

Availability Check and Requirements in Sales and Distribution Processing



HELP.SDBFAC

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Icons

Icon	Meaning
	Caution
	Example
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About the Availability Check in Sales and Distribution Processing

When you enter a sales order, you can only confirm the delivery of the goods for the required delivery date if the goods are available for all the necessary processing activities which take place before delivery:

- The shipping department must ensure that freight forwarding or another shipping company is advised early enough so that sufficient time remains for packing and loading to be carried out. An availability check can be carried out on the deadline date for availability for the goods.
- The procurement department must ensure that the production and purchasing departments are advised of inadequate stock quantities so that goods can either be produced punctually or ordered. Sales transfers the information on materials ordered as requirements to material requirements planning. Requirements are planned outward movements of stock. The transfer of requirements informs production that goods must be produced, or advises purchasing that purchase requisitions have been created for which purchase orders must be created and sent to the suppliers. An availability check can only be carried out if these requirements are transferred.

Working with the Availability Check in Sales and Distribution Processing

How the availability check is carried out is influenced by various factors. Among other things, these factors also determine the scope of the check. The scope of the check can be defined differently in the sales documents and in the deliveries. You can also specify whether the availability check takes replenishment lead time into account.

For further information on working with the availability check, see

[Types of Availability Check in Sales and Distribution Processing \[Page 9\]](#)

[Controlling the Availability Check in Sales and Distribution Processing \[Page 13\]](#)

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[Scope of the Availability Check in Sales and Distribution Processing \[Page 18\]](#)

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For further information on the availability check, see

[Availability Check in Shipping \[Page 49\]](#)

Types of Availability Check in Sales and Distribution Processing

There are three types of availability check:

- Check on the basis of the ATP quantities
- Check against product allocation
- Check against planning

In Customizing, you determine whether an availability check is to be carried out against the ATP quantity or against planning. The check against product allocations is controlled in the material master and elsewhere in the system.

Check on the Basis of the ATP Quantities

The ATP quantity (ATP = Available To Promise) is calculated from the warehouse stock, the planned inward movements of stock (production orders, purchase orders, planned orders) and the planned outward movements of stock (sales orders, deliveries, reservations). This type of check is performed dynamically for each transaction, taking into account the relevant stock and planned goods movements with or without replenishment lead time. Planned independent requirements are not taken into account here.

Check against Product Allocation

Product allocation facilitates period-based distribution of products for certain customers or regions. As of Release 3.0F, you can carry out an availability check against product allocation. This ensures, for example, that when production is low, the first customer does not get the full amount, resulting in following sales orders not being confirmed or being confirmed far too late.

Check against planning

The check against planning is performed against independent requirements which are usually created for an 'anonymous' market rather than being customer-specific (for example, in the strategy 'Planning without assembly', when production occurs only up to the stocking level). The planned independent requirements result from demand program planning and are used for planning expected sales quantities independent of orders

Weitere Informationen hierzu erhalten Sie unter [Allocating and Reducing Independent Requirements in Sales and Distribution Processing \[Page 45\]](#).

Including Replenishment Lead Time

Replenishment lead time is the time that is needed to order or produce the requested material. The system determines replenishment lead time according to specific times defined by you in the material master record. Depending on the material type, replenishment lead time can be calculated according to various time periods. In the case of trading goods, for example, it is determined according to the planned delivery time, purchasing processing time, and the goods receipt processing time.



Replenishment lead time is only included in the check performed on the basis of the ATP quantity.

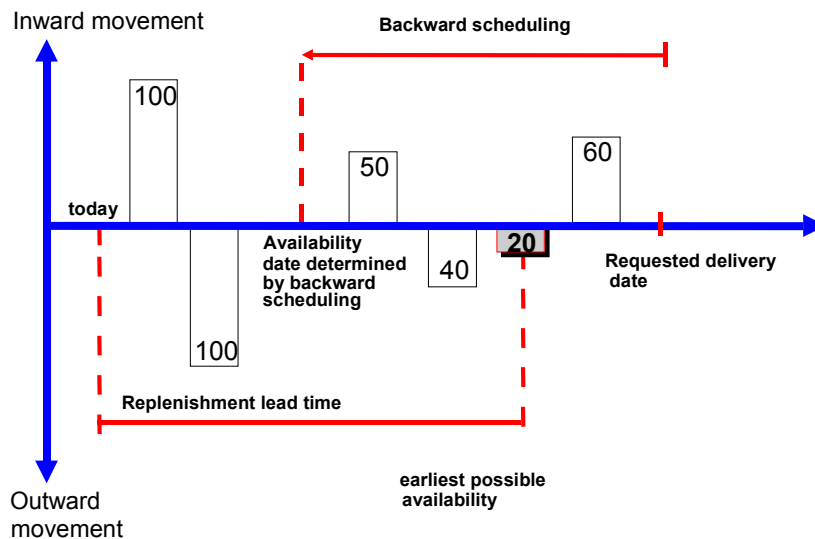
Types of Availability Check in Sales and Distribution Processing

Availability Check Including Replenishment Time

Availability is only checked up to the end of replenishment lead time. If the material availability date is calculated on the basis of the current date to lie after the replenishment lead time for the item, the item itself can be confirmed despite insufficient stock being available. In this case, the system assumes that any quantity requested by the customer can be procured by the material availability date and considers the goods to be available. Therefore, a binding confirmation can be sent to the customer.

