have already been costed
- Materials already produced or stored in another plant, and costed in that plant

You can use this existing data in costing, and transfer it to other cost estimates. You can transfer existing **material cost estimates with and without quantity structure**.

You can do the following:

- Transfer an existing cost component split using *Transfer control*
  - Single-plant transfer [Seite 610]
  - Cross-plant transfer [Seite 611]
- Using reference costing [Seite 629], transfer the costed quantity structure and, for every item category (such as M, G, and X), decide whether it should be recosted or revaluated

Prerequisites

Settings for Transfer Control

You define transfer control in Customizing for Product Cost Controlling. You use transfer control to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate.

You enter the transfer control ID in the costing variant that you are going to use for the cost estimate.

When you create a standard cost estimate, any cost estimate that has already been **released** is automatically transferred, irrespective of whether you use transfer control. For further information, see Releasing Standard Cost Estimates [Seite 645].

If you set the *Transfer control can be changed* indicator in the costing variant, the system displays the *Transfer control ID* field in the *Control parameters* dialog box when you create a cost estimate. If you have entered a transfer control ID in the costing variant, this ID is proposed by the system. You can overwrite this default value manually. If you do not set the *Transfer control can be changed* indicator in the costing variant, the system determines the transfer control automatically from the costing variant, if it has been entered there.

Settings for Reference Costing

You define a reference variant in Customizing for Product Cost Controlling. It enables you to specify the costing items that should be revaluated. You define the reference variant in the costing variant.

See also:

For further information about the Customizing settings for transfer control and the reference variant, see the *Implementation Guide (IMG)* under *Product Cost Planning → Cost Estimate with Quantity Structure*.

Features

Using the **transfer control**, you can transfer the data of the following types of cost estimate:

- Future standard cost estimates

  The system searches for an existing future (marked) standard cost estimate.

- Current standard cost estimates

  The system searches for an existing current (released) standard cost estimate.

- Previous standard cost estimates

  The system searches for an existing previous standard cost estimate.

- Cost estimates with period-based transfer control

  The system searches for an existing cost estimate that has the same costing version and date in the costing variant (that is, the costing type and valuation variant) as the cost estimate you are currently working on. You define the date that is relevant for selecting the cost estimate in the costing type (that is, with period, with date or without date).

- Other cost estimates

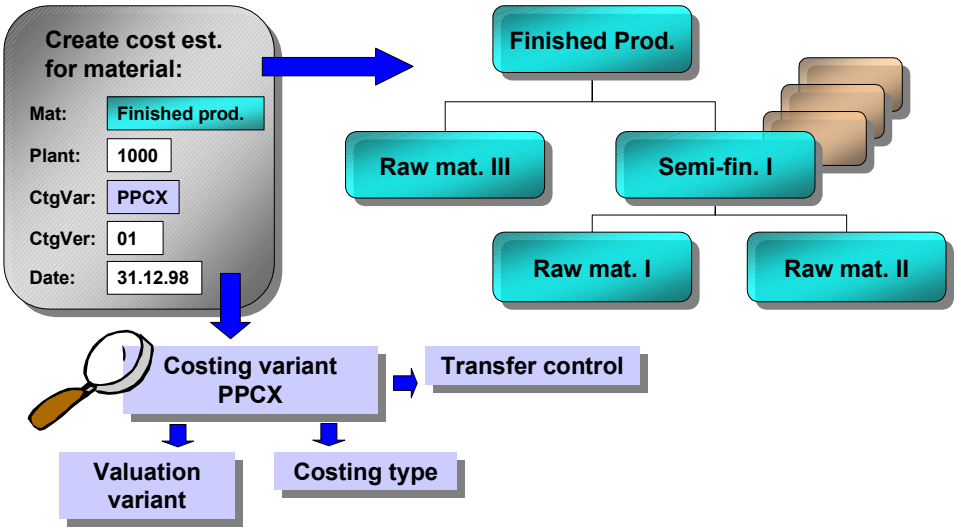
  The system searches for an existing cost estimate that corresponds with your criteria. These criteria can be the costing variant and costing version.

Whether the system transfers a **cost estimate with or without quantity structure** depends on the *With quantity structure* indicator in the costing view of the material master. If this indicator is set, the system looks for cost estimates with quantity structure. If this indicator is not set, the system looks for cost estimates without quantity structure. For more information, see Material Master Costing View: Basic Data [Seite 505].

You are creating a cost estimate for a finished product (12.31.98), using costing variant PPCX. The finished product contains semi-finished product I, for which the following cost estimates already exist in the system:

- A marked (future) standard cost estimate (costing variant PPC1)
- A released (current) standard cost estimate (costing variant PPC1)
- Another cost estimate (costing variant XPCX)
- A cost estimate with period-based transfer control (costing variant PPCX, costing version 01, **from 12.01.98**)

Use of Existing Costing Data



You don't want to recost the semi-finished product. Instead, you want to transfer the results of an existing cost estimate, being either one with period-based transfer control (your main priority), or, if not, a current standard cost estimate. Before creating the cost estimate, therefore, you have entered in Customizing the following transfer control in costing variant PPCX:

1) Cost estimate with period-based transfer control

2) Current standard cost estimate

3) Other cost estimate

When costing the finished product using costing variant PPCX, the system searches for existing cost estimates for all the materials in the BOM structure in the sequence which you specified.

Since a cost estimate with period-based transfer control exists, this cost estimate is transferred. The first strategy has been completed successfully. The cost estimate for the semi-finished product has also been executed using costing variant PPCX, costing version 01. Although the existing cost estimate is from 12.01.98, it is period-based if the relevant indicator (that is, *Saving with period* and not *Saving with* or *without date*) has been switched on in the costing type.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Single-Plant Transfer

Use

The strategy sequence for single-pant transfer in the transfer control enables you to specify that new cost estimates will not be created for materials being used in a finished product. Instead, the cost estimate for the finished product will transfer data from existing cost estimates.

Features

The strategy sequence is the sequence in which the system is to search for costing data.

You specify that the system searches first for a current standard cost estimate, then for a future standard cost estimate, and finally for a previous standard cost estimate.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

The selected data is grouped into cost components [Seite 462] and transferred to the cost estimate.

If the system cannot find a cost estimate that meets the criteria, the material is costed afresh using the BOM and routing.

See also:

Implementation Guide for Product Cost Planning

Cross-Plant Transfer

Use

You use the strategy sequence for cross-plant transfer to specify how the system is to proceed with special procurement [Seite 443].

You enter the special procurement type in the costing view of the material master record. If you do not enter a special procurement type in this view, the system uses the special procurement type from the MRP view.

Features

The following special procurement types are taken into account for the transfer to a material cost estimate:

- Stock transfer from another plant
- Production in another plant

The special procurement type specifies the plant in which the system is to look for costing data. The strategy sequence is the sequence in which the system is to search for costing data.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

  The results of standard cost estimate in the second plant can only be transferred to the cost estimate in the first plant if they have the same cost component structure as the results of the standard cost estimate in the first plant.

  For this reason, you must assign the costing variants for the standard cost estimate to a cost component structure at the company code level in Customizing for *Product Cost Planning*. When you cost across company codes [Seite 618], the cost component structures in the controlling area must be the same.

If the system cannot find a cost estimate that meets the criteria, the material is costed again on the basis of the BOM and routing in the other plant. However, the system will only cost the material in the other plant if the plant is in a different company code and cross-company costing has been activated.

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Costing Dates

Use

The following dates are relevant for a material cost estimate and a costing run:

- Quantity structure date
- Valuation date
- Costing date from/to

You can define a date control ID in **Customizing** for Product Cost Planning that determines the following:

- Which dates are proposed
- Whether the user can change the proposed dates

The date control ID is assigned to a **costing variant**.

Features

The **quantity structure date** determines how the system selects a valid quantity structure for the cost estimate. Based on this date, a BOM and a routing are selected, exploded and costed. The quantity structure date also determines which additive cost estimate is selected.

The **valuation date** determines how the system searches for valid data to calculate the following prices:

- Prices for stock materials from the material master record
- Activity prices for activity types from cost center planning
- Prices for externally-procured materials from purchasing
- Prices for externally-processed operations from purchasing

You set the **validity period of the cost estimate** with the *Costing date from* and *Costing date to* indicators.

You use the costing type in Customizing for Product Cost Planning to specify whether cost estimates are updated in the database with a date. You have the following options:

- Without date
- With date
- With start of period

For costing types which have the *With date* or *With start of period* indicator set, the system uses the date or period start that is entered in the *Costing date from* field.

- For the **standard cost estimate**, the *With start of period* indicator must be set. This means that the period and the fiscal year of costing are parts of the costing key in the database. This ensures that
  - Only one standard cost estimate can be stored within a period
  - Only this standard cost estimate can be transferred into the material master record as the standard price

Costing Dates

- For the **modified standard cost estimate**, the *With start of period* indicator is automatically set. If you want to save several modified standard cost estimates for the same material in one period, set the *With date* indicator. The date of the cost estimate is saved as part of the costing key in the database.
- For the **current cost estimate**, the *Without date* indicator is automatically set. The date is not included in the costing key.

Depending on whether you carry out costing manually or automatically, you must remember the following:

- If costing is carried out **automatically**, the *Costing date from* applies. The *Costing date to* is just for informational purposes.

  You cannot create more than one cost estimate with the same validity period, because cost estimates with the same *Costing date from* would overwrite one another.

  On the other hand, you can create automatic cost estimates whose validity periods overlap. In this case, the entries in the field *Costing date from* are different.

- If costing is carried out **manually**, then both the *Costing date from* and the *Costing date to* apply.

  The validity periods of the additive cost estimates must not overlap.

  The validity period of the cost estimate is also relevant for Cost Object Controlling. The results of the standard cost estimate are used in the calculation of:

  - Variance calculation
  - Scrap calculation
  - Work in process calculation

  If the standard cost estimate is not valid on the date on which these functions are to be performed, the system issues an error message.

See also:

Implementation Guide for Product Cost Planning

Overhead

Use

Overhead costs are costs which can only indirectly be attributed to the product, such as electricity or general storage costs. You can allocate these overhead costs in the following ways:

- Overhead application [Seite 741]

  In the conventional method, overhead is applied to the reference object as a percentage rate or a quantity-based rate. The overhead is applied by means of costing sheets.

- Template allocation [Seite 748]

  Here, cost drivers are used to assign overhead to the reference object on a source-related basis according to usage. The overhead is applied by means of templates. Sender objects can be business processes or cost centers/activity types.

- Integration of business processes into the routing [Seite 748]

  Assigning process costs to routing operations is particularly suitable for direct production processes. On the other hand, indirect processes should be assigned using templates.

Integration

Overhead is assigned from *Financial Accounting (FI)* to the cost centers in *Cost Center Accounting (CO-OM-CCA)*. If you use *Activity-Based Costing (CO-OM-ABC)*, overhead is passed on from Cost Center Accounting to the business processes of Activity-Based Costing.

The overhead costs are in turn passed on from Cost Center Accounting or Activity-Based Costing to Product Cost Controlling (CO-PC).

You can transfer the costs from Cost Object Controlling to the following:

- *Financial Accounting (FI)*, to valuate finished and unfinished products, for example
- *Profit Center Accounting (EC-PCA)*
- *Profitability Analysis (CO-PA)*
- *Material Ledger/Actual Costing (CO-PC-ACT)*

You can pass on overhead costs that have not been applied to a cost object (such as sales and marketing costs) directly from Cost Center Accounting or from Activity-Based Costing to Profitability Analysis.

Features

You can calculate both planned and actual overhead costs. You can also apply overhead to process costs. You can use overhead calculation for all the cost objects in the R/3 System.

You can calculate **planned overhead costs** in the following:

- Product Cost Planning (non-order-related material costing)
- Preliminary costing of manufacturing orders (production orders and process orders), and product cost collectors
- Sales order cost estimates

Overhead

- Order BOM cost estimates
- Calculation of planned costs for general cost objects
- Preliminary costing for internal orders

You can calculate **actual overhead costs** at period-end closing in Cost Object Controlling based on the actual costs or quantities incurred thus far.

For more information about calculating overhead in manufacturing orders, product cost collectors, general cost objects, and sales order items see the following sections:

- Product Cost by Order [Extern]
- Product Cost by Period [Extern]
- Product Cost by Sales Order [Extern]
- Costs for Intangible Goods and Services [Extern]

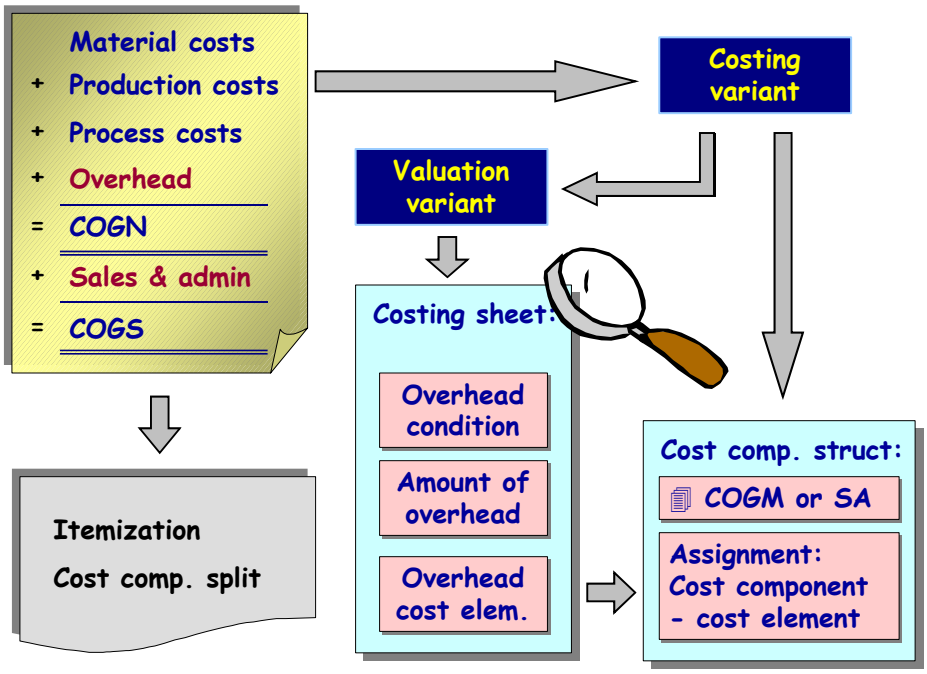
For more information about calculating overhead costs, see the following sections in the R/3 Library:

- Overhead Cost Controlling [Extern]
- Activity-Based Costing [Extern]

Applied Overhead

Use

You can apply both percentage overhead and quantity-based overhead to reference objects. In the R/3 System, you can assign the overhead to a product by creating a costing sheet [Seite 744] in Customizing for Product Cost Planning. Using this costing sheet, you specify the level of overhead and the conditions under which it is calculated.



You can calculate the following:

- Material and production overhead
- Administration and sales overhead

  The costing sheet thus specifies the cost elements under which the sales and administration costs are updated in costing. The cost component structure [Seite 460] determines the cost components [Seite 462] under which these costs are shown. It flags these cost components as sales and administration costs.

  In make-to-order production, the sales and administration costs are generally assigned to the product as applied overhead. The cost of goods sold for the product is passed on to Profitability Analysis. (See also: Product Cost by Sales Order [Extern])

  In order-related production, repetitive manufacturing and process manufacturing, the sales and administration costs are generally passed on from Cost Center Accounting directly to Profitability Analysis. The cost of goods manufactured for the product is

passed on to Profitability Analysis. (See also: Product Cost by Order [Extern] or Product Cost by Period [Extern])

Prerequisites

To be able to calculate overhead in the R/3 System, you must do the following:

- Create a costing sheet [Seite 744] in Customizing
- Assign the costing sheet to the valuation variant in Customizing
- In the initial screen of the cost estimate, enter a costing variant that either contains this valuation variant or that assigns the costing variant to the order type

To define particular overhead conditions for certain reference objects, you must do the following:

- Enter an **overhead group** in the master record of the reference object (such as the material master record, base object master record, cost object)
- Enter an overhead key [Seite 746] in the **costing sheet** that is linked to this overhead group in Customizing for Product Cost Controlling.

Features

Applied Overhead Using Planned Data

The applied overhead is calculated using the information in the itemization for the material costed. Because the system updates an itemization for each cost component view, you can calculate applied overhead for a specific cost component view. Overhead is only calculated on one basis, such as the cost of goods manufactured or cost of goods sold. As a general rule, the cost of goods manufactured is used as the basis for calculating overhead. You make the assignment in the costing type in Customizing.

When calculating overhead, the system inserts a costing category of type **G**. The applied overhead is updated under the cost elements that you specified in the costing sheet in Customizing for Product Cost Controlling.

In **costing with a quantity structure**, overhead is calculated automatically by the system when you carry out costing.

In **unit costing** (such as costing without a quantity structure and base object costing), overhead is calculated when you save the cost estimate. You can calculate overhead manually by choosing the menu option *Calculate overhead*.

To calculate the overhead application in **unit costing** (such as in a cost estimate without quantity structure, or a base object cost estimate), you must assign all the costing items to cost elements. Non-assigned costing items will not be included in the overhead application.

If you want to calculate overhead in unit costing, you must enter the key of the costing sheet in the master record of the reference object. To define overhead conditions for certain reference objects, you must enter an overhead key in the master record of the reference object and create a costing sheet that refers to this key.

Applied Overhead Using Actual Data

You can calculate actual overhead for cost objects in *Cost Object Controlling (CO-PC-OBJ)*. You can find further information under Calculating Overhead in Cost Object Controlling [Extern].

See also:

Implementation Guide (IMG) for Product Cost Controlling

- In Product Cost Planning under *Basic Settings* → *Overhead*.
- In Product Cost Planning under *Reference and Simulation Costing* → *Overhead*.
- In Cost Object Controlling, under:
  - ***Product Cost by Period*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Order*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Sales Order*** → *Basic Settings* → *Overhead*
  - ***Costs for Intangible Goods and Services*** → *Basic Settings* → *Overhead*

Costing Sheets

Definition

The costing sheet links all the functions of overhead calculation.

Use

In the costing sheet, you determine the following:

- The direct costs to which overhead is applied (calculation base)
- The conditions under which overhead is applied (dependency)
- Whether overhead is allocated on a percentage basis or on a quantity basis
- The amount of the overhead percentage, or the amount of overhead for each unit of measure (overhead)
- The validity period for the overhead
- Which object (cost center, process, or order) is credited, and under which cost element in the case of actual postings (credit key)

If you use Activity-Based Costing (CO-OM-ABC), the costing sheet also controls the allocation of process costs. For more information about the allocation of process costs, see Process Costs [Seite 748].

In **material costing**, you enter the costing sheet in the valuation variant in Customizing.

In **Reference and Simulation Costing**, you enter the costing sheet in the master record of the base planning object.

Structure

The costing sheet contains the following:

- **Calculation Base**

  The calculation base consists of a group of cost elements to which overhead is to be applied according to the same conditions. This process involves assigning individual cost elements or cost element intervals for each controlling area to a calculation base.

  You can apply different overhead amounts to the fixed and variable portions of the same base cost element. You can also make the amount of the overhead dependent on not only the direct costs, but also on the material itself. You can define material-specific calculation bases by entering the origin groups in the material master record and by specifying them in the calculation bases.

- **Overhead Rates**

  You use overhead to specify whether the overhead applied to the calculation base should be quantity-based or percentage-based. You also specify the validity period and the conditions under which the overhead should be calculated. The system calculates the overhead either as a percentage or based on the quantity.

  The conditions under which overhead is to be charged are laid down in condition tables. The standard condition table is linked to a controlling area, an overhead type (planned or actual), and to one other field of the object's master record (such as the plant, or

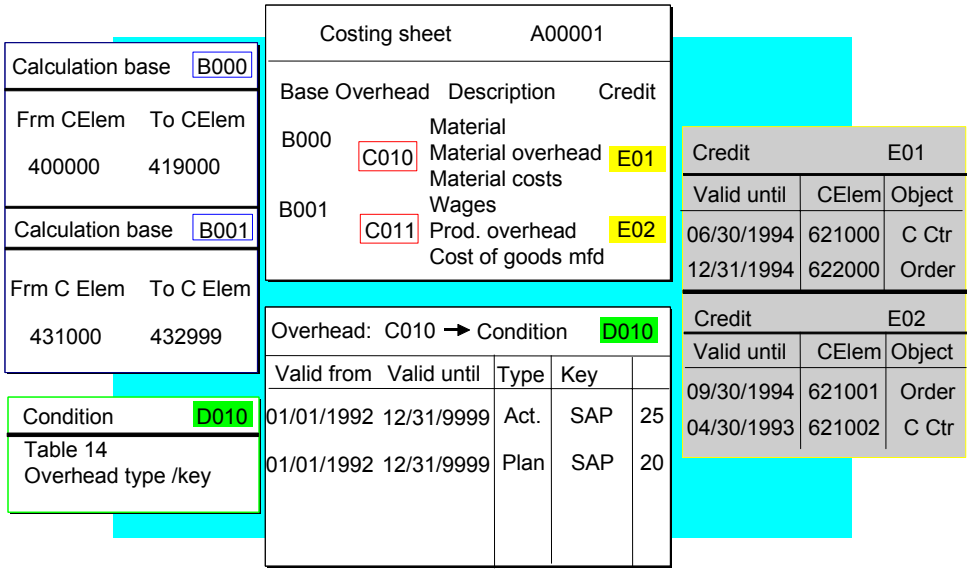
overhead key). Hence the conditions for overhead calculation can relate to all the reference objects of an organizational unit, or to an overhead key [Seite 746].

These lines also contain a **credit key**. The credit determines the (overhead) cost element under which the overhead is to be updated, and which cost center, business process or order is to be credited. You can also specify which part of the overhead is to be flagged as fixed costs.

- **Totals Lines**

  These lines show subtotals.

The following graphic provides an overview of the various components of the costing sheet:



See also:

For more information about the costing sheet, see the *Implementation Guide for Product Cost Controlling*.

Overhead Keys

Definition

Specifies which overhead is applied to a reference object (such as a material), thus forming the link between overhead conditions and the following:

- A particular material master record
- A particular cost object node of a cost object hierarchy
- A particular general cost object
- A particular sales order item

Use

You can define particular overhead conditions for certain reference objects.

Overhead key for materials

To link materials with certain overhead conditions, you must do the following:

- Enter an overhead group in the costing view of the material master record.
- Enter an overhead key in the costing sheet that is linked to this overhead group in Customizing for Product Cost Controlling.

Using the overhead key, the overhead is assigned to a particular material via the overhead group in the costing view of the material master.

The overhead group and overhead key are included in the following:

- In Product Cost Planning in material costing
- In Cost Object Controlling:
  - In a preliminary cost estimate for the product cost collector or for the manufacturing order
  - In period-end closing for the product cost collector or for the manufacturing order

Overhead Key for Cost Object Hierarchies

To link cost object hierarchies to overhead conditions, enter the overhead key in the cost object master record.

The overhead key is included in the cost object node when overhead is applied at period-end closing.

Overhead Key for Sales Order Items

To link sales order items to overhead conditions, enter an overhead key for the sales order item. To do this, go into the sales order and choose *Extras* → *Account assignment*.

The overhead key is included in Product Cost by Sales Order

- In Product Cost by Sales Order, to calculate the planned costs
- When overhead is calculated at period-end closing

Overhead Key for General Cost Objects

The overhead key is included:

- When planned costs are calculated for general cost objects
- At period-end closing

The standard system has various costing sheets containing an overhead key. You can apply overhead to materials by modifying these costing sheets to suit your needs.

You have defined two overhead groups in order to apply overhead to materials. These two overhead groups are linked to two overhead keys. An overhead of 10% is specified for overhead key 01. An overhead of 20% is specified for overhead key 02.

You have more than one plant. You want to apply overhead only if the material is assigned to a certain plant and overhead key.

The system checks these dependencies when the overheads are calculated. If the dependencies are met, the system calculates an overhead percentage. You must define this percentage for each of your dependencies.

Overhead Key for Base Planning Objects

In base object costing, you enter the overhead key in the master data for the base planning object.

Process Costs

Use

You can use Activity-Based Costing in *Product Cost Controlling (CO-PC)* in order to do the following:

- Include costs for production resources/tools and in the actual data
- Calculate overhead based on the output quantity

  In traditional overhead costing, you can calculate quantity-based overhead based on the input quantities, but not on the output quantities. Through the use of Activity-Based Costing, you can, in non-order-related costing, assign overhead to a material dependent on the costing lot size.

  In *Cost Object Controlling (CO-PC-OBJ)*, you can calculate process costs as follows:

  - Dependent on the planned order quantity (for example, in a preliminary cost estimate for the manufacturing order)
  - Dependent on the quantity delivered to stock, in order to calculate the actual costs for a material
  - In Sales-Order-Related Production, dependent on the quantity ordered of a material produced in make-to-order production
- In Sales-Order-Related Production, to allocate transportation costs to the sales order item matched with costs and revenue. For example, you may receive a collective invoice from your carrier with several amounts that are assigned to various sales orders.
- To carry out statistical cost accounting in parallel. In such cases, the cost object is not debited.

Prerequisites

You have maintained the appropriate templates, environments, and function hierarchies in Customizing for Product Cost Controlling.

For more information about settings in Customizing, see the Implementation Guide for *Product Cost Controlling (CO-PC)*. For more information about Activity-Based Costing, see Activity-Based Costing (CO-OM-ABC) [Extern] and the Implementation Guides for Activity-Based Costing and for Product Cost Controlling.

However, for the above-mentioned options, it is not imperative that you implement the complete version of Activity-Based Costing. You also do not have to carry out an all-embracing analysis of your process structure. You can use Activity-Based Costing in this context as an additional tool to assign your costs on a source-related basis.

Features

You can use the costs for business processes in a cost estimate as either a replacement for, or supplement to, the traditional method of allocating overhead.

In cost center accounting, the costs are structured according to organization and responsibility center. This means that although it is possible to pinpoint a company's costs where they arise, this does not explain the purpose for which the resources are used.

The process-oriented approach, on the other hand, considers the costs of all the functions in accordance with the company's process structure. A business process is debited with costs that are related to the usage of the resources. Overhead costs are traced back to the source and assigned through the valuation of the process quantities at the process price.

Overhead is assigned to the business processes according to the resources used. This allows costs to be applied to the cost objects on a source-related basis.

You can include process costs in a material cost estimate by means of the following:

- Templates [Seite 751]

  The template determines which process costs are used and how these costs are further applied to the product. The template is determined through the costing sheet in the valuation variant. This form of cost application provides you with a highly flexible method of specifying the processes and of calculating the activities and processes used.

  Template allocations also enable you to use cost centers/activity types as senders.

- Integrating business processes into the routing through the PP component

  The business processes are linked to the operations of the routing. This enables the process to be more closely linked to a specific material or order. It also makes it possible to link a specific process to a particular quantity. Work centers and routings are given a process assignment. The business processes are transferred from the work center into the routing. You enter the formula to determine the process quantity in the work center. The activity price of the business process is used for the valuation. In the cost estimate, the process quantities are determined with this formula and then valuated with the activity price. A credit is applied to the process, while the confirmed reference object is debited. The formula is also used to determine the process quantities used at the time of order confirmation of the routing operations; these quantities can also be adjusted. The actual allocation is arrived at in **Product Cost by Order** or **Product Cost by Period** using the process quantities following the valuation process.

You can include process costs using **planning data** in:

- Non-order-related costing

  In the **cost estimate with quantity structure**, process costs are calculated automatically by the system.

  In the cost estimate without a quantity structure, in additive costing and in Reference and Simulation Costing, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

- Preliminary costing for a cost object

  Process costs are calculated automatically by the system when you carry out costing in preliminary cost estimates of manufacturing orders, process orders, and sales order cost estimates (using the product costing method).

  When you carry out preliminary costing of manufacturing orders without a quantity structure, sales order costing (using the unit costing method), and plan general cost

objects, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

You can include process costs using **actual data** in order to allocate the process costs to cost objects. To do this, you carry out a dynamic process allocation at period-end closing of Cost Object Controlling. For further information, see the following:

- Period-End Closing in Product Cost by Order [Extern]
- Period-End Closing in Product Cost by Period [Extern]
- Period-End Closing: General Cost Objects [Extern]

To manually measure the resources (tracing factors) and cost drivers would require excessive organizational effort. The required data is often already in the system in statistical form, and can be transferred from LO-LIS (Logistics Information System). For more information about transferring data from LO-LIS, see the SAP Library under *Logistics General (LO).*

See also:

- Activity-Based Costing (CO-OM-ABC) [Extern]
- Use of Templates in the Standard Cost Estimate [Extern]
- Template-Allocation to Cost Objects [Extern]
- Quantity Input Methods (Pull) [Extern]

Templates

Definition

Tool for incorporating Activity-Based Costing in the cost estimate.

Use

The template enables process costs to be included in the cost estimate. It enables you to dynamically determine and valuate the process quantities used at the time of costing.

Templates have various uses:

- You can use a template for several cost objects. When you carry out costing, you can use a determination strategy in the costing sheet to specify which template is to be used.
- You can define methods to determine processes dynamically at the evaluation stage.
- You can use formulas to determine the process quantities used.
- If separate sub-processes are valid only for certain cost objects, you can set individual lines to be active or inactive. When evaluating the template, only the active items are included.
- You can use sub-templates if process sequences are required in several processes. You define these process sequences in sub-templates.

Since templates are not dependent on the reference object, the appropriate template must be selected at the time of evaluation. It is selected through the costing sheet, the overhead key and the environment.

- For material costing, you select the costing sheet in the valuation variant. The valuation variant is entered in the costing variant.

  The costing sheet is determined from the master data when the process costs are allocated to cost objects and base planning objects.
- The overhead key is determined during material costing from the overhead group in the material master of the material to be costed. For more information, see Overhead Key [Seite 746].
- The environment of a template determines the information that can be accessed when a template is defined.

Depending on the controlling area, costing sheet, overhead key, and environment, you can specify which template should be used for the cost estimate. You can enter a template more than once.

See also:

You can find further information under the following:

- *Activity-Based Costing (CO-OM-ABC)* in the SAP Library in the documents Templates [Extern] and Use of Templates in the Standard Cost Estimate [Extern]
- *Implementation Guide (IMG) for Product Cost Controlling*

Process Cost Planning

Purpose

Process cost planning enables you to do the following:

- Include process costs in Product Cost Planning
- Include process costs in the preliminary costing of cost objects

Prerequisites

In Customizing for Activity-Based Costing, you check

- The planner profiles and planning layouts

  Planning is based on the predefined planning layouts that are stored in planner profiles. Planning layouts are entry screens for planning. You can use those supplied with the standard system, or define your own.
- Whether a distribution key should be created
- Whether versions have been created for alternative forms of planning (if necessary, create new versions)
- Whether it should be possible to copy versions (if necessary, allow copying in the source version)
- Whether planning changes should be documented

In Customizing for **Product Cost Controlling**, you define a template, the template determination, environments, and function hierarchies. You can find further information in the Implementation Guides (IMG) for *Activity-Based Costing* and *Product Cost Controlling*.

Process Flow

In Activity-Based Costing, the entire planning flow can be performed in dialog.

The planning process is not a single operation, but an interactive process that generally consists of several cycles. This is also reflected in the saving of the planned data. To this end, the system provides for the parallel saving of alternative versions.

Where business process planning is concerned, there is no fixed methodology. However, SAP recommends the following procedure:

13. You plan statistical key figures that can be used as the basis for the allocation of process costs in the planning data and actual data.
14. Carry out activity type planning. The planning of business processes is based on Cost Center Accounting with the activity types and allocation bases.
15. Carry out primary cost planning.
16. Carry out secondary cost planning.
17. Carry out activity price calculation and process assessment.
18. Create the corresponding cost estimates for the reference object.

Process Cost Planning

You carry out steps 1 to 5 in **Overhead Cost Controlling** (Cost Center Accounting or Activity-Based Costing).

You can find further information about Process Cost Planning and its requirements in the R/3 Library and in the Implementation Guide for *Activity-Based Costing (CO-OM-ABC).*

Result

The planning results are available on a real-time basis and can be analyzed at any time through the information system.

Calculating Overhead

Use

When you save a unit cost estimate, overhead costs (that is, overheads and/or process costs) are automatically calculated and inserted as items under category G or X.

You can also calculate overhead and process costs manually. You use the function *Calculate overhead* for this.

Prerequisites

You are in the list screen of the unit cost estimate.

A costing sheet has been entered in the valuation variant, and an overhead key has been entered (if applicable) in the master data of the reference object (such as the material).

For the Base Planning Object:

The costing sheet and overhead key have been entered in the master data of the base planning object.

Procedure

Choose *Functions* → *Calculate overhead*.

Result

The system calculates overhead and process costs based on the costing sheet and overhead key used. Items of category **G** (for overhead) and **X** (for process costs) are inserted.

See also:

Prices in Unit Costing [Seite 726]

Overhead [Seite 569]

Overhead in Base Object Costing [Seite 739]

Revaluating Costing Items

Use

The prices you see in the cost estimate are those that were valid either when the cost estimate was created or when the *Revaluate* function was last used.

If the master data changes, this data is not automatically updated in unit costing. However, you can revaluate the costing items manually and thus take into account the current prices.

You can select the following:

- All items
- Selected items only
- Items of a specific item category only, such as all the material items or all base planning objects. (This is not possible in Easy Cost Planning.)

The costing items are **revaluated automatically** if you execute the functions *Explode base planning object, Material explosion*, *Create cost estimate with reference* or *Copy cost estimate…* (this is not possible in Easy Cost Planning).

The *Revaluate* function is **not** available for the detailed planning of a cost element.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Procedure

3. Decide which items you want to revaluate.
   a. Choose to revaluate all items of the unit cost estimate. You do not have to select any items for this.
   b. Choose if you want to revaluate selected items of the unit cost estimate only. You must select the items concerned before choosing this menu option.
   c. Choose *Functions* → *By item category…* to revaluate only items of a certain category, such as materials and internal activities only (this is not available in Easy Cost Planning).
4. Save the cost estimate and, if applicable, the reference object (such as the base planning object or sales order).

Result

The system revaluates the relevant items with the current prices as per the valuation variant. For more information, see Preparing for Costing [Seite 72].

If you are revaluating all items, the raw material costs [Seite 735] and overhead [Seite 569] are also recalculated. If you are revaluating certain items only, the overhead is not recalculated until the cost estimate is saved or when the function Calculate overhead [Seite 755] is executed.

In respect of costing items that you have changed manually, the system sets the *Manual price* indicator. Such items are not revaluated.

See also:

- Valuation of Costing Items [Seite 726]
- Revaluating Base Planning Objects [Seite 681]

Managing the Costing Results

Use

In addition to the Information System reports, there is now a range of tools which you can use to analyze material cost estimates.

- Costing Level Overview [Seite 345] (cost estimate with quantity structure only)
- Material Overview [Seite 346] (cost estimate without quantity structure only)
- Costing Status [Seite 598]
- Logs in Material Costing [Seite 589]

The following functions are also available to manage material cost estimates:

- Saving Material Cost Estimates [Seite 600]
- Archiving Material Cost Estimates [Seite 602]
- Deleting Material Cost Estimates [Seite 604]
- Deleting the Costing Run [Seite 365] (Cost estimate with quantity structure only)

See also:

For more information about the costing results and the Information System reports, see Reports in Product Cost Planning [Seite 790].

Message Logs

Use

A log collects the system messages created by the execution of a function. You can adapt the list of messages to your requirements, and sort them according to various criteria.

A log is generated when the following functions are executed:

- *Product Cost Planning*
  - Creating a Material Cost Estimate with Quantity Structure [Seite 123]
  - Costing Run: Material Selection [Seite 330], BOM Explosion [Seite 333], Execution [Seite 335], Price Update [Seite 339]
  - Marking [Seite 642] and Releasing Standard Cost Estimates [Seite 647]
  - Updating Other Prices [Seite 657]
- *Cost Object Controlling*
  - Creating Preliminary Cost Estimates for Product Cost Collectors [Extern]
  - Sales Order Costing [Extern]
  - Creating and Marking Order BOM Cost Estimates [Extern]
  - Calculating Work in Process [Extern]
  - Calculating Variances [Extern]
  - Performing Results Analysis [Extern]

Prerequisites

When you display a material cost estimate [Seite 493], you can only view the log after you have saved it. The same applies to preliminary cost estimates for product cost collectors, for sales orders, and for order BOMs.

You can only save a log for a material cost estimate or preliminary cost estimate if the costing variant allows the log to be saved. The following table provides an overview of the effects of an entry in the costing variant in the *Error management* field.

Error Management	Effect
0 (Online messages)	Messages are displayed individually in the status bar. The *Log* function is not active.
1 (Collect and save messages in the log/Mail active)	Messages are logged and can be sent to the person responsible for removing the error(s). The log can be saved.
2 (Collect and save messages)	Messages are logged. The log can be saved. The messages cannot be sent.
3 (Collect messages only)	Messages are logged. The log cannot be saved. The messages cannot be sent.

For more information, see Saving Material Cost Estimates [Seite 600].

Message Logs

In respect of preliminary cost estimates for manufacturing orders, the log is never saved. By contrast, the log is always saved in WIP calculation, variance calculation and results analysis.

You can assign individual messages to the appropriate areas of responsibility, in order to sort the messages by department and, if necessary, to inform the person responsible for correcting the error. In *Cost Object Controlling*, you can only assign messages to areas of responsibility for sorting purposes.

To assign individual messages to areas of responsibility (see also: Assignment of Messages to Areas of Responsibility [Seite 595]), you make the settings in Customizing for *Product Cost Planning* and *Cost Object Controlling*.

You can specify which messages appear in the log, and which error severity they should have (see also: User-Defined Message Types [Seite 594]) in Customizing for *Product cost Planning* and *Cost Object Controlling*. See also: User-Defined Error Mänagement in Cost Object Controlling [Extern]).

In Customizing for *Product Cost Planning*, you can also assign messages and/or areas of responsibility for the log to the message control parameters (see also: Message Control [Seite 597]).

Features

The log contains the following information:

- Reference object (such as cost estimate for material XYZ in plant 1000)
- Message lists containing the following information:
  - Message type with graphical display:
    - : Information message (type I). The cost estimate receives the status *Without errors*, such as KA (costed without errors) or VO (marked without errors).
    - : Warning message (type W). The cost estimate receives the status *Without errors*, such as KA (costed without errors) or VO (marked without errors).
    - : Error message (type E). The cost estimate receives the status *With errors*, such as KF (costed in errors) or VF (marked with errors).
  - Reference object (such as material to which the message refers) and plant
  - Application area and output number
  - Message text

    The short text for the message contains the possible cause of the error. To display detailed information on how to remove the error, double-click on the message concerned (either the message number or the text) to go to the long text.
  - Indicator showing whether the message concerns a type kept in stock
  - Item number of the itemization [Seite 828]

    The costing items are the individual materials, activities and overhead items whose costs were calculated.

You can adapt the log to your requirements. For more information, see Editing and Printing the Log [Seite 592].

Editing and Printing the Log

3. Changing Display Variants

Display variants enable you to specify which information is to be displayed in a list (such as the log). To change the current display variant or create your own, choose (in certain logs, you can also choose with the quick info *Current Display Variant*, *Display Variant* and *Save*).

Display variants enable you to display additional fields (such as the area of responsibility or grouping term), or hide unnecessary ones, and so adapt the list to suit your requirements. For more information, see Functions of the ABAP List Viewer [Extern].

4. Sorting the Log

c. To sort the messages in the log, select the column(s) to be sorted and choose to sort in ascending order or to sort in descending order.

d. To create a partial list from the complete list of messages for each message type, area of responsibility, material, or grouping term, select a column and choose . You can select several columns by holding down the *Ctrl* button.

5. Displaying the Long Text

If you want to go to the long text of a message, place the cursor on the desired line and choose . The long text of a message (particularly warning and error messages) contains detailed information about the cause of the error and how it can be removed.

6. Changing Message Types

To change a message type, proceed as follows:

g. Choose (or in certain logs, *Error Management*).

The system display a list of user-definable messages whose type you can change.

h. In the *Message* column, click on the message whose type is to be changed.

The dialog box *Allowed message types* appears.

i. Select the message type by double-clicking on it.

The *Message processed* column in the list of user-definable messages shows the message type was changed.

The graphical display in the *Exception* column is updated. For more information, see User-Defined Message Types [Seite 594] and User-Defined Error Management in Cost Object Controlling [Extern].

j. If you want to restore the default setting, choose .

k. If you want to display all the user-definable messages, choose .

l. To go back to the log, choose .

7. Printing the Log

To print the log that is currently displayed, choose . In certain logs, you can obtain a print preview by choosing .

To print the logs generated by the costing run, choose *Environment* → *Costing Run* → *Print Logs* in the Product Cost Planning menu. For more information, see Printing the Log [Seite 338].

8. Sending Messages

The error management key in the costing variant determines whether you can send messages through message control [Seite 597].

The message is sent on the date that was specified in Customizing for *Product Cost Planning* (for example, when you save the cost estimate). For more information, see the *Implementation Guide (IMG)* for *Product Cost Planning* under → *Basic Settings for Material Costing* → *Error Management* → *Define Message Control*.

To send messages, select the messages in the log and choose or *Extras* → *Send messages*.

Messages are normally only sent in *Product Cost Planning* via message control. If you want to use this function for sales order costing, order BOM costing or preliminary costing for product cost collectors, you must first of all change the setting in the costing variant and then make the necessary settings in Customizing for *Product Cost Planning*.

See also:

- Assignment of Messages to Areas of Responsibility [Seite 595]
- Costing Status [Seite 598]
- Message Logs [Seite 589]
- User-Defined Message Types [Seite 594]

User-Defined Message Types

Use

The message type identifies the message as an information message (type I), warning message (type W), or error message (type E). It determines the costing status of the cost estimate. For more information, see Costing Status [Seite 598].

You can select a message type for a whole range of system messages. This enables you to determine how the message is handled by the system and whether it is entered in a log.

If you have indicated a message as a warning, you can either ignore the message by choosing *Enter* or correct the data entered.

If you have indicated a message as an error message, you must make a correction before you can continue with the cost estimate.

Activities

You make these settings in Customizing for *Product Cost Planning* or *Cost Object Controlling*.

You can also change the type of message yourself in the application.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- *Implementation Guide (IMG) for Cost Object Controlling*
- Message Logs [Seite 589]
- Editing the Log [Seite 592]
- User-Defined Error Management in Cost Object Controlling [Extern]

Assignment of Messages to Areas of Responsibility

Use

The area of responsibility is the organizational unit within the company that is responsible for correcting the error.

In the standard system, the most important messages relating to costing are assigned to areas of responsibility. You can also assign further system messages to a department.

You can assign the system messages in Customizing to two further, user-defined, groups. To do this, enter a group in one or both of the *Group* columns. When you display the log, you can sort the messages by these groups. You can define, for example, a grouping term for errors that need to be corrected immediately. For more information, see Editing and Printing the Log [Seite 592].

Features

You can assign the system messages in the log of a cost estimate with a quantity structure to various areas of responsibility. When you display the log, you can

- Sort the messages by area of responsibility
- Inform the employees in these areas of responsibility about the contents of the message if the *Mail* function in the costing variant is active (*Error management* field)

  For more information, see Message Logs [Seite 589], Message Control [Seite 597] and Editing and Printing the Log [Seite 592].

  The standard cost estimate for a material is incorrect due to errors in the BOM and routing. The Work Scheduling area of responsibility is responsible for correcting errors in the routing, while the Engineering area of responsibility is responsible for correcting errors in the BOM. You use Message Control in Customizing for Product Cost Planning to specify that a message about the errors is sent to the persons responsible in the Engineering and Work Scheduling areas of responsibility.

  This function is only available for costing purposes. It cannot be used for WIP calculation, results analysis, variance calculation or preliminary costing for manufacturing orders.

  It can only be used for the preliminary costing of product cost collectors, sales order costing, and order BOM costing if you have changed the settings for the costing variant beforehand.