The following figure shows such a case. The customer wants 20 pieces delivered in full by the requested delivery date. Using backward scheduling, the system determines a material availability date. However, no goods are available. The inward movement of 100 pieces is used up by an outward stock movement. Therefore no stock is available for the material availability date determined by the system. If replenishment lead time were not taken into account, the following situation would arise. The customer wants complete delivery. However, as a result of further inward (50 pieces) and outward stock movements (40 pieces), the goods only become available shortly before the requested delivery date specified by the customer when 60 pieces are added to the stock. Correspondingly, the delivery date resulting from this material availability date would lie further in the future.

However, since replenishment lead time is taken into account during the availability check, the 20 pieces ordered can be delivered before this date, namely at the end of the replenishment lead time.



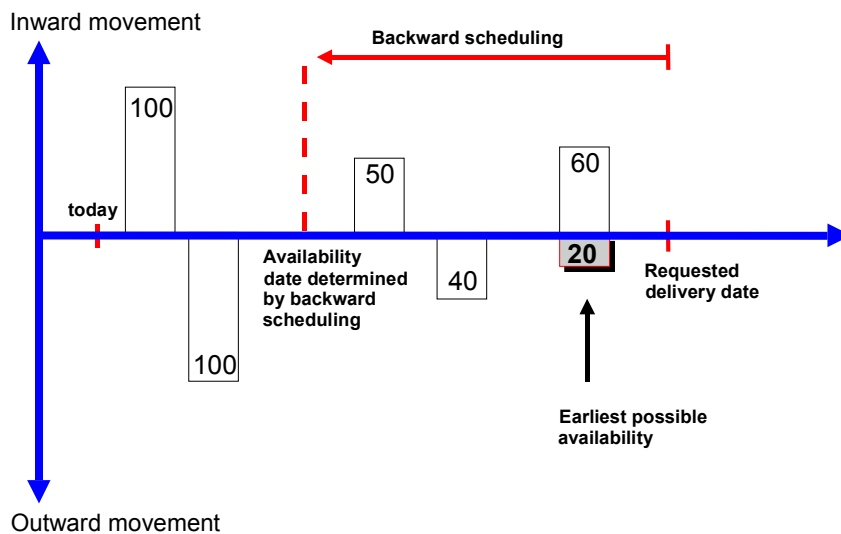
To ensure that the replenishment lead time can be correctly calculated, the required times must be entered in the material master record. For in-house produced goods, the overall replenishment lead time is required, for externally procured materials, the planned delivery time, the processing time for goods receipt, or the processing time for purchasing is required.

Types of Availability Check in Sales and Distribution Processing

Performing the availability check including replenishment lead time only makes sense if materials planning is carried out at regular intervals (best of all, daily for individual and daily requirements and weekly for weekly requirements). This ensures that inward movements of goods are checked against confirmed quantities. This is necessary as the delivery date for a sales order which has been confirmed on the day before replenishment lead time begins lies the next day within the replenishment lead time period and this leads to insufficient stock being available. This shortage can result in problems such as delivery creation being blocked.

Availability Check Excluding Replenishment Lead Time

If replenishment lead time is not to be taken into account in the availability check, the system can perform an unrestricted availability check. The following figure shows how the system reacts if an availability check is performed under the same conditions as in the figure above but excluding replenishment lead time. The customer also requires complete delivery of 20 pieces in this example.



The quantity can only be confirmed on the date on which availability can be guaranteed again as a result of planned inward movements of stock. In this case, this is on the date when 60 pieces are added to stock.

Availability Status Display Options

You have the following options for displaying availability for materials:

1. In the sales menu you select *Environment* → *Availability Ovw* to display the availability status for a material with reference to the plant and the checking rule.

In the shipping menu you can display the same data by selecting *Environment* → *Inventory management* → *Availability overview*.

2. Display total requirements

Types of Availability Check in Sales and Distribution Processing

To display current requirements/inventory status by material and plant with assignments to planned independent requirements, select (*Logistics → Production → Master planning → Demand management → Evaluations → Display total reqmts*)

3. Display current requirements/inventory

To display the available quantity for each material and plant from the MRP point of view; the available quantities are determined from the receipt elements and stock elements that are valid for MRP (*Logistics → Materials management → Inventory management → Environment → Stock → Stock/rqmts. list*)

Controlling the Availability Check in Sales and Distribution Processing

You control the availability check using general and SD-specific control features.

General Control Features

The following control elements need to be maintained in Customizing and in the material master record:

- Strategy group

The allowed planning strategies (main strategy and further possible strategies) are combined in the strategy group. As of Release 3.0, the strategy group is specified in the material master record in the *MRP 1 Screen*. In Customizing, strategy groups are assigned, dependent on plant, to MRP groups. If the strategy group is missing in the material master record, it is determined on the basis of the MRP group, if it has been maintained.



Up to Release 3.0, the strategy group is determined on the basis of the MRP group

- MRP group

The MRP group combines materials from the point of view of material requirements planning. This enables you to control planning for these materials in a particular way using, for example, the strategy group, consumption mode and planning period. You enter the MRP group in the material master in the *MRP 1* screen. The strategy group is determined from the MRP group.

- Planning Strategy

The planning strategy specifies the requirements type for planning and customer requirements. This represents the decisive control feature for the interaction between Production Planning and Sales and Distribution.

- MRP type and item category

If no requirements type is found using the planning strategy, the system tries to determine a corresponding requirements type on the basis of the MRP type and the item category.



Until 3.0C, determination of the requirements type via planning strategy has taken priority. This is not always the best option, however, as the following example will show. A requirements type is determined for a material, which causes availability to be checked against planning. In consignment stock processing, however, availability should be checked against stock. Until 3.0C the availability check had to be deactivated in these cases. As of Release 3.0C, you can determine how the requirements type is to be determined for each transaction by maintaining the *Source* field in *Determination of requirement types using transaction* in Customizing.

- Requirements type

Controlling the Availability Check in Sales and Distribution Processing

The various requirements are identified by their requirements type. The requirements type refers to the requirements class and its control features.

- Requirements Class

The requirements class contains all control features for planning such as relevance for planning, requirements planning strategy and requirements consumption strategy. In addition, it is specified at a global level whether an availability check is to take place for the material in the sales and distribution documents on the basis of the ATP quantity (ATP = available to promise) and whether requirements are to be passed on. A finer degree of control can be obtained for sales documents using the schedule line category.

Control Features Specific to Sales and Distribution

The following SD-specific control features need to be maintained in Customizing:

- Checking group

The checking group controls whether the system is to create individual or collective requirements in sales and shipping processing. In addition, a material block for the availability check with transfer of requirements can be set here. The checking group can also be used to deactivate the availability check. This option was created especially for the assembly order so that when the bill of material is exploded in the assembly order, the individual components, if necessary, can be classified as non-critical parts as far as procurement is concerned.

The checking group specifies in combination with the checking rule the scope of the availability check. It is proposed in the material master record on the basis of the material type and the plant, and copied into the sales and distribution documents.

- Checking Rule

You use the checking rule to control the scope of the availability check for each transaction in sales and distribution. You also specify whether the check should be carried out including or excluding replenishment lead time. The individual checking rules define by transaction, which stock and inward and outward movement of goods should be taken into account for the availability check.

- Schedule line category

You can control with the schedule line category whether an availability check and transfer of requirements should be carried out in the sales documents. The possible settings for this at schedule line level are dependent on the settings in the requirements class which is determined from the requirements type of the material.

- Delivery item category

The delivery item category can be used to control whether an availability check takes place in deliveries.

Prerequisites

An availability check can only be carried out if the following prerequisites have been fulfilled:

- The control elements described above for the availability check must be maintained in Customizing for Sales and the relevant assignments made to the sales transactions
- The availability check must be switched on at requirements class level and - for the availability check in the sales documents - at schedule line category level

Controlling the Availability Check in Sales and Distribution Processing

- A requirements type must exist by which the requirements class can be found
- A plant must be defined. It can either be proposed from the customer or material master record or can be entered manually in the document.
- A checking group must be defined in the material master record on the *Sales/plant data* screen in the *Availability check* field

Global and Fine Control in Customizing

At the global requirements class level, the availability check can only be switched on in combination with the transfer of requirements. At schedule line level, the settings are proposed from the requirements class.

If the availability check is switched on at requirements class level, it can be switched off at schedule line level. However, you cannot switch on the availability check at schedule line level, if it is switched off at requirements class level. You can make this setting at schedule line level. But the system ignores it and the setting for the requirements class applies.

Also, at schedule line level when the availability check is switched on, the transfer of requirements can be switched off. For example, this makes sense for inquiries or sales information.

The settings specific to schedule lines for performing an availability check are only relevant for sales documents. In the shipping documents, the settings from the requirements class and the delivery item category are used. As with the schedule line category, the availability check can be switched off as required in the delivery item category.

Blocking Logic

There are two blocking concepts:

- Material block
In Customizing, the *Define material block for other users*, step is used to determine, by checking group and transaction (order/delivery), whether a material master record should be blocked for other users during an availability check. The block is set at material-plant level and remains in place until you save the sales document.
- Material block with quantity transfer



For performance-related reasons, the only time when it makes sense to set the material block with quantity transfer is when it is common for several users to work on the same material simultaneously. If this is not the case in your organization, you can work with the conventional blocking logic at material-plant level.

In Customizing, the material block can be set with quantity transfer under *Define checking group*. If this block is active, the material is blocked only for the duration of the availability check when you create or change a sales and distribution document. Thus, it is possible for several users to process the same material simultaneously in various transactions without blocking each other. During the availability check, the material being used is blocked exclusively in the current plant as in a conventional block.

Controlling the Availability Check in Sales and Distribution Processing

If another user tries to process the blocked material in the corresponding plant while the availability check is being carried out, the system tries five times to block the material exclusively for this other transaction with a pause of about 1 second between each attempt. If the fifth attempt is unsuccessful, the check is terminated and the transaction remains unconfirmed. To confirm the transaction, the user must call up the availability check again.

After completion of the check, the corresponding confirmed quantities are still blocked, but not exclusively. The material block is removed. The non-exclusive quantity block then supplies information to users working in other transactions, on the reserved quantities of the corresponding material being processed in the selected plant. The block entries are removed when processing is completed. If the transaction processed was saved, then the block entries were only removed after the relevant changes to the data base have been carried out.



You create a sales order for a material. During the availability check, this material is blocked. After the availability check is completed, the block is removed. The quantity reserved for this transaction is recorded in the blocking table. This information can be assessed by all others who are working with this material. If you save the order, the blocked entries are cancelled.



During manual backorder processing, a material with a quantity block is blocked exclusively so that an availability check for this material is no longer possible.



If both of the blocking options are active, the block with quantity transfer takes precedence.

Timing of the Availability Check in Sales and Distribution Processing

When you create an order, the system determines the required material availability date on the basis of the customer's requested delivery date. On this date, you must begin picking, packing, labeling, and loading the goods. Therefore, this is the date of significance for requirements planning on which the availability should be checked.