Some areas of responsibility are linked to organizational units in the R/3 System so that you can send messages to the persons responsible in the groups within an area of responsibility. The following table lists the areas of responsibility in the system and the organizational units to which they are linked:

No.	**Area of responsibility**	**Organizational Unit**
1	Purchasing	Purchasing group
2	Engineering	Engineering laboratory

Assignment of Messages to Areas of Responsibility

3	Work scheduling	Work scheduling group
4	Cost center	Cost center
5	Cost estimate	(none)
6	Accounting	(none)
7	Plant maintenance	(none)
8	Capacity requirements planning	Capacity planning group
9	Materials planning	MRP controller
99	System support	(none)

Message Control

Use

To be able to send system messages as user messages, you can create the link between error management and message control in Customizing for *Product Cost Planning*. You can specify the following:

- Who should receive the message
- Which role this person has (for example, mail partner)
- How the message should be created and sent (such as by mail or fax)
- When the message should be sent (for example, when the cost estimate is saved)
- The language of the message

Features

You can define the parameters for message transmission for a certain message or for a group of messages. You have the following options:

- Area of responsibility and functional specification

  Here you link the control parameters for message transmission to a area of responsibility (such as Purchasing) and to one of the organizational units within the area of responsibility (for example, purchasing group).

- Area of responsibility

  Here you link the control parameters for message transmission to a particular area of responsibility (for example, Costing).

- Application area and output number

  Here you link the control parameters for message transmission to a particular message. The application and output number identify the system messages.

The system uses the following sequence when it searches for a receiver of a message:

4. Area of responsibility and functional specification
5. Area of responsibility
6. Application area and output number

See also:

WF Message Control

Implementation Guide (IMG) for Product Cost Controlling

Costing Status

Use

The costing status does the following:

- Informs you about the current processing status

  The cost estimate has the status *KA* (costed without errors). The cost estimate has therefore yet to be marked or released.

  The cost estimate has the status *VO* (marked without errors). Costing has been carried out, and the cost estimate has been marked but not released.

- Informs you of error messages

  The cost estimate has the status *KF* (costed with errors). Error messages (type *E*) have occurred.

  The cost estimate has the status *KA* (costed without errors). No messages information messages (type *I*) or warning messages (type *W*) have occurred.

- Prevents incorrect data from being passed on

  The results of cost estimates with the status *KF* cannot be transferred to the material master.

- Prevents the system from repeating a function

  If a standard cost estimate has already been released (status *FR*), it cannot be costed, marked or released again. The system issues an error message.

Features

The system can set a costing status for the following:

- Costing run
- Cost estimate
  - A costing level within the cost estimate

The status can point to either an error or a success, as follows:

Error

If error messages (type *E*) were issued during costing, the system sets the status **With errors** (such as *KF* if the material was costed with errors, or *VF* if it was marked with errors).

The results of cost estimates with the status **With errors** cannot be transferred to the material master. You must correct the errors that occurred and carry out costing again before you can transfer the results to the material master.

If the system sets an error status when selecting the materials or exploding a BOM for the costing run, you cannot carry out the next step of the costing run (BOM explosion or costing). For more information about costing runs, see Costing Run [Seite 325].

Only messages of type *E* lead to the costing status **With errors**. You can define for a whole range of messages whether the message concerns an error, a warning, or information. For more information, see User-Defined Message Types [Seite 594].

Success

If costing was completed without errors, the system sets the status **KA** (costed without errors).

If the system sets a success status, this status can prevent the step from being repeated. If, for example, you release a cost estimate, the system sets the status **FR**. If the cost estimate has this status, the system issues an error message if you try to release it again.

The system sets the status for each costing level. This means that you can release the costing results for specific costing levels [Seite 345] , even though the costing run [Seite 325] itself has the status **KF**.

The following are examples of costing statuses that can be set by the system:

Status	Definition
ER	Opened (for example, an order)
SE	Selected without errors
SF	Selected with errors
KA	Costed without errors
KF	Costed with errors
VO	Marked without errors
VF	Released with errors
FR	Released without errors
FF	Released with errors
FM	Release through material ledger settlement

Saving Material Cost Estimates

Use

When you create a cost estimate, you always link it to a costing variant. You can specify the following in **Customizing** for the costing variant:

- That the costing results can be saved
- That system messages can be saved in a log [Seite 589]
- Whether (in addition to the cost component split) the itemization [Seite 828] and the log are always or optionally saved

If saving the costing results has been allowed for in the costing variant, the cost component split [Seite 824] is always saved. You cannot save the cost component split on an optional basis.

The itemization is required to carry out reference costing [Seite 629], variance calculation, scrap valuation, and the calculation of work in process (WIP) for target costs.

The cost element itemization cannot be saved. Cost element itemizations are required for cost element reports in the Information System. However, this information can be extracted from the itemization.

If you use your own programs or reports to evaluate cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Features

When you save a material cost estimate [Seite 120], a dialog box appears in which you can specify which costing results you want to save.

You can suppress this dialog box is suppressed if the indicator *Defaults can be changed by user* has not been turned on in the costing variant in Customizing. In this case, the system automatically saves the costing results that were flagged to be saved in the costing variant.

When you create a costing run [Seite 325], you enter update parameters that specify which costing results you want to save. For more information, see Creating the Costing Run [Seite 328].

Activities

In Customizing for *Product Cost Planning*, check the settings of the following parameters for saving the costing results:

Costing Variant

- To be able to save the costing results [Seite 451], turn on the indicator *Saving allowed*.
- To save system messages in a log [Seite 589], set the relevant indicator for *Error management*.
- If, in addition to the cost component split [Seite 824], you want to save the itemization [Seite 828] and the log (either always or when desired), set the relevant indicator.
- If you want to these settings to be changeable when the user saves the cost estimate, set the indicator *Defaults can be changed by user*.

Costing Type

You use the costing type to determine the field in the material master record in which the results of the cost estimate are updated [Seite 634] (such as the *standard price*, *tax price*, or *commercial price* field), and to determine the valuation view to be costed.

Date Control

Define or check the date control [Seite 567]. The system uses the date control ID to propose the validity period of the cost estimate. If you intend to perform the following business transactions, make sure the cost estimate is valid in the periods in which you carry out the transactions:

- Variance calculation
- Scrap calculation
- Work in process calculation

Cost Component Structure

Assign a cost component structure [Seite 460] to the costing variant. The costing variant specifies a cost component structure containing the complete control parameters for the assignment of costs to cost components [Seite 462].

See also:

Implementation Guide (IMG) for Product Cost Controlling

Archiving Material Cost Estimates

Use

Material cost estimates that you no longer need can be removed from the database and archived.

Integration

You can archive cost estimates independently of data in other archiving sessions.

Prerequisites

You define the technical data for archiving cost estimates (such as the name, path, and size of the archive file) in Archive Management under *Customizing*. For additional information, see:

- Customizing [Extern]
- General Customizing [Extern]
- Archiving-Object-Specific Customizing [Extern]

Archiving material cost estimates does not require any additional settings in Customizing.

A material cost estimate to be archived cannot be marked, and it cannot be the currently released cost estimate. That is, it cannot be linked to the material master record. This ensures data consistency. You can only archive cost estimates that have a *Valid from* date in the past. This means you can archive cost estimates at any time during the year.

To archive material cost estimates, you need a general authorization for archiving as well as authorization for the K_KEKO archiving object with activity 06. For more information, refer to Authorization Check [Extern].

Depending on the system environment and the amount of data, you can archive approximately 13,000 cost estimates per hour. A cost estimate requires approximately 5,000 bytes, depending on the amount of data.

Activities

You can call these functions from the menu as follows: *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Tools* → *Archiving* → *Material Cost Estimate*.

The screen *Archive Management: Initial Screen* appears. In the *Object name* field, the archiving object CO_COPC [Extern] is shown as a default. If you require further information, see Archive Management [Extern].

The following table provides an overview of the functions available from this initial screen:

Function	***Use this function to:***
Archive	Generate archive files (archive material cost estimates)
Delete	Schedule and start the deletion program
Restore	Schedule and start the reload of an archive
Analyze	Schedule and start an analysis program

Index	Construct or remove an index for existing archive files
Management	View and change management information for archiving runs
	Call up a network graphic [Extern] to view the dependencies between archiving objects
Customizing	Check the Customizing settings
Job overview	View a list of all archiving jobs. You can then: • Display the log for a specified job (*Job log*) • Branch to detailed information for a specified job () • Release a job (*Release*) • Delete a job from the database () • Cancel an active job ()
DB tables	List all archiving objects that are part of a table [Extern]
Information system	Access the central Archive Information System (SAP AS) [Extern]

See also:

- Introduction to Data Archiving [Extern]
- Archive Selection [Extern] and Archive Management [Extern]
- The Archiving Procedure [Extern] and Archiving Procedure [Extern]
- Basic Archiving Terms [Extern] and Background Information [Extern]
- Archiving Features [Extern]

Deleting Material Cost Estimates

Use

You can delete costing results that are no longer required from the database when you specify certain criteria. This function is called **Reorganization**.

Prerequisites

A cost estimate can only be deleted if it is not locked.

A standard cost estimate is used to determine the standard price for the valuation of a material. Some countries legally require that the cost estimate used to calculate a standard price be kept on hand. You should therefore find out whether there is a legal requirement to archive your standard cost estimate. It is also recommended that you contact the accounting department and inventory management before deleting cost estimates.

If you delete a current standard cost estimate, the fields for the current standard cost estimate in the material master record (Costing *details*) are reset to zero. If you use the Material Ledger, when you delete a standard cost estimate the standard prices are also deleted in the Material Ledger master data. The master record for the material then no longer contains a current standard price from a standard cost estimate.

If you are going to delete a large number of cost estimates, the background mode is recommended.

Procedure

Online:

6. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* →*Material Costing* → *Delete Test Data*.

   The *Reorganization of Cost Estimates* screen appears.

7. Specify which cost estimates you want to delete:

   c. Enter the company code, plant and material number.

   d. Select one of the following options under *Control parameters*:

      - Future standard cost estimates
      - Current standard cost estimates
      - Previous standard cost estimates
      - Cost estimates not in material master

        You can only select one of the 4 options.

   d. If these selection criteria are insufficient, you can further restrict your selection via , for example by

- costing status, costing variant or costing version
- costing run
- all cost estimates, only additive cost estimates or only cost estimates without quantity structure

8. If you want to simulate the deletion run first, select *Test run*.
9. Set the *With list* indicator if a log is to be issued listing all deleted material cost estimates (or in the case of a test run all material cost estimates to be deleted).
10. Choose .

In the Background:

8. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Environment* → *Material Costing* → *Delete Test Data*.

   The *Reorganization of Cost Estimates* screen appears.

9. Choose *Program* → *Execute in background*.

   The dialog box *Background Print Parameters* appears.

10. Enter the required data (background print parameters) and choose .
11. If you want to execute the program in the background **immediately**, choose *Immediately.*
12. If you want to **schedule** the job, enter the necessary data:
    c. Specify when the program is to be executed. The program is executed automatically at the specified time.
       iv. Choose *Date/Time* to specify the exact point at which background processing should start.
       v. Choose *After job* if you want to specify that background processing should not start until another job has been completed, or *After event* if processing should not start until an event has occurred.
       vi. Choose *At operation mode* if you want to specify that the job should run only at the weekend, for example.
    d. Specify whether the program is to be executed once or at regular intervals.
       iii. If the job is to be repeated regularly, set the indicator *Execute job periodically*.
       iv. Choose *Period values* to specify how often the job should run, such as weekly or monthly.
13. Choose to save the data for background processing.
14. To display the job, choose *System* → *Own jobs*. For more information, see Background Processing [Seite 375].

Result

When you delete a material cost estimate, the following data is deleted:

- Basic costing data
- Cost component split

Deleting Material Cost Estimates

- Itemization
- Log

In test run mode, a list appears showing the cost estimates that can be deleted.

In the reorganization mode, the system issues a message detailing the number of cost estimates deleted.

Use of Existing Costing Data

Use

A BOM may contain the following types of materials:

- Materials that have already been costed
- Materials already produced or stored in another plant, and costed in that plant

You can use this existing data in costing, and transfer it to other cost estimates. You can transfer existing **material cost estimates with and without quantity structure**.

You can do the following:

- Transfer an existing cost component split using *Transfer control*
  - Single-plant transfer [Seite 610]
  - Cross-plant transfer [Seite 611]
- Using reference costing [Seite 629], transfer the costed quantity structure and, for every item category (such as M, G, and X), decide whether it should be recosted or revaluated

Prerequisites

Settings for Transfer Control

You define transfer control in Customizing for Product Cost Controlling. You use transfer control to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate.

You enter the transfer control ID in the costing variant that you are going to use for the cost estimate.

When you create a standard cost estimate, any cost estimate that has already been **released** is automatically transferred, irrespective of whether you use transfer control. For further information, see Releasing Standard Cost Estimates [Seite 645].

If you set the *Transfer control can be changed* indicator in the costing variant, the system displays the *Transfer control ID* field in the *Control parameters* dialog box when you create a cost estimate. If you have entered a transfer control ID in the costing variant, this ID is proposed by the system. You can overwrite this default value manually. If you do not set the *Transfer control can be changed* indicator in the costing variant, the system determines the transfer control automatically from the costing variant, if it has been entered there.

Settings for Reference Costing

You define a reference variant in Customizing for Product Cost Controlling. It enables you to specify the costing items that should be revaluated. You define the reference variant in the costing variant.

See also:

Use of Existing Costing Data

For further information about the Customizing settings for transfer control and the reference variant, see the *Implementation Guide (IMG)* under *Product Cost Planning → Cost Estimate with Quantity Structure*.

Features

Using the **transfer control**, you can transfer the data of the following types of cost estimate:

- Future standard cost estimates

  The system searches for an existing future (marked) standard cost estimate.

- Current standard cost estimates

  The system searches for an existing current (released) standard cost estimate.

- Previous standard cost estimates

  The system searches for an existing previous standard cost estimate.

- Cost estimates with period-based transfer control

  The system searches for an existing cost estimate that has the same costing version and date in the costing variant (that is, the costing type and valuation variant) as the cost estimate you are currently working on. You define the date that is relevant for selecting the cost estimate in the costing type (that is, with period, with date or without date).

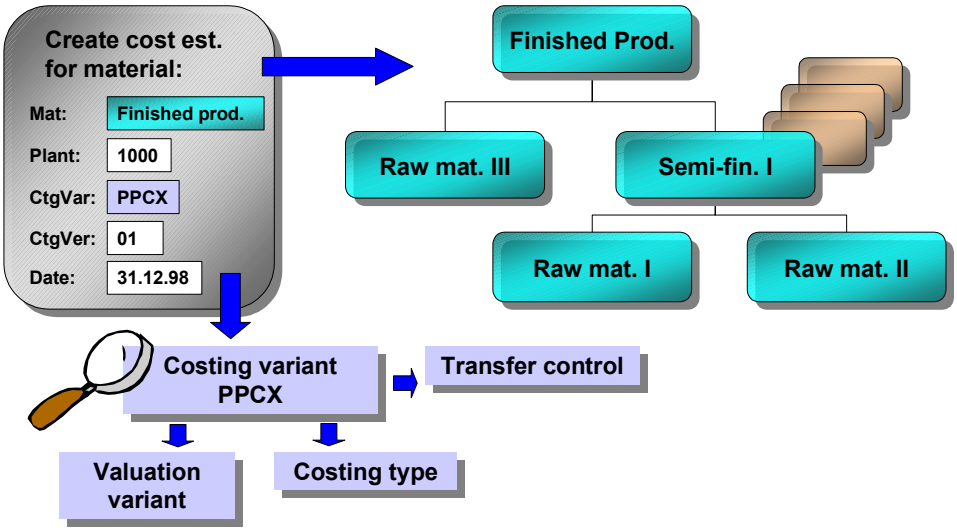
- Other cost estimates

  The system searches for an existing cost estimate that corresponds with your criteria. These criteria can be the costing variant and costing version.

Whether the system transfers a **cost estimate with or without quantity structure** depends on the *With quantity structure* indicator in the costing view of the material master. If this indicator is set, the system looks for cost estimates with quantity structure. If this indicator is not set, the system looks for cost estimates without quantity structure. For more information, see Material Master Costing View: Basic Data [Seite 505].

You are creating a cost estimate for a finished product (12.31.98), using costing variant PPCX. The finished product contains semi-finished product I, for which the following cost estimates already exist in the system:

- A marked (future) standard cost estimate (costing variant PPC1)
- A released (current) standard cost estimate (costing variant PPC1)
- Another cost estimate (costing variant XPCX)
- A cost estimate with period-based transfer control (costing variant PPCX, costing version 01, **from 12.01.98**)



You don't want to recost the semi-finished product. Instead, you want to transfer the results of an existing cost estimate, being either one with period-based transfer control (your main priority), or, if not, a current standard cost estimate. Before creating the cost estimate, therefore, you have entered in Customizing the following transfer control in costing variant PPCX:

1) Cost estimate with period-based transfer control

2) Current standard cost estimate

3) Other cost estimate

When costing the finished product using costing variant PPCX, the system searches for existing cost estimates for all the materials in the BOM structure in the sequence which you specified.

Since a cost estimate with period-based transfer control exists, this cost estimate is transferred. The first strategy has been completed successfully. The cost estimate for the semi-finished product has also been executed using costing variant PPCX, costing version 01. Although the existing cost estimate is from 12.01.98, it is period-based if the relevant indicator (that is, *Saving with period* and not *Saving with* or *without date*) has been switched on in the costing type.

See also:

- *Implementation Guide (IMG) for Product Cost Planning*
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]

Single-Plant Transfer

Use

The strategy sequence for single-pant transfer in the transfer control enables you to specify that new cost estimates will not be created for materials being used in a finished product. Instead, the cost estimate for the finished product will transfer data from existing cost estimates.

Features

The strategy sequence is the sequence in which the system is to search for costing data.

You specify that the system searches first for a current standard cost estimate, then for a future standard cost estimate, and finally for a previous standard cost estimate.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

The selected data is grouped into cost components [Seite 462] and transferred to the cost estimate.

If the system cannot find a cost estimate that meets the criteria, the material is costed afresh using the BOM and routing.

See also:

Implementation Guide for Product Cost Planning

Cross-Plant Transfer

Use

You use the strategy sequence for cross-plant transfer to specify how the system is to proceed with special procurement [Seite 443].

You enter the special procurement type in the costing view of the material master record. If you do not enter a special procurement type in this view, the system uses the special procurement type from the MRP view.

Features

The following special procurement types are taken into account for the transfer to a material cost estimate:

- Stock transfer from another plant
- Production in another plant

The special procurement type specifies the plant in which the system is to look for costing data. The strategy sequence is the sequence in which the system is to search for costing data.

You can further restrict the search criteria by specifying the following in Customizing for Product Cost Planning:

- That the system only searches in the current fiscal year
- That the system only searches in a specific number of periods
- That the system ignores materials that have the secondary requirements indicator *Only individual requirements* in the MRP view of the material master record (that is, the system transfers cost estimates only to collective requirements materials).

  The results of standard cost estimate in the second plant can only be transferred to the cost estimate in the first plant if they have the same cost component structure as the results of the standard cost estimate in the first plant.

  For this reason, you must assign the costing variants for the standard cost estimate to a cost component structure at the company code level in Customizing for *Product Cost Planning*. When you cost across company codes [Seite 618], the cost component structures in the controlling area must be the same.

If the system cannot find a cost estimate that meets the criteria, the material is costed again on the basis of the BOM and routing in the other plant. However, the system will only cost the material in the other plant if the plant is in a different company code and cross-company costing has been activated.

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Other Functions

Use

You can use the following functions in the material cost estimate without quantity structure:

- Connection of Non-SAP PPS Systems [Seite 615]
- Cross-Company Costing [Seite 618]
- Costing Versions [Seite 619]
- Group Costing [Seite 621]
- Partners and Direct Partners [Seite 628]
- Reference Costing [Seite 629]
- Raw Material Costing [Seite 735]
- Currencies [Seite 633]

Connection of Non-SAP Production Planning Systems

Use

You can carry out a cost estimate for materials even if the quantity structure data (such as BOMs and routings) is located in a non-SAP Production Planning system. You create this type of cost estimate in the R/3 system using the reference cost estimate [Seite 629]

Features

You can also create a cost estimate or costing run for materials for which no BOMs or routings exist in the R/3 System but only the material master record. A prerequisite for this is the existence of itemizations [Seite 828] with information about the structure connection.

In order to create these itemizations, you have to construct the quantity structure manually. To do this, you create a cost estimate without quantity structure [Seite 449] (unit cost estimate) for each material in the BOM. The sequence in which you do this is of no importance. Following this, you can cost the materials using reference costing [Seite 629] via the cost estimate with quantity structure, or execute a costing run.

Activities

You must do the following:

- Define a costing variant in Customizing, specifying that the itemization is saved
- Create an itemization for the materials to be costed, using a **cost estimate without quantity structure** for the costing variant defined above

  This enables you to define the quantity structure manually. The sequence when you create the unit cost estimate is of no importance. You must also create a cost estimate without quantity structure for raw materials. You can use a raw material cost estimate [Seite 735] for this.
- Define a transfer control ID in Customizing that specifies the transfer of cost estimates created using the costing variant defined above
- Define a reference variant in Customizing containing the transfer control ID.
- Enter the reference variant in the costing variant that you want to use in order to cost the materials via the cost estimate with quantity structure

  Since the transfer control ID has already been entered in the reference variant, there is no need to enter it in the costing variant.

  Using the reference variant, the system can access the data in the itemization from the cost estimate without quantity structure, determine the costing sequence, and calculate the costs.

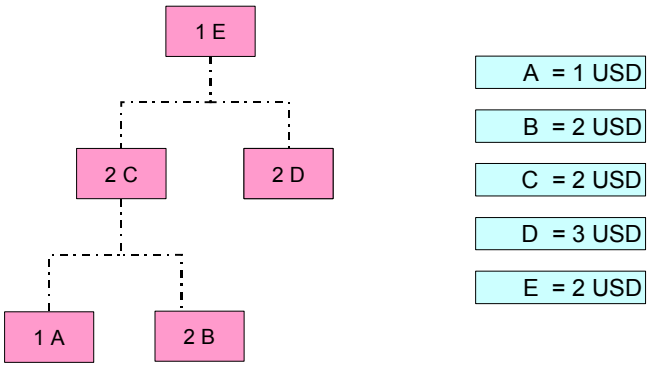
You can find further information about performing costing with and without quantity structure in the following:

- Cost Estimate with Quantity Structure: Process Flow [Seite 120]
- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating the Cost Estimate Without Quantity Structure [Seite 480]

- Costing Run [Seite 325]
- Creating the Costing Run [Seite 328]
- Executing the Costing Run [Seite 335]

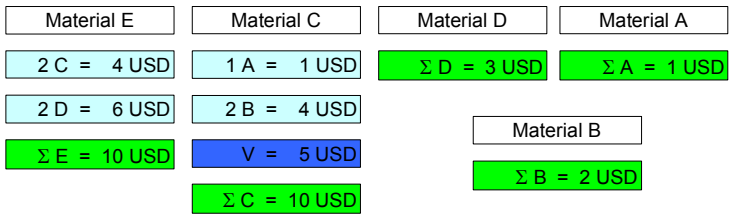
If you select all the materials to be costed for a costing run [Seite 325], you can bypass the step Exploding BOMs for the Costing Run [Seite 333] and proceed with the costing run.

You want to cost Material E in the R/3 System, for which there is a quantity structure only in a non-SAP PP system. In the R/3 System, there are only the material masters and their prices for these materials:



You now want to create a cost estimate without quantity structure for each material (including raw materials A and B). To do this, you define costing variant XPC1 in Customizing. You have specified in Customizing that the itemization is to be saved.

You now create a cost estimate for each material using costing variant XPC1. You can choose your own sequence. This is particularly useful when there is a large number of materials in the BOM, where the complexity of the structure makes viewing difficult. You can, for example, create first the cost estimate without quantity structure for Material E, and then for Material C:



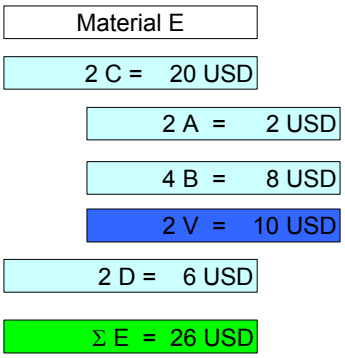
For Material E, the costs resulting from the cost estimate without quantity structure are USD 10 per piece. The material goes into the cost estimate at a price of USD 2 per piece. However, for Material C, the costs resulting from the cost estimate without quantity structure are USD 10 per piece. The costing results are not consistent.

To calculate the correct price for Material E, create a cost estimate with quantity structure and reference the cost estimate without quantity structure in the process. To do this, you define the following in Customizing:

– Transfer control ID PC01, in which you specify the transfer of cost estimates with costing variant XPC1.

- Reference variant 01, in which you enter transfer control PC01, specifying that all the items should be revaluated. This ensures that quantity structure costed with the cost estimate without quantity structure is transferred.
- Costing variant PPC1, in which you enter reference variant 01. Since the transfer control ID has already been entered in the reference variant, there is no need to enter it in costing variant PPC1.

Finally, create a cost estimate with quantity structure for Material E, using costing variant PPC1.



Costs of USD 26 are calculated for Material E.

Cross-Company Costing

Use

A material can consist of components that come from a different plant to that of the finished product. This plant may even be assigned to a different company code.

In such cases, you have the option to carry out cross-company costing *across company codes* **within a controlling area**. However, cross-controlling area costing is not supported.

Prerequisites

You activate costing across company codes in Customizing for *Product Cost Planning*.

Features

Costing across company codes enables you to do the following:

- Access cost component splits for costs of goods manufactured in different company codes in a controlling area and transfer them.
- Include manually entered cost components (such as those for transportation costs) with planned stock transfers
- Release the costing results either for all company codes in the controlling area, or only for the company code in which you carry out the costing run

  The legal valuation level is updated.

See also:

- Special Procurement in Costing [Seite 443]
- Materials in Other Plants [Seite 445]
- Costing Multilevel BOMs [Seite 159]
- Partner Cost Component Split [Seite 812]
- Group Costing, Multiple Valuation Approaches [Seite 621]

Costing Versions

Use

You can create material cost estimates (with and without quantity structure) and costing runs based on costing versions. Together with the costing variant and the costing date, the costing version is saved to the database as the key which identifies the cost estimate as an individual entity.

Features

The costing variant enables you to define how costing is controlled. In view of the fact that the costing variant contains all the parameters for costing, it is very time-consuming to create new costing variants if you only want to include minor costing changes. You can use costing versions for such changes. You can make the following changes to the control of costing without having to define new costing variants:

- **Variants for the Determination of Transfer Prices for** Group Costing [Seite 621]

  You can define time-dependent transfer prices [Extern].

- **Exchange Rate Type for Currency Translation**

  If you work without costing versions, the exchange rate type is determined through the valuation variant (CO version in the valuation strategy for internal activities). Costing versions enable you to specify that another exchange rate type has priority.

You also use costing versions to carry out mixed costing [Seite 426]:

For such costing, you create various procurement alternatives and their mixing ratios.

The mixing ratios are based on a quantity structure type. If you want to create a mixed cost estimate for a material, you have to assign a costing version to the quantity structure type and execute the cost estimate based on this costing version.

However, you can also use costing versions without these Customizing settings. Here, you use the costing version to save several cost estimates for the same material, with the same costing variant and the same costing date.

Cost estimates with the same key (costing variant, validity of cost estimate and costing version) cannot be saved to the database. Since the costing version is also part of the key, you can still save multiple cost estimates with the same costing variant to the database for analysis purposes.

You create two cost estimates without quantity structure for one material. The only difference between these cost estimates is the costing version and in one costing item of type E (internal activity). You can compare both unit cost estimates in the Information System.

Activities

If you want to use the above Customizing settings or mixed costing, define the appropriate costing versions in *Customizing* for *Product Cost Planning*.

When you cost run schedule headers, you must incorporate the costing types for repetitive manufacturing under version zero - do not enter any other fields. This ensures that the various versions are consistent in repetitive manufacturing.

When you create the cost estimate, use this costing version.

See also:

- Creating the Cost Estimate with Quantity Structure [Seite 123]
- Creating the Cost Estimate Without Quantity Structure [Seite 480]
- Creating the Costing Run [Seite 328]
- Mixed Costing [Seite 426] and Editing Procurement Alternatives [Seite 428]
- Creating/Changing Mixing Ratios [Seite 431]
- *Implementation Guide (IMG) for Product Cost Planning*

Group Costing and Multiple Valuation Approaches

Use

Group costing provides a detailed display of complex procurement, production and sales relationships. Cost structures and value-added segments of each partner (such as plants and profit centers) are passed on to the next partner, retaining the costs of the previous level.

You can use group costing for the following:

- Planning and simulation invoicing
- To interpret Profitability Analysis
- Price update and the stock valuation of group values

Prerequisites

All the company codes are assigned to the same controlling area.

If you want to mark and release the results of group costing, or carry parallel values in actual data, you must define a currency and valuation profile in Customizing for *General Controlling*, and activate multiple valuation. If you only want to carry out planning simulation, you do not need these settings.

Integration

- Multiple Value Flows in Financials [Extern]
- Multiple Value Flows in Controlling [Extern]
- Representing Multiple Valuation Approaches in Individual Applications [Extern]

Features

Costing Using Multiple Valuation Approaches

In material costing, you can calculate prices using any of the legal, group, or profit center views. Material movements can be costed using three valuation approaches, as follows:

- **Legal Valuation**

  Deliveries between companies that carry out their own accounting are valuated using the **legal view** in accordance with the statutory accounting requirements for individual account closing.

- **Profit Center Valuation**

  Internal income calculations with independent valuation bases (that is, transfer prices) can be valuated in the **profit center view**. A fixed transfer price [Extern] can be agreed for stock transfers between profit centers, and this can be included in the cost estimate.

  To include transfer prices in the profit center cost estimate, define transfer prices based on a transfer price variant in Customizing for Profit Center Accounting. This transfer price variant is determined through the CO version. You can also define a different transfer price variant through the costing version in Customizing for Product Cost Planning. The entry in the costing version has priority over the CO version.

For more information, see Assigning Valuation Approaches to CO Versions [Extern] and Determining Transfer Prices [Extern].

- **Group Valuation**

  Goods movements between affiliated companies not involving intercompany profits are processed using the **group view**. This view determines the actual cost of goods manufactured for the group, and does not include any intercompany profits. You can, however, display internal profits as delta profits in the legal and/or profit center views.

  When you define cost components, you can specify that internal profits between company codes and/or profit centers are shown in detail in the cost component split. You activate these delta profits for the group valuation in the attributes of the cost components.

  For each cost component structure, there can only be one cost component under which the delta profit is shown. This means that neither the legal view nor the profit center view can have more than one cost component for the delta profit.

To **cost** multiple values, you define a costing type for each valuation approach in Customizing for Product Cost Planning. You use the costing type to specify which valuation approach you require. You define each costing type in a new costing variant and carry out a cost estimate with this costing variant.

If you want to cost several different values, you can use the reference costing [Seite 629] functions. You create a cost estimate for each valuation approach. In order to ensure that the various cost estimates are based on the same quantity structure, you can carry out costing based on a valuation approach and use this it as a reference for the other valuation views.

First you cost a valuation view, such as the operational valuation, then the other valuations. You make the setting for the operative valuation view in Customizing for *General Controlling* under *Organization* → *Maintain Versions* in the operative version (000). In order to cost the other valuation views, and in the process reference the valuation view costed, you define a reference variant in Customizing, and enter it in the costing variant.

If you are applying percentage overhead, you must use reference costing for the various valuation views, in order to obtain data which is both consistent and useful for analysis purposes.

In-Depth Detail of the Value-Added Chain: Partner Cost Component Split

You can display **in detail** the costs of materials and services of every company department in the **value-added chain** for every stage of the production process. The partner can be traced for every material used. To do this, you define a partner version, which enables the value-added portions of each manufacturing level to be displayed in detail. For further information about this, see Partners and Direct Partners [Seite 628].

The group cost component split can be displayed according to your partner definition. You can display the cost structures of the partners hierarchically according to your requirements, such as the company code segments on the highest level and the plant or profit center segments underneath.

To display partner cost component splits, define a partner version in Customizing and enter it in the costing type.

Additive Costs

In addition to the automatic cost estimate with quantity structure, you can enter additive data in the form of a unit cost estimate. (See Additive Costs [Seite 246] and Unit Costing [Seite 683]).

ALE

Group costing can use the ALE functions. Partner cost component splits can be transferred from one system to another. For more information, see ALE/Distribution in Product Cost Planning [Seite 79] and Group Costing in Distributed Systems [Seite 86].

See also:

For further information about the concept of transfer prices, see Transfer Prices [Extern] and Update of Multiple Values by Material Costing [Extern] in the SAP Library under *Profit Center Accounting (EC-PCA).*

For further information about multiple valuation approaches, see Multiple Currencies and Valuations for Materials [Extern] in the SAP Library under *Actual Costing/Material Ledger (CO-PC-ACT).*

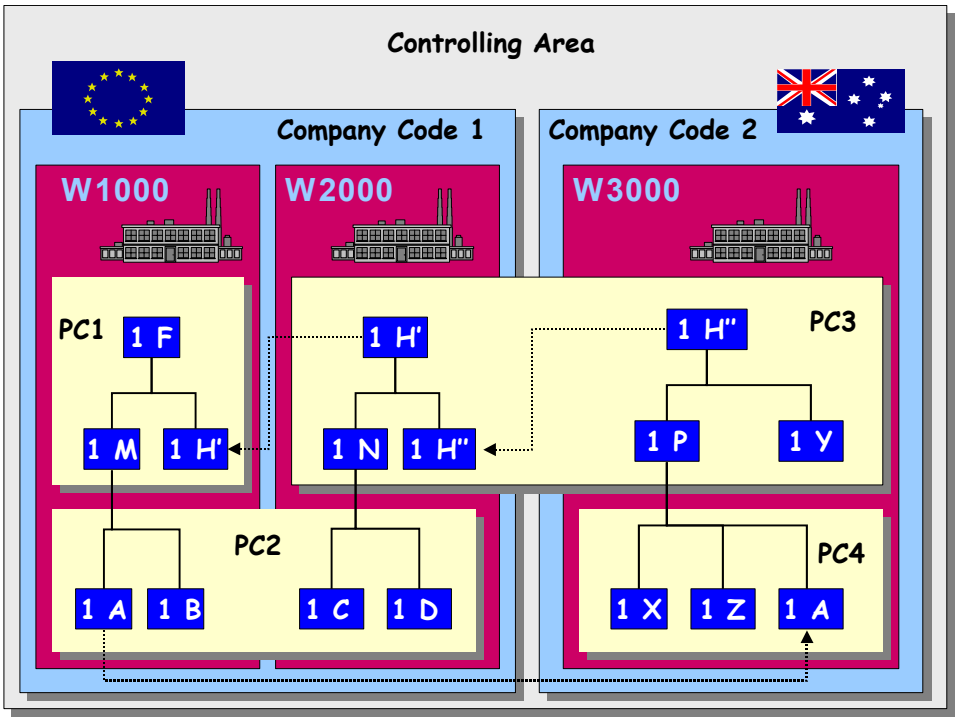
For more information about including transfer prices in Cost Object Controlling, see Transfer Prices in Cost Object Controlling [Extern] in the SAP Library under *Cost Object Controlling (CO-PC-OBJ)*.

For more information about the relevant settings in Customizing, see the following:

- *Implementation Guide (IMG) for Enterprise Controlling → Profit Center Accounting → Transfer Prices*
- *Implementation Guide (IMG) for General Controlling → Multiple Valuation Approaches/Transfer Prices*
- *Implementation Guide (IMG) for Product Cost Controlling → Product Cost Planning*

Group Costing: Scenario

Company and Product Structure:

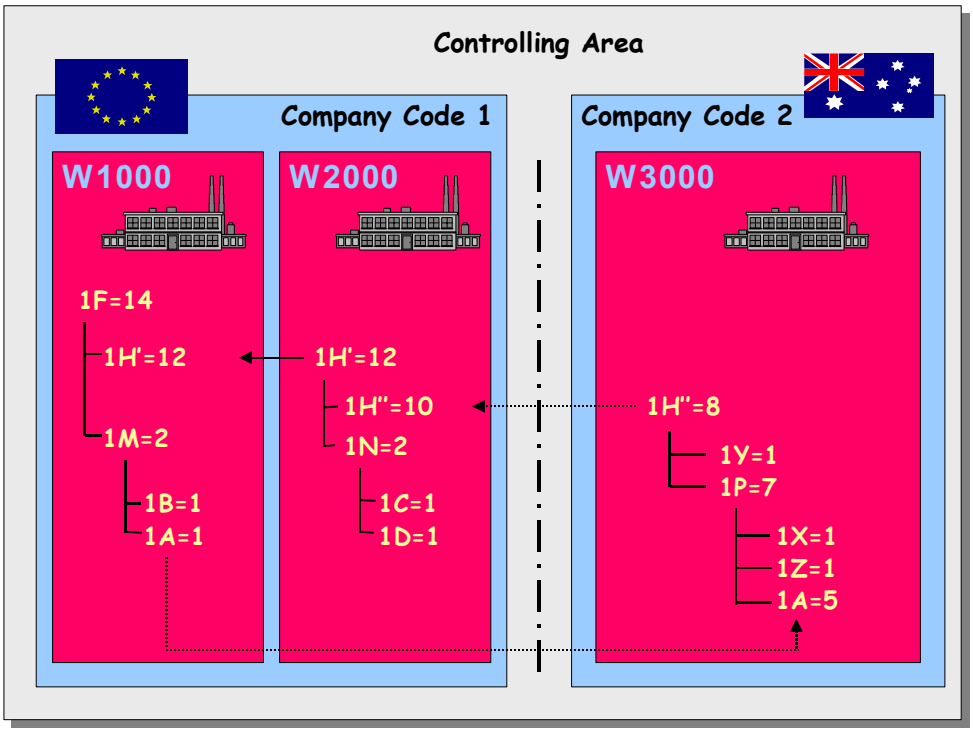


Two company codes are assigned to one controlling area. Company code 1 contains plants W1000 and W2000, and company code 2 contains plant W3000.

Product F is manufactured and costed in plant W1000. To manufacture F, materials from other plants are required. One of these plants, W3000, is in a different company code.

In addition, Profit Center Accounting is used; instead of all the materials being assigned to a single plant, they are each assigned to one of profit centers PC1, PC2, PC3 and PC4.

Costing F from Legal View



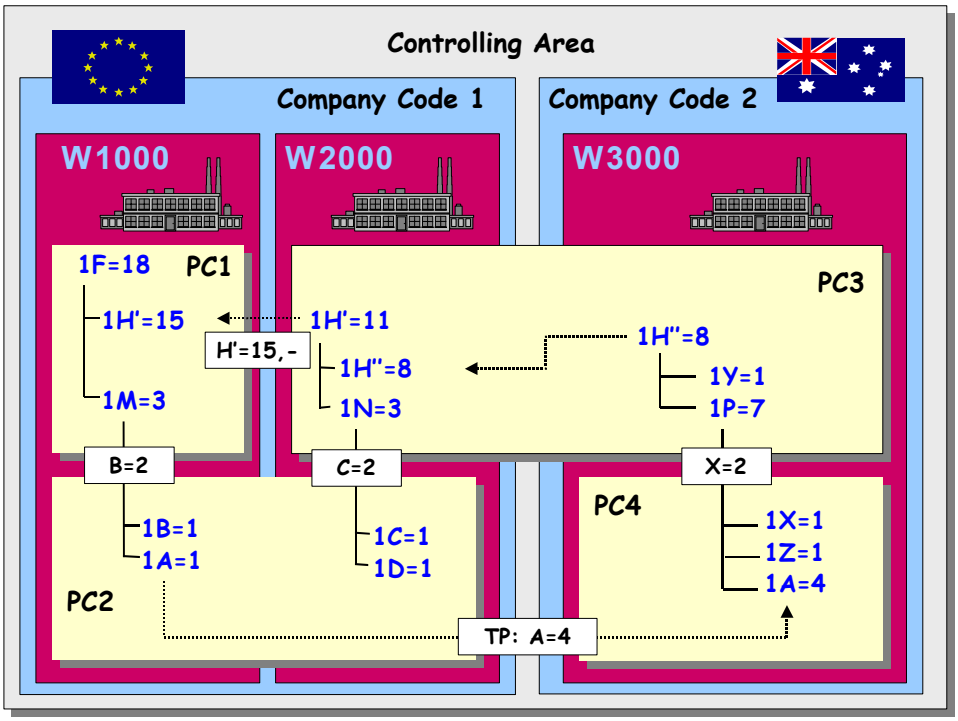
For 1 F, the cost of goods manufactured is 14 per piece in plant W1000. The BOM is only exploded to the company code level; that is, to H''. Although H'' originates in W3000 and is manufactured there from Y and P, costing considers H'' as a material component without its own BOM and valuates it with a price in accordance with the valuation strategy (10).

H'' is manufactured in W3000 from Y and P in a different company code. P, however, is manufactured from X, Z and A. A is delivered from W1000 for 5, although it only costs 1 in W1000. A goes into the costs for P at a price of 5.

Although it costs 8 to manufacture H'' from the legal view in W3000, it is delivered to W2000 for 10. F is now costed from the legal view with a price of 10. The cost of goods manufactured for F of 14 thus contains intercompany profits between company codes of 6: 4 for A and 2 for H''.

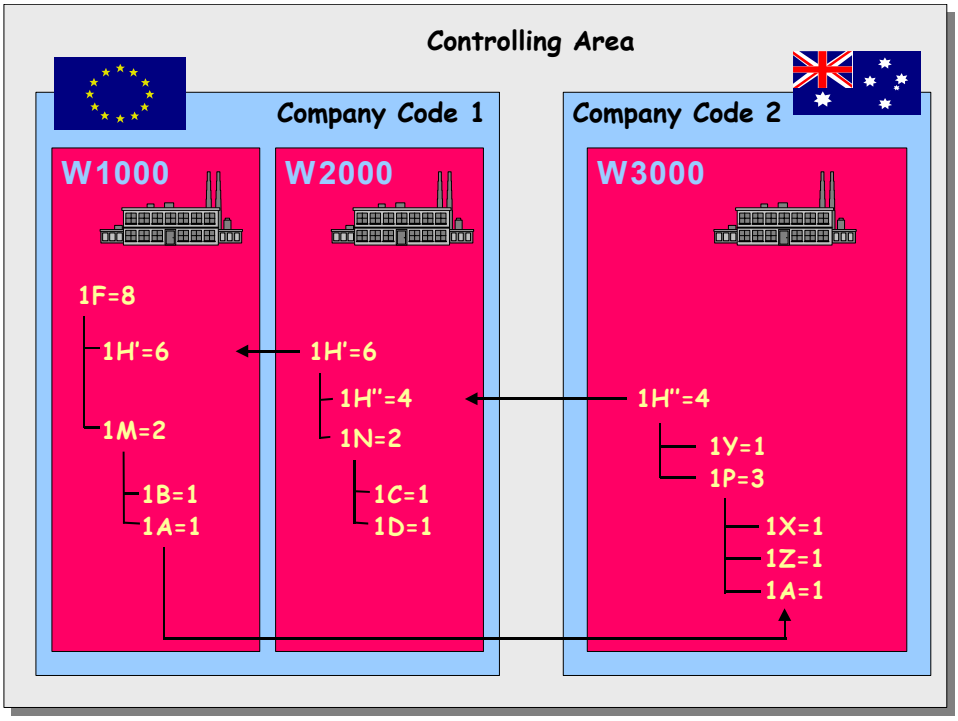
Costing from Profit Center View

Group Costing: Scenario



Transfer prices also apply between profit centers. If you create a profit center cost estimate for F, the BOM will only be exploded to the profit center level. A price of 18 is calculated for F from the profit center view.

Costing from Group View (Cross-Company Code)



The actual cost of goods manufactured are now calculated for F from the group view without intercompany profits. This totals 8. Material A goes into plant W3000 with a price of 1, and H'' goes in with a price of 4.

The difference between the actual cost of goods manufactured and that from the legal view is the delta profit between company codes. The difference between the actual cost of goods manufactured and that from the profit center view is the delta profit between profit centers.

The actual cost of goods manufactured was calculated by exploding the BOM fully to the controlling area level and valuating the material components in accordance with the valuation strategy.