The following data is required for determining this date:

- Route from the shipping point to the ship-to party location
- Shipping point from which the goods are issued
- Loading group from the material master record
 - Weight group determined from the order using the order quantity

Scheduling

This data, which you have already entered in the system, means that scheduling can occur automatically. Since scheduling is carried out backwards from the requested delivery date, it is also called backward scheduling. If backward scheduling determines that the preparation for the shipping activities should have been started already to meet the customer's requested delivery date, the system then starts forward scheduling automatically from the current date.

For more information on scheduling, see [Transportation and Delivery Scheduling \[Ext.\]](#).

Scope of the Availability Check in Sales and Distribution Processing

Scope of the Availability Check in Sales and Distribution Processing

The following elements can be included in the availability check:

- Stock
 - safety stock
 - stock in transfer
 - quality inspection
 - blocked stock
- Inward/Outward movement of goods
 - purchase orders
 - purchase requisitions
 - planned orders
 - production orders
 - reservations
 - dependent reservations
 - dependent requirements
 - sales requirements
 - delivery requirements

Requirements in sales and distribution (sales requirements and delivery requirements) result from all transactions which forward a requirement to Materials Management (MM) or to Production Planning (PP). For example, this could include sales orders or deliveries and quotations as well. Sales and distribution requirements reduce existing stock or inward movements of stock on the material availability date to ensure that other outward movement of stock elements cannot access the quantity reserved in this way.

Requirements relevant for Sales and distribution are created in Sales and Distribution, whereas other elements in this list are created in Materials Management or in Production Planning.

For further information on transfer of requirements, see [Requirements in Sales and Distribution Processing \[Page 37\]](#).

Defining the Elements to be Included in Check

A checking rule is assigned to each transaction. This rule in combination with the checking group controls the scope of the availability check. You can use the checking rules in Customizing for Sales to specify for the various transactions which of the elements listed above should be included in the availability check.

For trading goods it does not make sense to include planned or production orders, for example, in the availability check. However, for products manufactured by your company these orders should be included in the check.

Scope of the Availability Check in Sales and Distribution Processing

For transactions such as make-to-order production, consignment or returnable packaging processing that create special stock, the availability check is performed against special stock.



If it is defined by the checking rules that both sales and delivery requirements are taken into account in the availability check in sales documents but only delivery requirements are taken into account in the availability check in deliveries, there is a danger that quantities reserved in the sales documents are considered to be available by the availability check in the deliveries. This can lead to sales documents becoming backlogged.

Reactions to the Availability Check in Sales Documents

Reactions to the Availability Check in Sales Documents

If the goods ordered by the customer are not available on the requested date, the system branches automatically during sales document processing to a further screen where delivery proposals are offered for selection. The system determines these proposals on the basis of the availability situation. This screen also provides you with information on the scope of the check, the current ATP quantity, and the availability situation across all plants.

Availability Control

On the *Availability Control* screen, you can choose between the following delivery proposals:

- One-time delivery on the requested delivery date

In this section, the system checks whether the requested delivery date can be kept to. If stock of the material is available to make a delivery on the requested delivery date, the stock quantity is confirmed here. If there is no stock available, confirmed quantity zero is displayed.

To copy this data into the sales document, select *Edit* → *One-time delivery*.

- Complete delivery

In this section, the system checks whether there will be sufficient stock for complete delivery at a later date:

- If there is sufficient stock available at a later date to cover the required quantity in the sales document, the system proposes the date here.
- If the system determines that complete delivery cannot be made at a later date, no date is proposed in this section.

When availability is checked including replenishment lead time, the date which is proposed in this section is the date on which the replenishment lead time period ends if the stock before the end of replenishment lead time does not cover the order quantity.

When availability is checked excluding replenishment lead time, the system bases its calculations on the stock and the planned inward movements of stock.

To copy this data into the sales document, select *Edit* → *Complete delivery*

- Delivery proposal

In this section, the system checks whether and for which dates partial deliveries can be made. Partial deliveries are displayed for different dates. These dates are based on the planned inward and outward movements of stock.

During an availability check which takes replenishment lead time into account, the date on which replenishment lead time ends is displayed if insufficient stock means that no partial deliveries can be made before replenishment lead time ends.

During an availability check which does not take replenishment lead time into account, the system displays the dates on which partial deliveries can be made with the available stock.

To copy this proposal into the sales document, select *Edit* → *Delivery proposal*

Reactions to the Availability Check in Sales Documents



The dates displayed in the sections complete delivery and delivery proposal are determined from the material availability date using forward scheduling and represent actual delivery dates.

Availability Across Plants

You can display the availability situation in the various plants for which a material is maintained. To do this, proceed as follows:

1. Select *Goto* → *Other plants* on the availability control screen.
The dialog box *Plant Selection* appears. All plants for which the material is maintained are displayed.
2. Mark the plants in which you want to check availability and select *Check plants*.
You reach the *Availability Check: Overview* screen. The requirements quantity and the quantity which could be confirmed as well as some additional information is displayed in a separate line for each plant you selected.
3. If you require detailed information on the availability check for a particular line, select the relevant line and select *Edit* → *Check availability*.
You reach the *Date proposals* dialog box where the detailed data is displayed.
4. You can select a plant with sufficient quantity for confirmation to be copied automatically into the Overview screen. Select the appropriate line and select *Edit* → *Copy plant*.



Using the user exit `USEREXIT_PLANT_SELECTION` in the Include `LV03VFZZ` you can make a preselection of the allowed plants. If you use this option, the *Plant selection* dialog box does not appear and the availability check is performed immediately for the allowed plants. If, on the basis of information resulting from the availability check, you want to deliver from a plant other than the one specified in the item, you must at present enter this plant manually in the item. In a later release, however, you will be able to select the plant directly from the list of plants.