Partners and Direct Partners

Definition

- **Partner**

  Business unit that is involved in the value added process

- **Direct Partner**

  Business unit that passes on its delivery or service directly to another partner

Use

Partners and direct partners provide an in-depth view of how the value added portions are broken down. Within the context of **partner versions** in Customizing for Product Cost Planning, *partners* or *direct partners* can consist of any combination of the organizational units *profit center*, *plant*, *business area*, and *company code*.

If you do not want the portion of the value added that the direct partner procured to be visible when the product or service is transferred to the receiving partner, it can be subsumed under the value added of the **direct partner** (single-level partner). In such a case, only the portions of the directly-procured deliveries and activities are displayed. Value-added portions that the direct partner has received from others are passed on directly to the direct partner.

In conjunction with the partner version settings in Customizing, the cost estimate generates a separate cost component split [Seite 812] for each **partner**, providing an in-depth display of all the valued-added portions at each stage of the production process. The materials and services of a production level do not appear in the next level as material costs; instead, the structure of the costs and profits, together with the partner portions, are retained at all levels and for all partners.

In the context of group costing [Seite 621], the company code is a particularly important partner. However, you can also use the partner information if your company costs the legal view only, instead of group costing as a whole; even here, you can break down the portion of each organizational unit, such as the plant, to analyze the value-added chain.

See also:

For more information, see the *Implementation Guide (IMG)* for *Product Cost Planning* under *Selected Functions in Material Costing*.

Reference Costing

Use

You can create separate material cost estimates (with [Seite 92] and without [Seite 449] quantity structure) or costing runs using the same quantity structure, by copying existing cost estimates (that is, the costing items in the itemization [Seite 828]). This enables you to make worthwhile comparisons as well as improve system performance.

You can also use the reference costing function to cost materials from a non-SAP system that have no BOMs or routings in the R/3 System. For more information, see Connection of Non-SAP PPS Systems [Seite 615].

Prerequisites

You define a **reference variant** in Customizing for Product Cost Planning and enter it in the **costing variant**. The reference variant contains a transfer control [Seite 607] ID, which finds the cost estimate to be copied.

You use the transfer control ID (within the reference variant) to specify how the system is to search for available cost estimates in order to transfer existing costing data into another cost estimate. You also define the transfer control in Customizing for Product Cost Planning. The settings for cross-plant transfer are not taken into account here, since the system also searches for cost estimates when handling stock transfers with the single-plant transfer strategy.

The settings for quantity structure determination in the **costing variant** are also ignored, because the required quantity structure is transferred from the reference cost estimate. The quantity structure concerned must be costed in its entirety. If there are errors in the BOM, the system does not use other BOMs.

Features

Reference costing enables you to create a cost estimate using the quantity structure of an existing cost estimate.

The **reference variant** allows you to specify whether certain items should be transferred or revaluated when referencing a cost estimate. If the revaluation of items is not defined in the reference variant, the costing results are the same as those of the referenced cost estimate, provided that you do not cost a different valuation view.

When you carry out **reference costing in a different valuation view**, you can compare the costing results with the cost estimate copied. In such cases, transfer prices [Extern] are used, or the cost component structure [Seite 460] may be different. For more information, see Group Costing [Seite 621]. The reason for this is that when you cost more than one valuation view, you create a separate cost estimate with its own costing variant for each valuation view, which can be linked with alternative cost component structures.

Standard Cost Estimate as a Reference for Inventory Costing

You want to base an inventory cost estimate on an existing standard cost estimate. The system simply accesses the quantity structure of the standard cost estimate. It

does not have to recalculate the quantity structure. The reference variant enables you to specify that, for example, only overhead is to be recalculated.

See also:

Purpose of the Inventory Cost Estimate [Seite 65]

Costing Multiple Valuation Views

You have executed a costing run in the group view in **group costing** that is defined as the operational view. You can use this run as a reference for executing costing runs for the other two valuation views, based on the same quantity structure. The reference variant ensures that the various cost estimates use the same quantity structure. The system uses the alternative transfer prices, even if you specify in the reference variant that no items should be revaluated.

You **first** cost the operational valuation, then the other two valuations. The operational valuation is the valuation view that, when you carry out multiple valuation, reflects the mänagement philosophy. It is thus the principal valuation in the Controlling module. You specify which of the three valuation views is to be the operative valuation in *General Controlling* in Customizing. Up to two further versions can also be used.

If you want to cost multiple values in **group costing**, referencing existing cost estimates is **essential** when calculating **overhead on a percentage basis** on materials. Ensure that you receive consistent data and that the price differences can still be interpreted.

If you are not using percentage overhead, or are applying it only to raw materials, you do not need to reference existing cost estimates. However, the reference costing functions can still be used to improve system performance, because the system does not have to determine the quantity structure again, and the consistency of the costed quantity structure is ensured.

For more information about **transfer prices** and **multiple valuation**, see the section *Enterprise Controlling → Profit Center Accounting*: Transfer Prices [Extern]. For more information about group costing, see Group Costing [Seite 621].

See also:

Implementation Guide for General Controlling

Implementation Guide for Profit Center Accounting

Implementation Guide for Product Cost Planning

Raw Material Costing

Use

There are no BOMs or routings for raw materials in the system. You can, however, use these functions to create a cost estimate for raw materials. Instead of simply taking the price from the material master, an actual cost estimate (including overhead calculation) is created.

The raw material cost estimate enables you to include delivery costs, allocate overhead and include additive costs at the material component level.

Features

You are able to do the following:

- Access the purchasing data (MM_PUR), in order to include delivery costs such as freight charges and insurance costs (see also Purchasing Master Data [Seite 691])
- To include overhead and process costs

  You can define a special costing sheet for raw material costing in the costing variant in Customizing. (Overheads [Seite 569])

  You can only calculate overhead for raw materials in the **planning** data, not in actuals. The overhead, should not, therefore, be stock-relevant
- Create additive costs (see also Additive Costs [Seite 246])
- Save an itemization (in addition to the cost component split) for the costing of raw materials.
- Arrange the delivery costs in different cost components [Seite 462]
- Calculate a mixed price, if you have several supply sources for one material component. For more information, see Mixed Costing [Seite 426].

Activities

In Customizing for Product Cost Planning, check the following:

- Valuation variant

  You should use strategy **L** (price from purchasing info record) for the material valuation in the valuation variant

  Using this strategy for configurable material components means that only one material variant price will be included The same applies for material components with procurement alternatives The conditions of different vendors will only be taken into consideration if you implement this strategy. This strategy will be executed in both of these cases first, in other words the strategy sequence will be ignored to start with for configurable materials and when costing procurement alternatives. You can enter the strategy Price from purchasing info record as the last position in the strategy sequence, if a different strategy should be used.

Raw Material Costing

- Costing variant

  Enter the valuation variant defined above in the costing variant. If required, enter a special costing sheet for the application of overhead in raw material costing.

- The assignment of condition types to origin groups

  If you want to handle different conditions from *Purchasing (MM)* in different ways, you can assign condition types to origin groups. When assigning cost elements to the components, you can maintain different origins, and use this to assign the delivery costs to different cost components.

Create the cost estimate for the material as described in Creating a Cost Estimate with Quantity Structure [Seite 123].

In the cost estimate without quantity structure [Seite 480], you activate or deactivate raw material costing, by choosing *Functions* → *Raw material costing* → *Switch on/Switch off*. The cost estimate then inserts items of **type I** (Raw material costs) in the list screen.

Currencies in Costing

Use

You can update and display the costing results (cost component split, and itemization) in both the company code currency and the controlling area currency. The cost component split is then rolled up in both currencies. The controlling area currency is only valid for the legal valuation level.

If the controlling area currency is different from the company code currency, the itemization will be updated in both currencies. The value in the company currency is converted into the controlling area currency.

The additional currency information is required in variance calculation to calculate the target costs.

If the material ledger is active, you can update raw material prices in the material master record in three currencies. You can transfer the material price in the controlling area currency directly into the cost estimate. For semi-finished products, the cost estimate is updated in both currencies.

If the material ledger is active, the marked and released costing results are updated in the company code currency and the controlling area currency in the material ledger master data, provided that the corresponding currency types are used in the material ledger. (In this case, release is carried out in material price determination.)

Costing can also access prices in company code currency and controlling area currency in the Material Ledger master data.

See also:

Actual Costing/Material Ledger

Implementation Guide for Product Cost Planning

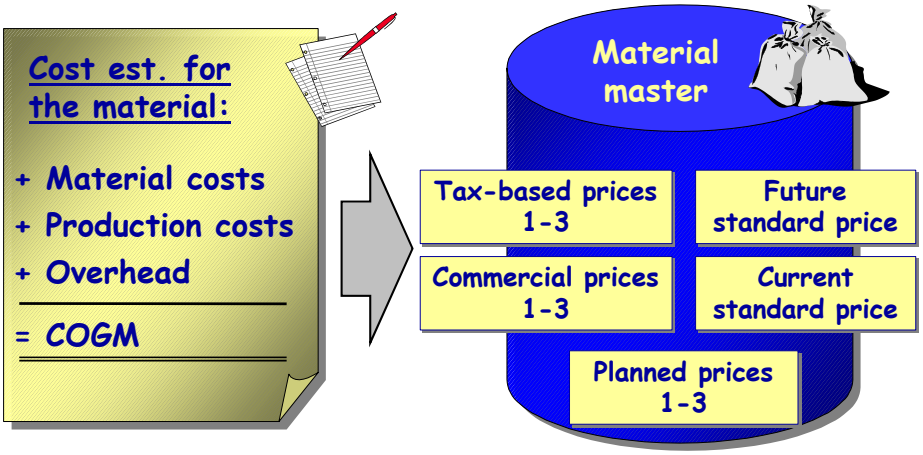
Activities

You activate the cost component split in the controlling area currency in Customizing for Product Cost Planning.

Price Update

Purpose

Once you have carried out a cost estimate for a material, you can transfer the costing results to the material master as prices (see graphic).



You can update the results of the various material cost estimates, depending on the purpose of costing [Seite 59], in selected price fields in the material master [Seite 689]:

Type of price updated in material master	Cost estimate
Future and current standard price	Standard cost estimate (see Updating the Standard Prices [Seite 636])
Commercial or tax-based prices 1-3	Inventory cost estimate (see Tax-Based Prices and Commercial Prices [Seite 650])
Other planned prices 1-3	Modified standard cost estimate, current cost estimate, standard or inventory cost estimate (see Update of Other Planned Prices [Seite 655])

Prerequisites

The *Saving allowed* indicator has been set for the costing variant. For more information, see Saving the Costing Results [Seite 600].

The setting has been made in the costing type specifying that the costing results can be updated in the material master.

- Indicator *Standard price*:

  The costing results can be updated as the standard price in the material master.

- Indicator *Tax-based price* or *Commercial price*:

  The costing results can be updated as the tax-based or commercial price in the material master. In such cases, the determination of lowest value applies. This means that the prices are only updated if they represent the lowest value.

- Indicator *Price other than standard price*:

  The costing results can be updated as planned prices, or as tax-based or commercial prices in the material master. Here, however, the "determination of lowest value" principle does not apply when updating the tax-based or commercial prices.

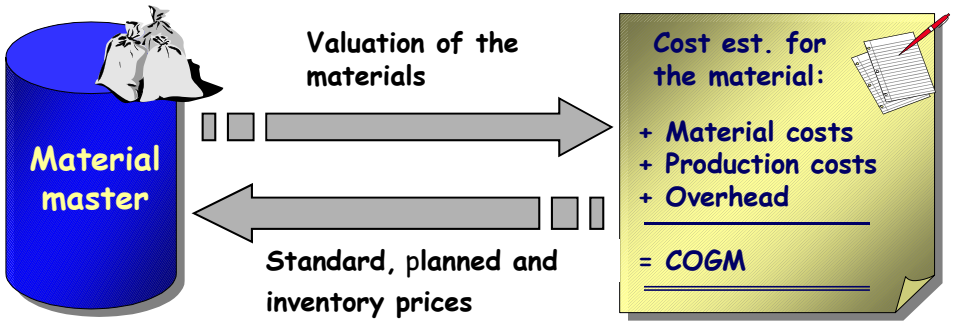
- Indicator *No updating*

  It is **not** possible to transfer the costing results to the material master.

For more information, see Costing Sequence [Seite 59] and Preparing for Material Costing [Seite 73] and also the *Implementation Guide (IMG)* for Product Cost Planning

Integration

First, you can update the costing results in the material master. Second, within the cost estimate you can access the various prices in the material master in order to valuate the materials for the cost estimate (see graphic). You can specify these prices from the material master in the valuation variant in Customizing, and use them in further cost estimates, such as inventory prices for inventory cost estimates. You can find further information under Valuation of Materials [Seite 728].



You can also use the costing results in other applications. For more information, see Purpose of Product Cost Planning [Seite 23] and Information for Other R/3 Applications [Seite 51].

You can cost three parallel values (legal valuation view, group view, profit center view). You can update the results of all three valuation views. For further information about multiple valuation approaches, see Multiple Currencies and Valuations for Materials [Extern] under *Actual Costing/Material Ledger (CO-PC-ACT).*

See also:

- Standard cost estimate [Seite 63]
- Inventory cost estimate [Seite 65]
- Modified standard cost estimate [Seite 68]
- Current cost estimate [Seite 70]

Updating the Standard Prices

Use

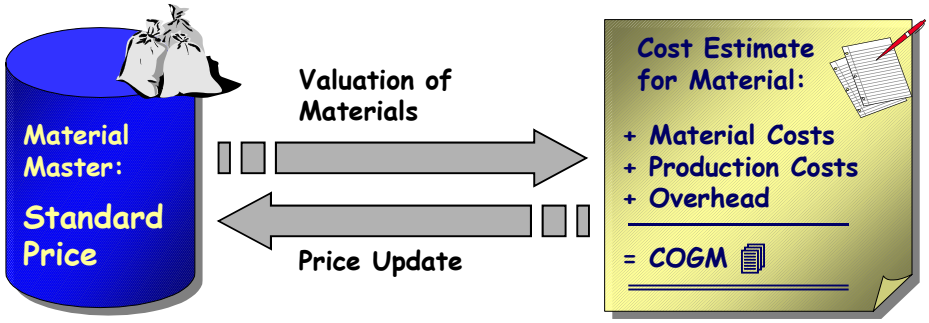
You can update the results of the standard cost estimate [Seite 63] in the material master record as the	If you
Future standard price	Mark [Seite 639] the standard cost estimate
Current standard price	Release [Seite 645] the standard cost estimate
Previous standard price	Release a new standard cost estimate. The current standard price becomes the previous standard price.

For more information, see Costing Sequence [Seite 59].

Integration

You can use the results of the standard cost estimate to valuate the materials for standard prices (see graphic). When you release the standard cost estimate, the price in the material master is updated as the standard price and the materials are revaluated. From this point on, all the material movements are valuated at the new price. However, this applies only to materials with S price control.

Costing can access the future or current standard price in the material master for material valuation purposes, provided you have defined the appropriate strategy in the valuation variant in Customizing for material valuation [Seite 728] (see graphic). For more information, see *Define Valuation Variants* in the *Implementation Guide* for *Product Cost Planning*.



Prerequisites

To update the standard cost estimate results as the standard price in the material master record, the following conditions must be met:

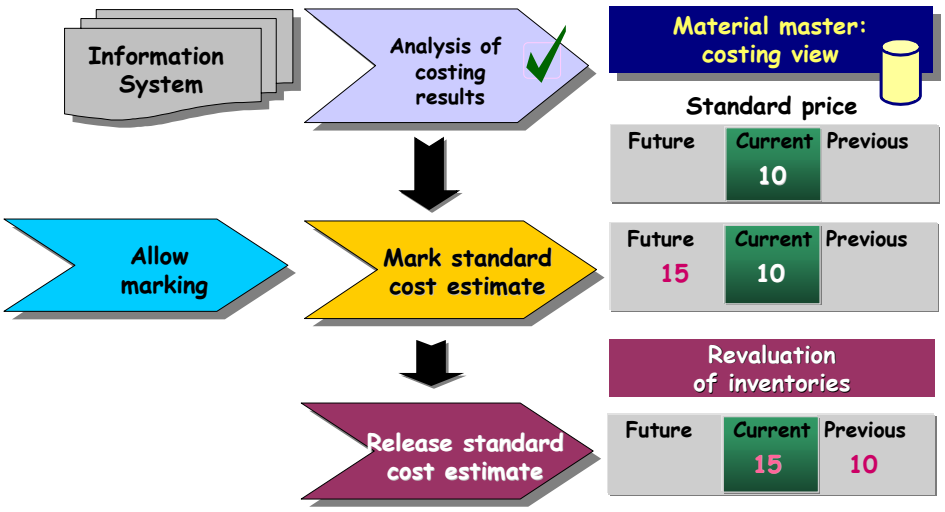
- The cost estimate has the status *KA: Costed without errors*. Only the results of cost estimates without errors can be updated. For more information, see Message Logs [Seite 589] and User-Defined Message Types [Seite 594].
- The costing results have been saved to the database. To be able to save a cost estimate, you must ensure that the indicator *Saving allowed* is turned on in the **costing variant**. For more information, see Saving Material Cost Estimates [Seite 600].

- The setting has been made to update the costing results as the standard price. For this, the indicator *Standard price* indicator must be turned on in the **costing type**.
- In addition, the costing type must also specify that the date of costing is saved to the database, and that this date is always the **start of period**.

  For more information about Customizing, see Preparing for Material Costing [Seite 73].
- The **period of validity of the cost estimate** (*Costing date from*) must correspond with the current period in the material master. You cannot update the standard price for periods that have elapsed. To release [Seite 645] the costing results, you must wait until the relevant posting period has arrived. For further information, see the following:
  - Fiscal Year [Extern]
  - Determining the Posting Period at Posting [Extern]

Features

The following graphic provides an overview of updating the costing results as the standard price:



To set a new standard price in the material master, you must mark and release the standard cost estimate. Before you can mark and release a standard cost estimate, you must allow [Seite 640] standard cost estimates to be marked and released in a company code.

If you **mark** a standard cost estimate for a material, the price calculated in the standard cost estimate is transferred into the material master record [Seite 689] as the **future standard price** (see graphic). However, the materials with "S" price control continue to be valuated with the current standard price (see graphic).

If you **release** a standard cost estimate for a material, the marked price is transferred into the material master record as the **current standard price** for the current period. This price is then active for external accounting. The materials with "S" price control are valuated with the new standard price. The current standard price becomes the previous standard price (see graphic).

You can repeat the marking at any time. However, this can only be done **once** in a period. For this reason, you should check the costing results before marking and

releasing. To do this, use the reports in the Product Cost Controlling Information System.

You can use the Information System to make comparisons, such as using a price from the material master, or the future or current standard price, to the costing results. This enables you to correct any variances before the materials are valuated with the new standard price.

Once you have released the cost estimate, you cannot create a new standard cost estimate in this period. Although you can delete a released cost estimate, the materials are still valuated with the released standard price. When a current standard cost estimate is deleted, the previous standard price no longer becomes the current standard price. To determine a new standard price, you have to carry out costing, marking and releasing afresh.

Marking, releasing, and marking allowance are protected by authorization checks. The person authorized to execute these functions must enter the authorization object *K_FVMK (CO-PC: Release/marking product costing)* in the user master record.

See also:

If you use the Material Ledger component, you can find more information about valuating materials and group costing/multiple valuation approaches [Seite 621] under *Actual Costing/Material Ledger (CO-PC-ACT)* in the following sections:

- Price Change [Extern]
- Maintaining Future Valuation Prices [Extern]
- Releasing Planned Prices [Extern]
- Automatic Release of Planned Prices [Extern]
- Marking Prices for Future Valuation [Extern]
- Multiple Currencies and Valuations for Materials [Extern]

For more information about material valuation in the SAP System, see Material Valuation in the SAP System [Extern].

Marking Standard Cost Estimates

Use

To transfer the results of a standard cost estimate as the standard price in the material master, you must mark and release the standard cost estimate.

You can mark the following:

- One or more standard cost estimates

  For further information, see Marking Standard Cost Estimates [Seite 642].

- More than one standard cost estimate within one costing run

  For more information about this, see Using a Costing Run to Mark the Standard Price [Seite 340].

Integration

When you mark a standard cost estimate, the costing results are written to the costing view of the material master as the future planned price.

For new cost estimates, you can access the future standard price to valuate the materials. For more information, see Valuation of Materials [Seite 728].

Prerequisites

Marking the standard cost estimate has been allowed. The marking allowance [Seite 640] specifies the company code and period in which you can mark a standard cost estimate with a given valuation variant and costing version. You cannot mark cost estimates/costing versions with different valuation variants in this period.

For more information, see Updating Standard Prices [Seite 636].

Features

You mark [Seite 642] the cost estimate and transfer the costing results into the material master as the future standard price.

You can mark the cost estimate more than once at any time (until you release it).

You can cancel the allowance for marking and thus the marking of standard cost estimates. For more information, see Allowing Marking and Displaying What Is Allowed [Seite 640].

If you want to work with multiple valuation views, you can mark all of the views (legal valuation, group and profit center). For more information about costing multiple valuation views, see Multiple Currencies and Valuations for Materials [Extern] and Group Costing [Seite 621].

Allowing Marking and Displaying What Is Allowed

Prerequisites

The authorization for marking specifies the company code and period in which you can mark a standard cost estimate with a given valuation variant. You cannot mark cost estimates with different valuation variants in this period. For more information, see Preparing for Material Costing [Seite 73].

Authorization to allow marking of standard cost estimates [Seite 63] should be given by a high-level department. It is carried out once a period and cannot be repeated.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Price Update*.

   The screen *Price Update: Mark Standard Price* appears.

2. Enter the posting period and fiscal year.

3. Choose *Marking allowance*.

   The screen *Price Update: Organizational Measure* appears, and you see the following in a list for the period entered above:

   – In the column *Exception* with the quick info *Organizational measure executed,* whether marking has already been allowed (: marking not yet allowed, : marking allowed)

   – Company code, valuation view, and costing version

   – In the column *Released*, whether a standard cost estimate has already been released

   To allow or display marking for another period, enter a different posting period. If you do not enter a posting period, the system displays all the posting periods of the fiscal year. An additional column, *Posting period*, is then displayed.

4. Click on the company code for which marking is to be allowed or displayed.

   a. If marking has already been allowed for this period, the dialog box *Permitted std cost est variants* appears. You see the costing variants for which marking has been allowed.

   b. If marking has not yet been allowed for the period, the dialog box *Permitted std cost est variants* requires you to enter the costing variant and version. Save your entries with .

Result

You can now mark [Seite 642] and release [Seite 647] all the standard cost estimates that fulfil the specified selection criteria. These criteria are the costing variant (a combination of the valuation variant and costing type), and the costing version, plant, and company code.

If you now click on the company code again, the system displays a list of all the costing variants for which marking is allowed.

You can cancel both the allowance for marking and the marking of standard cost estimates which has already been carried out. **All** marking in the selected company code will then be canceled.

a. Execute steps 1 to 3 of the above procedure.

b. Select the desired row by clicking on the LED display or on the costing version.

c. Choose .

If a standard cost estimate has already been released in the company code, you cannot cancel the allowance for marking and marking. Otherwise, you receive a message telling you the number of materials for which marking was canceled.

Marking Standard Cost Estimates

Prerequisites

You can only mark cost estimates that have no errors. Such cost estimates have the status **KA**. Cost estimates with errors have the status **KF**. You cannot mark these.

The validity of the standard cost estimate corresponds with the current period in the material master.

Marking the standard cost estimate has been allowed [Seite 640].

To mark standard cost estimates in a costing run, see Costing Run: Marking for Standard Price [Seite 340].

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Price Update*.

   The screen *Price Update: Mark Standard Price* appears.

2. Enter the posting period and fiscal year.

3. Enter the selection criteria for the cost estimate to be marked:

   – Company code(s)

     If you do not enter any data, the system selects all the company codes in the controlling area.

   – Plant(s)

     If you do not enter any data, the system selects either all the plants of the company code specified, or, if no company code has been specified, all the plants of all the company codes.

   – Material number(s)

     If you do not enter any data, the system selects all the materials for marking.

   If you do not enter any selection criteria, the system marks all the cost estimates in all the company codes of the controlling area for which marking is allowed.

4. Specify which valuation view is to be marked.

   This step only applies if you want to cost multiple values (see Group Costing [Seite 621]).

5. Choose *Marking allowance* to display the allowance for marking or to issue the allowance. (See also Allowing Marking [Seite 640])

   The screen *Price Update: Organizational Measure* appears. For more information, see Allowing Marking [Seite 640]. Choose to return to the marking.

6. By setting the corresponding indicator, you determine whether:

   – Marking should first take place in the test run

- A list of the cost estimates to be marked should be issued
- Marking should take place using parallel processing [Seite 374]
- Marking should take place in the background

7. Choose to execute marking.

If you have set the indicator *Background processing*, marking is not carried out immediately. The system next displays the dialog box *Background Processing: Job Parameters.*

Set the indicator *Immediate start* if you want to start marking immediately in the background, or enter the date from which the job should be started. Choose

- *Date/Time* to enter an exact start date
- *After job* or *After event* to specify that marking should not start until after the completion of another job or after a particular event
- *Copy* to save your entries and schedule the job
- or *System* → *Own jobs* to display an overview of all jobs

For more information, see Background Processing [Seite 375].

Result

If you carried out marking online but did not set the indicator *With list*, the system issues a message containing the information as to how many standard cost estimates were marked successfully or had errors.

If you carried out marking online and set the indicator *With list*, the system displays a list of materials that were marked or, in the case of a test run, will be marked.

This list can easily be adapted to suit your requirements. For more information, see Functions of the ABAP List Viewer [Extern].

If you choose in this list, you can go to the log containing the system messages. You can also edit this log and adapt it to your requirements. To go to the long text of a message, place the cursor on the desired line and choose . To go back to the list of marked materials, choose in the toolbar of the log. For more information, see Logs in Material Costing [Seite 589].

To return to the screen *Price Update: Mark Standard Price*, choose in the application menu. If you choose *Log* in this screen, you can call the log which you last generated once again.

After marking, the results of the standard cost estimate [Seite 63] are updated as the future standard price in the material master (accounting view and costing view). Marking does not affect the material stock value.

In a further step, you can now release [Seite 645] the results of the standard cost estimate in the material master record as the current standard price.

Marking Standard Cost Estimates

Provided no standard cost estimate has been released, you can cancel both the allowance for marking and the marking which has already been carried out. All marking in the selected company code will then be canceled. For the procedure, see Allowing Marking.

Releasing Standard Cost Estimates

Use

You can transfer the results of the standard cost estimate as the current standard price in the material master by releasing the standard cost estimate.

You can release the following:

- One or more standard cost estimates

  For further information, see Releasing Standard Cost Estimates [Seite 647].

- More than one standard cost estimate within one costing run

  For more information about this, see Using a Costing Run to Update the Standard Price or Other Prices [Seite 342].

Integration

Marking enables the results of the standard cost estimate to be updated as the *Future standard price* in the material master.

Releasing a standard cost estimate enables the future standard price to be updated as the *current standard price* and the *current planned price* in the material master.

At this time, the stock value of the material is changed and the new standard price for valuating material movements is active. This price is then active for external accounting. Materials with "S" price control are valuated with the new standard price.

For new cost estimates, you can access the current standard price to valuate the materials. For more information, see Valuation of Materials [Seite 728].

Prerequisites

The current posting period matches that of the cost estimate.

The cost estimate has been marked [Seite 639].

The costing results have been checked using the reports of the Information System.

Releasing a cost estimate can only be done **once** in a period. It cannot be reversed. For this reason you should check your future standard price beforehand and compare it with the current standard price. You can use the Information System reports for this. For more information, see Reports in Product Cost Planning [Seite 790].

If you have inadvertently released the wrong standard cost estimate, you can delete it and recost, remark and rerelease. However, deleting a released standard cost estimate does **not** mean that the materials are revaluated with the previous standard price. Valuation is carried out with the new standard price (current planned price). Therefore, this procedure should only be used in **exceptional circumstances**.

Releasing Standard Cost Estimates

Deleting a standard cost estimate affects all applications that use it for evaluation purposes (such as Profitability Analysis and confirmation).

See also:

Manual Changes to the Standard Price [Seite 649]

Deleting Material Cost Estimates [Seite 604]

Releasing Standard Cost Estimates

Prerequisites

Before you release a standard cost estimate [Seite 63], make sure that the future standard price is correct, since you can only release once per period. As soon as the cost estimate has been released for a material in a company code, you cannot repeat the standard cost estimate, marking [Seite 639] or release in this posting period.

Check the costing results before you release the standard cost estimate. You can use the Information System reports to compare the cost estimate price with the current standard price and display variances. For further information, see the following:

- Reports in Product Cost Planning [Seite 790]
- Analyzing the Costing Run [Seite 792]
- Price vs. Costing [Seite 796]

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Price Update*.

   The screen *Price Update: Mark Standard Price* appears.

2. Choose *Release*.

   The screen *Price Update: Release Standard Price* appears.

3. Enter the posting period and fiscal year.
4. Restrict the cost estimates to those you want to release.
   a. You can restrict the selection to company codes, plants, and/or material numbers.
   b. If required, choose to select a variant for the selection of cost estimates.
5. By turning the indicator on or off, you determine whether:
   - Release should first take place in the test run
   - A list should be output
   - Release should take place using parallel processing [Seite 374]
   - Release should take place in the background
7. Choose to execute the release.

   If you have set the indicator *Background processing*, release is not carried out immediately. The system next displays the dialog box *Background Processing: Job Parameters.*

Set the indicator *Immediate start* if you want to start the release immediately in the background, or enter the date from which the job should be started. Choose

- *Date/Time* to enter an exact start date
- *After job* or *After event* to specify that the release should not start until after the completion of another job or after a particular event
- *Copy* to save your entries and schedule the job
- or *System* → *Own jobs* to display an overview of all jobs

For more information, see Background Processing [Seite 375].

Result

When you have released the standard cost estimate, the corresponding future standard prices are updated as the current standard prices in the material master. How often you release a standard cost estimate depends on its planned validity period. If stocks of materials exist, the stock value changes and a document is created in Financial Accounting documenting the price change. For further information, see Document Display [Extern].

If you carried out the release online but did not set the indicator *With list*, the system issues a message containing the information as to how many standard cost estimates were released successfully or had errors.

If you carried out the release online and set the indicator *With list*, the system displays a list of materials that were released or, in the case of a test run, will be released. This list can easily be adapted to suit your requirements. For more information, see Functions of the ABAP List Viewer [Extern].

- If you choose in this list, you can go to the log containing the system messages. You can also edit this log and adapt it to your requirements. To go to the long text of a message, place the cursor on the desired line and choose .
- To go back to the list of marked materials, choose in the toolbar of the log. For more information, see Logs in Material Costing [Seite 589].

To return to the screen *Price Update: Mark Standard Price*, choose in the application menu. If you choose *Log* in this screen, you can call the log which you last generated once again.

Manual Changes to the Standard Price

Use

If there have been significant price fluctuations for raw materials and semifinished products procured externally during the period, you can change the standard price for these materials manually.

Features

You can only release [Seite 645] a standard cost estimate once in a period. This ensures that the costing results remain the same during a given period. The effects of this are as follows:

- If you attempt to release a standard cost estimate a second time within the same period, the system issues an error message.

  You cannot mark or release a second time within the same period.

  You cannot define this message using user-defined error management as an information or warning message.

- If you attempt to cost the material a second time within the current period, the system issues an error message.

  Although you can cost the material, you cannot save the results.

  You cannot define this message using user-defined error management as an information or warning message.

- If you attempt to change the standard price using the price change functions in *MM*, the system issues an error message (*M8 155*).

  However, in Customizing for Product Cost Planning, you can have the system issue this error message as an information message for certain users, instead of an error message. These users can change the standard price manually in MM. To access the price change functions in MM, choose *Logistics* → *Materials Management* → *Valuation* → *Valuation* → *Price determination* → *Change price*.

  After a standard cost estimate is released, the new standard price for the period is updated in the material master record as the *current planned price* and as the *current standard price* (see also: Releasing Standard Cost Estimates [Seite 647]). In contrast, after a manual change, the manually entered price becomes the *current standard price*. The current planned price from the material cost estimate remains.

Tax-Based Prices and Commercial Prices

Use

You create an inventory cost estimate to calculate tax-based or commercial prices for semi-finished and finished products. After you have costed the inventory, you can transfer [Seite 657] the costing results to the material master as tax-based and commercial prices.

Prerequisites

Settings Required to Update the Lowest Value in the Costing Type

Every cost estimate you create is based on a costing variant. This costing variant is assigned to a costing type. The settings in the costing type specify whether the lowest value is determined when the material master is updated:

- If you want to **determine the lowest value**, set the indicator *Tax-based price* or *Commercial price* for the costing type in Customizing.

  In this case, the lowest value is determined when the prices are updated in the material master record. The system compares the valuation price as per the price control of the current or previous period with the price from the cost estimate. If the valuation price is lower than the cost estimate price, the valuation price becomes the tax-based or commercial price in the material master.

- If the *Other prices* indicator is set for the cost estimate, **no determination of lowest value** is carried out when the prices are updated in the material master record.

  In any event, the costing results are transferred into the material master, irrespective of the comparison with the valuation price.

Settings for Inventory Valuation in the Cost Components

Cost component views enable you to specify which part of the cost component in the inventory valuation should include commercial and tax-based physical inventory valuation, and which part of the itemization should have overhead applied to it. In standard cost estimates, overhead is applied to those cost portions that are flagged as cost components for inventory valuation. For inventory costing, you can specify a different cost component view. If you do not specify a cost component view, the cost estimate works with those cost portions of the material item that are assigned to the inventory valuation. If, in the inventory cost estimate, the variable or fixed part only of certain cost components [Seite 462] is being used in inventory valuation, define a corresponding cost component view [Seite 465] in Customizing.

Settings in the Valuation Variant

You create an inventory cost estimate based on a costing variant. The valuation variant contained in the costing variant enables you to specify that the following data should be included:

- Material prices for material components whose values are adjusted according to the lowest value principle in *Materials Management (MM)*

  In the valuation variant, you specify the order in which the system looks for a price to valuate the materials in a cost estimate. For inventory costing, you define the access to tax-based and commercial prices in the material master.

- Prices for internal activities that are planned or calculated in *Controlling (CO)* according to the recognition-of-loss principle

  In the valuation variant, you define the order in which the system looks for prices to cost the internal activities. You also specify the plan/actual version on which the price determination is to be based.

  Versions are used in Cost Center Accounting to carry different plan data in parallel. You can define a version in which a price is determined that leads to conservative prices for internal activities. You can also copy actual values into a plan version.

  If you want to valuate [Seite 731] the internal activities [Seite 698] used for the inventory cost estimate according to the **recognition-of-loss principle**, you define in Customizing a valuation variant in which you enter the version that uses the conservative prices.

  For more information, see Planning and Parallel Valuation in Multiple Versions [Extern]

- Costing sheets in inventory costing

  To calculate the overhead for inventory costing, you define a costing sheet in the valuation variant. This costing sheet can be used to distinguish between the amount of overhead from the costing sheet of the standard cost estimate, for example.

Relevancy to Costing Indicator and Price Factors

The *Relevancy to costing* indicator indicates whether a costing item is relevant to costing or not. You can link the costing relevancy indicator to factors, in order to make inventory adjustments for packaging costs in a cost estimate, for example. (See also: Inventory Cost Estimates [Seite 65]). These factors are included through the settings in the cost components. The cost components are linked here with the costing variant.

For the standard cost estimate [Seite 63], the modified standard cost estimate [Seite 68], and the current cost estimate [Seite 70], you flag the BOM items [Seite 164] and operations [Seite 171] as being either relevant or not relevant to costing. This enables you to ignore costs for operations that are only relevant for scheduling, for example.

In the standard system, the indicator **X** is linked with factor one (relevant to costing), and the empty indicator with factor zero (not relevant to costing). For inventory costing, define two further indicators in Customizing, such as **A** and **B**.

In Customizing, link the *Relevancy to costing* indicator to both fixed and variable costs, so that BOM items or operations can be adjusted on a percentage basis in the cost estimate, as required. You can define this assignment for a certain valuation variant or for all valuation variants.

Example 1

The BOM of a material specifies how the product is packaged. The packaging costs are USD 10. The packaging costs in the standard cost estimate are also USD 10.

For inventory costing, link the relevancy to costing indicators to factors with the factor **0.500**. The packaging costs in the inventory cost estimate are USD 5.

Example 2

Valuation Variant	Relevancy to costing indicator	Fixed factor	Variable factor
001	A	0,800	0,800
001	B	0,200	0,200

The inventory cost estimate contains 80% of the costs for BOM items or operations with the indicator "A" and 20% of the costs for BOM items or operations with the indicator "B".

In the standard cost estimate, the modified standard cost estimate and current cost estimate, the costs for these BOM items and operations are interpreted as being relevant to costing. This means that the factors are set by the system to 1.

If a particular valuation variant exists in this table in Customizing for Product Cost Planning, the system selects the relevancy to costing indicator that is linked to the valuation variant and ignores the relevancy to costing indicator that is defined for the BOM item.

Example 3

Valuation Variant	Relevancy to costing indicator	Fixed factor	Variable factor
+++	A	0,800	0,800
001	N	0,000	0,000

The valuation variant for the inventory costing is 001. For the BOM item, the relevancy to costing indicator "A" is set For the valuation variant "001", the system only finds the entry with the relevancy to costing indicator "N", because a particular valuation variant existed. The BOM item is valuated with the zero factor.

Updating Other Prices

Use

- Updating the tax-based and commercial prices 1, 2, and 3
- Updating the other planned prices 1, 2, and 3

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Price Update*.

   The screen *Price Update: Mark Standard Price* appears.

2. Choose *Other prices.*

   The screen *Price Update: Release Other Prices* appears.

3. Enter the data required to limit the selection to those cost estimates for which you want to transfer the results to the material master.

   a. Enter at least a plant or company code.

   b. Enter a costing variant, costing date (valid from) and costing version.

   c. You can further restrict your selection by entering the required material numbers.

      If you do not enter a material number then all cost estimates are selected which meet your selection criteria (plant, company code, costing variant, date and version).

4. Specify which valuation view you want to update.

   This step only applies if you cost multiple valuation views. For further information, see Group Costing [Seite 621].

5. Specify the material master field to which you want to transfer the costing results.

   – *Tax-based price 1 to 3, commercial price 1 to 3*

   – *Planned price 1, 2,* or *3*

      If you want to update planned prices 1, 2, or 3, specify the following:

      i. The date from which the planned price is to be valid in the *Validity date* field

      ii. Which cost component view [Seite 465] is to be transferred in the *Cost Component View* field

6. If you want to update the prices of the material components, set the *Material component prices* indicator.

   If you do not set this indicator, the results of the cost estimates for material components are not transferred even if you selected these using the material numbers.

7. If you want to update the prices without a test run first, reset the *Test run* indicator.

8. If you want the system to display an overview of all the updated materials, set the indicator *With list*.
9. If you want to use parallel processing [Seite 374], set the indicator *Parallel processing*.
10. If you want to update other prices in the background [Seite 375], set the indicator *Background processing*.
11. Choose to update the prices.

Result

You see a list of the materials with the updated prices. If you have executed the function in the test run you receive a list of the cost estimates that would have been updated.

You can adapt this list to meet your requirements. For more information, see Functions of the ABAP List Viewer [Extern].

You can go from this list to the following:

- To the costing view in the material master of each material, by clicking on the material number. By choosing , you go back to the previous screen.
- To the message log, by choosing in this list.

  You can also adapt this log to your requirements. For more information, see Editing and Printing the Log [Seite 592].

  If you choose in the log, you go back to the list of materials processed. By choosing in the menu, you go back to the *Price Update* screen.

  By choosing *Log* in the *Price Update* screen, you can redisplay the log that was most recently generated or processed.

See also:

For more information about inventory, see Inventory [Extern] under *MM Material Valuation*.

MM Material Valuation under Material Valuation [Extern] and Valuation Structures [Extern] for more information about valuating materials.

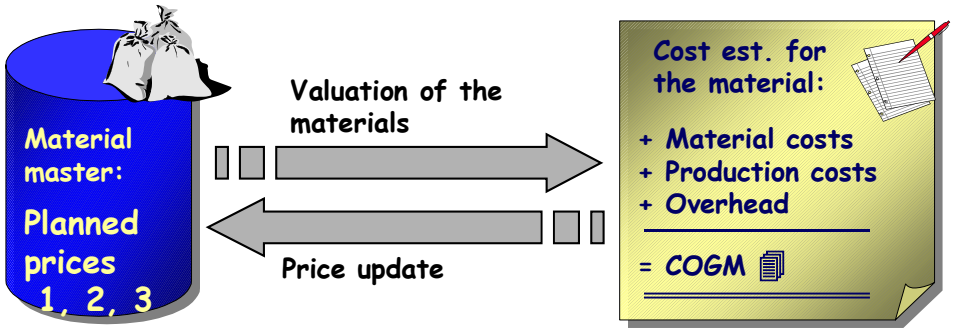
Update of Other Planned Prices

Use

You can update the results of the modified standard cost estimate and the current cost estimate (as well as standard cost estimates and inventory cost estimates) as planned prices 1, 2 and 3 in the material master [Seite 507].

Integration

In addition to transferring the costing results to the material master as planned prices, you can access these prices when costing (see graphic). To access one of the planned prices, you can define a strategy sequence for material valuation [Seite 728] in the **valuation variant** in Customizing. This enables you to set a planned price for a material for Cost Object Controlling that is used to valuate inward stock movements for materials with a V price control.



Prerequisites

To update the costing results as other prices in the material master record, the following conditions must be met:

- The cost estimate has the status *KA: Costed without errors*.

  Only the results of cost estimates without errors can be updated. For more information, see Costing Status [Seite 598], Message Logs [Seite 589] and User-Defined Message Types [Seite 594].

- The costing results have been saved to the database.

  To be able to save a cost estimate, you must ensure that the indicator *Saving allowed* is turned on in the **costing variant**. For more information, see Saving Material Cost Estimates [Seite 600].

- You specify which cost estimates can be transferred into the material master records via the **costing type** in **Customizing** for Product Cost Planning.

  The *Other (not std price)* indicator must be set for the modified standard cost estimate or the current cost estimate.

  You cannot update any cost estimates as planned prices for which the indicator *No update* has been set in the costing type.

Update of Other Planned Prices

However, you can transfer the results of other cost estimates (plan or inventory costing) to the material master as planned prices even if you have set a different update indicator in their costing type. **It is important to note**, however, that this does **not** apply in reverse. You are **not** able to transfer a cost estimate to the material master as a standard price where for instance the indicator *Standard price* has not been set.

For more information, see Costing Sequence [Seite 59] and Preparing for Material Costing [Seite 73].

Updating Other Prices

Use

- Updating the tax-based and commercial prices 1, 2, and 3
- Updating the other planned prices 1, 2, and 3

Procedure

4. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Price Update*.

   The screen *Price Update: Mark Standard Price* appears.

5. Choose *Other prices.*

   The screen *Price Update: Release Other Prices* appears.

6. Enter the data required to limit the selection to those cost estimates for which you want to transfer the results to the material master.

   d. Enter at least a plant or company code.

   e. Enter a costing variant, costing date (valid from) and costing version.

   f. You can further restrict your selection by entering the required material numbers.

      If you do not enter a material number then all cost estimates are selected which meet your selection criteria (plant, company code, costing variant, date and version).

6. Specify which valuation view you want to update.

   This step only applies if you cost multiple valuation views. For further information, see Group Costing [Seite 621].

7. Specify the material master field to which you want to transfer the costing results.

   – *Tax-based price 1 to 3, commercial price 1 to 3*

   – *Planned price 1, 2,* or *3*

      If you want to update planned prices 1, 2, or 3, specify the following:

      i. The date from which the planned price is to be valid in the *Validity date* field

      ii. Which cost component view [Seite 465] is to be transferred in the *Cost Component View* field

12. If you want to update the prices of the material components, set the *Material component prices* indicator.

    If you do not set this indicator, the results of the cost estimates for material components are not transferred even if you selected these using the material numbers.

13. If you want to update the prices without a test run first, reset the *Test run* indicator.

14. If you want the system to display an overview of all the updated materials, set the indicator *With list*.
15. If you want to use parallel processing [Seite 374], set the indicator *Parallel processing*.
16. If you want to update other prices in the background [Seite 375], set the indicator *Background processing*.
17. Choose to update the prices.

Result

You see a list of the materials with the updated prices. If you have executed the function in the test run you receive a list of the cost estimates that would have been updated.

You can adapt this list to meet your requirements. For more information, see Functions of the ABAP List Viewer [Extern].

You can go from this list to the following:

- To the costing view in the material master of each material, by clicking on the material number. By choosing , you go back to the previous screen.
- To the message log, by choosing in this list.

  You can also adapt this log to your requirements. For more information, see Editing and Printing the Log [Seite 592].

  If you choose in the log, you go back to the list of materials processed. By choosing in the menu, you go back to the *Price Update* screen.

  By choosing *Log* in the *Price Update* screen, you can redisplay the log that was most recently generated or processed.

See also:

For more information about inventory, see Inventory [Extern] under *MM Material Valuation*.

MM Material Valuation under Material Valuation [Extern] and Valuation Structures [Extern] for more information about valuating materials.

Reference and Simulation Costing

Purpose

Reference and Simulation Costing is a tool for planning costs and setting prices, with which you manually enter the costing items in spreadsheet form in a unit cost estimate [Seite 683].

With this component, you can create **base planning objects**. A base planning object is a reference object of Product Cost Planning which you create in Reference and Simulation Costing, in order to plan costs for a new product or service and simulate changes to existing cost estimates.

Integration

In base object costing, you can access data in the Controlling, Materials Management and Production Planning modules.

You can access data that already exists in the R/3 System, such as:

- Data from *Controlling (CO),* such as cost centers, activity types and prices, process costs, base planning objects
- Data from *Materials Management (MM),* such as materials, and prices for materials

For further information ,see Master Data for Unit Costing [Seite 688].

Features

You create base planning objects to plan new products or services. They provide the data required for management decisions as to the manufacture of products, the provision of services, or whether the product should be produced internally or externally.

You enter the additive costs manually in the form of a unit cost estimate.

You can use the base planning object as follows:

- As a building block in other cost estimates, such as other base object cost estimates, or material cost estimates without quantity structure
- As a reference when planning other objects in the R/3 System, such as WBS elements, CO production orders
- To simulate the effects on costs following changes to production factors or to the exchanging of materials or internal activities

You can use a base planning object in the costing of the following objects in the R/3 System:

- Other base planning objects
- Materials (material cost estimate without quantity structure and additive cost estimate for the material)
- General cost objects
- Production orders without quantity structure
- Sales document items
- WBS elements (projects)

Reference and Simulation Costing

- Network components
- General costs activities
- Internal orders
- Primary cost elements

As a Spreadsheet Without Accessing Data in the R/3 System

In the first stage of a feasibility study, you create a cost estimate. In this cost estimate, you create an item consisting of a quantity, a unit of measure, and a price, for each operation to be carried out. The sum of the item values is the total costs of the undertaking.

At a later stage, you can expand this costing template with detailed information from the R/3 System on the materials to be used and activities to be provided.

Spreadsheet with Access to Data in the R/3 System

In a base object cost estimate, you list all the materials and activity types required to carry out a specific process. The R/3 System valuates them using prices from the material master records [Seite 148], and the activity prices from Cost Center Accounting [Seite 698]. The total costs of the process are produced from the total of the costing items.

You can use this cost estimate later as a reference [Seite 719] when carrying out cost planning for an order or a project.

Item in Another Cost Estimate

You create three base object cost estimates containing the materials, internal activities and external activities that are regularly used. When processing a quotation, you enter these base object cost estimates in the cost estimate for the quotation and add further costing items specific to that customer's requirements. This gives you a basis for the quotation price in Sales (SD).

Reference when Planning Specific Reference Objects in the R/3 System

You create a base object cost estimate in which you list all the activities generally carried out by the marketing department during a trade fair. When you open an internal order for collecting the costs of a particular trade fair, you can copy the relevant costing items to the order and use them as a basis for planning the order.

You can create multiple base object cost estimates in which you plan the expected costs for the various components of a standard product. When you enter a quotation for a particular variant of this product in Sales and Distribution (SD), you can select the relevant costing items from the base object cost estimate, transfer them into the quotation and use them to process the quotation in SD.

Results of Reference and Simulation Costing

Use

You can use base planning objects to cost other objects in the R/3 System. For further information about this, see Reference and Simulation Costing [Seite 659].

You can display and analyze the results of Reference and Simulation Costing in the *Product Cost Controlling Information System*.

See also:

- Overview of Base Planning Objects [Seite 805]
- Where-Used List of Base Planning Objects [Seite 806]
- Costed Multilevel BOMs [Seite 823]
- Multilevel Explosion of Base Planning Objects [Seite 821]
- Itemizations [Seite 828]
- Comparing Unit Cost Estimates [Seite 837]
- Archiving Base Planning Objects [Seite 759]

Overview of Base Planning Objects

Definition

List of existing base planning objects

Use

This report generates a list of existing base planning objects according to various selection criteria.

You can select according to the following search criteria:

- Name of the base planning object
- Sorting field
- Base object group
- Entered by
- Last changed by
- Only base planning objects flagged for deletion

Structure

You receive a list of the base planning objects found. Detailed information for a base planning object is displayed in each line of this list You can process this list according to your requirements, for example:

- Sort in ascending and descending order according to columns (or)
- Set a filter ( )
- Change the current layout and save it as a new layout (Creating, Changing, and Managing Layouts [Extern])

Integration

You can, for example, access the following from this list:

- The master data and costing items of the base planning object (*Base Planning Object*)
- The costed multilevel BOM of the base planning object (*Cost estimate)*
- The where-used list of the base planning object ( )

See also:

Reference and Simulation Costing [Seite 659]

Base Planning Object [Seite 702]

Working with Reference and Simulation Costing [Seite 665]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Multilevel Explosion of a Base Planning Object

Definition

Report that explodes all items of a base planning object and shows the level

Use

You use this report to show the materials and activities for a base planning object. If other base planning objects were used the base planning object, the base planning objects will be exploded down to the last code.

In the selection screen, enter the base planning object that you want to explode. Execute the report with .

Structure

You receive a list of all costing items with their corresponding level.

You can also adapt the information supplied to suit your requirements. See the following for more information:

Features of the ABAP List Viewer [Extern]

Creating, Changing and Managing Layouts [Extern]

Working with Reference and Simulation Costing

Use

Reference and Simulation costing is a tool for planning costs and setting prices, with which you manually enter the items in the form of a unit cost estimate [Seite 683]. This cost estimate can be used as a module in other cost estimates, as a reference copy when planning other objects in the R/3 system, and for simulation purposes.

The reference object in cost planning in connection with Reference and Simulation Costing is the base planning object [Seite 702]. Each base planning object comprises master data and costing items with the relevant cost information. You manage cost planning for the base planning object using unit costing [Seite 683] or multi-level unit costing [Seite 671].

See also:

- Creating Base Planning Objects [Seite 668]
- Editing Multilevel Cost Estimates [Seite 674]
- Managing the Costing Results [Seite 588]
- Archiving Base Planning Objects [Seite 759]

Reference and Simulation Costing: Process Flow

Purpose

You use base planning objects for the following purposes:

- To plan new products, such as materials and services, and create costing information where no master data (material master, BOM, routing) exists
- To use existing cost estimates as a reference for the planning of new products
- To simulate changes to existing products and cost estimates

For more information, see Costing Sequence [Seite 59] and Base Planning Objects [Seite 702].

Prerequisites

Editing costing items is always based on a costing variant. For more information, see Preparing for Base Object Costing [Seite 76].

Process Flow

1. You create a base planning object with master data and costing items.

   For this, you can use either the classic, single-level unit costing [Seite 683] or multilevel unit costing [Seite 671].

   For more information, see Creating Base Planning Objects [Seite 668] and Creating Costing Items [Seite 703].

2. The system valuates the costing items entered and calculates the overhead (including process costs).

   For more information, see Valuation of Costing Items [Seite 726] and Overhead Costs in Base Object Costing [Seite 739].

3. You save the base planning object and use the reports in the *Product Cost Controlling Information System* to analyze the costing results.

   For further information, see the following:

   - Reports in Product Cost Planning [Seite 790]
   - Overview of Base Planning Objects [Seite 805]
   - Where-Used List of Base Planning Objects [Seite 806]

4. You can use an existing base planning object for the following purposes:

   – As a reference for a new base planning object

   – As a "building block" in other unit cost estimates, such as material cost estimates without quantity structure, additive cost estimates and base planning objects.

   For further information, see the following:

   - Reference and Simulation Costing [Seite 659]
   - Unit Costing [Seite 683]
   - Copying a Cost Estimate [Seite 719]

Creating Base Planning Objects

Prerequisites

All base planning objects are controlled by a costing variant. For more information, see Preparing for Base Object Costing [Seite 76].

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Reference and Simulation Costing* → *Create Base Planning Object*.
2. Set the controlling area as required.

   The dialog box *Create Base Planning Object: Initial Screen* appears.
3. Enter the name of the new base planning object.

   If you want to copy an existing base planning object, enter the name of the object to be used as a reference in the *Copy from* screen area.

   For more information, see Creating a Cost Estimate with Reference [Seite 716].
4. Choose .

   The *Create Base Planning Object: Master Data* screen appears.
5. Enter the master data for the base planning object or check the master data proposed from the reference.
   - **Base unit of measure**
   - **Company code** or **plant**
   - **Name of the base planning object**
7. Enter the following data as desired:
   - **Description of base planning object**
   - **Long text**

     You can create a long text for the master data by choosing *Edit* → *Long Text*.

     You can enter texts in any language that is valid in your system, irrespective of the logon language.
   - **Profit center** (to assign the base planning object to a profit center)
   - Costing sheet [Seite 744] to calculate the overhead [Seite 739]
   - Overhead key [Seite 746]

     If you enter an overhead key in the base object master record, you can create conditions in the costing sheet which apply only to base planning objects with this overhead key.
   - **Cost element** (for the automatic assignment of the base planning object to the cost element, if the base planning object is itself contained in another unit cost estimate)

If the base planning object is listed as an item in another cost estimate, the costing item is assigned to this cost element.

If you choose *Explode Base Planning Object*, the base object item is replaced by the costing items of the base object cost estimate. These costing items [Seite 703] are assigned to the original cost elements (such as material cost elements, cost elements for internal activity allocations).

– **Base object group** (for evaluation in the information system)

  If you specify a base object group, you can search in the information system (*Overview base objects*) for base planning objects using this base object group.

– **Sort field** (for evaluation in the information system)

  If you enter a sort string, you can search in the information system (*Overview base objects*) for base planning objects using this field.

– **Status indicator *Released***

  This indicator is for informational purposes only (for use by the user).

– **Status indicator *Deletion flag***

  This indicator serves as a search criterium when deleting base planning objects. Base planning objects with this indicator may be deleted or archived.

8. Choose to save the master data of the base planning object.

9. Chose to add a costing item.

   The dialog box *Create Cost Estimate* appears.

   a. Enter the costing variant, and check the proposed lot size.

      You can change the lot size later, if desired.

   b. If you want to copy the costing items of an existing base planning object, enter the name of the reference.

   c. Choose *Continue*.

      The list screen of the unit cost estimate [Seite 706] appears. If you entered a reference, the costing items are copied into the list screen and revaluated [Seite 756].

   d. Check or create [Seite 703] the costing items [Seite 703], as applicable.

      You can also use the detail screen [Seite 711] for this. Place the cursor on the desired costing item, and choose .

   e. Choose and check the header screen [Seite 685].

   f. Choose to save the items and return to the master data.

      The base planning object is saved temporarily.

9. Choose to save the base planning object.

Result

You can use this base planning object in the following ways:

Creating Base Planning Objects

- As a reference for other base planning objects
- As a costing item in other base planning objects and material cost estimates

See also:

Copying a Cost Estimate [Seite 719]

Creating Cost Estimates with Reference [Seite 716]

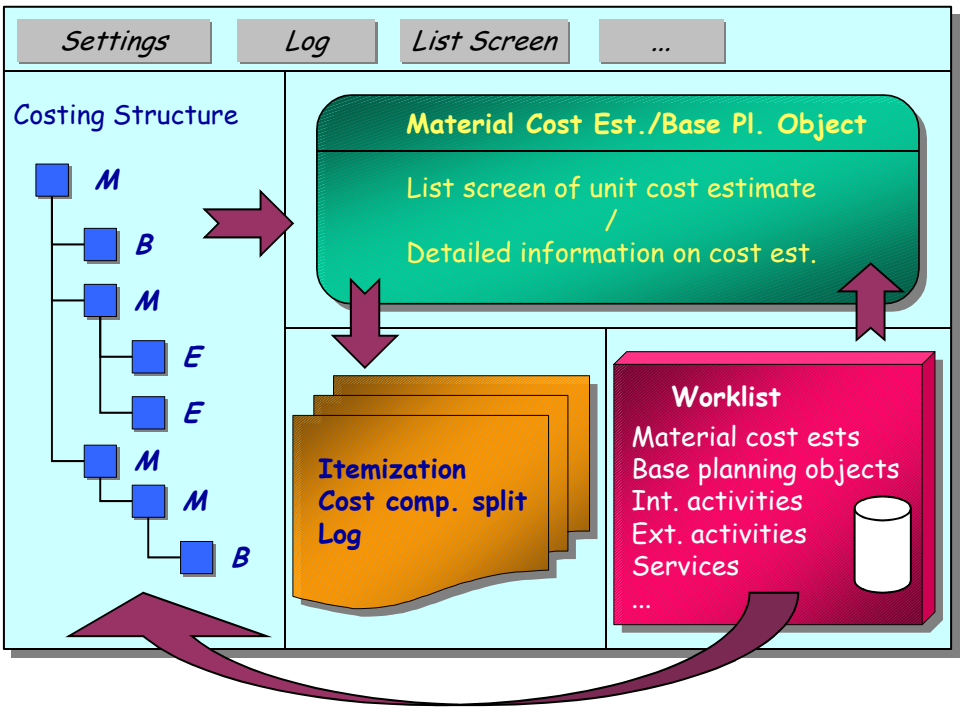
Exploding Base Planning Objects [Seite 724]

Multilevel Unit Costing

Use

Multilevel unit costing uses a highly flexible screen layout for the editing of material cost estimates without quantity structure and base planning objects.

The following graphic illustrates the functions of multilevel unit costing:



Multilevel unit costing differs from "classic" (that is, single-level) unit costing in the following ways:

- The costing structure can be displayed hierarchically
- The screen layout can be arranged in various ways, such as by positioning the hierarchical costing structure and the list screen of the unit cost estimate next to each other
- A worklist facilitates access to frequently used data, such as internal activities, business processes, material cost estimates, and base planning objects
- You can display material cost estimates with quantity structure and use them as a reference
- You can access numerous functions simply by clicking on the right mouse button. These functions include creating material cost estimates and base planning objects, and inserting items into the worklist
- Drag and drop functions are available, which you can use to move costing items from the worklist to the costing structure, for example
- You can branch to Materials Management to create new materials

Prerequisites

To enjoy the full range of the multilevel unit costing functions, SAP recommends that you use a 21" screen.

Features

The screen is divided into various areas (see the above graphic):

- ***Costing Structure***

  This screen area can be used to display or edit a material cost estimate or base planning object.

  By **double-clicking** on a costing item, you can go to the list screen for that item or to the costs display. You can use the **drag and drop** function to move items from the worklist to the costing structure.

  For more information, see Editing Multilevel Cost Estimates [Seite 674].

- ***Worklists***

  This screen area is used to manage and sort information that you require on a regular basis to edit a material cost estimate or base planning object on a multilevel basis.

  You can move costing items from the worklist to the costing structure or the list screen of the unit cost estimate using the **drag and drop** function. By **double-clicking** on a material cost estimate or base planning object in the worklist, you can go to other sources of information such as the list screen of a unit cost estimate, or the detailed information on a material cost estimate.

  For more information, see Using the Worklist [Seite 678].

- ***Detail List***

  This screen area displays detailed information, such as the itemization, the cost component split or the message log [Seite 589].

- ***List Screen*** or ***Costing Information***

  This screen area is used for the following:

  – To display or edit the list screen of a unit cost estimate [Seite 706]

    or

  – To display the costing data for a material cost estimate both with and without quantity structure

    The type of information displayed depends on whether the cost estimate involved is a unit cost estimate (that is, a base object cost estimate or a material cost estimate without quantity structure) or a product cost estimate (a material cost estimate with quantity structure).

You can do the following:

- Change the size of the individual screen areas with the mouse pointer
- Display or hide the screen areas using the following:
  – *Costing structure on* or *off*

- *Worklists on* or *off*
- *Detail list on* or *off*

The following functions are also available:

Button	Function
	Enables you to define the default values for the copying of cost estimates (example: costing variant)
	Displays legend explaining the symbols in the costing structure and worklist of multilevel unit costing
	Displays information about a costing item in the list screen of the unit cost estimate, such as details on the costing type or material The type of information available depends on the type of costing item; for example, you can only go to the material master from a material item.
	Displays a log [Seite 589] containing the system messages shown in the *Detail list* screen area
	Goes to the SAP Library and displays the documentation

Editing Multilevel Cost Estimates

Prerequisites

You are in the *Multilevel Unit Costing* screen. You can reach this screen by either of the following menu paths:

- *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate Without Quantity Structure → Edit Multilevel*

  or

- *Accounting → Controlling → Product Cost Controlling → Reference and Simulation Costing → Edit Base Planning Object - Multilevel*.

If applicable, you have created a worklist so that Multilevel Unit Costing can quickly access frequently used data. For more information, see Using the Worklist [Seite 678].

You have arranged the size of each screen area to your satisfaction.

If the size of a screen area is too small, you may not be able to see all of the toolbar. This often occurs when the costing structure is displayed too narrowly on the left margin of the screen.

Remember that several functions, including the creation of cost estimates and materials, can be accessed via both the toolbar and the right mouse button.

Procedure

Creating, Copying, Changing and Displaying Cost Estimates

2. In the *Costing structure* screen area, choose from the following:
   - *Create material cost estimate* to create a material cost estimate without quantity structure and insert it in the costing structure:
     - Enter the necessary data, such as the material, plant and costing variant, and choose .
     - Enter [Seite 703] the costing items in the list screen [Seite 706] and save them together with the material cost estimate without quantity structure. For more information, see Creating a Cost Estimate Without Quantity Structure [Seite 480].
     - Edit the material cost estimate using multilevel unit costing. Using **drag & drop**, insert items from the worklist [Seite 678].
   - *Create base planning object* to create a base planning object and insert it in the costing structure:
     - Enter the name of the new base planning object, the controlling area and, if applicable, a reference, and choose .

- Edit the master data of the base planning object (for example, base unit of measure, plant and description) and choose .
- Enter a costing variant and reference if required and choose .
- Enter [Seite 703] the costing items in the list screen [Seite 706] and save them together with the base planning object. For more information, see Creating Base Planning Objects [Seite 668].
- Edit the base planning object using multilevel unit costing. Using **drag & drop**, insert items from the worklist [Seite 678].

3. In the *Costing structure* screen area, choose from the following:
   - *Copy material cost estimate* to select and copy an existing material cost estimate
   - *Copy selected cost estimate* to copy a cost estimate that has been selected in the costing structure
4. In the *Costing structure* screen area, choose from the following:
   - *Change selected cost estimate* to change a material cost estimate or base planning object that has been selected in the costing structure

     You cannot change material cost estimates with quantity structure. You can only display them, or use them as a reference for a material cost estimate without quantity structure.
   - *Change material cost estimate or base planning object* to select and change a material cost estimate or base planning object

     The dialog box *Selection of material cost estimates* or *Selection of base planning objects* appears. Enter the selection criteria to search for the cost estimate.
5. In the *Costing structure* screen area, choose from the following:
   - *Display selected cost estimate* to display a cost estimate that has been selected in the costing structure
   - *Display material cost estimate with quantity structure* to display the material cost estimate with quantity structure

     The dialog box *Selection of Material Cost Estimates* appears. From here, you can have the system search for an existing material cost estimate with quantity structure and display it.
6. To go to a material cost estimate without quantity structure or a base planning object in the list screen of the unit cost estimate [Seite 706], **double-click** on the cost estimate in the structure.
   - Edit the list screen [Seite 706]. Add or delete costing items as required. Choose with the quick info *Information on costing item* to analyze further information, such as the cost element.
   - To display the header information about the cost estimate, choose . From here, you can choose with the quick info *Information on Cost Estimate Header* to analyze

further information, such as the settings for the costing variant [Seite 76] or for the costing sheet [Seite 744].

In respect of material cost estimates with quantity structure, the **double-click** takes you to the cost estimate display, not to the list screen of the unit cost estimate. For more information, see Analyzing the Results [Seite 494].

7. To insert an item into the cost estimate from the worklist, select the item and use **drag and drop** to add it to the costing structure or to the list screen of the unit cost estimate. For more information, see Using Worklists [Seite 678].

Creating Materials

To create a new material, choose *Create material master* in the *Costing structure* screen area.

The screen *Create Material: Initial Screen* appears.

c. Enter the necessary data, such as the material number and material type, and choose .

d. Create accounting and costing views, and save the material.

For further information, see Material Master Records [Seite 689].

Editing the Costing Structure

2. In the *Costing structure* screen area, choose from the following:

k. *Display hierarchy above* or *left* to move the item to the structure above or left

l. *Show all items* or *Hide items* to display either every item in the costing structure or only the material cost estimates and base planning objects

m. *Change layout* to show or hide information

n. *Save layout* to save the changes under a new layout

o. *Manage layouts*. Here you can define a layout as an initial layout, for example.

p. *Choose layout* to select from various existing layouts

For more information, see Creating, Changing and Managing Layouts [Extern].

q. or to expand or collapse the costing structure or sub-area

r. *Print preview of view* or *Print preview of entire hierarchy* to go to the print preview of the displayed or entire costing structure (all items)

s. *Print view* or *Print entire hierarchy* to print the displayed or entire costing structure (all items)

t. to search for a particular term in the costing structure

3. To delete a cost estimate from the costing structure, place the cursor on the cost estimate and choose *Delete cost estimate* with the **right mouse button**.

4. To delete all cost estimates from the costing structure, place the cursor on the *Costing structure* node and choose *Delete all cost estimates* with the **right mouse button**.

Using Worklists

Use

You use worklists to manage data that you access on a regular basis. Examples of such data are material cost estimates, base planning objects, services and internal activities. You can use the worklist to structure the data in such a way that you have speedy access to information that is frequently required.

The worklist consists of containers ( ) in which this information is assembled. You decide which information or data a container holds. You can specify that a container holds all item categories, such as internal activities, material cost estimates and base planning objects (*Item category-independent*) or certain item categories only (*Item category-dependent*).

Information in the container of a worklist, such as material cost estimates or base planning objects, can be

- Transferred by **drag and drop** into the costing structure or the list screen of the unit cost estimate
- Displayed by **double-click** in the *Detail list* screen area

Prerequisites

You are in the *Multilevel Unit Costing* screen. You can reach this screen by either of the following menu paths:

- *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate Without Quantity Structure → Edit Multilevel*

  or

- *Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Reference and Simulation Costing → Edit Multilevel*.

Procedure

3. Choose *Worklists on* to display the *Worklist* screen area.
4. In the screen area *Worklist*, choose to create a worklist.

   Enter the name, and specify the following:

   – Whether the worklist should contain more than one container or only one container with items of a certain category (such as internal activities)

   – That only you can access the worklist, or alternatively that all users can access it

6. To add an item to the container of a worklist, position the cursor on the container and choose *Select* with the **right mouse button**.

   The system offers you the permitted item categories for the container. You can use the search help to insert the data in the container.

7. To delete an item from a container, use the **right mouse button** to choose *Delete item*.
8. To display the costing items of a material cost estimate or of a base object cost estimate, **double-click** on the relevant cost estimate in the worklist.

If you are displaying material cost estimates without quantity structure and base planning objects, the list screen of the unit cost estimate [Seite 706] appears. If you are displaying material cost estimates, the detail screen of the cost estimate appears.

For more information, see Analyzing the Results [Seite 494] and Displaying Material Cost Estimates [Seite 493].

7. In the *Worklist* screen area, you can choose the following:
   - *Convert container to worklist* to convert a container to a worklist
   - *Insert container* or *Delete container* to insert a container into, or delete a container from, a worklist

     You can also access these functions using the **right mouse button**.

     If you are inserting a container into the worklist, you must do the following:

     - Create a name for the new container
     - Choose whether all items or only items of a certain category are to be included in the container
   - to copy one worklist into another
   - to rename the displayed worklist
   - to save the dismayed or edited worklist
   - to delete the displayed worklist

Result

You can display up to three worklists. To do this, choose *Worklist* from the list field and confirm the display with .

The worklists are displayed in the form of tab pages. For the heading of the tab page, the name of the worklist and one of the symbols , or is used. By using and with the quick info *Move worklist*, you can rearrange the tab pages so that, for example, two different worklists are shown next to each other.

After creating a worklist, you can use the data for *Multilevel Unit Costing*. To insert an existing cost estimate or item from the worklist into the costing structure or list screen of the unit cost estimate, place the cursor on the item in the worklist and use the **drag and drop** function to move the item.

If you transfer a material cost estimate, you can decide whether it is to be transferred as the original or as a copy.

This feature is only of limited use for base planning objects. For example, you cannot insert a material cost estimate into a base planning object.

Changing/Displaying Base Planning Objects

Use

You can change and display the master data and costing items of base planning objects.

Prerequisites

You have created at least the master data for the base planning object.

Procedure

6. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Reference and Simulation Costing* → *Change* or *Display Base Planning Object*.

   The screen *Change Base Planning Object: Initial Screen* appears.

7. Enter the name of the base planning object.

8. Choose .

   The screen *Change Base Planning Object: Master Data* appears.

4. Check the master data and make any necessary changes.

   You can only change the master data if you have called this function by choosing *Change Base Planning Object*.

5. Choose to go to the list screen of the unit cost estimate and display the costing items.

   You can only edit the costing items if you have called this function by choosing *Change Base Planning Object*.

   For further information, see the following:

   – Creating Costing Items [Seite 703]

   – List Screens in Unit Costing [Seite 706]

6. Choose or to go back to the master data or to save your changes to the costing items.

7. Choose or to go back to the initial screen or to save your changes to the base planning object.

Revaluating Base Planning Objects

Use

If the master data changes, this data is not automatically updated in the base planning object. Therefore, instead of having to revaluate each base planning object individually, you can edit multiple base planning objects simultaneously.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Reference and Simulation Costing* → *Revaluate Base Planning Objects.*

   The screen *Revaluate Base Planning Objects* appears.

2. Enter the name of the base planning objects whose costing items you want to revaluate.
3. Enter the date on which the base planning objects are to be revaluated.
4. If you want to add the base planning objects with errors to a work list, set the *Generate worklist* indicator. (Editing Base Planning Objects in the Worklist [Seite 682])
5. Choose .

   To execute this function in the background, choose *Program* → *Execute in background* instead of . Check the background print parameters, and specify the start date and other start criteria (if applicable) for the background processing. Choose to save your entries and start the job (in the case of an immediate start of the background processing) or schedule it.

6. Choose *Log* to call up the log and check the system messages.

Result

The system carries out **multilevel** revaluation of the base planning objects.

Base planning object A contains base planning object B, and B contains base planning object C.

You specify that base planning object A is to be revaluated. The system revaluates C, B and A.

Editing Base Planning Objects in the Worklist

Prerequisites

You can generate a list of base planning objects containing errors and edit them directly from the list.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Reference and Simulation Costing* → *Revaluate Base Planning Objects*.

   The screen *Revaluate Base Planning Objects* appears.

2. Choose *Process worklist.*

   The screen *Evaluate application log* appears.

3. Check the selection criteria, such as:
   - Object *COUC* (unit cost estimate/base planning object)
   - Sub-object *BO_REV* (revaluate base planning objects)
   - User

4. Choose .

Result

The screen *Display Logs* appears containing a list of the selected logs.

- If you place the cursor on a line and choose *Detail*, you can select the base planning objects that have not been revaluated an revaluate them by choosing *Transfer*.
- If you place the cursor on a line and choose *Display logs* and then *View: All Messages*, the system displays a list of all the messages in a log.
  - On lines flagged by the system as **very important**, you can change the base planning object by choosing *Detail*.
  - On lines flagged by the system as **important**, you can revaluate the base planning object by choosing *Detail*.

See also:

Displaying Logs [Extern]

Analyzing Logs [Extern]

Deleting Logs [Extern]

Unit Costing

Use

Unit costing is a universal tool for planning costs and setting prices. You can use it to plan costs for various reference objects:

- Materials (material cost estimate without quantity structure [Seite 449])
- Additive costs [Seite 246] for a material cost estimate with quantity structure [Seite 92]
- Base planning objects [Seite 702]
- General cost objects [Extern]
- Production orders without quantity structure [Extern]
- Sales order items [Extern]
- Projects (WBS) [Extern]
- General costs activities [Extern]
- Network components [Extern]
- Internal orders [Extern]
- Primary cost elements [Extern]

Some objects, such as general cost objects and production orders without quantity structure, can only be planned using unit costing. The cost estimate results are valid for the entire life of the object.

For WBS elements and internal orders, you can use unit costing in addition to other forms of planning such as cost element planning and structure planning. The cost estimate results can be valid for the entire life of the object or for a fiscal year.

You can calculate the costs for production orders, materials, and sales orders either using unit costing or product costing. Product costing is generally used in connection with the Production Planning (PP) Module, while unit costing can be used to enter manually data relevant to costing or to transfer it from non-SAP systems.

Features

Unit costing is a type of spreadsheet that, due to its integration, can use existing master data and prices in the R/3 system, such as activity prices from Cost Center Accounting. You can use the spreadsheet to create totals, subtotals, and formulas for mathematical operations.

You can use unit costing in the R/3 System as follows:

- **As a Spreadsheet Without Accessing Data in the R/3 System**

  You can carry out simple cost planning without accessing information in the R/3 System. For example, you can enter variable items, create subtotals, and enter text items. For more information, see Creating Costing Items [Seite 703].

- **Spreadsheet with Access to Data in the R/3 System**

  If you are using the *Materials Management* and *Controlling* components, you can create costing items that can access information from these areas, such as the standard price

from the material master record, and the price for performing a certain activity type from activity type planning. For more information, see Master Data for Unit Costing [Seite 688] and Creating Costing Items [Seite 703].

- **As a Reference when Planning Specific Reference Objects**

  If you create a unit cost estimate for a reference object, you can use a reference for this. The reference object of the cost estimate (base planning object, material, order, and so on) determines which existing objects you can copy.

  For more information, see Creating a Cost Estimate with Reference [Seite 716] and Copying a Cost Estimate [Seite 719].

You have costed a product with a cost estimate with quantity structure [Seite 92] You would like to simulate the effects on the costs of using different materials, for example. You can create a cost estimate without quantity structure and use the cost estimate with quantity structure as a reference.

You have costed the items of a sales order with product costing, and would like to simulate the effects on the costs of using different internal activities, for example.

See also:

For more information about the unit costing functions, see the following sections:

- List Screens in Unit Costing [Seite 706]
- Detail Screens in Unit Costing [Seite 711]
- Headers in Unit Costing [Seite 685]

For more information about creating unit cost estimates for reference objects, see the following:

- Creating Additive Costs [Seite 248]
- Creating a Material Cost Estimate Without Quantity Structure [Seite 480]
- Creating Base Planning Objects [Seite 668]
- Creating a Preliminary Cost Estimate for a CO Production Order [Extern]
- Planning Costs for General Cost Objects [Extern]
- Creating a Unit Cost Estimate for a Sales Order Item [Extern]
- Unit Costing in the General Costs Activity [Extern]
- Unit Costing for Material Components [Extern]
- Creating a Unit Cost Estimate in the Network [Extern]
- Unit Costing for Internal Orders [Extern]
- Detailed Planning of a Primary Cost Element [Extern]

Header Information About the Unit Cost Estimate

Use

You can go to the header screen of the unit cost estimate by choosing in the list screen [Seite 706].

The button takes you to information that was used in the cost estimate, such as the material master and the costing variant.

By choosing with the quick info *History*, you can display information such as who created the unit cost estimate and when, and who changed or closed it.

The button *List Screen* takes you back to the list screen of the unit cost estimate.

Change lot size… enables you to alter the lot size for the costing items.

The header screen also contains the following information:

Field	Definition
Reference object	This indicates the object for which the cost estimate is created (base planning object, order, project, material).
Costing variant	The costing variant [Seite 72] determines, among other things, how the costing items are valuated and which costing sheet is used to calculate overhead.
Controlling area	This specifies the controlling area to which the cost estimate is assigned.
Costing version	Costing versions [Seite 619] enable you to create more than one cost estimate for the same material without having to define new costing variants.
Indicator *Material component*	Flags the material as a material component If you turn on this indicator, a raw material cost estimate is created and an item of category I is inserted. You can switch off the raw material cost estimate by deselecting the indicator or by choosing *Functions* → *Switch off raw material costing* in the list screen.
Total value in CO area currency	This is the sum of the item values in the currency of the controlling area.
Fixed costs in CO area currency	This is the portion of the item values that is flagged as fixed costs.
Total value in foreign currency (header)	This is the sum of the item values in the object currency (header foreign currency).
Fixed costs in foreign currency (header)	This is the portion of the item values in object currency (header foreign currency) flagged as fixed costs.
Total value in foreign currency (item)	This is the total of the item values in the transaction currency (item foreign currency).

Header Information About the Unit Cost Estimate

Fixed costs in foreign currency (item)	This is the portion of item values in transaction currency (item foreign currency) flagged as fixed costs.
Pricing date	This is the date on which the prices of the items are calculated from the master data. If the reference object of the cost estimate is a production order, this date is the same as the order start date.
Lot size	Quantity which you entered on creating the cost estimate or which you changed using the function *Change lot size*.
Status	Not currently used
Description	Text as required
Description	Text as required; enables you to create a long text

Origin of Data in Unit Costing

Use

You create a unit cost estimate for a reference object to calculate the cost of goods manufactured and cost of goods sold. The costing items are:

- Entered manually by you (most items)

  Material items (category M), internal activity items (category E), base planning objects (category B), process costs (category P), variable items (category V)

- Costed by the system based on your entries

  Overhead (category G) and process costs (category X)

See also:

For more information about creating costing items, see Creating Costing Items [Seite 703].

For more information about the master data you can use in unit costing, see Master Data for Unit Costing [Seite 688].

For more information about how costing items are valuated and how overhead is calculated, see Valuation of Costing Items [Seite 726].

For more information about using multilevel unit costing, see Multilevel Unit Costing [Seite 671].

Master Data for Unit Costing

Use

You can access a range of master data from other components to calculate the cost of goods manufactured and the cost of goods sold in unit costing:

Component	Data
MM	Material master records [Seite 689] and purchasing data [Seite 691]
PP and PP-PI	Work centers [Seite 693] and resources [Seite 693]
CO	Cost centers [Seite 698], activity types [Seite 698], business processes [Seite 701] and base planning objects [Seite 702]

Unit costing can also access **services** in Materials Management. You can plan them as items of category **N** in unit costing. A service is assigned to a cost element via the valuation class in the service master record.

Prices for services are time-dependent. Costing selects the price that is valid on the date in the header of the cost estimate. To check the service master, choose *Logistics → Materials management → Service master → Service master → Display.*

To check the price for a service, choose *Logistics → Materials management → Service master → Service master → Service conditions → For service → Display.* For more information, see MM - Services [Extern].

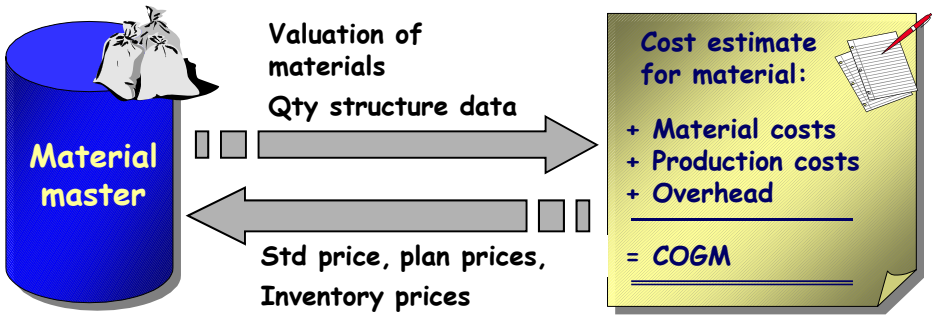
Material Master Records

Use

Material costs appear in the itemization as costing items of category M. These items are determined automatically in material costing with quantity structure. In unit costing (that is, material costing without quantity structure or base planning objects), you enter the materials manually as items of category M.

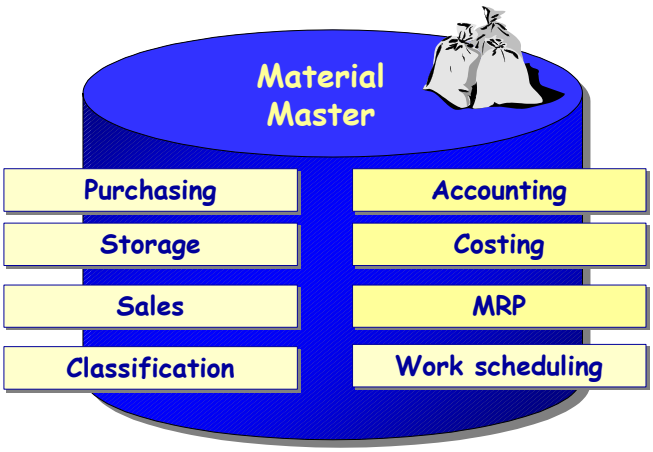
You can access the data of these materials in the material master record, in order to determine the prices of the materials for costing purposes. You can also transfer the results of material cost estimates into the material master record.

In addition, the material master record contains information about the determination of the quantity structure and about the procurement of the material to be costed.



Features

The material master record contains all information needed for managing a material. This data is arranged in **views**. The views correspond to the user departments [Extern] within the company in which the material is used. For material costing, the costing [Extern], accounting [Extern] and MRP [Extern] views are particularly relevant.



The cost estimate accesses **data in the accounting and costing views** of the material master record, in order to do the following:

Material Master Records

- Determine a price for externally-procured materials (in accordance with the valuation strategy for material valuation)
- Assign the material costs of a cost element using the valuation class
- Find the currency and price unit of the cost estimate
- Establish parameters for the calculation of overhead [Seite 569] for specific materials
- Determine a lot size for the cost estimate

The cost estimate accesses **data in the costing and MRP views** of the material master record, in order to do the following:

- Select parameters to determine BOMs and routings (material costing with quantity structure only), such as the BOM and routing or production version
- Select parameters to determine costing data in other plants (Special Procurement in Costing [Seite 443])

Material costing provides the following **information for the accounting view or costing view** of the material master record:

- Standard prices for materials with standard price control
- Tax-based prices and commercial prices for inventory valuation 1, 2, 3
- Other planned prices 1, 2, 3

See also:

- Determining the Quantity Structure in Costing with Quantity Structure [Seite 179]
- Valuating the Quantity Structure in Costing with Quantity Structure [Seite 203]
- Creating Costing Items in Unit Costing [Seite 703]
- Valuating Costing Items in Unit Costing [Seite 726]
- Price Update [Seite 634]

For more information about the material master record, see *LO Material Master* under the following:

- Material Master [Extern] and Material Master Record [Extern]
- Creating Material Master Records [Extern] and Creating a Material Master Record [Extern]
- Material Valuation [Extern] and Define Split Valuation [Extern]

Master Data in Purchasing

Use

Purchasing contains information for the procurement of a material or service from a certain vendor, such as conditions negotiated with the vendor. Costing enables you to access this information in the following areas:

- Valuation of Materials [Seite 728]
- Raw Material Costing [Seite 735] (not relevant for Reference and Simulation Costing)
- Valuation of subcontracted [Seite 446] materials
- Valuation of external processing [Seite 210]

Prerequisites

In order to access the prices from purchasing (that is, the purchasing info record or purchase order), you must enter the following in Customizing for *Product Cost Planning*:

- In the valuation variant:
  - Enter strategy **L** (price from purchasing info record) for material valuation
  - Enter a strategy for the valuation of subcontracting and external processing
- Enter this valuation variant in the costing variant that you want to use for the cost estimate

Features

The link between material/activity and vendor is established in purchasing. It manages information about the vendor, and about the materials and activities that you have obtained from the vendor, such as quantities, prices, price changes, and other costs.

When costing, you can access information in the purchasing info record and purchase order, for the following purposes:

- To include delivery costs (such as freight charges, duty costs, and insurance costs) in the costing results

  This enables you to carry out raw material costing. Instead of the price being taken from the material master, an actual cost estimate including overhead calculation for material components is executed. This cost estimate does not have a quantity structure (BOM, routing).

- To valuate subcontracted materials with a price from purchasing

  For more information, see Valuation of Subcontracting [Seite 733].

- To valuate externally-processed items with a price from purchasing

  For more information, see Valuation of Externally-Processed Operations [Seite 210].

You can access the following prices:

- The price from the operation in the routing (not applicable to unit costing)
- From the purchasing info record (purchasing):

- Effective price from the quotation
- Effective price from the quotation less fixed costs
- Net quotation price
- Gross quotation price

- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for *Product Cost Planning* and assigning it to the costing variant.

The valuation variant contains a search sequence that has a maximum of three prices.

You have defined the following strategy sequence for the valuation of external activities:

j. Net quotation price

k. Net order price

l. Price from operation

If a net quotation price exists in the purchasing info record, the system transfers this price. If no such price exists, the system transfers the net order price from the purchase order. If no purchase order was created for the operation, the system uses the price in the externally-processed operation in the routing.

See also:

For more information about purchasing master data, see the following in the SAP Library under MM Purchasing [Extern]:

- Purchasing Info Records [Extern]
- Source Lists [Extern]
- Quota Arrangements [Extern]

For more information about performing costing, see the following:

- Working with the Cost Estimate with Quantity Structure [Seite 119].
- Working with the Cost Estimate Without Quantity Structure [Seite 477]
- Working with Reference and Simulation Costing [Seite 665]

Work Centers and Resources

Use

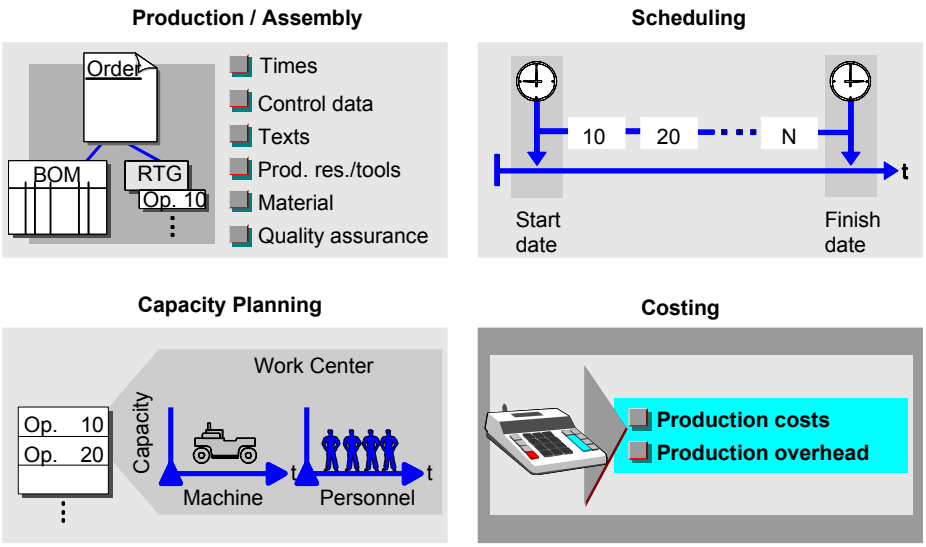
The work center or resource is the organizational unit where an operation is carried out. A work center or resource specifies exactly one cost center and various activity types, or a business process. In this way, the work center or resource link the entries in Cost Center Accounting or Activity-Based Costing with the entries in PP or PP-PI.

In **costing with quantity structure**, the work center is included in the cost estimate through the routing and the resource through the master recipe. For more information, see Routings in Costing [Seite 166].

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the work center or resource in the list screen manually. For more information, see List Screen of the Unit Cost Estimate [Seite 706].