Displaying the ATP Quantities

If you want to display the current ATP situation on the availability control screen, select *Goto* → *Availability overview*.

Displaying the Scope of the Check

If you want to display the scope of the check (stock and inward/outward movements of goods taken into account during the availability check) from the availability control screen, select *Goto* → *Scope of check*.

Delivery Agreements in the Customer Master Record

A customer may react in different ways to the fact that a complete delivery can not be provided for the required delivery date. You can define in the customer master record, the way a customer reacts to the inability to meet the requirements represented by the key data.

Reactions to the Availability Check in Sales Documents

- The customer wants complete delivery of all items by the requested delivery date or at a later date.

The complete delivery indicator is copied into the sales document from the customer master record. To find it, select *Header* → *Business data* on an overview screen or a header screen. You find the indicator in the *Shipping* section.



If the complete delivery indicator is set in the sales document, the individual items are automatically correlated when the document is saved if the schedule lines exist for various dates (that is, a delivery group is automatically created for the sales document items and the latest delivery date within this group becomes the group delivery date). For further information on delivery groups, see [Combining Sales Document Items for Delivery \[Ext.\]](#).

- The customer only allows a certain number of partial deliveries for each item.
The partial delivery indicator and the number of partial deliveries are copied into the sales document item from the customer master record. To find the indicators:
 5. Go to the *Business Data* screen for this item.
 6. Select *Edit* → *Shipping details*.

The indicators are found in the *Shipping* section.

Performing the Availability Check Again

Usually, an availability check is only performed when a sales document is created. If quantities or dates are changed in the document and availability needs to be checked again, the check is performed again **automatically**. However, you can also initiate an availability check manually.

Automatic Checks

In the following situations, a new availability check is automatically carried out:

- Quantity change
- Date change (requested delivery date, material availability date)
- Change to the fixed data
- After new delivery scheduling (for example, the route or shipping point has been changed)
- Change of plant
- Change of storage location or batch
- Removal of blocks which affect requirements
- Removal of reasons for rejection

Initiating a Check Manually

In the sales document, you can initiate a new availability check manually. If you want to perform an availability check for all items in a sales document, select *Sales document* → *Check availability* on the header screen. If you want to check availability for an individual item, select *Edit* → *Item availability*.

Fixing Quantities and Dates in Sales Documents

Fixing Quantities and Dates in Sales Documents

If the availability check for an item determines that the item cannot be delivered fully on the requested delivery date, and, as a result one or more schedule lines have to be created for later delivery dates, the customer can decide whether to accept these delivery dates and quantities.

You can record the customer's decision either by setting an indicator in the *Fixed date and qty* field or by leaving this field blank. The field is displayed both on the schedule line overview screen and on the availability screen.

Customer Accepts the Schedule Line Proposal

If the customer accepts the schedule lines which are proposed by the system, mark the *Fixed date and qty* field. The system then transfers the requirements for the schedule lines to material requirements planning.

Customer Requires Goods Earlier

If the customer requires the goods earlier than the date that the system can confirm after the availability check, leave the *Fixed date and qty* field blank. The system then only passes on the requirements for the requested delivery date and does not take the quantities and dates confirmed by the system after the availability check into account. In this case, it is assumed that the requested delivery date can be kept to because, for example, additional production capacity may become free. The system only confirms the sales order once the entire order quantity can be delivered on the requested delivery date. In the subsequent delivery processing, the sales order is only considered to be completed when the entire order quantity has been delivered or when all partial delivery agreements have been fulfilled.



A fixed item is considered to be completed once the entire confirmed quantity (which can be smaller than the originally requested order quantity) has been delivered. Therefore, it does not make sense to fix the confirmed quantity to 0 as the item is considered to be completed from the start.

During rescheduling, the fixed quantities and dates are no longer taken into account.

Blocking Confirmation of Quantities in Sales Documents

In Customizing, using *Block transfer of requirements by delivery block*, you can specify that certain delivery blocks in the sales document header also block the confirmation of order quantities.

If you enter such a delivery block in a sales order header, the system confirms the available quantity to show you the delivery options. If you save the document, however, the confirmed quantities are not saved. Your company could block confirmation for a customer if this customer's credit worthiness was questionable. The sales order in this case is not only classed as unconfirmed, it is also blocked for delivery.

Thus, no stock is reserved. The stock is still available for other customers. Although the order quantities are not confirmed, the system still transfers the requirements to material requirements planning. It is assumed that the delivery block will be removed at some point. The automatic transfer of requirements means that the order quantity can be confirmed at a later point in time.

See also:

[Setting a delivery block \[Page 27\]](#)

Deferring Confirmation of Quantities in Sales Documents

Deferring Confirmation of Quantities in Sales Documents

In Customizing, using *Requirements transfer per delivery block*, you can specify that certain delivery blocks in the sales document header also defer the confirmation of order quantities, in that the deferral period is entered.

If, for example, you enter a delivery block in the sales order header and the order quantities can be confirmed within the deferral period specified, the system adds the deferral period to the current date, thus determining a material staging date. The requirements can, however, be passed on.



An order needs a letter of credit. The letter of credit will only be available in 14 days time, however. For this reason you want to block the order until the letter of credit arrives. You also do not want to reserve the material yet. In this case, a deferral period of 14 days must be entered in Customizing for the corresponding delivery block. You set the delivery block in the order header. The system carries out the availability check. The order quantity can be confirmed within the deferral period. The system adds 14 days to the current date and confirms the resulting, later date.



You can only use this option if scheduling is active for transportation and delivery.

See also:

[Setting a delivery block \[Page 27\]](#)

Setting a Delivery Block

To set a delivery block at schedule line level which also blocks or defers the confirmation of order quantities, proceed as follows:

1. Select *Overview* → *Shipping* on the initial entry screen of the sales order.
You reach the *Overview - Shipping Data* screen.
2. Enter a block which blocks or defers order quantity confirmations in the *Delivery block* field.

Remember the differences between a delivery block at schedule line level and a delivery at header level (business data):

For the delivery block at header level, the delivery type must be set in Customizing. The delivery block at schedule line level, however, is activated as soon as you enter it.



If you want to see what would have been confirmed on the basis of the availability check if no delivery block with confirmation block had been set, select the relevant order items before you save the sales order and then select *Item* → *Schedule lines*. As soon as you save the sales order, all order quantities which have been confirmed by the availability check are reset to zero.

Removing a Delivery Block

If you remove the delivery block or replace it with another delivery block which does not block confirmations, the system automatically performs a new availability check and confirms the available order quantities.

Rescheduling Sales Documents

Rescheduling Sales Documents

The following functions exist for rescheduling:

- performing rescheduling
- evaluating rescheduling

Performing Rescheduling

When rescheduling is performed, the open sales document items in the item index for the material are processed. The items found by this process are sorted according to the criteria delivery priority, date, document number, and item number and forwarded to the availability check. The results are then saved.

Simulating Rescheduling

You can carry out rescheduling in simulation mode. This can show you what would happen if you were to carry out rescheduling. The results are not saved, however.



It only makes sense to carry out this function if you only want to check a very limited selection of documents.

Credit Limit Block

In the case of a credit limit block in the order header (delivery block reason '01'), a credit limit control is performed before the availability check if the special type of block affects requirements. The document can then only be processed further once the customer involved becomes creditworthy again. The results of the run are issued as a list and stored temporarily. They can be evaluated with the function 'Evaluate rescheduling'.

Selection report

There is a report in the standard system, that selects the documents relevant for rescheduling. If you want to create you own reports, contact your SAP consultant.

Processing Parameters

You can define the scope of the check using the parameter 'Unconfirmed documents required'. If this parameter is set, at least one document for this material must be unconfirmed if all documents for this material are to be included in the availability check. Otherwise (no unconfirmed documents exist for a material), no document for this material is included in the availability check.

You can define that the delivery date entered when an order is created is used as a sorting criterion using the parameter 'Sorting criterion deliv.date'. If this parameter is set, all orders of the same priority are sorted according to delivery date. Otherwise, sorting is performed by document creation date.

Display Criteria

The display criteria for the list can be defined under the menu option 'List'. Improvements, deteriorations, and the complete list are the options. To be included in one of the two limited lists,

Rescheduling Sales Documents

an item must have undergone a date or quantity change. This means that an item can be included in both the improvements list and the deteriorations list.



There is only an entry in the columns 'New date' and 'New confirmed qty' if the fields 'Old date' and/or 'Old confirmed qty' have been changed. As the check for changes (date/quantity) is only performed by line in the original list, it is possible that an item which has become more overdue is included in the list of improvements. This occurs if, for example, the entire quantity can be delivered in one delivery but at a later date, as a comparison of quantities for this line reveals an increase. You must make sure that all required sales and distribution document types which are to be included in the item index have been correctly configured in Customizing. This means the item indexes for all SD document types which are to be included in the availability check must be activated.

Evaluating Rescheduling

The evaluation function uses the list created by the function 'Execute rescheduling' as a work list. The outcome of the run is displayed in the form of a list.

Display Criteria

The display criteria for the list can be defined under the menu option 'List'. The options are improvements, deteriorations, and the complete list.



There is only an entry in the columns 'New date' and 'New confirmed qty' if the fields 'Old date' and/or 'Old confirmed qty' have been changed.

See also:

[Performing rescheduling of sales documents \[Page 30\]](#)

[Evaluating rescheduling of sales documents \[Page 31\]](#)

Performing Rescheduling of Sales Documents

Performing Rescheduling of Sales Documents



The program should only be run online in exceptional circumstances and even then with a very limited selection of documents, as it has a considerable effect on system resources.

To perform rescheduling, proceed as follows:

1. In the entry screen, select *Logistics* → *Sales/distribution* → *Sales*.

You reach the *Sales* screen.

2. Select *Environment* → *Backorders* → *Rescheduling* → *Execute*.

You reach the *Rescheduling in Sales: By Material* screen where you carry out rescheduling.



If you only want to simulate rescheduling, mark the *Simulate* field.

Background or Online Mode

It is possible for both functions to be performed both in the background and online.



We recommend you perform rescheduling in the background.

Evaluating Rescheduling of Sales Documents



You can only carry out this function after performing rescheduling.

To evaluate rescheduling, proceed as follows:

1. In the entry screen, select *Logistics* → *Sales/distribution* → *Sales*.
You reach the *Sales* screen.
2. Select *Environment* → *Backorders* → *Rescheduling* → *Evaluate*.
3. You reach the *Rescheduling in Sales: Evaluation* screen where you can carry out the evaluation.

Shortage Check

Shortage Check

If the availability check is carried out without the cumulative confirmed quantities or requirement quantities being taken into account, this can lead to more being confirmed than is available. The system checks whether ATP quantities arise in the period before the delivery date. If so, the new sales order reduces the ATP quantities if the ATP dates come before the delivery date.

If a planned inward movement of goods is delayed to a desired date after the confirmed date, then the confirmation of the sales order remains in place without a stock coverage being given. This is because a change to inward movement of goods does not necessarily change the order. In this situation, a newly created order could be confirmed because of the delayed inward movement of goods and lead to more being confirmed than is available.