Features

The following graphic shows how the data in work centers and routings can be used in the R/3 System.



The following entries in the **basic data screen** of the work center or resource are relevant to costing:

Work Center Category

The work center category determines which data you can maintain in the work center and which values are proposed. You define work center categories in Customizing for Production.

Standard Value Key

Work Centers and Resources

This key determines how many default values you can maintain (maximum of six), and assigns a meaning (such as setup time, machine time, or labor time) and a dimension (such as minutes) to the standard values.

Standard values are used in formulas to calculate the execution time, the capacity requirements and the production costs.

You define the standard value key in Customizing for Production.

Efficiency Rate

The performance efficiency rate is the relationship between the predefined target time and the actual time. You can use the efficiency rate key in costing to correct the default values. You define the efficiency rate key in Customizing for Production.

Suppose the performance efficiency rate is 150% and the standard time is 120 minutes for one operation. If the price for the activity type is USD 60 per hour, the planned costs for the operation are calculated as follows:

120 min /150% x 100% = 80 minutes (planned time)

The planned cost for the operation is therefore USD 80.

You can define default values for the routing or master recipe in the work center or resource respectively. If you assign an operation in the routing or a phase in the master recipe to this work center or resource then these default values are transferred to the operation or phase.

The following **default values** are relevant to costing:

Control Key

The control key specifies the following:

- whether the operation or the phase are included in the costing
- whether the operation or the phase are processed internally or externally
- whether they are confirmed and in what form

You can check these settings in the control key by using the *possible entries* function (*F4)* on the *Control key* field and choosing the *Detailed information* function for the corresponding control key.

Reference indicator

Setting this indicator prevents the control key from being changed in the routing.

See also:

For more information, see the SAP Library under PP - Work Centers [Extern] and in the following sections:

- Work Center Categories [Extern]
- Performance Efficiency Rate Keys [Extern]
- Default Values [Extern]
- Control Keys [Extern]
- Reference Indicators [Extern]

Linking of Cost Centers and Business Processes

Use

So that the system can access the planned prices for the activity types in Cost Center Accounting, the work center must be linked to a cost center and the activity types defined for that cost center.

To allocate to process costs using the integration with the work center (and thus with the routing), you must enter a business process and a formula to determine the process quantity in the work center.

The following data is relevant to costing:

Cost center

A work center can only be assigned to one cost center. However, you can assign more than one work center to a cost center. For more information, see Linking Work Centers to Cost Centers [Extern].

Activity types

The standard value key determines how many activity types you can specify for each work center. For production work centers, you can specify a maximum of six activity types. For network work centers and plant maintenance work centers, you can only specify one activity type.

You create activity types in Cost Center Accounting and define, for each cost center, the costs that are charged to a product when it uses activities of this cost center. For more information, see Activity Types [Extern].

Reference indicator

Setting this indicator prevents the control key from being changed in the routing. For more information, see Reference Indicators [Extern].

Formula key

In the work center, you assign a formula key to each activity type or to the business process. This key is linked to a formula that determines how the activity input for each operation is calculated.

Formulas are used to calculate capacity requirements, lead times, and costs.

If you want to use a formula to calculate costs, you must set the *Allowed for costing* indicator in the definition of the formula.

You define formula keys and formulas in Customizing for Production under *Basic data* → *Work center* → *Costing*.

The standard system contains formula key SAP002 *Prod.: Machine time*.

You see in the definition of the formula key, that

- The *Allowed for costing* indicator is set
- The formula defined was: SAP_02 x SAP_09 / SAP_08 / SAP_11

In the definition of the formula parameters you see the accompanying text (for instance SAP_02 for *Machine*, SAP_09 for the *Operation quantity*).

Business process

You can only enter one business process. The business process is transferred from the work center into the routing. For more information, see Linking Work Centers to the Business Process [Extern].

For further information, see the following sections in the SAP Library:

- PP Work Centers [Extern]
  - Standard Value Key [Extern]
  - Costing [Extern]
  - Formulas [Extern]
- Process Costs [Seite 748]

Cost Centers and Activity Types

Use

Cost Center Accounting (CO-OM-CCA) [Extern] determines the type and amount of costs incurred at the individual cost centers. Products and/or orders are debited with these costs according to the activities used relative to the cost centers.

In **costing with quantity structure**, the cost center is taken into account for costing purposes via the work center. For further information, see the following:

- Work Centers in Costing [Seite 693]
- Linking of Cost Centers and Business Processes [Seite 696]
- Overhead [Seite 569]
- Valuation of Internal Activities [Seite 731]

In **unit costing** (that is, costing without a quantity structure, and Reference and Simulation Costing), you enter the cost center or work center manually in the list screen. For more information, see List Screen of the Unit Cost Estimate [Seite 706] and Overhead Costs in Base Object Costing [Seite 739].

Features

The **cost center** is the organizational unit where costs are incurred. A work center specifies one cost center only.

For each cost center, the following are planned:

- Which activities are performed from the cost center
- Which costs are debited to a product when it uses the activities of the cost center

For costing, the valuation date of the cost estimate must correspond to the validity period of the cost center.

To check the master data for the cost center, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Cost center* → *Individual processing* → *Display*.

The activity of the cost center is expressed in **activity types**. You specify in the work center the activity types used to manufacture the product. You use **activity type planning** in Cost Center Accounting to assign activity types to cost centers.

Activities are valuated using activity prices, which are either set by you according to policy or are calculated by the system using cost planning in the form of iterative activity price calculation. Here, the planned costs of a cost center which are assigned to the activities are divided by the planned activity (or by capacity, depending on your system settings) to find iterative activity prices.

Actual costs are entered for each cost center. You can calculate actual activity prices for the individual activity types and use these values in costing to valuate the activities.

The following are relevant for costing:

- Activity type category

The activity category determines whether the activity type is taken into account in costing.

- Cost element

  The activity type must be assigned to a secondary cost element, so that the costs for this activity type can be included in costing under this cost element. This cost element must have cost element type 43 (internal activity allocation).

  The valuation date of the cost estimate must fall within the validity period of the cost element.

To check the master data for the activity type, choose *Accounting* → *Controlling* → *Cost centers* → *Master data* → *Activity type* → *Individual processing* → *Display*.

See also:

For more information, see *Cost Center Accounting* in the following sections of the SAP Library:

- Cost Centers [Extern]
- Cost Elements [Extern]
- Activity Types [Extern]
- Activity Type Categories [Extern]

Displaying Activity Prices for Each Cost Center

Use

Internal activities are displayed in the cost estimate as category E items. The quantities used for such an internal activity are determined using the entries in the operation of the routing for the *Cost Estimate with Quantity Structure* or specified using your manual entry for the *Unit Costing.*

A price from Cost Center Accounting is used to valuate this activity quantity. You determine which price is used to valuate the internal activity in the cost estimate via the valuation variant in Customizing. It is possible for you to use for instance the plan price of the period or the actual price of the previous period to value the internal activity.

Procedure

5. Choose *Accounting* → *Controlling* → *Cost Center Accounting* → *Planning* → *Activity Output/Prices* → *Display*.
6. Enter the selection criteria, for example period and CO version.

   You must enter version 000 (operative version) for the standard cost estimate. For inventory costing, you can use other plan/actual versions.
7. Choose *Overview screen*.
8. Check the activity prices for the activity type.

See also:

CO Overhead Cost Controlling

Business Processes

Use

You can include the costs for business processes used when you calculate the cost of goods manufactured and the cost of goods sold. The system inserts costing items of category **X** in the cost estimate. In a unit cost estimate [Seite 683], you can also enter process costs manually by using item category **P**.

See also:

For more information about business processes and including them in costing, see the following:

- Business Processes [Extern]
- Activity-Based Costing Approaches [Extern]
- Parallel Activity-Based Costing [Extern]
- Process Costs in Costing [Seite 748]

Base Planning Objects

Use

You can use base planning objects for the following purposes:

- At the beginning of the planning phase
- When you are at the draft stage of planning new products and services
- When there is no master data in the R/3 System (material master, BOM, routing, master recipe)
- When you want to change existing material cost estimates

Integration

You can also access existing data in the R/3 System when you are creating base planning objects. This data includes materials and material cost estimates, internal activities, services, cost centers, cost elements and activity types, work centers, and other base planning objects.

See also:

- Reference and Simulation Costing [Seite 659]
- Creating Base Planning Objects [Seite 668]
- Unit Costing [Seite 683]

Creating Costing Items

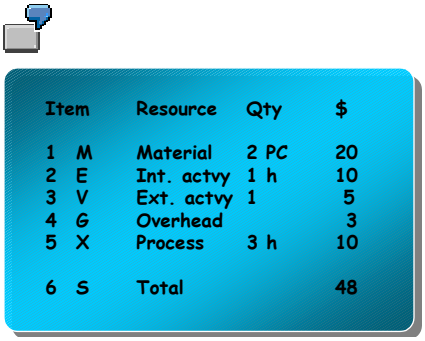
Use

You can edit costing items in the list screen of the unit cost estimate [Seite 706] or in the detail screen [Seite 711] for the costing item. The list screen gives you an overview of all the costing items. The detail screen gives you an overview of a particular costing item.

Alternatively, or as an extension of the classic (single-level) unit costing which uses a list screen and detail screen, you can use the functions of multilevel unit costing [Seite 671] to create costing items.

Features

In unit costing, you enter the costing items manually. In addition, each costing item must be assigned to an **item category**.



Item		Resource	Qty	$
1	M	Material	2 PC	20
2	E	Int. actvy	1 h	10
3	V	Ext. actvy	1	5
4	G	Overhead		3
5	X	Process	3 h	10
6	S	Total		48

The item category determines which data you have to enter and which data is read by the system:

Item category	Your entry	Object(s) found by system
B (base planning object)	Name of the base planning object, quantity	Price, unit of measure, cost element, text, item value
E (internal activity)	Cost center, activity type, quantity	Price, unit of measure, cost element, text, item value
F (external activity)	Purchasing info record, plant, purchasing organization, quantity, cost element	Price, unit of measure, text, item value
G (overhead)	-	Overhead, cost element
I (raw material costing) → cost estimate without quantity structure only	-	Raw material costs (see also raw material costing [Seite 735])
L (subcontracting)	Purchasing info record, plant, purchasing organization, quantity, cost element	Price, unit of measure, text, item value
M (material)	Material number, plant, quantity	Price, unit of measure, cost element, text, item value

N (service)	Service, quantity	Price, unit of measure, cost element, text, item value
O (operation)	Formula, cost element	Result of formula
S (total)	-	Total of item values above this item or above the item values that you specify in a formula
P (manual process costs)	Quantity, process	Process costs, activity price
T (text)	Description	-
V (variable item)	Quantity, price, cost element	Item value
X (process costs determined)	-	Process costs, quantity, unit of measure, cost element, text

If you do not enter an item category, the system proposes **V** (variable).

You can also enter the prices of individual costing items manually. If you do so, the item is indicated accordingly, and the field *Price entered manually* is set for the item.

The system finds cost elements for the individual items as follows:

Item category	Used by system to find cost element
B (base planning object)	The master data of the base planning object
E (internal activity)	Activity type master record
F (external activity)	Your manual entry
L (subcontracting)	Your manual entry
G (overhead)	Costing sheet
P (manual process costs)	Your manual entry
X (process costs determined)	Process template
M (material)	Automatic account determination
N (service)	Service master
V (variable item)	Your manual entry

In unit costing, you can check whether the system found a cost element for each costing item by choosing *Functions → Check cost elem.*

For base object cost estimates, you can specify in the costing variant in Customizing whether cost elements can or must be entered, or whether cost elements cannot be specified. For further information, see Preparing for Base Object Costing [Seite 76] and the *Implementation Guide (IMG)* for *Reference and Simulation Costing*.

List Screen of the Unit Cost Estimate

Use

The costing items in the list screen are displayed in the form of a list. Each line in the list corresponds to a costing item and contains all the data for that item.

There are various functions which you can use to process this list screen and/or costing items. These include the following:

- Changing the width of the columns in the list screen.

  To do this, place the cursor on the line between the columns and pulling the line to the desired position with the mouse button.

- Saving your own column settings as a variant (see Saving Column Settings as Variants [Seite 710])

Features

The following table provides an overview of the functions you can use to edit the list screen of the unit cost estimate or the costing items.

Function	Use
	The system calculates process costs and overhead, and inserts the costing items. The costing items are saved.
	This takes you to the itemization. There, you can edit the display and print out the cost estimate.
and	You can choose from various views of the unit cost estimate.
	This takes you to the header of the unit cost estimate [Seite 685].
	You can also edit costing items in the detail screen. (See also: Detail Screen of the Unit Cost Estimate [Seite 711])
	You can revaluate [Seite 756] the costing items with the current prices. The function is not available for the detailed planning of cost elements.
and	You can filter the cost estimate according to column when you display and change the unit cost estimates. You can display only the items of a certain item category, for example.
	You can total all the values that are not hidden.
	You can insert a formula [Seite 713]. The item category is predefined with **O**.

	Removes the selected costing item(s) and moves them to the clipboard.
	Copies one or more costing items to the clipboard.
	Inserts the costing items which you had previously cut or copied to the clipboard with the functions or .
	Selects all costing items for further editing.
	Reverses all selections.
	Selects a group of costing items for further editing.
	Deletes the selected item(s) from the list screen.
	Inserts a new item before the line where the cursor is positioned.
	Inserts more items. This function is only available when you change a cost estimate.
	You can display a unit cost estimate as a graphic based on the item category or cost element.
	Takes you to information about the costing item or header, such as the material master or cost element.
	Calls the log containing the system messages that affect multiple costing items.

Other Menu Functions

Goto →	
Text (header)	You can enter or display detailed information about the cost estimate.
History	You receive the following information: – Who created the cost estimate and when – Who last changed the cost estimate and when – Who closed the cost estimate and when
Technical information...	Contains technical information about the cost estimate, such as the costing type, costing version, costing sheet, template, and so on.
Exchange rate...	Contains information about the exchange rate used in the cost estimate.

List Screen of the Unit Cost Estimate

Functions →	
New exchange rate (header)	You can change the translation rate for the foreign currency manually in the header. To do so, you must choose *Goto* to call the cost estimate header.
Change lot size	You enter the lot size when you create a cost estimate. If you do not enter a quantity, the system automatically sets the lot size to 1. If you use this function, all the quantities in the list screen will be adapted to the new lot size. To mark costing items as lot-size independent, enter **F** in the field *Item indicator*. The quantities for these items will then not be affected if you change the lot size.
Switch on/off raw material costing	You can activate raw material costing [Seite 735] to include items such as delivery costs for materials. If you switch on raw material costing, items of type **I** (information from purchasing info records [Seite 691]) are included. (This applies only to Material Costing Without Quantity Structure [Seite 449])
Close	You can close the cost estimate, to prevent further changes being made to it. The close is recorded in the history. If you process the cost estimate any further, the system will display a warning. You can still change the cost estimate, however.
Revaluate	You can revaluate the costing items with the current prices [Seite 756].
Determine cost element	With this function, you can assign the costing items of the category **V** to cost elements. You can also check whether the system was able to find a cost element for the other costing items. Every cost posting in the R/3 System is automatically assigned to a cost element. For planning purposes, you can assign the individual costing items to cost elements. The costing variant determines whether the individual items have to be assigned to cost elements. You define costing variants in Customizing for *Product Cost Planning*. For more information, see Preparing for Costing: Customizing [Seite 72].
Calculate overhead	You can use this function to calculate overhead [Seite 569] and process costs manually. The cost estimate inserts items of category G or X.
Explode material cost estimate…	If the spreadsheet contains a material item with a cost estimate, you can explode the material cost estimate [Seite 721] and display the items containing the material costs.
Explode base planning object	You can replace [Seite 724] all the base planning objects (item category B) in the cost estimate with the costing items (such as materials and internal activities) in this unit cost estimate.
Copy cost estimate	You can use a base object cost estimate as a reference [Seite 719].
Distribute	You can distribute the costs to the plan periods. It is only active for the planning of primary cost elements in Cost Center Accounting. (See also: Distribution Keys [Extern])
Settings →	

Display Currency In	You switch between various currency displays.
Column Freeze	You can fix columns that you have selected.

Saving the Column Setting as a Variant

Use

You can change the list screen and adapt it to your requirements. This list can then be saved as a variant.

Procedure

9. Choose to the right of the column headers.

   The dialog box *Table settings* appears.

10. In the *Variant* field, enter a new name for the variant.

11. Choose *Create*.

    The variant is saved.

12. Choose *Close*.

Result

Choosing enables you to do the following:

- Set the indicator *Use as standard setting* for the variant that you want to use as the standard variant
- Select the desired variant from the list and display it with *Copy*

  In the *Choose variants* group box, you see which variant is being currently displayed and which variant is flagged as the standard setting
- Remove obsolete variants with *Delete*

Detail Screens in Unit Costing

Use

You can process costing items in the list screen or detail screen of unit costing. The list screen gives you an overview of all the costing items. The detail screen gives you an overview of a particular costing item. By choosing in the list screen, you access the detail screen of a costing item.

Function

Depending on the item category, the detail screen of a costing item contains the following data:

Field	Definition
Item Category	Indicates an item as a material, base planning object, internal activity and so on, and specifies which data is determined by the system and which data must be entered by you.
Resource	Depending on the item category, contains the required master data (such as material master record for materials, activity type and cost center for internal activities)
Indicator *No cost comp. split*	For item categories M, E and P, stipulates that the value of the item shall not be determined through a cost component split If you set this indicator, the system uses a price in accordance with the valuation strategy (for example, for a material from the material master). You can also enter the value for the item manually. This function is **only applicable** to material costing without quantity structure. In all other cases, such as base planning objects, the system valuates the items in accordance with the valuation variant and not using cost component splits.
Work center and *Plant of work center*	This indicates which work center [Seite 693] was assigned to the item and in which plant. The work center and the plant of the work center can be entered for each item. With item category E (internal activity), the cost center is determined from the work center and plant.
Description	This is either transferred automatically (for example, material, activity type, base planning object) or entered manually.
Formula	The formula for the operation with item categories S and 0 is entered manually.
Cost element	This is either determined automatically (material, activity type, base planning object) or entered manually.
Quantity	You must enter this manually.
Unit of measure	This is either determined automatically (material, activity type, base planning object) or entered manually.

Indicator *IndepOfLotSize*	Item is independent of lot size. Items flagged as lot-size-independent are not adjusted if the lot size changes.
Total price	This is either calculated automatically (material, activity type, base planning object) or entered manually (variable items). The currency is in accordance with the currency display you selected.
Fixed price	Portion of the total price that is treated as fixed costs.
Indicator *Price entered manually*	Set by system if you have entered the price for an item manually
Total value	Item quantity multiplied by the total price for each unit of measure
Fixed value	Portion of the total value that is treated as fixed costs
Currency	Depending on the currency display, this is either the controlling area currency, the foreign currency of the item, or the foreign currency of the costing header (menu option *Settings*).

Formulas for Costing Items

Use

If you are using item categories **S** (total) and **O** (operation), you can enter a formula in the *Formula* field.

You can also enter a text for the formula to have a better overview of the costing items.

Features

The formulas must meet the following criteria:

- A formula can have up to 50 characters.
- A formula starts with **=**.
- The number of an item is put in quotation marks: **'1'**.
- A range of items starts with **(** and ends with **)**.
- The items in a continuous range are separated by **:** .
- The items in a split range are separated by **;** .
- Formulas cannot contain any additions or subtractions of constant values.

The following editing functions affect the formulas in a cost estimate:

- Insert item as a new entry

  Ranges in formulas with this item are extended.

  Formulas whose items have been changed by the insertion are adjusted.

- Delete or cut item

  Ranges in formulas with this item are made smaller.

  Formulas whose items are changed are adjusted.

  If you delete an item that was directly named in a formula, the system issues an error message and marks the position in the formula with **#**.

  If you delete more than one item which made up a range in a formula, the system issues an error message and marks the position in the formula with **#**.

- Insert item from the clipboard

  Formulas whose items have been changed by the insertion are adjusted.

  If the items got into the clipboard via *Copy*, the formulas in the copied items are not adjusted.

  If the items got into the clipboard via *Copy from...*, the formulas in the copied items are adjusted (based on the place at which they were inserted).

- Explode base planning object

  Items of category **S** from the base planning object to be exploded are not added. Items of category **O** from the base planning object to be exploded are assigned to item category **V** (variable). The operation value becomes the variable item value.

Formulas for Costing Items

Formulas in the cost estimate in which you are working are adjusted if the items of the cost estimate are moved by inserted base planning objects.

Example of Formulas for Costing Items

Item	Item Category	Formula	Definition
1	M		
2	M		
3	S	`=('1':'3')`	Total of items 1 and 2
4	E		
5	E		
6	E		
7	O	`=('6')*0.5`	Item 6 multiplied by 0.5
8	S	`=('1':'2';'4':'7')`	Total of items 1, 2, 4, 5, 6 and 7
9	V		
10	S	`=('1':'10')`	Total of items 1, 2, 4, 5, 6, 7 and 9

The system proposes the formula in item 10 when you enter the item category **S**. The formula is a continuous range which excludes items of category **S**. If you want to total the two totals items 3 and 8, you have to enter a formula with a split range: `=('3';'8')`

Decimal places are always separated by a point in the formulas, irrespective of the user settings.

Further Examples:

Item No.	Item category	Value	Formula	Definition
1	V	0.10	-	-
2	V	0.05	-	-
3	V	10.00	-	-
4	O	5.00	=('3')/2	Item 3 divided by 2
5	O	10.10	=('3')+('1')	Total of items 3 and 1

6	O	9.95	=('3')+('2')-('1')	Addition of items 3 and 2, subtraction of item 1
7	S	35.20	=('1':'6')	Total of items 1 through 6
8	O	-	=('3')+2	Invalid use of constants
9	O	-	=('3')-2	Invalid use of constants
10	O	10.10	=('3';'1')2	Constant is ignored

Creating Unit Cost Estimates with Reference

Use

If you create a unit cost estimate for a reference object, you can use a reference for this. The reference object of the cost estimate (base planning object, material, order, and so on) determines which existing objects you can copy.

Type of reference object	Cost estimate(s) that can be accessed
Base planning object	Base planning object
Cost object ID	Base planning object or other cost object ID
Production order	Base planning object, material
Sales document	Base planning object or other sales document
Work breakdown structure (WBS) element	Base planning object or other WBS element
Internal order	Base planning object or other internal order
Material	Material
Additive costs	Material

Depending on the reference object, the system displays various fields in which you can specify which costing data you want to access. If, for example, you create a base planning object, you can use another base planning object as a reference. If you create a unit cost estimate for a sales order, for example, you can use a base planning object or another sales document as a reference.

You use the cost estimate for a similar product as the basis for a customer quotation, and add the required costing items.

To do this, specify the quotation in the dialog box *Copy Cost Estimate*. All costing items for the quotation are copied into the new cost estimate and revaluated.

Procedure

Using a Base Planning Object as a Reference for a Unit Cost Estimate for the Sales Order:

17. Select *Accounting* → *Controlling* → *Cost Object Controlling* → *Product Cost by Sales Order* → *Master Data/Planning* → *Sales Order* → *Change.*

    This brings you to *Change Sales Order: Initial Screen.*

18. Enter the order number and choose *Enter*.

19. Select the order item and choose *Item* → *Costing*.

    The dialog box *Copy Cost Estimate* appears.

20. Enter the costing variant.

21. Enter the name of the base planning object or sales order whose cost estimate you want to copy.
22. Choose *Enter*.

    The system copies the costing items to the cost estimate and revaluates them.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
23. Create [Seite 703] more costing items as required or simulate changes to existing items.
24. Save the cost estimate and the sales order.

Using the Material Cost Estimate as a Reference for a New Cost Estimate Without Quantity Structure:

11. Choose *Accounting* → *Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate Without Quantity Structure* → *Create*.
12. Enter the material and plant.
13. In the *Costing data* tab page, enter the data required for the new cost estimate, such as the costing variant.
14. Choose .

    The *Copy from* group box is displayed.
15. In the *Copy from* group box, enter the data for the material cost estimate that you want to use as a reference.

    g. Choose *Cost ests* if you want the system to search for any existing cost estimates.

       The dialog box *Selection of Material Cost Estimates* appears.

    h. Enter the selection criteria and choose .

       A list of existing material cost estimates corresponding to your search criteria appears.

    i. Choose the required cost estimate with a double click.

       It is transferred to the *Copy from* group box.

12. Choose and check the proposed costing dates in the tab page *Dates*.
13. Choose .

    The screen *Unit Costing List Screen: Initial Screen* appears.

    The system copies the costing items from the reference and revaluates them.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
14. Edit the costing items and save the cost estimate.

See also:

For more information, see Creating a Cost Estimate Without Quantity Structure [Seite 480].

Copying a Cost Estimate

Use

You can use an existing **base planning object** as a reference for your unit cost estimate (which could be for a material or production order without quantity structure), and insert either all or some of the base planning object items in the unit cost estimate.

Cost Estimate for a Sales Order that Accesses Existing Costing Items

You create a base object cost estimate for a group of product variants. This cost estimate contains all material components and activities required to produce one of these variants. This cost estimate serves mainly as a template for selecting costing items. The total value of the cost estimate is therefore ignored.

To create a cost estimate for a sales order to produce one of these variants, call up a list of all costing items for the product group and select those items required to produce the variant. You may need to insert additional costing items.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Copying All Items

17. Choose *Functions* → *Copy cost estimate…*

    The dialog box *Copy Cost Estimate* appears.

18. Enter the name of the base planning object that you want to copy.
19. Do not set the flag *All items*.
20. Choose ✔.

    All the items are copied into the clipboard.

21. Position the cursor on the row in which you want to insert the items.
22. Choose .

    The items are copied from the clipboard to the list screen of the unit cost estimate and revaluated.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

23. Enter [Seite 703] more costing items as required and save the cost estimate.
24. If applicable, save the reference object (such as the base planning object or sales order).

Copying Selected Items

19. Choose *Functions* → *Copy cost estimate…*

    The dialog box *Copy Cost Estimate* appears.

Copying a Cost Estimate

20. Enter the name of the base planning object that you want to copy.
21. Do **not** set the flag *All items*.
22. Choose ✔.

    The system displays a dialog box with a list of the costing items.
23. From this list, select those costing items you want to copy, and select *Confirm*.

    These costing items are copied to the clipboard.
24. Position the cursor on the row in which you want to insert the items.
25. Choose .

    The items are copied from the clipboard to the list screen of the unit cost estimate and revaluated.

    For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].
26. Enter more costing items as required and save the cost estimate.
27. If applicable, save the reference object (such as the base planning object or sales order).

Exploding Material Cost Estimates

Use

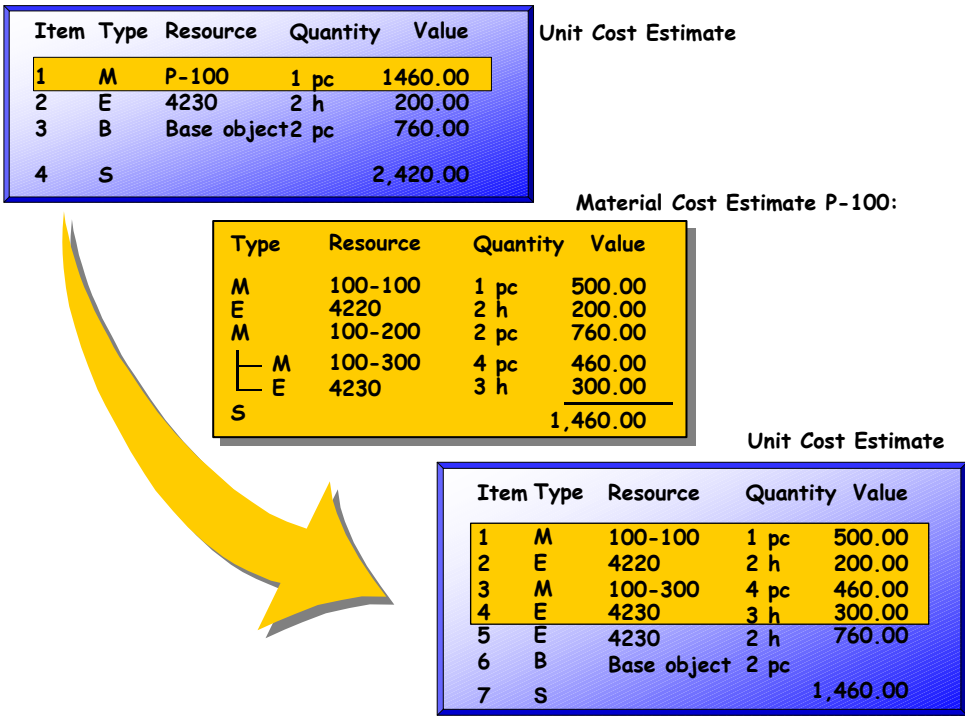
You can replace all the materials (item category M) of a unit cost estimate with the individual costing items (such as materials, and internal activities) in this unit cost estimate.

You can do the following:

- Explode existing material cost estimates (with and without quantity structure) and cost estimates for sales documents and copy them to other unit cost estimates (see graphic)
- Edit the copied costing items
- Simulate changes

You have costed a product with a cost estimate with quantity structure [Seite 92] and would like to simulate the effects on the costs of using different materials, for example.

You have costed the item of a sales order with product costing, You would like to simulate the effects on the costs of using different internal activities, for example.



Prerequisites

In costing without quantity structure, you can copy a cost estimate for the material but not for the sales document.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Procedure

Exploding a Cost Estimate for a Material

3. Choose *Functions* → *Explode base planning object*

   The dialog box *Material Explosion* appears.

4. Specify whether you want to explode all levels, or to a certain level only.

7. If required, set the *Only materials* indicator.

   If this indicator is set, only material items are transferred from the cost estimate.

8. Check the proposed cost component view.

   If you choose a cost component view [Seite 465] that contains only a portion of the costs, overhead will be applied to this portion only in accordance with the costing sheet [Seite 744] specified in the costing variant [Seite 72] if you choose Revaluate [Seite 756].

7. Set the *Material* indicator, enter the material whose cost estimate is to be exploded, and choose ✔.

   The *Selection of Material Cost Estimates* screen appears.

   g. Enter a plant and other selection criteria as required, in order to find the material cost estimate that is to be copied into the unit cost estimate.

   h. Choose .

      A list is displayed containing the existing cost estimates for the material according to your selection criterial.

   i. Choose the required material cost estimate with a double click.

      The system copies the costing items into the clipboard.

14. In the list screen, choose .

    The items are copied from the clipboard to the unit cost estimate and revaluated. For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

15. If desired, change the costing items [Seite 703] to simulate changes to materials or internal activities.

16. Choose to check the header [Seite 685], for example the name or description.

17. Save the costing items and, if applicable, the reference object (such as the base planning object or sales order).

Exploding a Product Cost Estimate for a Sales Document

15. Choose *Functions → Explode base planning object*

    The dialog box *Material Explosion* appears.

16. Check the cost component view proposed in the *Material Explosion* dialog box.

    If you choose a cost component view containing only part of the costs, choosing *Revaluate* will apply overhead only to this portion in accordance with the costing sheet specified in the costing variant.

17. Set the *Sales document* indicator, enter the sales document and the item, and choose ✔.

    The system copies the items into the clipboard.

18. In the list screen, choose .

    The items are copied from the clipboard to the unit cost estimate and revaluated. For more information, see Valuation of Costing Items [Seite 726] and Revaluating Costing Items [Seite 756].

19. If required, change the costing items [Seite 703], for simulation purposes.

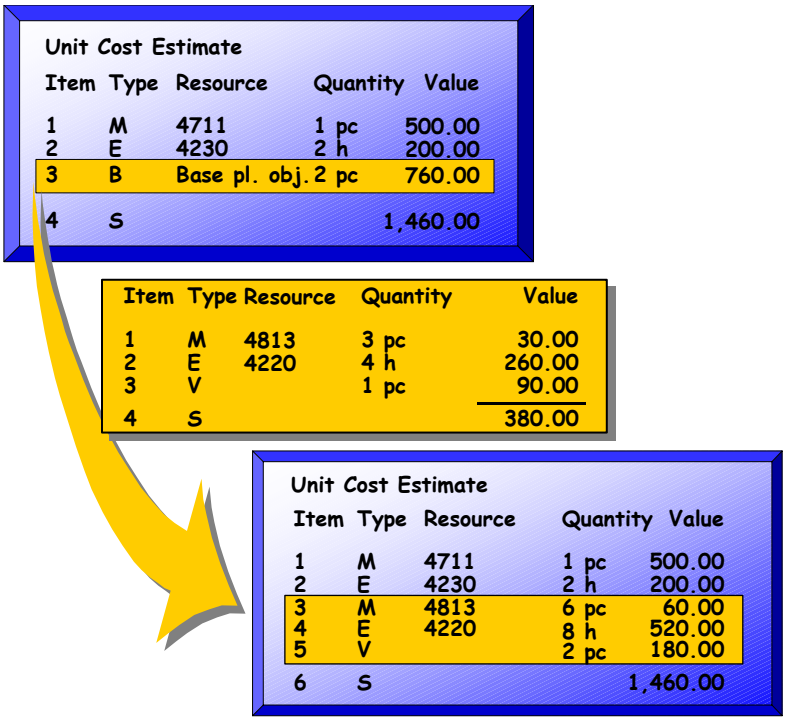
20. Choose to check the header [Seite 685], for example the name or description of the reference object.

21. Save the costing items and, if applicable, the reference object (such as the base planning object or sales order).

Exploding Base Planning Objects

Use

You can create a multilevel structure by using a base planning object as an item in another cost estimate. This allows you to combine a group of frequently-occurring costing items for a base planning object and to use it as a "building block" in further cost estimates. Exploding the base planning object enables you to replace items that refer to a base planning object by their costing items (see graphic below).



You have two options:

- Set the flag *All levels.* The system replaces each level of the base planning object with the items of the cost estimate.
- Set the *Number of levels* indicator and enter a level. The system replaces every base planning object with the costing items down to the level specified.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706]. You have entered items of item category B (base planning objects) in the list screen.

Procedure

7. Choose *Functions* → *Explode base planning object…*

   The dialog box *Copy reference…* appears. All the base planning objects contained in the list screen as costing items are shown.

8. Select the base planning object to be exploded.
9. Decide whether you want to explode all levels, or certain levels only.
   e. Set the *All levels* indicator, if you want the system to replace all levels of the base planning objects.
   f. Set the *Number of levels* indicator, if you want the system to explode to a particular level. Enter a level with this.
6. Choose *Explode.*

Result

The system copies the item values that were in the exploded base planning object into the list screen of the current unit cost estimate.

Items of category **S** (total) from the cost estimate to be exploded are not inserted. Items of category **O** (operation) are assigned to item category **V** (variable). The operation value becomes the variable item value.

Whether the inserted items are revaluated depends on whether you are exploding all or a certain number of levels. If you explode all levels, the items will be revaluated. If you explode a certain number of levels, the system will only revaluate up to this level.

See also:

- List Screens in Unit Costing [Seite 706]
- Costing Items in Unit Costing [Seite 703]
- Revaluating Costing Items [Seite 756]

Valuation of Costing Items

Use

In unit costing, you enter specific costing information manually in the form of costing items such as materials, internal activities and business processes. Other costing items are determined and inserted by the system, including overhead items (category G) and process costs (category X).

The following table describes the sources of the prices used by the system for the costing Items:

Price/value determined by unit costing	From
The price for a material (item category M)	The material master record [Seite 148] or the purchasing info record or purchase order (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
The activity price for an internal activity (item category E)	Cost Center Accounting (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
The price for a process (item category P or X)	Activity-Based Costing [Extern] (in accordance with the valuation strategy) In **material costing without quantity structure**, the cost component split is used for valuation, if one exists. You can prevent this by setting the *No cost comp. split* indicator in the detail screen for the costing item.
Overhead	The entries in the costing sheet
The value of a base planning object (item category B)	The master data of the base planning object [Seite 659]
The price for a service (item category N)	The service conditions [Extern]
The price for an external activity (item category F)	The purchasing info record [Extern] specified by you (in accordance with the valuation strategy)

The price for a subcontracting item (item category L)	The purchasing info record [Extern] specified by you (in accordance with the valuation strategy)
The price for a variable item (item category V)	Your entries

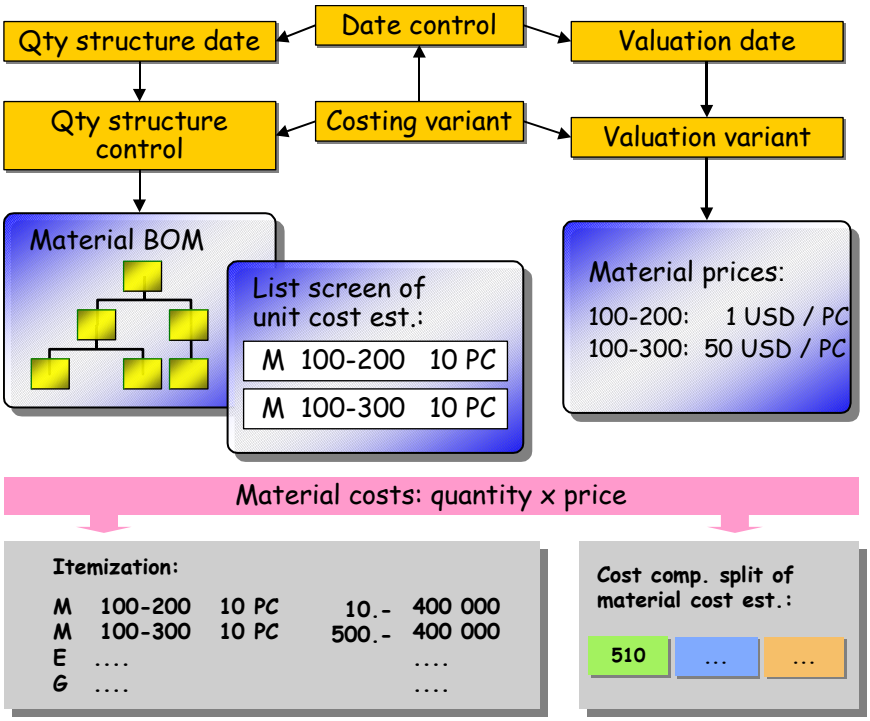
Valuation of Materials

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs. The material costs are displayed as follows:

- In the itemization as items of type "M"
- In the cost component split, in the cost component "Material costs"

To calculate the material costs, the materials required for production must be determined and valuated with a price. In material costing with quantity structure, the system determines the materials automatically using the quantity structure control. In unit costing, you enter the materials manually. They are then valuated with a price (see graphic below).



Integration

To valuate the materials, you can access various prices in the material master record and in the purchasing data, such as the following:

- Future, current or previous standard price
- Moving average price
- Tax-based or commercial prices 1, 2 and 3
- Planned prices 1, 2, 3
- Quotation and purchase order prices

Prerequisites

In Customizing for Product Cost Planning, you define which price is to be used to valuate items such as raw materials and purchased parts. To do this, you define a valuation variant and assign it to the costing variant. The valuation variant contains a search sequence that has a maximum of five prices. For the cost estimate, the system searches in the sequence specified for these prices.

For **prices from the purchasing info record**, enter strategy **L** and create a separate strategy sequence for prices from purchasing data. You can access various prices, such as net or gross quotation prices, and net or gross order prices. For more information, see Determining Vendors [Seite 737].

Features

Material Cost Estimate with Quantity Structure

The system first finds a valid BOM and explodes it from top to bottom. It then calculates the costs for the materials in the costing levels with the lowest number. Using the valuation variant and valuation date, the system selects a price for the materials. For further information, see Multilevel BOMs [Seite 159], Date Control [Seite 567] and Parameters for Quantity Structure Control [Seite 180].

The system then calculates the costs for the materials in the next highest level while including the costs for the materials in the previous level. For further information, see Concept of Cost Rollup [Seite 467].

- For materials that have already been costed, you can transfer values from earlier cost estimates provided you have defined the appropriate transfer control ID (see also Transfer of Costing Data [Seite 607]).
- For specially-procured materials, you can transfer values from cost estimates in other plants provided you have defined the appropriate transfer control ID.
- You can include the results of an additive cost estimate in an automatic cost estimate for the material provided you have made the setting in the valuation variant for additive costs to be included. (See also Additive Costs [Seite 246])

The price for non-stock items is taken directly from the BOM. (See Bills of Material in Costing [Seite 157])

Unit Costing *(Base Object Costing, Material Costing Without Quantity Structure, Additive Costing):*

If you create a unit cost estimate, you enter the costing items manually. For materials, you select item category M. Using the valuation variant, the system takes a price from the material master or purchasing. For further information, see Creating Costing Items [Seite 703] and Valuation of Costing Items [Seite 726].

See also:

Implementation Guide (IMG) for Product Cost Planning

If you use the Material Ledger component, you can find more information about valuating materials under *Actual Costing/Material Ledger (CO-PC-ACT)* in the following sections:

Valuation of Materials

- Price Change [Extern]
- Maintaining Future Valuation Prices [Extern]
- Releasing Planned Prices [Extern]
- Automatic Release of Planned Prices [Extern]
- Marking Prices for Future Valuation [Extern]

For more information about material valuation in the SAP System, see Material Valuation in the SAP System [Extern].

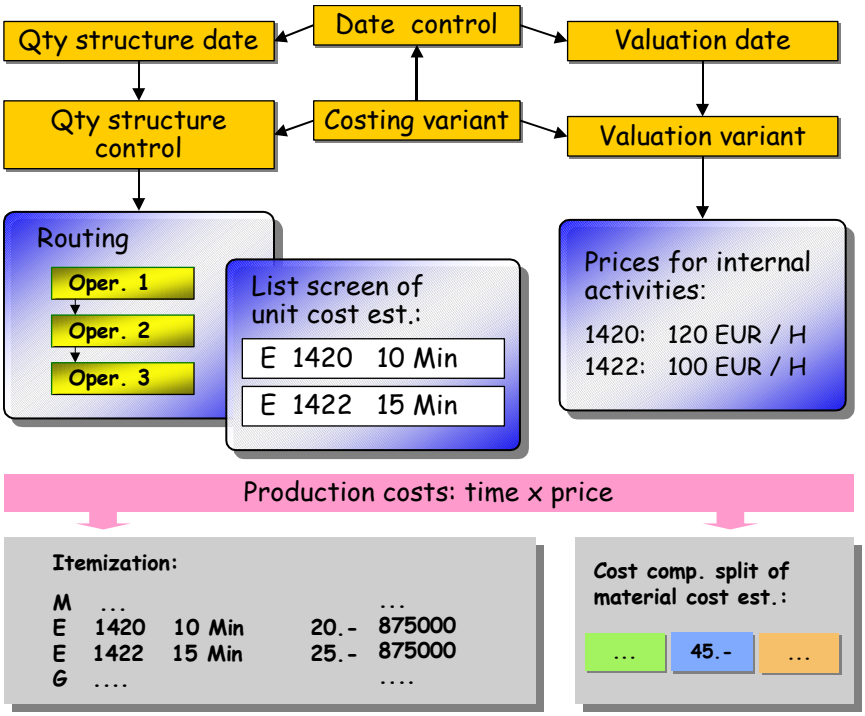
Valuation of Production Activities

Use

The cost of goods manufactured of a product is composed of material, production and overhead costs.

The production costs are listed in the itemization as items of category E (internal activity) and can be assigned to cost components in the cost component split (such as the production costs component).

To calculate the production costs, the activities required for production must be valuated with a price.



Prerequisites

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant.

More than one activity price can be carried in Cost Center Accounting at the same time. You use the planned/actual version in the valuation variant to determine which version is relevant for costing.

- You will generally use version zero for the standard cost estimate, the modified standard cost estimate and the current cost estimate.
- For inventory costing, you can use versions other than version zero if you want to use activity prices that contain components that are not to be capitalized.

In Cost Center Accounting, you can

- Set the price for each activity type according to policy
- Calculate iteratively the activity price for each activity type
- Calculate the actual costs for each activity type using the actual costs incurred for the cost center

Features

Material Cost Estimate with Quantity Structure

You calculate the costs for internal activities with the following entries:

- The formula and the performance efficiency rate key in the work center
- The standard values for the operation in the routing
- The prices for the activity types in Cost Center Accounting

Unit Costing

You enter the costing items of category E manually. The system determines the price in accordance with the valuation variant from Cost Center Accounting.