Situation 1

Inward/outward movement	Quantity	ATP quantity	Cumulative ATP quantity	Confirmed quantity
Stock	100	0	0	-
Planned order	100	0	-100	-
Sales order 1	-200	-	-	-200

Situation 2

Inward/outward movement	Quantity	ATP quantity	Cumulative ATP quantity	Confirmed quantity
Stock	100	0	0	-
Sales order 1	-200	-100	-100	-200
Planned order	100	0	0	-
Sales order 2	-100	-	-	-100

In Situation 1, the first sales order is confirmed for its full quantity for a point in time before the planned order. In Situation 2, the planned order has now been delayed until after the delivery date for sales order 1. For the new sales order 2, the availability check reports an ATP quantity of 100, as the full quantity of the deferred planned order is still available and, according to this checking logic, sales order 1 cannot be supplied by this inward movement of goods.

The example shows how an error is caused in confirmation by the deferring of a planned order. This causes the total of the confirmed quantities to exceed the total of all inward movement of goods.

There are three possible ways of avoiding this error:

- Carrying out a planning run
- Rescheduling
- Backorder processing

Since these functions are very time consuming, it is possible for orders to be delivered that should not be delivered at all according to their entry data. The shortage check is used to avoid this situation.

You can define how the availability check is carried out under *Define checking group* in SD Customizing. The options are as follows:

- Set up check to take cumulative confirmed quantities into account

The system takes into account the total of all confirmed quantities when calculating the cumulative ATP quantity. This means that new sales orders can only be confirmed if the total for inbound goods is greater than the total for confirmed quantities.



We recommend that you work with the cumulative **requirement quantities** when you **create** sales orders.

- Set up check to take cumulative requirement quantities into account

The system takes into account the total of all open requirement quantities when calculating the cumulative ATP quantity. This means that new sales orders can only be confirmed if the total for inbound goods is greater than the total for requirement quantities.



We recommend that you work with cumulated **confirmed quantities** when you **change** sales orders.

Processing Sales Documents in Backlog

Processing Sales Documents in Backlog

The backorder processing functions enable you to list relevant sales documents for specific materials and process them from the point of view of confirmation. You can assign available to promise (ATP) stock to outstanding order quantities. In addition, you can withdraw already confirmed quantities and reassign them to different items.

For further information on backorder processing, see [backorder processing \[Ext.\]](#).

Displaying the Availability Situation in Sales Documents

You can display the following information on the availability of a material:

- Stock for a material by storage location and plant
- Stock for a material by plant
- Availability for an item in the sales document

Stock for a Material by Storage Location and Plant

To display the stocks:

1. Select *Logistics* → *Materials management* → *Inventory management* on the main menu screen.

You reach the *Inventory Management* screen.

2. Select *Environment* → *Stock* → *Stock overview*.

You reach the *Stock Overview: Company Code/Plant/StLocation/Batch* screen.

3. Enter your selection criteria and select *Program* → *Execute*.

You reach the *Stock Overview: Basic List*. Stock is displayed here by plant, storage location and, if appropriate, by batch.

4. Place the cursor on a line of the stock list for which you want to access detailed information and select *Edit* → *Choose*.

A window appears in which the individual stock for the line selected is listed.

From this list, you can display the following additional information with the menu option *Environment*.

- Stock/requirements situation (current requirements)
- Open purchase orders
- Reservations
- Material movements
- Warehouse management (WM) stocks

To display this information, place the cursor on one of the lines below the company code level and select the appropriate menu option.

Stock for a Material by Plant

To display the stocks:

1. Select *Logistics* → *Materials management* → *Inventory management* on the main menu screen.

You reach the *Inventory Management* screen.

2. Select *Environment* → *Stock* → *Plant stock avail*.

You reach the *Plant Stock Availability* screen.

Displaying the Availability Situation in Sales Documents

3. Enter the material number and the plant. Then select one of the following values for the *Scope of list* field:

Scope of List when you Display Plant Stock Availability

<u>Scope of list</u>	<u>Display</u>
AA	Stock at plant level
BB	Stock at storage location level
CC	Stock at plant and storage location level
DD	Stock at plant and storage location level with a few future stocks, such as: planned inward movements.

4. Select *Program* → *Execute*.

You reach the screen on which the stock is displayed.

Availability for an Item in the Sales Document

In the sales document, you can display the availability situation as follows:

1. On the overview screen or an item screen in the sales document select *Environment* → *Availability*.

You reach the availability overview where the current availability situation with regard to ATP quantities are displayed. The requirements reduced by the sales document being processed is simulated in the overview so that the availability situation is illustrated including this sales document.

2. Select *Overview* → *Exit* to return to the sales document.

Requirements in Sales and Distribution Processing

[About Requirements in Sales and Distribution Processing \[Page 38\]](#)

[Working with Requirements in Sales and Distribution Processing \[Page 39\]](#)

[Displaying the Requirements/Stock Situation \[Page 48\]](#)

About Requirements in Sales and Distribution Processing

During transfer of requirements, material requirements planning is informed of quantities which sales and distribution require to be able to deliver orders received. If sufficient quantities are not available to cover the requirements, purchase orders, for example, can be created in purchasing on the basis of transfer of requirements within automatic planning.

Working with Requirements in Sales and Distribution Processing

Performing transfer of requirements is dependent on a number of factors. They determine whether and how requirements should be transferred and if they should be checked against planned requirements. The transfer of requirements in sales can be switched on or off by transaction as required. For example, you can switch off the transfer of requirements for inquiries and quotations, whereas you can switch it on for sales orders and deliveries.