See also:

Implementation Guide (IMG) for Product Cost Planning

Valuation of Subcontracting

Use

The special procurement type in the costing view of the material master record specifies that subcontracting is to be carried out for the material. If you have not entered a special procurement type in the costing view, the entry in the *MRP* view applies.

For costing, you can choose the source of supply or the vendor using either the planned quota or the actual quota in the quota arrangement book. You do this by setting the *Planned quota arrangement* or *Actual quota arrangement* indicator in the valuation variant.

Features

The system selects a vendor in the following way:

10. If a vendor exists in the quota arrangement book, this vendor is selected.
11. If no vendor exists in the quota arrangement book, the vendor in the source list is selected.
12. If no entry exists in the source list, the vendor is selected using a purchasing info record (such as a dummy info record, or preferred info record), provided that the corresponding indicator is set.

    Otherwise, the vendor with the lowest net price is selected from the purchasing info record. For more information, see Determining Vendors [Seite 737].

You determine in Customizing for Product Cost Planning which price is selected for subcontracting by defining a valuation variant and assigning it to the costing variant.

You can access the following prices:

- From the purchasing info record (purchasing):
  - Effective price from the quotation
  - Effective price from the quotation less fixed costs
  - Net quotation price
  - Gross quotation price
- From the purchase order:
  - Effective price from the purchase order
  - Effective price from the purchase order less fixed costs
  - Net order price
  - Gross order price

You determine which activity price is selected by defining a valuation variant in Customizing for Product Cost Planning and assigning it to the costing variant. By defining the *planned* or *actual quota arrangement* for subcontracting in the valuation variant, you can specify whether the selection of the source of supply or vendor is dependent on the actual quota or the planned quota.

The valuation variant contains a search sequence that has a maximum of three prices.

Valuation of Subcontracting

You have defined the following strategy sequence for the valuation of subcontracting:

7. Net quotation price
8. Net order price

   If a purchasing info record with a quotation price exists for the material, the system uses this price. If no purchasing info record exists for the quotation, the system uses the price from the purchase order.

See also:

Implementation Guide (IMG) for Product Cost Planning

Raw Material Costing

Use

There are no BOMs or routings for raw materials in the system. You can, however, use these functions to create a cost estimate for raw materials. Instead of simply taking the price from the material master, an actual cost estimate (including overhead calculation) is created.

The raw material cost estimate enables you to include delivery costs, allocate overhead and include additive costs at the material component level.

Features

You are able to do the following:

- Access the purchasing data (MM_PUR), in order to include delivery costs such as freight charges and insurance costs (see also Purchasing Master Data [Seite 691])
- To include overhead and process costs

  You can define a special costing sheet for raw material costing in the costing variant in Customizing. (Overheads [Seite 569])

  You can only calculate overhead for raw materials in the **planning** data, not in actuals. The overhead, should not, therefore, be stock-relevant
- Create additive costs (see also Additive Costs [Seite 246])
- Save an itemization (in addition to the cost component split) for the costing of raw materials.
- Arrange the delivery costs in different cost components [Seite 462]
- Calculate a mixed price, if you have several supply sources for one material component. For more information, see Mixed Costing [Seite 426].

Activities

In Customizing for Product Cost Planning, check the following:

- Valuation variant

  You should use strategy **L** (price from purchasing info record) for the material valuation in the valuation variant

  Using this strategy for configurable material components means that only one material variant price will be included The same applies for material components with procurement alternatives The conditions of different vendors will only be taken into consideration if you implement this strategy. This strategy will be executed in both of these cases first, in other words the strategy sequence will be ignored to start with for configurable materials and when costing procurement alternatives. You can enter the strategy Price from purchasing info record as the last position in the strategy sequence, if a different strategy should be used.

Raw Material Costing

- Costing variant

  Enter the valuation variant defined above in the costing variant. If required, enter a special costing sheet for the application of overhead in raw material costing.

- The assignment of condition types to origin groups

  If you want to handle different conditions from *Purchasing (MM)* in different ways, you can assign condition types to origin groups. When assigning cost elements to the components, you can maintain different origins, and use this to assign the delivery costs to different cost components.

Create the cost estimate for the material as described in Creating a Cost Estimate with Quantity Structure [Seite 123].

In the cost estimate without quantity structure [Seite 480], you activate or deactivate raw material costing, by choosing *Functions* → *Raw material costing* → *Switch on/Switch off*. The cost estimate then inserts items of **type I** (Raw material costs) in the list screen.

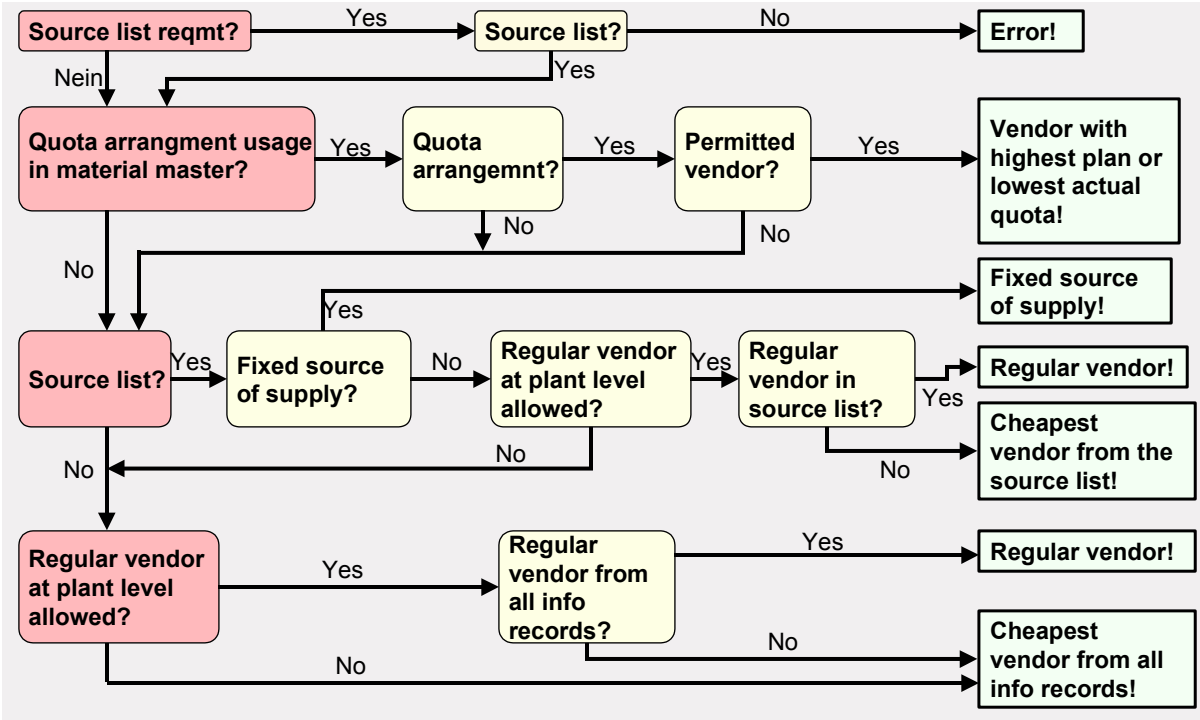
Determining the Vendor

Purpose

To determine a purchase information record, the system searches for a valid vendor for

- Valuation of materials with prices from the purchasing info record (raw material costing [Seite 735])
- Valuation of subcontracting [Seite 733]

Process Flow



If a source list requirement (at plant level) has been defined either in the material master record in the purchase view or in Customizing under *Purchase → Source List* but no valid source list is present, the search is terminated and no price can be determined for the valuation.

2. The system searches first for a **quota arrangement**.

You should note that to use the quota arrangement (plan and actual) in the material master record in the purchase view a *quota arrangement usage* must have been set.

If a valid quota arrangement exists, the system checks to see whether there are any permitted vendors. If this be the case the system searches for the vendor having the highest planned or lowest actual quota (in the case of materials only possible for the planned quota), depending on the settings in the valuation variant. In doing so the actual quota is calculated as the quota rating. For more information, see Allocation Quota Arrangement [Extern].

3. If no quota arrangement or permitted vendor can be found, the system searches for a **source list** for the material.

   If there is **no** valid source list the system checks whether a source list requirement (at plant level) has been defined in the material master record in the purchase view or in Customizing under *Purchase* → *Source List* . If this is the case the additional search is terminated and no price can be calculated for the valuation.

   If a valid source list exists, the system uses the vendor indicated as the fixed source of supply.

4. If no such vendor can be found, the system checks to see whether you have defined in Customizing that a regular vendor can be set.

   If a regular vendor has been defined, the system searches for it in the source list. If there is no regular vendor, the system searches the vendors in the source list for the vendor displaying the lowest net price in the info record.

6. If even searching the source list proves fruitless and you have defined in Customizing that a regular vendor can be set, the system then searches for a vendor **in every available info record**.

7. If there is no regular vendor or if you have specified in Customizing that the *Regular vendor* indicator in the info record is ignored, the system uses the vendor having the lowest net price of all the info records to calculate the price.

Result

Using the vendor that is found, the purchase information record is determined to be used for the valuation.

Overhead in Base Object Costing

Use

Overhead costs are costs which can only indirectly be attributed to the product, such as electricity or general storage costs. Overhead is calculated using either the overhead rate or process costs.

You can calculate overhead for the costing items in the base object cost estimate that are assigned to a cost element.

You control how overhead is calculated by means of a costing sheet and, if desired, an overhead key which you enter in the master record of the base planning object. You also use a costing sheet to control the calculation of process costs. You enter the costing sheet in the master data of the base planning object.

Prerequisites

In order to calculate the **applied overhead** and **process costs** in the base object cost estimate, you must enter the key of the costing sheet in the master data of the base planning object.

To define your own overhead conditions for particular base planning objects, you must do the following:

- Enter an overhead key in the master record of the base planning object
- Select a costing sheet that contains this overhead key

To calculate process costs using the costing sheet, you must assign a **template** to the costing sheet.

Features

Applied Overhead

Overhead is calculated in base object costing when you do the following:

- Save the cost estimate
- Choose *Function* → *Calculate overhead*

The system inserts a costing category of type **G** for overhead application. The overhead is updated under the cost elements that you specified in the costing sheet in Customizing for Product Cost Planning.

Overhead is only calculated for costing items that you have assigned to a cost element.

The cost element gives the highest level of detail for the analysis of overhead in a base object cost estimate. It is not possible to analyze costs at the level of the origin group.

Process Costs

You can include process costs in Reference and Simulation Costing. You can do the following:

- Enter the process costs manually using item category **P**

Overhead in Base Object Costing

- Have the system calculate the process costs, when you
  - Save the cost estimate
  - Choose *Function* → *Calculate overhead*

    The system inserts costing categories of type **X** automatically.

See also:

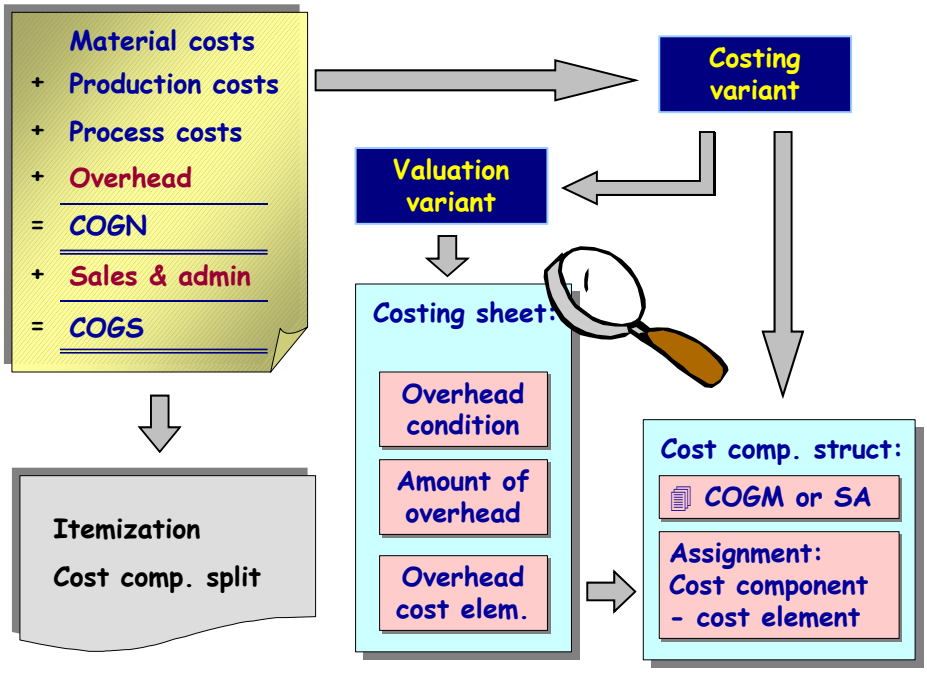
Implementation Guide for Product Cost Planning

Activity-Based Costing

Applied Overhead

Use

You can apply both percentage overhead and quantity-based overhead to reference objects. In the R/3 System, you can assign the overhead to a product by creating a costing sheet [Seite 744] in Customizing for Product Cost Planning. Using this costing sheet, you specify the level of overhead and the conditions under which it is calculated.



You can calculate the following:

- Material and production overhead
- Administration and sales overhead

  The costing sheet thus specifies the cost elements under which the sales and administration costs are updated in costing. The cost component structure [Seite 460] determines the cost components [Seite 462] under which these costs are shown. It flags these cost components as sales and administration costs.

  In make-to-order production, the sales and administration costs are generally assigned to the product as applied overhead. The cost of goods sold for the product is passed on to Profitability Analysis. (See also: Product Cost by Sales Order [Extern])

  In order-related production, repetitive manufacturing and process manufacturing, the sales and administration costs are generally passed on from Cost Center Accounting directly to Profitability Analysis. The cost of goods manufactured for the product is

passed on to Profitability Analysis. (See also: Product Cost by Order [Extern] or Product Cost by Period [Extern])

Prerequisites

To be able to calculate overhead in the R/3 System, you must do the following:

- Create a costing sheet [Seite 744] in Customizing
- Assign the costing sheet to the valuation variant in Customizing
- In the initial screen of the cost estimate, enter a costing variant that either contains this valuation variant or that assigns the costing variant to the order type

To define particular overhead conditions for certain reference objects, you must do the following:

- Enter an **overhead group** in the master record of the reference object (such as the material master record, base object master record, cost object)
- Enter an overhead key [Seite 746] in the **costing sheet** that is linked to this overhead group in Customizing for Product Cost Controlling.

Features

Applied Overhead Using Planned Data

The applied overhead is calculated using the information in the itemization for the material costed. Because the system updates an itemization for each cost component view, you can calculate applied overhead for a specific cost component view. Overhead is only calculated on one basis, such as the cost of goods manufactured or cost of goods sold. As a general rule, the cost of goods manufactured is used as the basis for calculating overhead. You make the assignment in the costing type in Customizing.

When calculating overhead, the system inserts a costing category of type **G**. The applied overhead is updated under the cost elements that you specified in the costing sheet in Customizing for Product Cost Controlling.

In **costing with a quantity structure**, overhead is calculated automatically by the system when you carry out costing.

In **unit costing** (such as costing without a quantity structure and base object costing), overhead is calculated when you save the cost estimate. You can calculate overhead manually by choosing the menu option *Calculate overhead*.

To calculate the overhead application in **unit costing** (such as in a cost estimate without quantity structure, or a base object cost estimate), you must assign all the costing items to cost elements. Non-assigned costing items will not be included in the overhead application.

If you want to calculate overhead in unit costing, you must enter the key of the costing sheet in the master record of the reference object. To define overhead conditions for certain reference objects, you must enter an overhead key in the master record of the reference object and create a costing sheet that refers to this key.

Applied Overhead Using Actual Data

You can calculate actual overhead for cost objects in *Cost Object Controlling (CO-PC-OBJ)*. You can find further information under Calculating Overhead in Cost Object Controlling [Extern].

See also:

Implementation Guide (IMG) for Product Cost Controlling

- In Product Cost Planning under *Basic Settings* → *Overhead*.
- In Product Cost Planning under *Reference and Simulation Costing* → *Overhead*.
- In Cost Object Controlling, under:
  - ***Product Cost by Period*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Order*** → *Basic Settings* → *Overhead*
  - ***Product Cost by Sales Order*** → *Basic Settings* → *Overhead*
  - ***Costs for Intangible Goods and Services*** → *Basic Settings* → *Overhead*

Costing Sheets

Definition

The costing sheet links all the functions of overhead calculation.

Use

In the costing sheet, you determine the following:

- The direct costs to which overhead is applied (calculation base)
- The conditions under which overhead is applied (dependency)
- Whether overhead is allocated on a percentage basis or on a quantity basis
- The amount of the overhead percentage, or the amount of overhead for each unit of measure (overhead)
- The validity period for the overhead
- Which object (cost center, process, or order) is credited, and under which cost element in the case of actual postings (credit key)

If you use Activity-Based Costing (CO-OM-ABC), the costing sheet also controls the allocation of process costs. For more information about the allocation of process costs, see Process Costs [Seite 748].

In **material costing**, you enter the costing sheet in the valuation variant in Customizing.

In **Reference and Simulation Costing**, you enter the costing sheet in the master record of the base planning object.

Structure

The costing sheet contains the following:

- **Calculation Base**

  The calculation base consists of a group of cost elements to which overhead is to be applied according to the same conditions. This process involves assigning individual cost elements or cost element intervals for each controlling area to a calculation base.

  You can apply different overhead amounts to the fixed and variable portions of the same base cost element. You can also make the amount of the overhead dependent on not only the direct costs, but also on the material itself. You can define material-specific calculation bases by entering the origin groups in the material master record and by specifying them in the calculation bases.

- **Overhead Rates**

  You use overhead to specify whether the overhead applied to the calculation base should be quantity-based or percentage-based. You also specify the validity period and the conditions under which the overhead should be calculated. The system calculates the overhead either as a percentage or based on the quantity.

  The conditions under which overhead is to be charged are laid down in condition tables. The standard condition table is linked to a controlling area, an overhead type (planned or actual), and to one other field of the object's master record (such as the plant, or

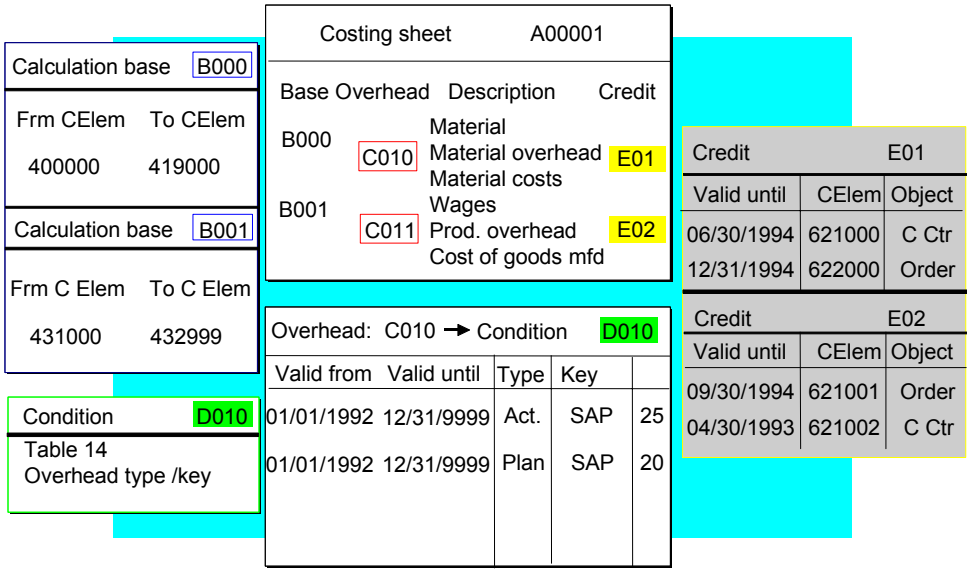
overhead key). Hence the conditions for overhead calculation can relate to all the reference objects of an organizational unit, or to an overhead key [Seite 746].

These lines also contain a **credit key**. The credit determines the (overhead) cost element under which the overhead is to be updated, and which cost center, business process or order is to be credited. You can also specify which part of the overhead is to be flagged as fixed costs.

- **Totals Lines**

  These lines show subtotals.

The following graphic provides an overview of the various components of the costing sheet:



See also:

For more information about the costing sheet, see the *Implementation Guide for Product Cost Controlling*.

Overhead Keys

Definition

Specifies which overhead is applied to a reference object (such as a material), thus forming the link between overhead conditions and the following:

- A particular material master record
- A particular cost object node of a cost object hierarchy
- A particular general cost object
- A particular sales order item

Use

You can define particular overhead conditions for certain reference objects.

Overhead key for materials

To link materials with certain overhead conditions, you must do the following:

- Enter an overhead group in the costing view of the material master record.
- Enter an overhead key in the costing sheet that is linked to this overhead group in Customizing for Product Cost Controlling.

Using the overhead key, the overhead is assigned to a particular material via the overhead group in the costing view of the material master.

The overhead group and overhead key are included in the following:

- In Product Cost Planning in material costing
- In Cost Object Controlling:
  - In a preliminary cost estimate for the product cost collector or for the manufacturing order
  - In period-end closing for the product cost collector or for the manufacturing order

Overhead Key for Cost Object Hierarchies

To link cost object hierarchies to overhead conditions, enter the overhead key in the cost object master record.

The overhead key is included in the cost object node when overhead is applied at period-end closing.

Overhead Key for Sales Order Items

To link sales order items to overhead conditions, enter an overhead key for the sales order item. To do this, go into the sales order and choose *Extras* → *Account assignment*.

The overhead key is included in Product Cost by Sales Order

- In Product Cost by Sales Order, to calculate the planned costs
- When overhead is calculated at period-end closing

Overhead Key for General Cost Objects

The overhead key is included:

- When planned costs are calculated for general cost objects
- At period-end closing

The standard system has various costing sheets containing an overhead key. You can apply overhead to materials by modifying these costing sheets to suit your needs.

You have defined two overhead groups in order to apply overhead to materials. These two overhead groups are linked to two overhead keys. An overhead of 10% is specified for overhead key 01. An overhead of 20% is specified for overhead key 02.

You have more than one plant. You want to apply overhead only if the material is assigned to a certain plant and overhead key.

The system checks these dependencies when the overheads are calculated. If the dependencies are met, the system calculates an overhead percentage. You must define this percentage for each of your dependencies.

Overhead Key for Base Planning Objects

In base object costing, you enter the overhead key in the master data for the base planning object.

Process Costs

Use

You can use Activity-Based Costing in *Product Cost Controlling (CO-PC)* in order to do the following:

- Include costs for production resources/tools and in the actual data
- Calculate overhead based on the output quantity

  In traditional overhead costing, you can calculate quantity-based overhead based on the input quantities, but not on the output quantities. Through the use of Activity-Based Costing, you can, in non-order-related costing, assign overhead to a material dependent on the costing lot size.

  In *Cost Object Controlling (CO-PC-OBJ)*, you can calculate process costs as follows:

  - Dependent on the planned order quantity (for example, in a preliminary cost estimate for the manufacturing order)
  - Dependent on the quantity delivered to stock, in order to calculate the actual costs for a material
  - In Sales-Order-Related Production, dependent on the quantity ordered of a material produced in make-to-order production
- In Sales-Order-Related Production, to allocate transportation costs to the sales order item matched with costs and revenue. For example, you may receive a collective invoice from your carrier with several amounts that are assigned to various sales orders.
- To carry out statistical cost accounting in parallel. In such cases, the cost object is not debited.

Prerequisites

You have maintained the appropriate templates, environments, and function hierarchies in Customizing for Product Cost Controlling.

For more information about settings in Customizing, see the Implementation Guide for *Product Cost Controlling (CO-PC)*. For more information about Activity-Based Costing, see Activity-Based Costing (CO-OM-ABC) [Extern] and the Implementation Guides for Activity-Based Costing and for Product Cost Controlling.

However, for the above-mentioned options, it is not imperative that you implement the complete version of Activity-Based Costing. You also do not have to carry out an all-embracing analysis of your process structure. You can use Activity-Based Costing in this context as an additional tool to assign your costs on a source-related basis.

Features

You can use the costs for business processes in a cost estimate as either a replacement for, or supplement to, the traditional method of allocating overhead.

In cost center accounting, the costs are structured according to organization and responsibility center. This means that although it is possible to pinpoint a company's costs where they arise, this does not explain the purpose for which the resources are used.

The process-oriented approach, on the other hand, considers the costs of all the functions in accordance with the company's process structure. A business process is debited with costs that are related to the usage of the resources. Overhead costs are traced back to the source and assigned through the valuation of the process quantities at the process price.

Overhead is assigned to the business processes according to the resources used. This allows costs to be applied to the cost objects on a source-related basis.

You can include process costs in a material cost estimate by means of the following:

- Templates [Seite 751]

  The template determines which process costs are used and how these costs are further applied to the product. The template is determined through the costing sheet in the valuation variant. This form of cost application provides you with a highly flexible method of specifying the processes and of calculating the activities and processes used.

  Template allocations also enable you to use cost centers/activity types as senders.

- Integrating business processes into the routing through the PP component

  The business processes are linked to the operations of the routing. This enables the process to be more closely linked to a specific material or order. It also makes it possible to link a specific process to a particular quantity. Work centers and routings are given a process assignment. The business processes are transferred from the work center into the routing. You enter the formula to determine the process quantity in the work center. The activity price of the business process is used for the valuation. In the cost estimate, the process quantities are determined with this formula and then valuated with the activity price. A credit is applied to the process, while the confirmed reference object is debited. The formula is also used to determine the process quantities used at the time of order confirmation of the routing operations; these quantities can also be adjusted. The actual allocation is arrived at in **Product Cost by Order** or **Product Cost by Period** using the process quantities following the valuation process.

You can include process costs using **planning data** in:

- Non-order-related costing

  In the **cost estimate with quantity structure**, process costs are calculated automatically by the system.

  In the cost estimate without a quantity structure, in additive costing and in Reference and Simulation Costing, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

- Preliminary costing for a cost object

  Process costs are calculated automatically by the system when you carry out costing in preliminary cost estimates of manufacturing orders, process orders, and sales order cost estimates (using the product costing method).

  When you carry out preliminary costing of manufacturing orders without a quantity structure, sales order costing (using the unit costing method), and plan general cost

objects, the process costs are calculated when you save the cost estimate or when you choose the menu function *Calculate overhead*.

You can include process costs using **actual data** in order to allocate the process costs to cost objects. To do this, you carry out a dynamic process allocation at period-end closing of Cost Object Controlling. For further information, see the following:

- Period-End Closing in Product Cost by Order [Extern]
- Period-End Closing in Product Cost by Period [Extern]
- Period-End Closing: General Cost Objects [Extern]

To manually measure the resources (tracing factors) and cost drivers would require excessive organizational effort. The required data is often already in the system in statistical form, and can be transferred from LO-LIS (Logistics Information System). For more information about transferring data from LO-LIS, see the SAP Library under *Logistics General (LO).*

See also:

- Activity-Based Costing (CO-OM-ABC) [Extern]
- Use of Templates in the Standard Cost Estimate [Extern]
- Template-Allocation to Cost Objects [Extern]
- Quantity Input Methods (Pull) [Extern]

Templates

Definition

Tool for incorporating Activity-Based Costing in the cost estimate.

Use

The template enables process costs to be included in the cost estimate. It enables you to dynamically determine and valuate the process quantities used at the time of costing.

Templates have various uses:

- You can use a template for several cost objects. When you carry out costing, you can use a determination strategy in the costing sheet to specify which template is to be used.
- You can define methods to determine processes dynamically at the evaluation stage.
- You can use formulas to determine the process quantities used.
- If separate sub-processes are valid only for certain cost objects, you can set individual lines to be active or inactive. When evaluating the template, only the active items are included.
- You can use sub-templates if process sequences are required in several processes. You define these process sequences in sub-templates.

Since templates are not dependent on the reference object, the appropriate template must be selected at the time of evaluation. It is selected through the costing sheet, the overhead key and the environment.

- For material costing, you select the costing sheet in the valuation variant. The valuation variant is entered in the costing variant.

  The costing sheet is determined from the master data when the process costs are allocated to cost objects and base planning objects.
- The overhead key is determined during material costing from the overhead group in the material master of the material to be costed. For more information, see Overhead Key [Seite 746].
- The environment of a template determines the information that can be accessed when a template is defined.

Depending on the controlling area, costing sheet, overhead key, and environment, you can specify which template should be used for the cost estimate. You can enter a template more than once.

See also:

You can find further information under the following:

- *Activity-Based Costing (CO-OM-ABC)* in the SAP Library in the documents Templates [Extern] and Use of Templates in the Standard Cost Estimate [Extern]
- *Implementation Guide (IMG) for Product Cost Controlling*

Process Cost Planning

Purpose

Process cost planning enables you to do the following:

- Include process costs in Product Cost Planning
- Include process costs in the preliminary costing of cost objects

Prerequisites

In Customizing for Activity-Based Costing, you check

- The planner profiles and planning layouts

  Planning is based on the predefined planning layouts that are stored in planner profiles. Planning layouts are entry screens for planning. You can use those supplied with the standard system, or define your own.
- Whether a distribution key should be created
- Whether versions have been created for alternative forms of planning (if necessary, create new versions)
- Whether it should be possible to copy versions (if necessary, allow copying in the source version)
- Whether planning changes should be documented

In Customizing for **Product Cost Controlling**, you define a template, the template determination, environments, and function hierarchies. You can find further information in the Implementation Guides (IMG) for *Activity-Based Costing* and *Product Cost Controlling*.

Process Flow

In Activity-Based Costing, the entire planning flow can be performed in dialog.

The planning process is not a single operation, but an interactive process that generally consists of several cycles. This is also reflected in the saving of the planned data. To this end, the system provides for the parallel saving of alternative versions.

Where business process planning is concerned, there is no fixed methodology. However, SAP recommends the following procedure:

19. You plan statistical key figures that can be used as the basis for the allocation of process costs in the planning data and actual data.
20. Carry out activity type planning. The planning of business processes is based on Cost Center Accounting with the activity types and allocation bases.
21. Carry out primary cost planning.
22. Carry out secondary cost planning.
23. Carry out activity price calculation and process assessment.
24. Create the corresponding cost estimates for the reference object.

Process Cost Planning

You carry out steps 1 to 5 in **Overhead Cost Controlling** (Cost Center Accounting or Activity-Based Costing).

You can find further information about Process Cost Planning and its requirements in the R/3 Library and in the Implementation Guide for *Activity-Based Costing (CO-OM-ABC).*

Result

The planning results are available on a real-time basis and can be analyzed at any time through the information system.

Calculating Overhead

Use

When you save a unit cost estimate, overhead costs (that is, overheads and/or process costs) are automatically calculated and inserted as items under category G or X.

You can also calculate overhead and process costs manually. You use the function *Calculate overhead* for this.

Prerequisites

You are in the list screen of the unit cost estimate.

A costing sheet has been entered in the valuation variant, and an overhead key has been entered (if applicable) in the master data of the reference object (such as the material).

For the Base Planning Object:

The costing sheet and overhead key have been entered in the master data of the base planning object.

Procedure

Choose *Functions* → *Calculate overhead*.

Result

The system calculates overhead and process costs based on the costing sheet and overhead key used. Items of category **G** (for overhead) and **X** (for process costs) are inserted.

See also:

Prices in Unit Costing [Seite 726]

Overhead [Seite 569]

Overhead in Base Object Costing [Seite 739]

Revaluating Costing Items

Use

The prices you see in the cost estimate are those that were valid either when the cost estimate was created or when the *Revaluate* function was last used.

If the master data changes, this data is not automatically updated in unit costing. However, you can revaluate the costing items manually and thus take into account the current prices.

You can select the following:

- All items
- Selected items only
- Items of a specific item category only, such as all the material items or all base planning objects. (This is not possible in Easy Cost Planning.)

The costing items are **revaluated automatically** if you execute the functions *Explode base planning object, Material explosion*, *Create cost estimate with reference* or *Copy cost estimate…* (this is not possible in Easy Cost Planning).

The *Revaluate* function is **not** available for the detailed planning of a cost element.

Prerequisites

You are in the list screen of the unit cost estimate [Seite 706].

Procedure

5. Decide which items you want to revaluate.
   a. Choose to revaluate all items of the unit cost estimate. You do not have to select any items for this.
   b. Choose if you want to revaluate selected items of the unit cost estimate only. You must select the items concerned before choosing this menu option.
   c. Choose *Functions* → *By item category…* to revaluate only items of a certain category, such as materials and internal activities only (this is not available in Easy Cost Planning).
6. Save the cost estimate and, if applicable, the reference object (such as the base planning object or sales order).

Result

The system revaluates the relevant items with the current prices as per the valuation variant. For more information, see Preparing for Costing [Seite 72].

If you are revaluating all items, the raw material costs [Seite 735] and overhead [Seite 569] are also recalculated. If you are revaluating certain items only, the overhead is not recalculated until the cost estimate is saved or when the function Calculate overhead [Seite 755] is executed.

In respect of costing items that you have changed manually, the system sets the *Manual price* indicator. Such items are not revaluated.

See also:

- Valuation of Costing Items [Seite 726]
- Revaluating Base Planning Objects [Seite 681]

Managing Base Planning Objects

Use

You can do the following:

- Archive base planning objects [Seite 759]
- Delete base planning objects [Seite 761]

See also:

- Reports in Product Cost Planning [Seite 790]
- Overview of Base Planning Objects [Seite 805]
- Where-Used List of Base Planning Objects [Seite 806]

Archiving Base Planning Objects

Use

You can archive the costing results of base planning objects and delete them from the database.

Integration

Base planning objects can be archived independently of other archiving programs.

Prerequisites

There are no specific Customizing settings you need to make in order to archive base planning objects. You can, however, set general values for archiving, such as the name, the path, and the size of the archive file in Customizing.

For additional information, see:

- Customizing [Extern]
- General Customizing [Extern]
- Archiving-Object-Specific Customizing [Extern]

Depending on the amount of data, each cost estimate (excluding costing items) requires approximately 2,200 bytes of storage space. Each item requires an additional 750 bytes. Long texts require additional space, depending on the length of the text.

To archive base planning objects, you need general authorization for archiving and authorization for the CO_BASEOBJ archiving object. For more information, see User Authorization Checks [Extern].

Activities

You can call these functions from the menu as follows: *Accounting → Controlling ### Product Cost Controlling ### Product Cost Planning ### Environment ### Archiving ### Base Planning Objects*.

The screen *Archive Management: Initial Screen* appears. In the *Object name* field, the archiving object CO_BASEOBJ [Extern] is shown as a default entry. If you require further information, see Archive Management [Extern].

The following table provides an overview of the functions available from this initial screen:

Function	***Use this function to:***
Archive	Generate archive files (archive material cost estimates)
Delete	Schedule and start the deletion program
Analyze	Schedule and start an analysis program
Management	View and change management information for archiving runs
	Call up a network graphic [Extern] to view the dependencies between archiving objects

Archiving Base Planning Objects

Customizing	Check the Customizing settings
Job overview	View a list of all archiving jobs. You can then: • Display the log for a specified job (*Job log*) • Branch to detailed information for a specified job ( ) • Release a job (*Release*) • Delete a job from the database ( ) • Cancel an active job ( )
DB tables	List all archiving objects that are part of a table [Extern]
Information system	Access the central Archive Information System (SAP AS) [Extern]

See also:

- Introduction to Data Archiving [Extern]
- Archive Selection [Extern] and Archive Management [Extern]
- The Archiving Procedure [Extern] and Archiving Procedure [Extern]
- Basic Archiving Terms [Extern] and Background Information [Extern]
- Archiving Features [Extern]

Deleting Base Planning Objects

Use

This function is designed so that you can delete test data before production startup of a system.

You can delete base planning objects in Customizing for *General Controlling*.

Procedure

1. In Customizing for *General Controlling*, choose *Production Start-Up Preparation* → *Delete Test Data* → *Delete Base Planning Objects*
2. Enter the base planning object(s) to be deleted.
3. Enter the controlling area(s), if required.

   If you do not enter any base planning objects or controlling areas, all the base planning objects in all the controlling areas are deleted.
4. By setting the corresponding indicator, you determine whether:
   - Only those base planning objects are deleted in which the indicator *Deletion flag* has been turned on in the master data

     If you turn on this indicator, only those base planning objects are deleted for which the indicator *Deletion flag* has been turned on in the base planning object master data.
   - Deletion should be simulated in a test run

     If you turn on this indicator, the base planning objects are not yet deleted.
5. Choose .

   If you want to delete a large number of base planning objects, it is recommended that you have the system do this in the background. In such cases, choose *Program* → *Execute in background*, and not . Check the background print parameters and choose *Continue*. Enter the start date and other start criteria for the background job. For example, you can specify that the job starts immediately, or not until another job has ended, or after a certain event has occurred. Choose to schedule the background job.

Result

The system deletes the master record as well as all the data that is linked to the base planning objects, such as the long text and costing items.

See also:

Implementation Guide for Controlling General

Other Functions

Use

The following functions are available in Reference and Simulation Costing in addition to the functions of unit costing and multilevel unit costing:

- Transfer Prices/Multiple Values [Seite 763]
- Foreign Currencies in Unit Costing [Seite 764]

Multiple Valuation Views

Use

You can cost three valuation views in Reference and Simulation Costing simultaneously:

- Legal valuation view
- Group view
- Profit center view

You specify which of the three views you want to cost in the costing type in Customizing.

See also:

For further information, see the following:

- In the SAP Library under Multiple Valuation Approaches/Transfer Prices [Extern]
- *Implementation Guide (IMG)* for *Product Cost Controlling*
- *Implementation Guide (IMG)* for *General Controlling*

Currencies in Unit Costing

Use

The costing items of the Controlling reference objects (such as orders, WBS elements, and cost object IDs) are entered in the transaction currency.

The costing items of the Logistics reference objects (for example, materials and sales documents) are entered in the object currency. You cannot change the currency in the cost estimate, because the currencies in the reference objects have priority.

You can display foreign currencies only in *base planning objects* and in cost estimates for *general cost objects*.

The system automatically finds the price for each item in the currency of the controlling area to which the base planning object is assigned. You can maintain foreign currencies in the header [Seite 685] of the base planning object. You can change the exchange rates for the foreign currencies with the function *New exchange rate* by changing the default exchange rate type or exchange rate date.

To switch between the different currencies in the base planning object, select the function *Currency displ. in...*

The valid currencies are maintained in Financial Accounting.

See also:

To find out how to carry out currency translation for the individual objects, see the relevant documentation.

CO Internal Orders

PS Project System

SD Sales and Distribution Processing

Easy Cost Planning and Execution Services

Purpose

Easy Cost Planning and Execution Services is a simplified form of cost planning that is integrated into the SAP System. It is of particular use when several planners are involved or when your planning is carried out using similar methods.

Example of the Easy Cost Planning of a Project [Extern]

You can use this method for the following:

- Internal orders [Extern]
- WBS elements [Extern]
- Internal Service Requests [Extern]
- Appropriation requests [Extern]
- Ad hoc cost estimates [Extern]

The Execution Services enable you to trigger the following processes based on the costing results:

- Purchase requisitions [Extern]
- Purchase orders [Extern]
- Reservation [Extern]
- Goods issue [Extern]
- Internal activity allocation [Extern] either with or without Workflow [Extern]

For more information about how Easy Cost Planning can be used, see the following:

Easy Cost Planning for Internal Orders [Extern]

Easy Cost Planning in the Project System [Extern]

Cost-Incurring Scenarios [Extern]

Easy Cost Planning for Appropriation Requests [Extern]

Integration

Cost planning for the object concerned is carried out in the corresponding application component, namely Internal Orders (CO-OM-OPA) [Extern], Project System (PS) [Extern], Investment Management (IM) [Extern], Product *Cost Planning* (CO-PC-PCP) or using the mySAP Workplace.

The following components are used (called up) in the background. User knowledge in these areas is not required.

In order to complete the respective Execution Service, the application components *Purchasing* (MM-PUR), *Inventory Management* (MM-IM), *Cost Center Accounting* (CO-OM-CCA), and/or *Activity-Based Costing* (CO-OM-ABC) are used, either with or without the *SAP Business Workflow*.

Easy Cost Planning and Execution Services

Easy Cost Planning uses unit costing from *Product Cost Planning* (CO-PC-PCP), the characteristics function of the *Classification system* (CA-CL) and the template [Extern] function from *Activity-Based Costing* (CO-OM-ABC) to calculate the costs.

Features

Easy Cost Planning enables you to represent the structure of the planning processes in the system [Seite 768]. These can then be used as planning forms by all cost planners [Seite 780]. The use of this planning form ensures that all of the relevant cost incurring functions are included. This means you can avoid errors.

The intentions of the planner are translated into the terms and data of the unit costing [Seite 777]. When planning, the planner enters the cost incurring functions in the form of characteristics, from which the system generates and then costs costing items for the unit costing.

The planning object can be structured whichever way the planner chooses, and the substructures that the user defines can be costed separately. Existing structures, such as those in the *Project System* for example, are included in the costing.

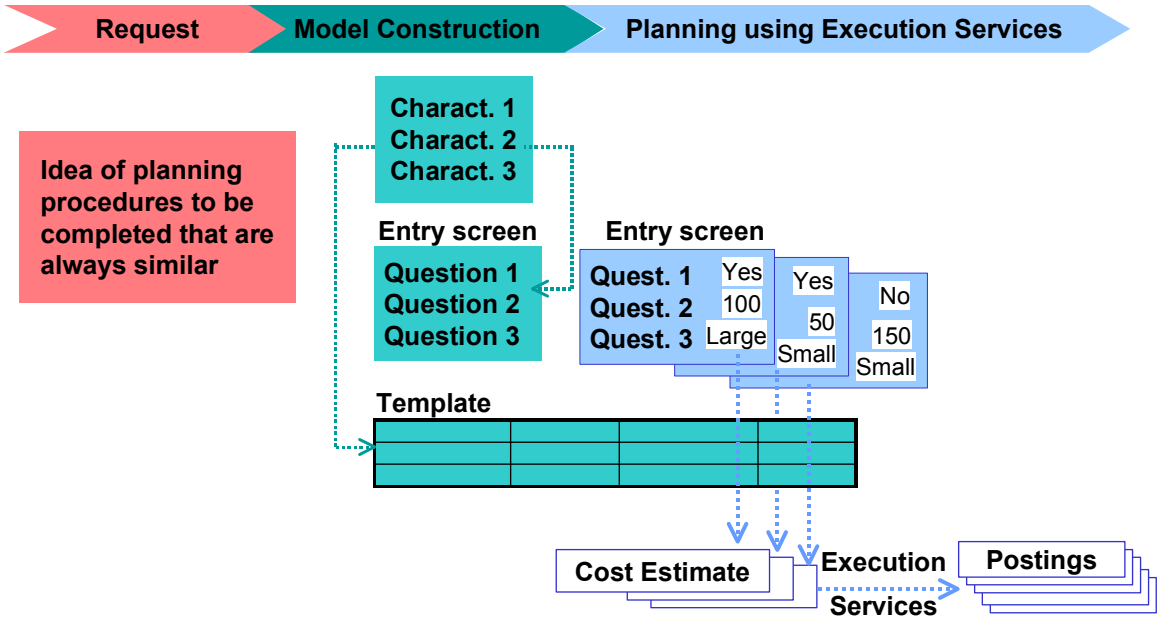
You can define the entry screen in accordance with your individual [Seite 775] requirements for each planning form. It is automatically generated in HTML format and you can enhance it, for example with hyperlinks for the planner to determine additional data, and to include your company logo. You can also insert information in the form of explanatory text. A notes field has been created in the entry screen so that planners can enter notes either for themselves or other users who need to analyze the costing, which are saved together with the entries for the costing.

You can adapt the display of individual screens for individual roles [Seite 768], for example to simplify the display for planners who only use this function occasionally and do not need to know about every single function.

The Execution Services function selects the costing items for the process to be triggered. You can change, delete and add the costing items selected. From this display it is possible to trigger the process for the selected items [Seite 787].

It is possible for you to display existing postings, that are already in the system for the respective object, for the services selected. For example, if you want to trigger a purchase order for an internal order, you can display the existing postings for this order, in order to avoid a duplication of the purchase order.

Standardized Planning Method using Easy Cost Planning & Execution Services



Constraints

You cannot use this costing method for the following unit costing reference objects:

- Materials
- Sales documents
- CO production orders
- General cost objects
- Network activities

You cannot use the Execution Services for appropriation requests. You can only use them for ad hoc cost estimates if you have assigned an account assignment object [Extern] to the ad hoc cost estimate.

Editing Costing Models and Assigning Attributes

Use

In Easy Cost Planning [Seite 765] the planner can use the costing model that you create with this function as a planning form. This enables the costs to be calculated from the planner's point of view. You can use the costing model for all similar planning processes.

By assigning attributes to the role of the planner, you decide which screen areas are displayed for the planner in the cost estimate and also to what extent they can be changed. This assignment applies across all models and hence is only required once for each role.

Prerequisites

To be able to define costing models, experience in using the SAP System is required, particularly in the following areas:

Application	Area
Classification System (CA-CL)	Characteristics
Activity-Based Costing (CO-OM-ABC)	Templates
Product Cost Controlling (CO-PC)	Costing tools, special unit costing and costing items
Overhead Cost Controlling (CO-OM)	Chart of accounts, cost centers, cost elements and activity types, internal orders, overhead
Materials Management (MM)	Purchasing, services, material valuation, inventory management

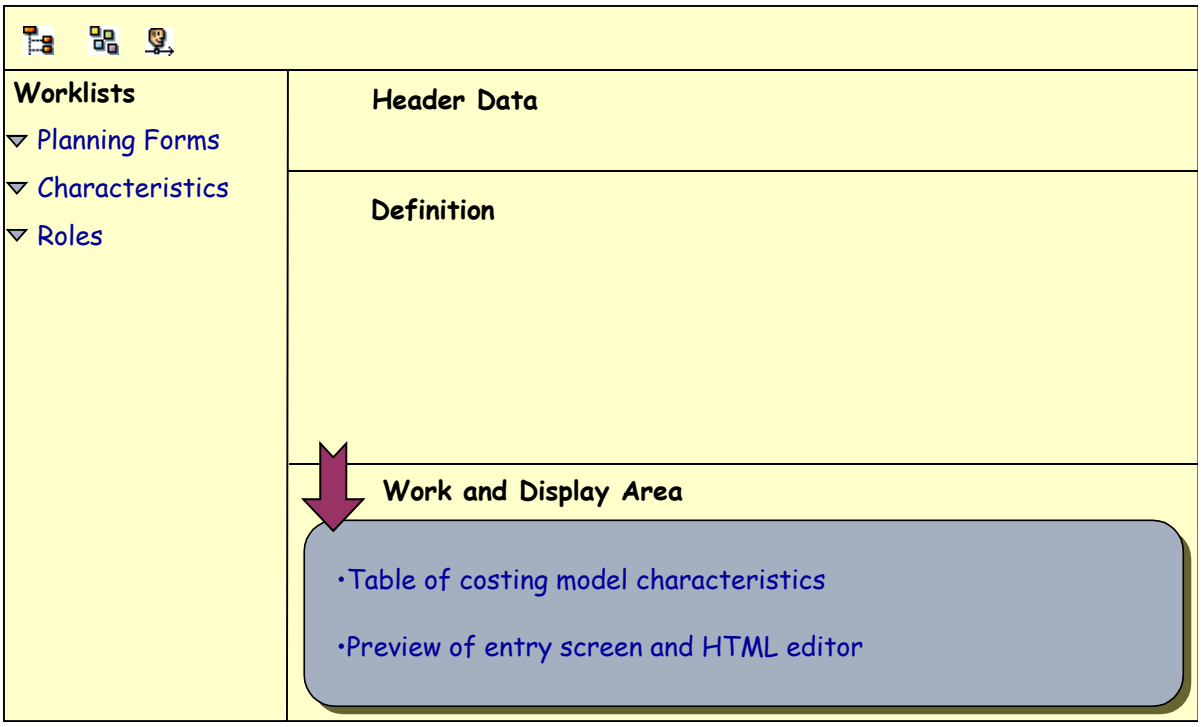
In order to carry out cost planning, a costing variant must have been defined in Customizing for every object to be planned. If you want to view the costs in groups, you must have already defined cost component groups in Customizing for the application component concerned under *Define Cost Component Structure*.

During the implementation phase, organizational limits must have been made for the namespaces of the characteristics, to control the use of characteristics that use the *Classification System* (CA-CL).

For the Execution Services, you must have made the required settings in Customizing for the respective application component under *Execution Services*.

Features

The following graphic gives you an overview of the costing run:



You can show or hide ( ) the screen area *Worklists* and also change the size of the screen areas.

***Worklists* area**

This area contains the *planning forms*, *characteristics* and *roles*. These are the predefined directories. The worklists provide an overview of the data present in the system and a user-friendly view of its structure. Once you have loaded the most frequently used planning forms, characteristics and roles into the worklists, they are always available for you to use. The directories can be made available to everyone, or limited to a specific role to which you must have been assigned, or defined in such a way that they are only available for your yourself to use.

To load available data in the worklists either choose immediately next to the node, or . You can create, insert ( ), rename worklists and extend the display of worklists (from user-specific to role-specific or globally to all users), or restrict ( ) them. You can copy planning forms, characteristics or roles to other worklists of the same category per drag & drop. Make sure that you select nodes supplied with a hyperlink together with the symbol in front of them. It is not possible to copy subdirectories. Using you can call up any worklists that are in the system but have not yet been displayed. To delete worklists, choose . To remove subdirectories or loaded data from a worklist choose . To save worklists, choose in the screen area *Worklists*.

You can call a costing model and role directly by clicking on the relevant node in the worklist.

You can assign a characteristic directly to a model. To do so, you must have chosen the model and called up the assignment of the characteristics in the work area. You can copy the characteristic into the table in the work area using drag and drop.

***Definition* area**

Editing Costing Models and Assigning Attributes

Here you can edit a costing model or role. If you want to switch from editing the costing model to editing the roles either choose or choose the role directly in the worklist. Choose to return to editing the costing model, or choose it directly in the worklist.

Having selected a costing model or created a new one, you can carry out all changes or definitions (by clicking on the nodes) in this area. You can create a description for the model ( ). You can then use it to document the model. When the planner wants to create a cost estimate, this description is available for finding a planning form. For information on the editor, see the PC editor [Extern] and editing text [Extern].

If you have selected a **role**, you can select here the attributes which should be assigned to the role.

If you assign the attribute *Hide cost estimate item view* to the single role *Maintain internal orders* (SAP_CO_OM_JOB_INTORDER_MAINT) then the relevant button is hidden, meaning it is no longer possible to show the item view. This applies to all planners to whom this role has been assigned. If you want to make it impossible to show the item view for a planner to whom several roles have been assigned, then you have to assign this attribute to all of this planner's roles. The simplification of the screen achieved by this is particularly useful for occasional users, especially if they do not have extensive knowledge of Controlling in the SAP System. However, for the planner it also means that it is no longer possible to change the costing items manually.

***Work and Display* area**

In this area, you can assign the characteristics. When you create new characteristics, you can define the characteristics directly from here. If the characteristics exist already, you can change them using in the *Characteristics maintenance* column.

In addition to this, you can display a preview on the entry screen by clicking on the node *Structure model entry screen* You can then edit it here.

If you delete, change, edit or create new characteristics then these changes will only be displayed in the preview once you have saved the model.

Activities

- Select:
  - Choose *Logistics* → ***Project System*** → *Basic Data* → *Templates* → *Models for Easy Cost Planning*.
  - *Accounting* → ***Investment Management*** → *Appropriation Requests* → *Environment* → *Maintain Costing Model*
  - *Accounting* → *Controlling* → *Product Cost-Controlling* → ***Product Cost Planning*** → *Easy Cost Planning & Execution Services* → *Maintain Costing Model*
- Create costing model:

  Choose . Enter a name for the costing model. The name must not begin with a number or contain any blanks. If you do not enter a description, the system copies the

name automatically into the *Description* field. You can change the description at any time by choosing .

If you are copying a model (), enter yes to the dialog box *Save template?* Otherwise the template will not be copied.

- Creating and Assigning Characteristics [Seite 773]
- If you want to structure the automatically-created entry screen [Seite 775] to suit your requirements, select this node in the definition area.
- Defining Derivation Rules [Seite 777]
- If you want to display the screen areas in the cost estimate on a role-specific basis, select a role and assign the relevant attributes to it by setting the indicator. Save your settings in the screen area *Definition* using (Save attribute assignment).
- Save your entries.

Multilingual capability

If the planner needs the costing model to be available in more than one language, you need to carry out the following activities, noting the special features:

Characteristics

When creating the characteristic, enter the description of the characteristic on the tab *Descriptions* in all the languages that you require.

If you want to set default Values, go to the Values tab, select a value and choose Enter the description in all of the languages that you require.

If you choose *Extras* → *Change Language,* you can enter the characteristic description and the descriptions for all values for the language selected.

Entry screen

Do not change the characteristic descriptions on the entry screen. Additional text (for example notes or texts for hyperlinks) and changes can only be entered in one language, and consequently are only available in that language. The *Confirm* button and the heading *Comment* are automatically displayed in the correct language.

Derivation rules

You must ensure that descriptions are available in all of the languages that you require. Make sure when you use a costing model (item category **J**) that this also applies for the description of the model used. Do not enter any descriptions in the item lines. The descriptions are then automatically displayed in the correct language. Exception: you can only enter the description for item categories *comment line*, *calculation line* (*process* and *cost center/activity type*), *text item* and *variable item* in one language, which in turn are only available in that particular language.

Costing Model Description

Once you have created the model, log on to the system in each language in turn which you need to be available. Call up the model for editing and choose . Enter the description for each model in the correct language and save your entries. To ensure the description of the model is available in the languages you require, enter it in each of the relevant languages.

Result

The costing model is available as a template on a permanent basis. For more information, see Using Easy Cost Planning [Seite 780].

Example

Example of the Easy Cost Planning of a Project [Extern]

Creating and Assigning Characteristics

Use

Characteristics represent the cost incurring functions of a planning process in the costing model. A characteristic can be assigned to more than one costing model.

Prerequisites

You have created a costing model.

Procedure

1. Define the characteristics by clicking on the node *Assign characteristics to the model*.

   The system displays a table in the work/display area.

2. Under *Characteristic name*, enter the name of an existing characteristic, or create a new one. Then choose *Continue*.

   a. If you are using an existing characteristic, the data is copied into the table.

   b. If you are not using an existing characteristic, the system asks you if you are creating a new one. Choose *Yes*.

      The *Create Characteristic* screen appears.

      Enter the required data. SAP recommends that you select a characteristic group containing characteristics that you have created specifically for costing models. You should note the following:

      i. The system cannot interpret user-defined data formats or multiple value characteristics.

      ii. If you enter values to be available in a dropdown box, you should not set the indicator *Additional values*. If you want to enable planners to define their own characteristics in addition to the values that you have entered, you must define a specific characteristic for this purpose. You do this when you define the derivation rules, for instance by creating a *variable item*.

      iii. If you want a value to appear in the entry screen as a default setting, set the indicator *D* for this value.

3. Save your entries.

   You should note that on the *Restrictions* tab page, the characteristics are always assigned to class type 051 (which is not displayed in the input help). This ensures that the characteristics are only available for Easy Cost Planning. If you want to use characteristics with a different class type, you have to enter class type 051 for these in addition.

   You should also bear in mind that characteristics may be used in a variety of costing models, which means that if you change a characteristic this could affect more than one costing model. If you create new characteristics, you can identify them as yours by the name that you give them. Heed any naming conventions that may apply in this

regard. Characteristics to which further class types are assigned in addition to class type 051 may be used by other application components which similarly use the *Classification System* (CA-CL).

Result

The characteristic is assigned to the costing model and can be specified in the entry screen.

Structuring the Entry Screen

Prerequisites

You have created a costing model and assigned characteristics to it.

If you do not want to make the changes directly in HTML, you must have installed an HTML editor.

Procedure

1. Call a preview of the automatically-created entry screen by clicking on the node *Structure model entry screen*.
2. In the work/display area, choose .
3. If you want to make the changes using your own HTML editor, you can download the HTML code as a local file to your PC by choosing . To import the changed file back, choose .

   If you want to change the HTML code directly, you should note the following points:

   You must not delete the variables for the field values, because if you do the values of the characteristics cannot be interpreted correctly. The variables are generated in the form of `<CHARACTERISTIC NAME>.value` or `< CHARACTERISTIC NAME >.name`. The system replaces the variables with the value entered. The entire expression for the variable must not exceed one line (there must not be a line break).

   If you insert a hyperlink, you should display the Internet page in a new window. To do this, you must enter the command *target="_blank"* in HTML code in the following position: <Text of link in entry screen>. If you display the Internet page directly in the same screen area as the entry screen, the planner can only go back to the entry screen by right-clicking on the mouse. However, this would mean that the data entered before the link sequence is lost.
4. To display the changed HTML code from the editor in the preview, choose .

   You can generate the entry screen in SAP style (standard setting) or in Web style. When you save the costing model, the style generated last is saved.

Result

When the costing model is saved, the changed entry screen is stored as a file by means of the Business Document Service [Extern]. However, this only happens if you have made changes in the automatically-generated entry screen (with or). You can save multiple versions. The most recent version is always the active one. You can manage the files with the Business Document Navigator (): If, for example, you want to use an older version, you have to delete the newer ones.

If you subsequently change a characteristic and have altered the automatically-generated entry screen with or , you must regenerate the entry screen in order to include the changes. If you have changed the HTML code, it will be overwritten by the regeneration. To prevent this from happening with multiple changes, proceed as follows: Download the previous HTML code to your PC. Regenerate and compare

the HTML codes. Using cut and paste, insert the position at which the change to the characteristic has affected the HTML code into the HTML code in the local file, and import this back into the SAP System. Confirm the changes with .

Defining Derivation Rules

Use

Using the derivation rules the view and thinking of the planner is transferred to the costing items of the unit costing. This is where you enter the resources needed for the planning.

If the costing model is to offer a choice between several resources of the same sort, enter all of the resources and use *Activation* to regulate which resource in the planning case is entered in the cost estimate. You define the activation via the prompt for a particular specification of the related characteristic, for example if characteristic LENGTH = 10, the line with resource (material) A10 is used, and if LENGTH = 20 the line with resource A20 is used.

To determine the quantity of the respective resource you use a characteristic, for example, the characteristic NUMBER OF WORKING HOURS for an internal activity item.

Prerequisites

You have created a costing model.

Procedure

You can only define the derivation rules (of the template) for the costing model when you define the model.

1. Click on the node in the definition area of the costing model.

   The screen *Create template <NAME OF COSTING MODEL>* appears. The template automatically receives the name of the costing model and is created in a specific environment, depending on the planning object.

2. Enter the costing items required for the planning object. For more information, see Templates for Easy Cost Planning [Seite 778].

3. Go back and save the template.

Template for Easy Cost Planning

Definition

The template is a dynamic calculation tool that uses functions [Extern] and formulas [Extern] to calculate numerical values and determine the results of Boolean expressions (true or false). Templates for Easy Cost Planning are created in environments 200, 205-208, and 214-215. The environment is defined automatically by the system depending on the object to be planned (internal order, WBS element, and so on). With the exception of environment 214, you cannot create environments through Customizing. Instead, you can only do so by defining a costing model [Extern].

Structure

The template contains a table in which you can make the following line entries:

Column	Possible Entry/Process
Item category in template The key of this item category is not always the same as that of the costing item.	Comment line, process, calculation row (process), cost center/activity type, calculation row (cost center/activity type), costing model, external activities, subcontracting, material, service, base planning object, text item, variable item For the item category *calculation row*, you cannot call the editor or define methods in the object column. You can only select costing models that are valid either for all planning objects or for the same planning object as the costing model in which you want to insert this model as a submodel.
Description	The description is displayed in the cost estimate as the description for the costing items. The system determines the description for most of the item categories automatically once you have confirmed your entries. (The *description* is used in the case of the base planning object.) Consequently you only need to make an entry here if the description cannot be determined by the system or if you need to overwrite it.

Object	Enter the object (such as a material), depending on the item category specified. You can either enter the object directly, or define methods [Extern]. For *item categories of the template J* to *R*, you can use the input help to make the required entries. Always enter a cost element if the system is unable to determine one. This applies to those item categories for which the cost element was requested in the possible entries help; with base planning objects the cost element can be determined via the master data providing you have entered one there. If the item does not have a cost element, it is not possible to assign the costs to a cost component. This means that the costs cannot be rolled up if they are incurred in a cost estimate which is part of a costing structure with superior cost estimates. For the categories *Process* and *Cost center/Activity type*, you can either predefine an object or determine dynamically one or more processes or cost centers/activity types. For more information, see Object Determination [Extern].
Quantity	Enter a quantity or characteristic directly. You can enter the appropriate characteristic by defining a formula [Extern]. For more information, see Activity Quantity Determination [Extern].
Activation	Specify the condition under which an item is active. For the *activation* of an item, you can predefine values as *active* or *inactive* or define a method that returns *active* or *inactive* at the point of evaluation. If you do not enter anything in the column, the item is active. The item (MATERIAL; Gravel; 0001 / GRAVEL01; M3; QUANTITY_ FILLER; METHOD) with method: FILLER = “Gravel” is only active if gravel was selected as the FILLER. For all other characteristic values, the item is not included in the costing. For more information, see Activation [Extern].
Price	Price for a variable item This column is not utilized for any other item category.

Depending on the item category in the template, there are various functions available to define methods and formulas.

For more information on the costing item categories, refer to Master Data for Unit Costing [Seite 688].

Using Easy Cost Planning

Use

Easy Cost Planning is used to determine the costs for a particular object (for example, internal order, WBS element, internal service requests, appropriation request) or generally to determine costs for a specific purpose using an ad hoc cost estimate.

Integration

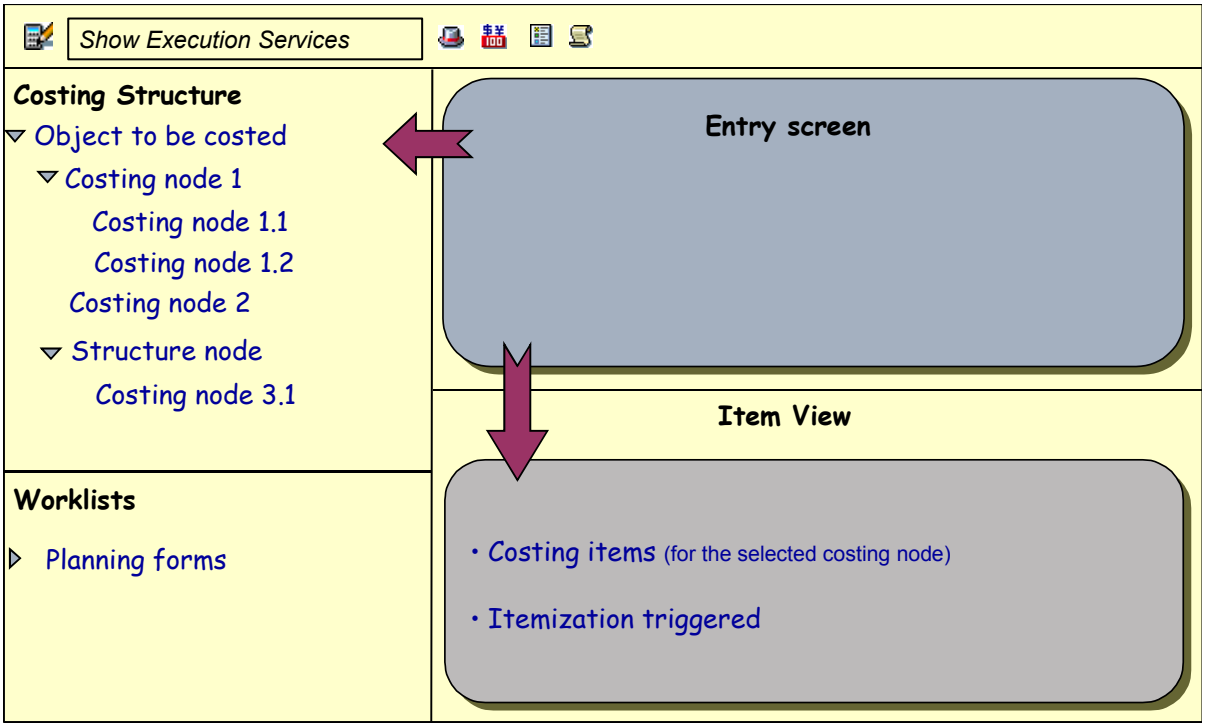
To activate the cost planning, the corresponding application component is used, such as *Internal Orders* (CO-OM-OPA), *Project System* (PS), *SAP Internet Applications*, *Investment Management* (IM) or *Product Cost Planning* (CO-PC-PCP).

Prerequisites

If you want to use a planning from for the costing, you must have already defined this in the system. For more information, see Processing Costing Models and Assignment of Attributes [Seite 768].

Features

The costing screen is constructed as follows:



Depending on the settings for the Role [Extern] to which you have been assigned, you may find that you are not able to use all of the functions set out below.

You are able to do the following:

- Change the size of the screen areas
- Display or hide the *costing structure*, *worklists* and *item view* as appropriate.

Screen area *Costing structure*

The top node is the object to be planned or the ad hoc cost estimate. You cannot cost structure nodes, meaning you cannot assign them a planning form. For project structures these are WBS elements which are not planning elements.

You can structure the object you wish to plan or your ad hoc cost estimate by adding new nodes (costing nodes). Select the node that you want to substructure and choose . Enter a description and choose . The node is added. You calculate the costs for each costing node separately.

To delete a costing node, select it and choose . Technically a costing is deleted this way.

You can use to close the cost estimate, to prevent further changes being made to it. The close is recorded in the history. You can check this in the header data. There you can undo or set the closing of a cost estimate. If you want to undo it, choose again.

The document flow [Extern] () displays for each costing item whether documents have been posted through an Execution Service [Seite 787] already for this costing item and object to be planned.

Screen area *Worklist*

If you regularly create cost estimates using Easy Cost Planning, you can load the planning forms that you use frequently into your worklist. To do this either choose immediately next to the node or choose .

You can create, insert (), rename worklists and extend the display of worklists (from user-specific to role-specific or globally to all users), or restrict () them. Using you can call up any worklists that are in the system but have not yet been displayed. To delete worklists, choose . To remove subdirectories or planning forms from a worklist choose . To save your worklists, choose in the screen area *Worklists*.

Screen area *Item view*

This area is used to enter, change and display costing items. For more information, see Creating Costing Items [Seite 703] under the heading *Features*. It is not possible to make entries in the detail screen.

The item category for planning forms is *J*. For more information about item categories, see Master Data for Unit Costing [Seite 688]. In Easy Cost Planning you cannot use item categories O and S.

You should note that the *item number* is not necessarily the same as the item of the line in the item view. If you need this, define a layout that sorts using the item number.

For WBS elements and internal orders you can define a period for a costing item by entering a *latest end date*. The costs are distributed evenly across the periods for the period you defined.

Using Easy Cost Planning

Further Item View Functions

	The log of the costing node currently selected is displayed.
	Revaluate [Seite 756] the costing items with the current prices.
	Refresh the totals and subtotals
	You can overwrite the price, cost element or the description for an item with the current plan and master data. To do this select the line.
Goto → Triggered itemization on/off	If you have costed several costing nodes in one structure, all of the costing items for all costing nodes in this structure are displayed in the itemization triggered. The top node in the costing structure must be selected for this. The display can be seen in the item view. By choosing you can multiply the quantities of individual costing items by a factor. The change is accepted immediately and the costing repeated.

For more information on working with this kind of list display see SAP List Viewer [Extern].

To cost the entries changes, choose *Confirm*.

Functions in the Upper Application Toolbar

Show Execution Services	After cost planning you can trigger Execution Services [Seite 787] for some objects.
	Display header data
	You can switch between various currencies.
	Only displayed for ad hoc cost estimates [Seite 785]
	Explains all of the symbol legends in the *costing structure*
	The error messages are all displayed for every costing node.

Activities

- Create either the object you want to plan or an ad hoc cost estimate, or else call up an existing one in change mode. Choose the cost planning. For more information, see the documentation for the object to be planned:
  - For internal orders: Easy Cost Planning for Internal Orders [Extern]

- For WBS elements: Using Easy Cost Planning [Extern]
- For appropriation requests: editing cost estimates for appropriation requests [Extern]
- For ad hoc cost estimates: executing ad hoc cost estimates [Seite 785]

- You have the following options for calculating the planned costs:

  With Planning Forms

  - Click on the node to be costed in the *costing structure*. Choose *Choose planning form* in the right hand screen area and select a planning form (*costing model*) or click on the corresponding node for the planning form in the worklist if you have already loaded the required planning form. The system displays the entry screen.

    If you have selected the wrong planning form you can assign a new one. To do so you have to select the costing node. You now have the following options:

    - From the worklist choose a new planning form by clicking on the corresponding node, and confirm the prompt with *Yes*.
    - Choose and confirm the prompt with *Yes*, choose *Choose planning form* in the right hand screen area and select a new planning form.
  - Enter the required planning data and choose *Confirm*.
  - You can change the costing items in the *item view*.

  Without Planning Forms

    For this showing the *Item view* must not be excluded by your Role [Extern] .

  - Click on the node to be costed in the *costing structure*. Enter the costing items directly in the *item view*.

Result

The results are displayed directly in the *costing structure* for every costing node. The costs are displayed subdivided according to costing items. In essence this display corresponds both in use and structure to the valuated BOMs [Seite 823] of the unit costing. The symbols next to the costing items specify the item category. By choosing for the legends you can ascertain which item category you are dealing with.

The costing items are displayed in a non-hierarchical list in the *item view* This essentially corresponds to the display of the itemization. This means the respective costing items for the currently selected costing node are displayed The SAP standard delivery makes a variety of itemization layouts available to you. You can adapt these to meet your individual requirements by creating your own layouts [Extern]. Using various factors you can calculate and delete subtotals [Extern].

If currencies are translated, the system uses the exchange rate applicable on the valuation date of the cost estimate (not the costing item, if this is different).

If you leave Easy Cost Planning via , you cost estimate is temporarily saved. The system saves to the database only when you save the object to be planned.

Exception: Ad hoc cost estimates In this case you are asked whether the data is to be saved directly upon leaving Easy Cost Planning. If you choose *No*, the data is not saved and is lost.

You can only save or leave the cost estimate if it does not contain any errors. Therefore, you can only leave a cost estimate which does contain errors by choosing .

For internal orders, WBS elements and ad hoc cost estimates you can now trigger particular Execution Services [Seite 787].

See also:

Easy Cost Planning and Execution Services [Seite 765]

Executing Ad Hoc Cost Estimates

Use

If you want to plan costs without creating an object in the system, you can use ad hoc costing to obtain a speedy result.

Prerequisites

If you want to use a planning from for the costing, you must have already defined this in the system. For more information, see Processing Costing Models and Assignment of Attributes [Seite 768].

Procedure

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Easy Cost Planning & Execution Services* → *Edit Ad Hoc Cost Estimate*.

Creating Ad Hoc Cost Estimates

1. Enter a description for your planning projects and choose *Create*.
2. On the tab page *Additional data* enter a c*ompany code* or a *plant*.
3. To start an ad hoc cost estimate with a planning form directly, you have the following options on the tab page *Create with planning form*:
   - Click on any planning form displayed. The cost estimate is started immediately.

     If no planning form is displayed for instance because you have not yet created an ad hoc cost estimate, then choose either *All planning forms* under *Subject area* or some other role-specific worklist.
   - Under *With planning form*, enter the (technical) name of a planning form direct, and choose *Create*.
   - To find a planning form enter a search term and choose *Find.* The search is made in the names and in the descriptions available in your logon language for the planning forms. You can also display the descriptions via next to the planning forms.
4. For more information, see Using Easy Cost Planning [Seite 780].

To forward a cost estimate to another user for further processing or analysis, choose the service *Send* → *Send object with note* from the object services in the title bar of the symbol.( ). You can find more information on object services under *Services for object* ( ) → *Help for the object services*. The user to whom the cost estimate has been sent accesses the display mode of the cost estimate on opening the attachment to the note.

Changing Ad Hoc Cost Estimates

You have the following options:

- Under *Description* enter the name of the ad hoc cost estimate which you want to change and choose *Change.*

Executing Ad Hoc Cost Estimates

- Choose the tab page *Planning forms last used* and click on the ad hoc cost estimate that you want to change. You go directly to change mode.

For more information, see Using Easy Cost Planning [Seite 780].

Triggering the Execution Service

To be able to trigger an Execution Service you have to assign an account assignment object [Extern]. This is used to post all of the costs incurred through triggering the Execution Service (for instance through a purchase order).

1. You are in the create or change mode of the cost estimate. Choose .
2. Choose *Object type*.
3. Enter the key of the account assignment object that is to include the costs.
4. For more information, see Triggering the Execution Services [Seite 787].

Triggering the Execution Services

Use

Having planned costs using Easy Cost Planning [Seite 780], you want to trigger one of the following processes: Purchase requestion [Extern], purchase order [Extern], reservation [Extern], goods issue [Extern], or internal activity allocation [Extern] with and without Workflow [Extern]. To do this, the system will utilize the data that you entered for planning the costs.

This is possible for:

- Internal orders
- WBS elements
- Ad hoc cost estimates to which you have assigned an account assignment object.

Integration

The application components triggered for the Execution Service are the application components *Purchasing* (MM-PUR), *Inventory Management* (MM-IM), *Cost Center Accounting* (CO-OM-CCA), *Activity-Based Costing* (CO-OM-ABC) and SAP Business Workflow [Extern].

Prerequisites

The required settings have been made in Customizing under *Execution Services*.

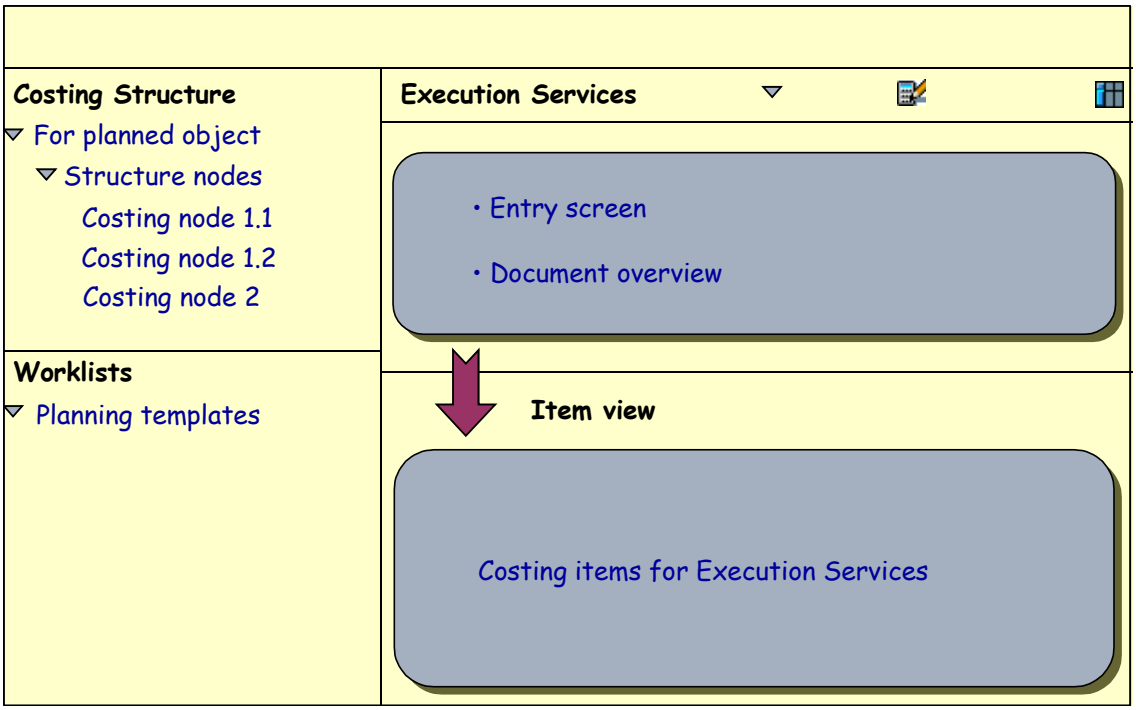
You have executed the cost planning, and the object (internal order or WBS element) exists in the system.

Showing the *Item view* must not be excluded by your Role [Extern].

Features

The costing screen is constructed as follows:

Triggering the Execution Services



Under *Execution Services* you are offered all of the Execution Services that are possible for the object to be planned. Before you select an Execution Service, it is possible to obtain an overview of all the existing purchase requests, purchase orders and so on for the costing items that have been created through the Execution Service. Click on the costing item in the screen area *Costing structure*, and choose .

The items relevant to the Execution Service are selected and, where applicable, expanded to include additional data. By using you can also display the *Document overview* for the Execution Service and the object in question, enabling you to avoid a double posting.

The Execution Service is posted in the system. Choose in the *document overview* to display the document posted.

Activities

1. Choose *Show Execution Services* and select an Execution Service. The system automatically selects those items relevant to the Service you selected, for instance for internal activity allocations E (*internal activity*), P (Process - manual), X (Process costs ABC) and V (*variable*) items are selected.
2. Select the costing items for which the Execution Service is to be triggered. You can also change the items, for example by entering a different quantity.
3. Post the items.

If an employee of the cost center that supplied the internal activity is also to post the internal activity allocation, you can start a **Workflow**. Select *Internal activity allocation* in order to select the relevant costing items. Select the item(s) and choose .

The screen *Change Document: Cost Center XYZ: Create Note* appears. In this screen, you can create messages for the workflow processor. Save (even if you have not created a message) and go back to the initial screen.

Result:

The items are in the processor's workflow inbox [Extern]. When the processor calls the task, the screen *Easy Cost Planning: Execution Services* appears. The processor can then post the internal activity allocation in this screen. By confirming the processing when leaving the screen, the task is deleted from the processor's inbox.

You cannot start a workflow for business process items.

See also:

SAP List Viewer [Extern]

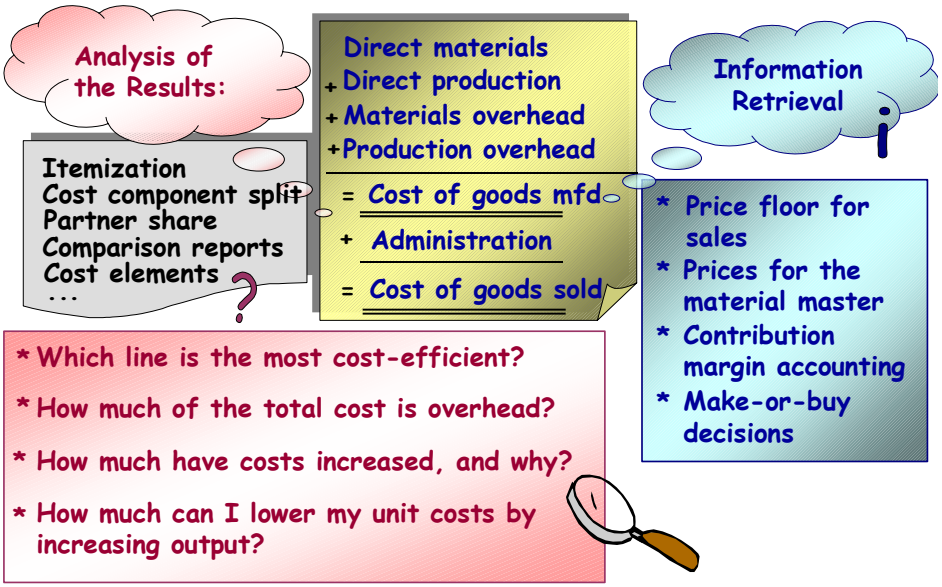
Information System for Product Cost Planning

Definition

Description of the reports available in the standard system for Product Cost Planning [Seite 18]

Use

You can use the reports of *Product Cost Planning* to analyze the composition and origin of the cost of goods manufactured and the cost of goods sold from different perspectives:



You can use these reports to format and analyze costing results from the following:

- Material cost estimates (*with* and *without quantity structure*)
- *Base planning objects*
- *Sales order cost estimates*

You can write material cost estimates to the material master as prices (as a standard price, for example). Before you update costing results to the material master, you should use the reports in the information system to check the costing results. Under the category *Summarized Analysis,* you find for example the report *Price versus Cost Estimate* with which you can compare the results of a costing run with a price in the material master.

Structure

The different reports are assigned to report categories in order to make a consistent navigation through the information system of *Product Cost Controlling* possible. You can find more information under Structure of the CO-PC Information System [Extern] and Report Categories [Extern].

You can either adjust the available reports to meet your requirements, or add new reports of your own. For more information, see: Customer Modification to the Information System [Extern]

Some functions in *Product Cost Controlling* contain special reporting features. For more information, see More Reports and Other Functions [Extern].

See also:

- Purpose of Product Cost Planning [Seite 23]
- Calculation of COGM and COGS [Seite 26]
- Information for Other SAP Applications [Seite 51]
- Costing Sequence [Seite 59]

Summarized Analysis: Costing Run

Definition

Reports for the analysis of costing runs [Seite 325]

Usually, if there is a larger volume of data, a costing run is run in the background over night. For this reason, it is important to quickly receive an overview of the results of a costing run. For example, such an overview enables you to find out which cost estimates were faulty or which costing results greatly vary from the valuation price (standard price or moving average price) of the respective materials.

Use

The standard system supplies the following three variants of this report:

- Results of the Costing Run [Seite 795]

  You can display the results of one or more costing runs.

- Price vs. Cost Estimate [Seite 796]

  You can compare the selected cost estimates against a material master price that you select. You can, for example, check the revaluation of the warehouse inventories that would result if the selected cost estimates were released.

- Variances between Costing Runs [Seite 799]

  You can compare costing runs with each other.

Each of these report variants has its own selection screen in which you can specify the criteria by which you want the system to select objects or data for the report.

You can do the following:

- Use the ***All selections*** function at any time to display all available selection options (fields)
- Define your own selection screens according to your requirements See Creating Selection Variants [Extern] for more information.

The field…	**can be used to...**
Material master price	select a price from the material master for comparison with the costing results of the costed materials. If necessary, you can select the key figure Costing/MM to display the variances between the calculated price and the selected material master price.
Cost component view	enter the desired cost component view [Extern]. The cost component groups [Extern] and values displayed depend on the cost component view.
Layout	enter a user-defined layout The report is started with the layout that is entered here. If you do not enter a layout, the system will generate a layout dynamically.

The following additional settings can be specified independently of the report variant when you execute the report:

Though ***Extras*** → *…*	**You can...**

Set currency...	Specify whether the costing results should be displayed in company code or controlling area currency
Activate cost component group...	Specify which cost component group [Extern] (cost component group 1 or 2) should be used
Hide report header	Hide or show the report header information
Selection scope...	Specify which material cost estimates are displayed You can, for example, only display cost estimates with quantity structure or only additive cost estimates.

Extracts

To avoid long runtimes every time you call a report, you can use the function ***Extract...*** to save the selected report data as an extract For more information, see: Working with Extracts [Extern]

Layouts

A suitable layout is defined for every report variant. This layout is automatically used in the standard system.

You can adjust the report variants supplied in the standard system to suit your requirements. Create a layout with the information you are most interested in. If you want to start the report with your own layout, enter that layout in the selection screen under *Layout*, or define it as an initial variant. In this case, every report variant starts with this layout.

See Creating, Changing and Managing Layouts [Extern] and Managing Layouts [Extern] for more information on layouts.

You can find information about the different functions for interactive processing of the results list under ABAP List Viewer [Extern].

Available Information

The following fields or field groups are available in the list screen of the report:

- Key figures:
  - **Costing/MM**

    This key figure represents the absolute variance between the cost estimate value and the *material master price* selected in the selection screen in the report (see the explanation below).
  - **%Costing/MM**

    This key figure represents the percentage variance between the cost estimate value and the material master price selected in the selection screen in the report against the material master price.
  - **Revaluation**

This key figure represents the difference between the value according to the cost estimate (costing value for each price unit times the inventory value) and the value of the entire inventory for each material.

– **VarCstRuns**

This key figure represents the absolute variance between two costing runs.

– **%VarCstRuns**

This key figure represents the percentage variance between two costing runs against the first costing run.

- Basic data:

  contains basic data for the material

- Costing 1 / Costing 2:

  contains basic data on the cost estimates

- Valuation:

  contains data on the valuation, such as the standard price and total inventory

- Cost component group 1 / Cost component group 2:

  contains the defined cost component groups for the cost estimates

- CostCompGr(fix) 1 / CostCompGr(fix) 2:

  contains the defined cost component groups with fixed costs for the cost estimates

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Results of Costing Run

Definition

Report variant of the Analyze Costing Run [Seite 792] report that gives you an overview of all materials that were costed in the costing run.

Use

You use this report to receive a listing of the costed materials with information concerning the status of the cost estimates as well as the cost estimate value.

Enter the necessary parameters (for example, name and date of the costing run, and the desired cost component view [Extern].) in the selection screen.

You can further limit the display of the costed materials of the costing run by, for example, selecting according to cost estimate status or plant. In this way, for example, you can generate a list of all the materials that were costed with errors in a costing run or a list of all materials of a plant.

Structure

In the standard system, this report shows the following information:

- Material, short text for a material, and plant
- Status and value of the cost estimate
- Lot size and base unit of measure

If you, for example, only want to display the materials that were costed with errors, you can use the filter function. You can modify this report to suit your requirements by creating a layout [Extern].

Integration

From the report, you can display the cost estimate for each material and call up the following reports:

- BOMs
- Cost components
- Cost elements
- Partner cost component split

See also:

Summarized Analysis: Costing Run [Seite 792]

Price versus Cost Estimate

Use

Before you update the standard price with the cost estimate values calculated in a costing run, you can use the report variant *Price versus Cost Estimate* of the report Summarized Analysis: Costing Run [Seite 792] to check the amount of the variance between the cost estimate and the standard price, and to see what the effect of releasing the cost estimate for all materials with price control *S* would be on the value of the total inventory.

This report variant compares the value of the cost estimate with a material master price you selected (such as the standard price). In addition to the variance between the material master price and the cost estimate price, the system calculates the anticipated revaluation of the inventories of all materials whose price control indicator is set to S that would result if the cost estimate were released. However, since materials whose price control indicator is set to V are not affected when the standard cost estimate is released, you should set the relevant filter to the *Price control field* for these materials if you are interested in the effects of the revaluation. This filters the materials in question out of the report display.

You can define exceptions to emphasize critical variances for individual materials. When you use these exceptions, materials will be highlighted with traffic lights symbols if the calculated variance or the anticipated revaluation exceeds predefined threshold values.

You generate a list of materials costed in the costing run, in which you can compare the cost estimate value with the current standard price. The system calculates the variances between the two prices. The system also calculates the value associated with the anticipated inventory revaluation upon release of the cost estimate. You have decided that all materials whose costing result varies from the standard price by more than 10% should be flagged with red traffic lights, and have defined exceptions accordingly.

Features

The report offers you a range of preselected data. You can modify this structure to suit your own requirements by creating your own custom layout [Extern].

Material master price field

You can enter a price from the material master (such as tax-based prices or planned prices) in the selection screen. After you run the report, the selected price is available as a visible field and can be used to compare this price with the calculated price of the material. You can display variances between the price chosen by you and the cost estimate value in the report display via the *Costing/MM* key figure.

You can use the report variant *Costing Run Result* to gain an overview of the materials costed without errors and their costing values.

In the selection screen of the report, enter value 1 (= standard price) in the *material master price* field and execute the report. In the report display, select the fields *Standard Price* and *Costing/MM* from the function *current display variant*. This

displays the standard price for each material costed. The difference between the standard price and the costing result is shown in the *Costing/MM* field.

Activities

Enter the necessary selection criteria in the selection screen. You can limit the selection of costed materials. This way you can have only those materials displayed in the report whose costing results deviated from the standard price by at least 10%, for example.

The field *material master price* controls which price is compared with the costing result. In the standard system, this field is not visible and the cost estimate is compared with the standard price to simulate the revaluation of the inventories that would take place if the standard cost estimates were released. You could also compare the costs with Tax Price 1, for example, to see the variances between these two prices. Display the field with *All selections*.

Exceptions

You can define exceptions if necessary.

Exceptions are used to highlight particularly important materials in the report display with traffic light symbols (red/yellow/green). These traffic light symbols are used when certain values exceed a predefined threshold (for example, when the variance between the costing result and the standard price exceeds 10%). You specify the reference for the threshold values. The percentage and absolute threshold values you specify tell the system by how much this reference value must be exceeded before it displays a traffic light symbol on the material.

The following figures are available for exceptions in the field *Comparison value*:

- Variance between cost estimate and material master price

  (the reference fields of exceptions are the key figures *Costing/MM* and %*Costing/MM*)

- Anticipated revaluation

  (reference field of exceptions is the key figure *revaluation*)

With exceptions, you can specify for example for the variance between the cost estimate and the material master price that:

- A red light is displayed for all materials with variances between the cost estimate value and the material master price exceeding 10%
- A yellow light is set for all materials with variances between the cost estimate value and the material master price of 10% to 5%
- A green light is displayed at all materials with variances between the cost estimate value and the material master price of less than 5%

If you set exceptions for the anticipated revaluation, you can specify for example that:

- A red light is displayed for all materials whose probable revaluation of the inventories is greater than $2000.
- A yellow light is displayed for all materials whose probable revaluation of the inventories is between $2000 and $1000.
- A green light is displayed for all materials whose probable revaluation of the inventories is less than $1000.

Price versus Cost Estimate

You can specify whether only the exceptions are displayed (red and yellow), or all costed materials. If your costing runs contain a large number of materials, it is recommended that you only display the exceptions.

You can also specify whether positive and negative variances are displayed.

If you don't want to see any exceptions, either set the comparison value to *00 <no comparison value>* or don't enter any threshold values.

Integration

From the report, you can display the cost estimate for each material and call up the following reports:

- BOMs
- Cost components
- Cost elements
- Partner cost component split

Variances Between Costing Runs

Use

If you have executed multiple costing runs with different costing variants, you can use the reporting variant *Variances in Costing Runs* in the report Summarized Analysis: Costing Run [Seite 792] to compare the costing results of two different costing runs and to display the variances between the values of both costing runs. Materials with extremely high variances between the values of both costing runs can be highlighted with red traffic lights.

You compare two costing runs that have selected the same materials but were costed with different costing variants. You are interested in extreme variances between the values from both costing runs. You can define an exception for this variance to have only those materials displayed whose variance between the costing results is at least 100 DM.

Features

The report offers you a range of preselected data. You can modify this structure to suit your own requirements by creating your own layouts [Extern].

Activities

1. Enter the necessary selection criteria in the selection screen.
2. You can define exceptions if necessary.

   Exceptions are used to highlight particularly large variances between costing runs by using traffic light symbols (red/yellow/green). These traffic light symbols are used when certain values exceed a predefined threshold (i.e. the variance between the values from both costing runs exceeds $100). You specify the reference for the threshold value. The percentage and absolute threshold values you specify tell the system by how much the reference value must be exceeded before it displays a traffic light symbol on the material.

   For example, you can specify that:

   a. A red light is shown at all materials with variances between the cost estimate value in costing run 1 and costing run 2 of greater than 10%

   b. A yellow light is shown at all materials with variances between the cost estimate values of costing run 1 and costing run 2 between 10% and 5%

      You can specify whether only the exceptions are displayed (red and yellow), or all costed materials. If your costing runs contain a large number of materials, it is recommended that you only display the exceptions.

      If you don't want to see any exceptions, either set the comparison value to *00 <no comparison value>* or don't enter any threshold values.
3. You can also specify whether positive and negative variances are displayed.

Integration

From the report, you can call up the following reports for any material:

Variances Between Costing Runs

- Cost components
- Cost elements
- Costed BOM
- Partner cost component split
- Object comparisons
  - Cost elements
  - Cost components

Object List for Material

Definition

This report category [Extern] contains lists of material cost estimates existing in the system and the report for display of materials to be costed. The object list for material offers an overview that you can print out and use to call up the detail display for each cost estimate.

See also:

- Cost Estimate with Quantity Structure [Seite 92]
- Cost Estimate without Quantity Structure [Seite 449]

Analysis / Comparison of Material Cost Estimates

Definition

Existing material cost estimates

Use

This report generates a list of existing material cost estimates according to various selection criteria.

You can select according to the following search criteria:

- Plant, material
- Costing variant, costing version, and costing date

You can also suppress the display of input materials. To do so, set the indicator to *No Material Components*.

Structure

The standard report shows a header line for each material, and an item below that for each cost estimate that was selected for the material. The report offers you a range of preselected data. You can modify this structure to suit your own requirements by creating your own layouts [Extern].

Integration

You can access detailed reports for a cost estimate (for example, a cost component split or itemization) while in the list:

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

You can find information about the different functions for interactively processing results lists in the documentation for the ABAP List Viewer [Extern].

Display of Materials to Be Costed

Use

You can call up this report to obtain a quick overview of the materials to be costed. The report is mainly used for the generation of extracts that can be displayed in a mini-application in the workplace.

Features

The report displays the following materials:

- Materials that can be costed (the *No Costing* indicator is not set in the costing view of the material master)
- Materials for which no marked or released standard cost estimates exist in the system

Activities

If you set the *Sorted by Earliest Plan Order* indicator in the selection screen, the dates of the orders for all materials to be costed for which a plan order exists (POrd) are sorted and displayed in the *order start date* column. If you don't set the indicator, performance during execution of the report is improved.

If you don't want to save the extract, you don't have to enter a user. If you save the extract without entering a user, all users can display the extract.

Under *Maximum no. of hits,* enter the maximum number of materials that should be displayed in the list. If you limit the number of hits, performance improves.

Integration

The extract that you save here is displayed in the mini-application. The report SAPRCKAPP02 allows you to see the contents of the extract in the R/3 system.

Note for System Administration:

To display the extract in the mini-application, you must carry out the steps described under Setting Up Mini-Applications [Extern].

Object Lists for Base Planning Objects

Definition

Reports for the generation of lists based on existing base planning objects in the system

See also:

- Reference and Simulation Costing [Seite 659]
- Reference and Simulation Costing: Flow [Seite 666]
- Results of Reference and Simulation Costing [Seite 661]

Overview of Base Planning Objects

Definition

List of existing base planning objects

Use

This report generates a list of existing base planning objects according to various selection criteria.

You can select according to the following search criteria:

- Name of the base planning object
- Sorting field
- Base object group
- Entered by
- Last changed by
- Only base planning objects flagged for deletion

Structure

You receive a list of the base planning objects found. Detailed information for a base planning object is displayed in each line of this list You can process this list according to your requirements, for example:

- Sort in ascending and descending order according to columns (or)
- Set a filter ( )
- Change the current layout and save it as a new layout (Creating, Changing, and Managing Layouts [Extern])

Integration

You can, for example, access the following from this list:

- The master data and costing items of the base planning object (*Base Planning Object*)
- The costed multilevel BOM of the base planning object (*Cost estimate)*
- The where-used list of the base planning object ( )

See also:

Reference and Simulation Costing [Seite 659]

Base Planning Object [Seite 702]

Working with Reference and Simulation Costing [Seite 665]

Where-Used List of Base Planning Objects

Definition

Report that shows where a base planning object is used in the system.

Use

You can use this report to find out in which of the following objects a base planning is used:

- Other base planning objects
- Internal orders
- Production orders
- Projects
- Cost objects

Structure

You receive a hierarchical list of objects in which the base planning object is used. This list is grouped by object type.

Integration

You can go to the function of the object that uses the base planning object.

If necessary, you can go from the where-used list to the following reports for objects that use the base planning object:

- Report for costing items
- Report for cost elements and origin
- Report for cost elements and items

Detailed Reports for Materials

Definition

Reports based on the data of the existing material cost estimates in the system

Use

In the selection screen, you can directly enter the cost estimate data for the report you are calling up or search for it with *Cost Estimate*.

Before calling up the report, you can make a number of settings (some of which you can change in the report) in the **selection screen**:

- You can specify which *cost base* and which *cost component view* (for example, cost of goods sold) should be displayed in the report. If you don't enter a cost base, the costs are displayed based on the costing lot size.
- You can display the costs in company code or controlling area currency (if the data exists; see Currencies in Costing [Seite 633]). To do so, choose *Settings* → *Currency...*
- You can select a predefined layout with .

If you want to have multiple low-level codes displayed in the itemization, choose *Settings* → *BOM Explosion.* You can also specify that only material items should be displayed. You can have an additional field *Level* displayed that shows the low-level codes of the respective report lines.

See also:

- Cost Estimate with Quantity Structure [Seite 92]
- Cost Estimate Without Quantity Structure [Seite 449]
- Special Processing with Mixed Costing [Extern]
- Features of the ABAP List Viewer [Extern]
- Creating, Changing, and Managing Layouts [Extern]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Cost Components

Use

This report shows the costs calculated in a material cost estimate or sales order cost estimate across all production levels, broken down into cost components. You can analyze the costs of the cost component split for the cost of goods manufactured and the costs of the primary cost component split.

The results of a cost estimate are updated as cost components (this is called a *cost component split*). The cost components break down the costs of a material across the entire production structure into material costs, production costs, material overhead, production overhead, and other costs. The costs for internal activities normally flow into the cost component split under secondary cost elements. In order to present primary costs for internal activities, you can use a primary cost component split as an alternative way of outlining the cost components.

The cost component split enables you to do the following:

- Analyze the cost origin across multiple production levels.

  You can analyze the value added within a multilevel production structure. The costs of the upper level consist of the internal activities and the overhead costs that are incurred at that level. The costs of the lower level include the materials and raw materials. The total costs of the upper level and lower level equal the total costs of the production level being analyzed.

- View the costs by original production factors (primary cost component split).
- Structure the costs according to the requirements of other areas (such as material valuation or profitability analysis).

  In the cost component view, you can specify which cost elements are displayed in the report. For example, you can select the cost of goods manufactured or the cost of goods sold, or the costs that are relevant to inventory valuation. You specify various cost component views in Customizing for *Product Cost Planning*. For each cost component, you can decide which share of the costs contained therein (fixed, variable, full) is displayed in which cost component view.

Prerequisites

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material in the BOM. For this to occur, you must have already defined a cost component structure in Customizing.

You specify the following in a cost component structure:

- Which cost components the calculated costs should be assigned to
- Which cost elements are grouped into which cost component

The cost component structure is selected through the company code, plant, and costing variant. You specify this assignment in Customizing for Product Cost Planning under *Basic Settings for Material Costing → Define Cost Component Structure.*

If you want to see a primary cost component split for the cost components, you must first generate a primary cost component split in *Cost Center Accounting* or *Activity-Based Costing*.

If you are using mixed costing, you can display the costing results for a specific procurement alternative broken down into cost components. Call up the desired procurement alternative in the report call using the menu option *Settings*. To display the cost component split for a mixed cost estimate that was formed from different cost estimates and procurement alternatives and weighted with equivalence numbers, do not enter a procurement alternative. The split for the mixed cost estimate is displayed automatically if a mixed cost estimate was created for the costing version.

Features

Main Cost Component Splits and Auxiliary Cost Component Splits

You can display the costs as a cost component split for the cost of goods manufactured and/or primary cost component split.

- You can calculate the cost component split for the cost of goods manufactured and primary cost component split simultaneously. You can switch between the two cost component views (under *Settings* → *Type of cost component split)*. However, you can also generate only the cost component split for the cost of goods manufactured or the primary cost component split.
- If you want to cost both cost component splits simultaneously, you must determine which cost component split is the **main cost component split** in Customizing for *Product Cost Controlling*. You can also generate a further cost component split as an **auxiliary cost component split** for comparison purposes.

The update of the standard price [Seite 636] in the material master is effected by the main cost component split.

An itemization is only created for the main cost component split.

In the report, you can switch between the main cost component split and the auxiliary cost component split. With the appropriate setting, you can switch between the cost component split for the cost of goods manufactured and the primary cost component split.

Upper Level / Lower Level / Aggregate Level

The cost estimate enables you to analyze the value added within a multilevel production structure. You can apportion the costs for each material according to the **lower level** and **upper level**.

You can find the cost component split display under *Costs* → *Display Cost components.* You can make this setting with *Settings* → *Layout*. You can create your own report from a large number of selections options.

When you display the costs:

- For the **upper level**, you see the production costs, overhead costs and costs for external activities that are expected for this production level
- For the **lower level,** you see the costs of all material components that are processed in this production level

In both cases, the costs are apportioned according to cost components [Seite 462]. The total cost of the upper level and lower level equals the total costs of the production level being analyzed.

You can go to the following other reports in the same report group:

- Total values
- Upper level
- Lower level

When the costs are apportioned according to cost components, the original identity of the costs (for example, costs of materials or fixed and variable production costs) are maintained throughout all production levels. At every production level, the value added at that level and the costs of the lower level can be separated through the cost component split.

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material. For more information on saving costing results, see Saving Costing Results [Seite 600].

If you want to create a cost component split for raw materials and purchased parts, you can enter additive cost components for each material for these costs. You can then group these cost components in an "External procurement" cost component structure that only contains such costs. For more information, see Additive Costs [Seite 246].

Partner Cost Component Split

Definition

Report with which you can display the value added of the organizational units (partners [Seite 628]) involved in the production process organized according to cost component groups in a hierarchy graphic.

Use

If production involves more than one partner (for example, multiple profit centers in multiple plants and company codes), you can analyze the value added for each partner [Seite 628].

You can analyze the following reports:

- Reports that show the total costs of a product broken down according to cost components [Seite 462]
- Reports that show the portion of the partners broken down according to cost component groups

In Customizing, you specify which organizational units the system considers as partners. You can select from the organizational units company code, plant, profit center and business area.

For every resource used, the system can derive the organizational unit that provided this resource. The cost estimate generates a separate cost component split for every involved partner. You can also only display the direct partner's [Seite 628] portion.

The partner cost component split can be arranged in multiple dimensions, according to the definition of the partner. The cost component split can be displayed in hierarchy sequences of the partner, as required.

Structure

The partner cost component split provides a hierarchical graphic in which the partners that you have defined are displayed with their costs. The costs are grouped in cost components and shown as totals. Through *Settings* → *Sort Sequence of Partner Cost Splits* in the report, you can change the sort sequence of partner cost splits (order in which the partners are shown in the hierarchy).

Through *Settings* → *Cost Component Groups, y*ou can switch between cost component groups 1 and 2 in the report. You can also switch between the main and auxiliary cost component splits.

Unless you specify a different lot size, the lot size of the cost estimate is displayed. If you want to use a specific lot size, enter it in the report parameters under *cost base*. The costs are then converted to that lot size. The values displayed depend on the cost component view selected.

Integration

Through *Settings* → *Partner View*, you can branch from the partner cost component split to reports for the direct partners. The reports on the direct partners are also hierarchical graphics, although they are only single-level. If you choose and display, for example, the profit center as the direct partner, you will see (in addition to the profit center of the material costed) only the profit center that has directly issued your activity or delivery to the profit center of the material costed.

Prerequisites

To generate and display a partner cost component split, you must do the following in Customizing:

- Define cost component groups
- Define a partner version
- Enter this partner version in the costing type
- Enter this costing type in the costing variant that you use for costing

See also:

Preparing for Material Costing [Seite 73]

Cost Component Report [Seite 824]

Cost Elements

Use

The report displays a cost estimate broken down into cost elements. The cost elements show the costs according to origin, such as material costs or labor costs. The cost element itemization thus tells you which costs have arisen for what purpose.

Integration

If you enter an *origin group* in the material master record or in the credit key of the costing sheet, you can have this displayed in an additional field to further break down the costs into material cost elements and the overhead costs into origin groups.

The values in the cost element itemization are determined from the values in the itemization. Subsequent changes of the quantity structure or the costing items are not displayed. To display such changes, costing must be repeated.

If you use your own programs or reports to evaluate your cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Prerequisites

If you want to see the cost element itemization in the information system, you must select the *itemization* indicator when you save the cost estimate.

Activities

In the standard system, you can choose between predefined layouts or adapt the information to your requirements by creating custom layouts. For more information, see Creating, Changing, and Managing Layouts [Extern].

See also:

Cost Analysis [Extern]

Itemization

Definition

Report that lists the calculated costs and contains detailed information on cost origins and elements that make up costs.

Prerequisites

An itemization is generated automatically with a cost estimate. If you want to display the itemization information in the cost estimate display and the information system, you must set the *Itemization* indicator when saving the cost estimate.

During preliminary costing for a production order or a production campaign, an itemization is generated dynamically. However, this itemization is not stored in the system and therefore cannot be analyzed in the information system. The itemization is available for analysis immediately after you carry out costing. For more information on the itemization of production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Use

You can use itemization to analyze a costed material, base planning object or sales document item in more detail.

Depending on the questions you need answered, there are different layouts of the itemization available in the SAP standard system. Through the selection of certain fields, you can find various information that is also partially grouped. The costs can be broken down for analysis by cost elements, by operations, or by costing items. The following layouts are described in more detail:

- Itemization by Costing Items [Extern]
- Itemization by Cost Components/ Cost Elements [Extern]
- Itemization by Operations [Extern]
- Itemization by Cost Elements [Extern]

You can modify this structure to suit your own requirements by creating your own layouts [Extern]. You can create your own layouts to be able to see other information in the itemization. For example, you can add the purchasing info record and the purchasing organization or the origin groups to the report display, or add the text of the activity types or item categories.

The origin group provides detailed information on the source of the material costs or on the origin of the overhead. With material costs, the origin group is entered in the material master record. With overhead costs, the origin group is entered in the credit key of the costing sheet and offers more information on the origin of the overhead.

In the itemization, you can also display the costs broken down into cost elements. Material costs, external activity and non-stock material are assigned to primary cost elements. In this itemization, they are shown under cost elements determined by the system. Costs for internal activity are displayed under the allocation cost element of the activity type that was entered in the master record of the activity type. Overhead costs and process costs are also displayed under

secondary cost elements. Because all actual costs are also assigned to these cost elements, a plan/actual comparison is possible later.

Only a limited selection of layouts are available for **base planning objects**.

Structure

In the standard system. the itemization is displayed with the layout *Item Categories (grouped)*. Here, the costing items are listed according to item categories. The item categories indicate, for example, whether it is a material (M), internal activity (E), or overhead rate (G).

The costing item for a material (M) indicates the plant, the relevant material number, the price of the material, the text in the material master data and the quantity used.

The costing item for an internal activity (E) indicates the cost center, the work center, the activity type, a text, the price of the activity and the quantity used.

See Creating and Deleting Subtotals [Extern] for general information on grouping in layouts.

For *joint production*, the itemization provides two types of display. You can switch between the process view and the product view in the report. While the product view shows only the costs of the co-product, the process view provides information about the costs of the other co-products, as well as an overview of the total costs of the production process. The other co-products are shown under item category A with negative quantities and values. This negative value is the amount of costs for the co-product that was calculated using the apportionment structure.

Integration

The itemization is a prerequisite for variance calculation in Product Cost by Period and Product Cost by Order.

From the report, you can display the master data of a costing item.

For operations that are carried out externally, the costs are either entered in the routing, or are determined using a purchasing info record. For operations that are carried out internally, the costs are determined using *Cost Center Accounting*. For the valuation of internal activity using a cost estimate with quantity structure, the system assumes that price calculation was already done in *Cost Center Accounting*.

The system determines overhead on the basis of input quantities, or proportionally on the basis of direct costs (material or production) or costs of goods manufactured. You define the conditions for determining this overhead in a costing sheet in Customizing.

Process costs are determined in Activity-Based Costing [Extern] and are generally assigned to the product using a template. The template specifies which process costs are consumed and the basis on which these costs are further allocated to the product.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

If you are working with production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Detailed Reports for Base Planning Objects

Definition

The reports based on the data from the existing base planning objects and their master data.

Use

In the selection screen, enter the existing base planning object for which you want the report. You call up the report through .

Before calling up the costed multilevel BOM and itemization, you can choose a predefined layout with *Extras* → *Layout...* You can also switch to another layout or modify the current layout directly in the report.

See also:

- Features of the ABAP List Viewer [Extern]
- Creating, Changing, and Managing Layouts [Extern]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Itemization

Definition

Report that lists the calculated costs and contains detailed information on cost origins and elements that make up costs.

Prerequisites

An itemization is generated automatically with a cost estimate. If you want to display the itemization information in the cost estimate display and the information system, you must set the *Itemization* indicator when saving the cost estimate.

During preliminary costing for a production order or a production campaign, an itemization is generated dynamically. However, this itemization is not stored in the system and therefore cannot be analyzed in the information system. The itemization is available for analysis immediately after you carry out costing. For more information on the itemization of production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Use

You can use itemization to analyze a costed material, base planning object or sales document item in more detail.

Depending on the questions you need answered, there are different layouts of the itemization available in the SAP standard system. Through the selection of certain fields, you can find various information that is also partially grouped. The costs can be broken down for analysis by cost elements, by operations, or by costing items. The following layouts are described in more detail:

- Itemization by Costing Items [Extern]
- Itemization by Cost Components/ Cost Elements [Extern]
- Itemization by Operations [Extern]
- Itemization by Cost Elements [Extern]

You can modify this structure to suit your own requirements by creating your own layouts [Extern]. You can create your own layouts to be able to see other information in the itemization. For example, you can add the purchasing info record and the purchasing organization or the origin groups to the report display, or add the text of the activity types or item categories.

The origin group provides detailed information on the source of the material costs or on the origin of the overhead. With material costs, the origin group is entered in the material master record. With overhead costs, the origin group is entered in the credit key of the costing sheet and offers more information on the origin of the overhead.

In the itemization, you can also display the costs broken down into cost elements. Material costs, external activity and non-stock material are assigned to primary cost elements. In this itemization, they are shown under cost elements determined by the system. Costs for internal activity are displayed under the allocation cost element of the activity type that was entered in the master record of the activity type. Overhead costs and process costs are also displayed under

secondary cost elements. Because all actual costs are also assigned to these cost elements, a plan/actual comparison is possible later.

Only a limited selection of layouts are available for **base planning objects**.

Structure

In the standard system. the itemization is displayed with the layout *Item Categories (grouped)*. Here, the costing items are listed according to item categories. The item categories indicate, for example, whether it is a material (M), internal activity (E), or overhead rate (G).

The costing item for a material (M) indicates the plant, the relevant material number, the price of the material, the text in the material master data and the quantity used.

The costing item for an internal activity (E) indicates the cost center, the work center, the activity type, a text, the price of the activity and the quantity used.

See Creating and Deleting Subtotals [Extern] for general information on grouping in layouts.

For *joint production*, the itemization provides two types of display. You can switch between the process view and the product view in the report. While the product view shows only the costs of the co-product, the process view provides information about the costs of the other co-products, as well as an overview of the total costs of the production process. The other co-products are shown under item category A with negative quantities and values. This negative value is the amount of costs for the co-product that was calculated using the apportionment structure.

Integration

The itemization is a prerequisite for variance calculation in Product Cost by Period and Product Cost by Order.

From the report, you can display the master data of a costing item.

For operations that are carried out externally, the costs are either entered in the routing, or are determined using a purchasing info record. For operations that are carried out internally, the costs are determined using *Cost Center Accounting*. For the valuation of internal activity using a cost estimate with quantity structure, the system assumes that price calculation was already done in *Cost Center Accounting*.

The system determines overhead on the basis of input quantities, or proportionally on the basis of direct costs (material or production) or costs of goods manufactured. You define the conditions for determining this overhead in a costing sheet in Customizing.

Process costs are determined in Activity-Based Costing [Extern] and are generally assigned to the product using a template. The template specifies which process costs are consumed and the basis on which these costs are further allocated to the product.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

If you are working with production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Multilevel Explosion of a Base Planning Object

Definition

Report that explodes all items of a base planning object and shows the level

Use

You use this report to show the materials and activities for a base planning object. If other base planning objects were used the base planning object, the base planning objects will be exploded down to the last code.

In the selection screen, enter the base planning object that you want to explode. Execute the report with .

Structure

You receive a list of all costing items with their corresponding level.

You can also adapt the information supplied to suit your requirements. See the following for more information:

Features of the ABAP List Viewer [Extern]

Creating, Changing and Managing Layouts [Extern]

Detailed Reports on Sales Order Cost Estimates

Definition

The following reports described are based on the data of a sales order cost estimate. Sales order cost estimates can be created in sales-order-related production.

Use

In the selection screen, you can select report settings (some of which you can change once in the report) before calling up the report.

- You can specify which *cost base* and which *cost component view* (for example, cost of goods sold) should be displayed in the report. If you don't enter a cost base, the costs are displayed based on the costing lot size.
- You can display the costs in company code or controlling area currency (if the data exists; see Currencies in Cost Estimates [Seite 633]). To do so, choose *Settings* → *Currency...*
- You can select a predefined layout with *Settings* → *Layout...*

If you want to have multiple low-level codes displayed in the itemization, choose *Settings* → *BOM Explosion.* You can also specify that only material items should be displayed. You can have an additional field *Level* displayed that shows the low-level codes of the respective report lines.

See also:

Sales Order Costing [Extern]

Cost Object Controlling: Sales-Order-Related Production [Extern]

Costed Multilevel BOM

Definition

Hierarchical overview of the values for all costing items of a material, sales order or base planning object.

Prerequisites

If you want to see the costed multilevel BOM in the cost estimate display and the information system, set the *itemization* indicator when you save the cost estimate.

Use

The display of costs for each component (assemblies and input materials) in the costed multilevel BOM is based on the structure and content of the BOM of the costed material. You can also display all other costing items (for example, internal activities and overhead costs) by choosing . In addition to costs, the respective input quantities are displayed. You can check which valuation strategy was used during costing by also having the field *Price Strategy (text)* displayed.

The structure of the costed multilevel BOM for unit cost estimates is very flat as a result of the costing structure of the unit cost estimate and therefore offers little information on the structure of the costs.

Structure

In the SAP standard system, you can choose between predefined layouts or adjust information displayed according to your requirements by creating a layout [Extern].

The values displayed are dependent on the cost component view (for example, cost of goods manufactured, cost of goods sold or stock valuation) and the cost base. If you change these, the costs are immediately converted to the new cost base or displayed in the selected view.

Choose for an explanation of the symbols next to the materials or items.

The values in the costed multilevel BOM are determined from the values in the itemization. Subsequent changes of the quantity structure or the values are not displayed. A new costing is necessary for this.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

Cost Components

Use

This report shows the costs calculated in a material cost estimate or sales order cost estimate across all production levels, broken down into cost components. You can analyze the costs of the cost component split for the cost of goods manufactured and the costs of the primary cost component split.

The results of a cost estimate are updated as cost components (this is called a *cost component split*). The cost components break down the costs of a material across the entire production structure into material costs, production costs, material overhead, production overhead, and other costs. The costs for internal activities normally flow into the cost component split under secondary cost elements. In order to present primary costs for internal activities, you can use a primary cost component split as an alternative way of outlining the cost components.

The cost component split enables you to do the following:

- Analyze the cost origin across multiple production levels.

  You can analyze the value added within a multilevel production structure. The costs of the upper level consist of the internal activities and the overhead costs that are incurred at that level. The costs of the lower level include the materials and raw materials. The total costs of the upper level and lower level equal the total costs of the production level being analyzed.

- View the costs by original production factors (primary cost component split).
- Structure the costs according to the requirements of other areas (such as material valuation or profitability analysis).

  In the cost component view, you can specify which cost elements are displayed in the report. For example, you can select the cost of goods manufactured or the cost of goods sold, or the costs that are relevant to inventory valuation. You specify various cost component views in Customizing for *Product Cost Planning*. For each cost component, you can decide which share of the costs contained therein (fixed, variable, full) is displayed in which cost component view.

Prerequisites

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material in the BOM. For this to occur, you must have already defined a cost component structure in Customizing.

You specify the following in a cost component structure:

- Which cost components the calculated costs should be assigned to
- Which cost elements are grouped into which cost component

The cost component structure is selected through the company code, plant, and costing variant. You specify this assignment in Customizing for Product Cost Planning under *Basic Settings for Material Costing → Define Cost Component Structure.*

If you want to see a primary cost component split for the cost components, you must first generate a primary cost component split in *Cost Center Accounting* or *Activity-Based Costing*.

If you are using mixed costing, you can display the costing results for a specific procurement alternative broken down into cost components. Call up the desired procurement alternative in the report call using the menu option *Settings*. To display the cost component split for a mixed cost estimate that was formed from different cost estimates and procurement alternatives and weighted with equivalence numbers, do not enter a procurement alternative. The split for the mixed cost estimate is displayed automatically if a mixed cost estimate was created for the costing version.

Features

Main Cost Component Splits and Auxiliary Cost Component Splits

You can display the costs as a cost component split for the cost of goods manufactured and/or primary cost component split.

- You can calculate the cost component split for the cost of goods manufactured and primary cost component split simultaneously. You can switch between the two cost component views (under *Settings* → *Type of cost component split)*. However, you can also generate only the cost component split for the cost of goods manufactured or the primary cost component split.
- If you want to cost both cost component splits simultaneously, you must determine which cost component split is the **main cost component split** in Customizing for *Product Cost Controlling*. You can also generate a further cost component split as an **auxiliary cost component split** for comparison purposes.

  The update of the standard price [Seite 636] in the material master is effected by the main cost component split.

  An itemization is only created for the main cost component split.

In the report, you can switch between the main cost component split and the auxiliary cost component split. With the appropriate setting, you can switch between the cost component split for the cost of goods manufactured and the primary cost component split.

Upper Level / Lower Level / Aggregate Level

The cost estimate enables you to analyze the value added within a multilevel production structure. You can apportion the costs for each material according to the **lower level** and **upper level**.

You can find the cost component split display under *Costs* → *Display Cost components.* You can make this setting with *Settings* → *Layout*. You can create your own report from a large number of selections options.

When you display the costs:

- For the **upper level**, you see the production costs, overhead costs and costs for external activities that are expected for this production level
- For the **lower level,** you see the costs of all material components that are processed in this production level

Cost Components

In both cases, the costs are apportioned according to cost components [Seite 462]. The total cost of the upper level and lower level equals the total costs of the production level being analyzed.

You can go to the following other reports in the same report group:

- Total values
- Upper level
- Lower level

When the costs are apportioned according to cost components, the original identity of the costs (for example, costs of materials or fixed and variable production costs) are maintained throughout all production levels. At every production level, the value added at that level and the costs of the lower level can be separated through the cost component split.

When you save a material cost estimate or a costing run, the system automatically updates a cost component split for each costed material. For more information on saving costing results, see Saving Costing Results [Seite 600].

If you want to create a cost component split for raw materials and purchased parts, you can enter additive cost components for each material for these costs. You can then group these cost components in an "External procurement" cost component structure that only contains such costs. For more information, see Additive Costs [Seite 246].

Cost Elements

Use

The report displays a cost estimate broken down into cost elements. The cost elements show the costs according to origin, such as material costs or labor costs. The cost element itemization thus tells you which costs have arisen for what purpose.

Integration

If you enter an *origin group* in the material master record or in the credit key of the costing sheet, you can have this displayed in an additional field to further break down the costs into material cost elements and the overhead costs into origin groups.

The values in the cost element itemization are determined from the values in the itemization. Subsequent changes of the quantity structure or the costing items are not displayed. To display such changes, costing must be repeated.

If you use your own programs or reports to evaluate your cost element itemizations, you must use the function module CK11_ITEMIZATION_TO_COSX_CONV, which creates the cost element itemization from the itemization.

Prerequisites

If you want to see the cost element itemization in the information system, you must select the *itemization* indicator when you save the cost estimate.

Activities

In the standard system, you can choose between predefined layouts or adapt the information to your requirements by creating custom layouts. For more information, see Creating, Changing, and Managing Layouts [Extern].

See also:

Cost Analysis [Extern]

Itemization

Definition

Report that lists the calculated costs and contains detailed information on cost origins and elements that make up costs.

Prerequisites

An itemization is generated automatically with a cost estimate. If you want to display the itemization information in the cost estimate display and the information system, you must set the *Itemization* indicator when saving the cost estimate.

During preliminary costing for a production order or a production campaign, an itemization is generated dynamically. However, this itemization is not stored in the system and therefore cannot be analyzed in the information system. The itemization is available for analysis immediately after you carry out costing. For more information on the itemization of production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Use

You can use itemization to analyze a costed material, base planning object or sales document item in more detail.

Depending on the questions you need answered, there are different layouts of the itemization available in the SAP standard system. Through the selection of certain fields, you can find various information that is also partially grouped. The costs can be broken down for analysis by cost elements, by operations, or by costing items. The following layouts are described in more detail:

- Itemization by Costing Items [Extern]
- Itemization by Cost Components/ Cost Elements [Extern]
- Itemization by Operations [Extern]
- Itemization by Cost Elements [Extern]

You can modify this structure to suit your own requirements by creating your own layouts [Extern]. You can create your own layouts to be able to see other information in the itemization. For example, you can add the purchasing info record and the purchasing organization or the origin groups to the report display, or add the text of the activity types or item categories.

The origin group provides detailed information on the source of the material costs or on the origin of the overhead. With material costs, the origin group is entered in the material master record. With overhead costs, the origin group is entered in the credit key of the costing sheet and offers more information on the origin of the overhead.

In the itemization, you can also display the costs broken down into cost elements. Material costs, external activity and non-stock material are assigned to primary cost elements. In this itemization, they are shown under cost elements determined by the system. Costs for internal activity are displayed under the allocation cost element of the activity type that was entered in the master record of the activity type. Overhead costs and process costs are also displayed under

secondary cost elements. Because all actual costs are also assigned to these cost elements, a plan/actual comparison is possible later.

Only a limited selection of layouts are available for **base planning objects**.

Structure

In the standard system. the itemization is displayed with the layout *Item Categories (grouped)*. Here, the costing items are listed according to item categories. The item categories indicate, for example, whether it is a material (M), internal activity (E), or overhead rate (G).

The costing item for a material (M) indicates the plant, the relevant material number, the price of the material, the text in the material master data and the quantity used.

The costing item for an internal activity (E) indicates the cost center, the work center, the activity type, a text, the price of the activity and the quantity used.

See Creating and Deleting Subtotals [Extern] for general information on grouping in layouts.

For *joint production*, the itemization provides two types of display. You can switch between the process view and the product view in the report. While the product view shows only the costs of the co-product, the process view provides information about the costs of the other co-products, as well as an overview of the total costs of the production process. The other co-products are shown under item category A with negative quantities and values. This negative value is the amount of costs for the co-product that was calculated using the apportionment structure.

Integration

The itemization is a prerequisite for variance calculation in Product Cost by Period and Product Cost by Order.

From the report, you can display the master data of a costing item.

For operations that are carried out externally, the costs are either entered in the routing, or are determined using a purchasing info record. For operations that are carried out internally, the costs are determined using *Cost Center Accounting*. For the valuation of internal activity using a cost estimate with quantity structure, the system assumes that price calculation was already done in *Cost Center Accounting*.

The system determines overhead on the basis of input quantities, or proportionally on the basis of direct costs (material or production) or costs of goods manufactured. You define the conditions for determining this overhead in a costing sheet in Customizing.

Process costs are determined in Activity-Based Costing [Extern] and are generally assigned to the product using a template. The template specifies which process costs are consumed and the basis on which these costs are further allocated to the product.

See also:

If you are using *mixed costing*, refer to Special Processing with Mixed Costing [Extern].

If you are working with production campaigns, refer to Reports for Cost Controlling of Production Campaigns [Extern].

Object Comparisons for Materials

Definition

Reports you can use to compare a material cost estimate with another material cost estimate, or compare a material cost estimate with the preliminary cost estimate of an order.

See also:

Material Cost Estimate with Quantity Structure [Seite 92]

Material Cost Estimate Without Quantity Structure [Seite 449]

Preliminary Cost Estimate for Manufacturing Order [Extern]

Material Cost Estimate vs. Preliminary Order Cost Estimate

Definition

Report that compares a material cost estimate with the preliminary cost estimate for a manufacturing order [Extern].

Use

You can use this report to compare a material cost estimate with the planned costs of manufacturing orders **for this material**.

You can find this report in the following application components of *Product Cost Controlling*:

- *Product Cost Planning*
- *Product Cost by Order*

Structure

The view of a cost estimate relevant to inventory accounts is compared with a preliminary order cost estimate **on the basis of original cost elements**. The cost element itemization of material costing is derived with the following strategy:

a. The system reads the cost element itemization of the cost estimate, if it exists.

In the SAP standard system, you can no longer control whether a cost element itemization is saved. The cost element itemization is always generated dynamically on the basis of the itemization.

b. A cost element itemization is generated dynamically from the itemization of the cost estimate. This dynamically generated cost element itemization is not saved in the system at any time.

The cost base is calculated as follows:

- If you specify a lot size, both the values of the material cost estimate and the values of the preliminary order cost estimate are converted to that lot size.
- If you don't specify a lot size, the system will convert the values to the costing lot size of the material cost estimate.

Because the system cannot convert if the units of measure are different, this comparison is normally only suitable for a material cost estimate with the orders for that material.

See also:

Material Cost Estimate with Quantity Structure [Seite 92]

Material Cost Estimate without Quantity Structure [Seite 449]

Product Cost by Order [Extern]

Cost Components – Comparison

Definition

Report that compares two material cost estimates on the basis of the cost components.

Use

Two material cost estimates are compared with each other on the basis of the cost component split by comparing the individual cost components of the cost estimates with each other.

The following conversions are made:

- Conversion of the second cost estimate to the base unit of measure of the first cost estimate, assuming that the conversion factors have been entered in the material master of the product of the second cost estimate.
- Conversion of the lot size referenced to the base unit of measure of the first material.

If you don't specify a lot size, the system uses the lot size of the first cost estimate. The process of converting the lot size proportionalizes all cost components.

You can display different key figures in the report. To do this, go to the desired view from the report display with *Goto* → *Other Reports*.

The desired cost component view (cost of goods manufactured, cost of goods sold, or inventory valuation) is entered in the selection screen in the report parameters, and can be changed in the report.

If you are using more than one cost component split, you can switch between the main cost component split and the auxiliary cost component spit while in the report.

The report can be displayed in the following currencies:

- Controlling area currency
- Company code currency / object currency

Integration

You can access other reports while in the report, such as:

- Cost elements – comparison
- Costed multilevel BOM for a costing item
- Partner cost component splits

Cost Elements – Comparison

Definition

Report that compares two material cost estimates on the basis of the cost elements.

Use

You can compare two material cost estimates with each other on the basis of the cost elements by comparing the cost elements with each other. The system creates a cost element itemization dynamically from the itemization of the cost estimate. This cost element itemization is not saved.

The following conversions are made:

- Conversion of the second cost estimate to the base unit of measure of the first cost estimate, assuming that the conversion factors have been entered in the material master of the product of the second cost estimate.
- Conversion of the lot size referenced to the base unit of measure of the first material.

If you don't specify a lot size, the system uses the lot size of the first cost estimate. The conversion process proportionalizes all cost elements.

Structure

You can display different key figures in the report. To do this, go to the desired view from the report display with *Goto* → *Other Reports*.

You enter the desired cost component view (cost of goods manufactured, cost of goods sold, or inventory valuation) in the selection screen in the report parameters.

The report can be displayed in the following currencies:

- Controlling area currency
- Company code currency / object currency

Integration

You access other reports from within the report, such as:

- Cost components – comparison
- Itemizations
- Costed multilevel BOM of a costing object

Itemization Comparison

Definition

Report that compares two cost estimates for materials on the basis of the itemizations.

Use

You can use this report to compare two itemizations. The report compares the characteristics *item number*, *item category*, *cost element*, *resource*, *material*, *cost center*, *plant/work center*, *cost center/activity type*, *operation number*, *BOM item*, *assembly indicator*, and *cost component*.

You can access this report as follows:

- *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Cost Estimate with Quantity Structure* or *Cost Estimate Without Quantity Structure* → *Compare*

  or

- *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Information System* → *Object Comparisons* → *For Material* → *Itemization Comparison*

  If you access this report through the applications C*ost Estimate with Quantity Structure* or C*ost Estimate Without Quantity Structure*, enter the necessary data for the cost estimates to be compared and choose *Execute*. You can also enter other selection criteria in the same screen. This report is generated automatically.

SAP supplies a number of standard layouts for displaying by item category, by cost component/cost element, by operation, by costing item, and several others. You can also modify the displayed information to suit your particular requirements. For example, you can set filters, display subtotals, sort, display additional information, and save these settings as a new layout.

When you access the report through the information system, you can choose a layout before actually calling up the report. You can also change this directly in the report at any time.

Depending on whether you access the report through the application or through the information system, different settings are available in the selection screen and in the report itself. For example, you can make the following settings in the selection screen of both reports:

- In the field *cost base* or with *Base*, you can enter the lot size which you want the displayed costs to be based on.
- With *Settings* → *Currency…* or *Switch currency…* you can switch between company code currency/object currency and controlling area currency.
- With a mixed cost estimate, you can use *Settings* → *Procurement alternative* to display a cost estimate for a particular procurement alternative.

Integration

You can use *Goto* to access the detail screen of the cost estimate and to access the material master.

Object Comparisons for Unit Cost Estimates

Definition

Reports that compare two unit cost estimates.

Use

You can use the report *Base Planning Object vs. Other Unit Cost Estimate* to:

- Compare two base object cost estimates with each other
- Compare a base object cost estimate to one of the following unit cost estimates:
  - Unit cost estimate for sales document
  - Unit cost estimate for general cost object
  - Material cost estimate without quantity structure
  - Unit cost estimate for production order, internal order, or WBS element

You can use the report *Unit Costing Comparison* to compare any unit cost estimates with each other.

You can change how information is displayed in these reports by modifying the current layout or creating a new layout. For more information, see Creating, Changing, and Managing Layouts [Extern] and Functions of the ABAP List Viewer [Extern].

Structure

The document header contains information about the costing object, the costing lot size and the total value.

The report lists the data from both cost estimates along with the item category. You can also display only the variances between the two cost estimates.

See also:

See Unit Costing [Seite 683], for more information on the functions of unit costing and the objects for which you can create a unit cost estimate.

Reference and Simulation Costing [Seite 659]

Material Cost Estimate without Quantity Structure [Seite 449]

Background Printing of Costing Reports

Use

You use this function if you want to print costing reports for many materials simultaneously and the lists are very long. You can print all costing reports in the background, such as cost component reports or itemizations.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Information System* → *More Reports* → *Print Costing Report in Background*.
2. Enter a controlling area.
3. Enter the data for the costing reports.

   Through the *BOM explosion* indicator, you specify how the system selects the cost estimates for background printing (*BOM explosion* or *Select cost estimates*).

   – If you select the BOM explosion indicator, enter the data for material cost estimate selection in the *BOM explosion* section. In this case, the system selects and prints these material cost estimates and the cost estimates of the components in the relevant BOM. You can specify the following:

     - Down to which low-level code the BOM of the materials is exploded
     - Whether materials that appear more than once in the BOM to be exploded are also printed more than once
     - Whether the system selects only materials that were costed in a material cost estimate with quantity structure

   – If you did not set the *BOM explosion* indicator, enter the data for material selection in the *Select cost estimates* section. You can select according to the following criteria:

     - Plant and material number
     - Costing variant and costing version
     - Costing date

       Only these cost estimates are selected and printed. The material BOMs are not exploded. That is, the cost estimates for the components in the relevant BOMs are not selected if they were not specifically entered as a material selection.

4. Enter the following in the *Report parameters* section:

   – Which report should be printed (such as Cost Components [Seite 824])

   – Which cost component view [Seite 465] should be used, for example cost of goods manufactured or cost of goods sold

   – Whether raw materials should also be selected

   – Whether the costing results should be displayed in company code currency or controlling area currency

5. Select .
6. Enter the following data in the *Background processing* dialog box:
   - *Job name*
   - Starting date and time of the background job **or** *Immediate start*
7. Select .

   The job will be started at the time specified. If you selected *Immediate start*, the job is started directly.
8. Choose *System* → Services → *Jobs* → *Job overview*, to display an overview of all existing background jobs and their statuses.

See also:

- Computing Center Management System (CCMS) [Extern]
- Background Processing [Extern]
- Background Processing: Concepts and Features [Extern]