For further information on working with requirements, see

[Types of Transfer of Requirements in Sales and Distribution Documents \[Page 40\]](#)

[Controlling Transfer of Requirements in Sales and Distribution Documents \[Page 42\]](#)

[Effects of the Transfer of Requirements in Sales and Distribution Documents \[Page 43\]](#)

[Allocating and Reducing Independent Requirements in Sales and Distribution Documents \[Page 45\]](#)

You will also find information on production planning and, in particular, on independent requirements in the R/3 PP documentation as well as information on the availability check in [Availability Check in Sales and Distribution Processing \[Page 6\]](#)..

Types of Transfer of Requirements in Sales and Distribution Documents

Types of Transfer of Requirements in Sales and Distribution Documents

The following types of transfer of requirements exist:

- Transfer of requirements with individual requirements
- Transfer of requirements with collective requirements

In the material master record, you specify on the *Sales/Plant Data* screen in the *Availability check* field whether each requirement is forwarded individually to planning or whether the requirements for one material in one plant are be combined.

Individual Requirements

A line for individual requirements is created in the availability overview for each sales and distribution document and schedule line. This line contains the order quantity and the number of the document which created the requirement as well as the item number and the requirements class.

Individual requirements have the advantage that the initiating document can be identified (the initiating document is displayed in the availability overview for each requirement).

Collective Requirements

Collective requirements combine several requirements according to the following criteria:

- Plant
 - Batch
 - Storage location
 - Date
 - Transaction
 - Requirements Class

Collective requirements can either be created daily or weekly. You can also use the checking group to control whether the requirements date for weekly created collective requirements is the Monday of the current week or the Monday of the following week.

In contrast to the individual requirements, the documents initiating the collective requirements cannot be directly identified. However, it can be indirectly determined from the list of orders for the material



In a later release, you will be able to break down collective requirements in the availability overview so that you can directly identify the initiating document for the requirements.

The collective requirements function is useful for dealing with a large volume of sales orders, as you obtain a clearer list of requirements and the system response time is also better.

Types of Transfer of Requirements in Sales and Distribution Documents

The system automatically creates individual requirements for transactions which create requirements for special stock (for example, made-to-order stock, returnable packaging, or consignment goods) even if collective requirements have been specified by the checking group in the material master record.

Controlling the Transfer of Requirements in Sales and Distribution Documents

Controlling the Transfer of Requirements in Sales and Distribution Documents

Essentially, the same control elements are used for the transfer of requirements as are used for the availability check.

The following control elements are of significance:

- Requirements type
- Requirements Class
- Checking group
 - Schedule line category

For further information on these control elements which are also important for the availability check, see [Controlling the Availability Check in Sales and Distribution Processing \[Page 13\]](#).

Prerequisites

Transfer of requirements can be performed if the following prerequisites have been met:

- The control elements described above must be maintained in Customizing for Sales and the relevant assignments made to the sales transactions
- The transfer of requirements must be switched on at requirements class level and, in the case of transfer of requirements in the sales documents, at schedule line level
- A plant must be defined at document item level. This plant is either proposed from the material master record or you can enter it manually
- A checking group must be defined in the material master record on the *Sales/plant data* screen in the *Availability check* field

Global and Fine Control in Customizing

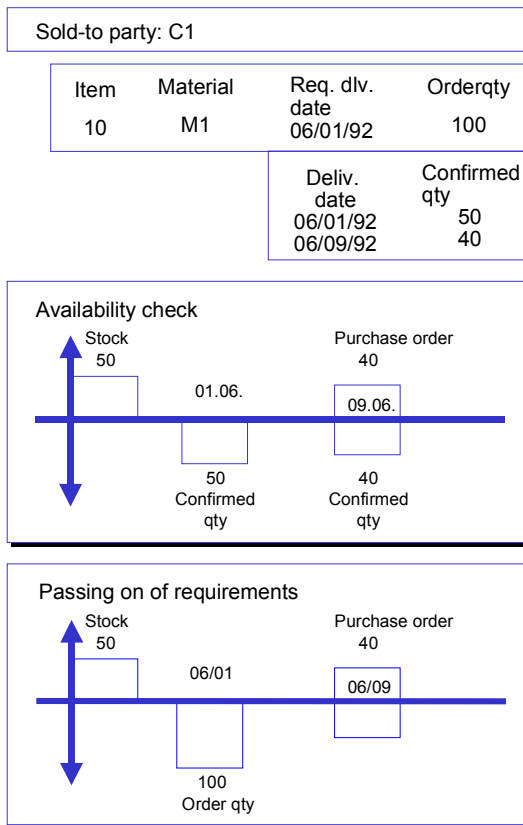
When the transfer of requirements is switched on at requirements class level, it can be switched off at schedule line level. However, you cannot switch on the transfer of requirements at schedule line level if it is switched off at requirements class level. You can make this setting at schedule line level. But the system ignores it and the setting for the requirements class applies. The settings for the requirements class are proposed at schedule line level.

Settings for the transfer of requirements specific to schedule lines are only relevant for sales documents. In the shipping documents, the settings for the requirements class apply. The requirements class is determined from the requirements type of the material.

Effects of the Transfer of Requirements in the Sales and Distribution Documents

Effects of the Transfer of Requirements in the Sales and Distribution Documents

When you enter a sales document, the confirmed quantity is "reserved" and posted as a outward movement of stock on the confirmation date. This quantity cannot then be accessed by any other transaction. The order quantity is forwarded to material requirements planning even if it cannot be confirmed. The following figure shows how the transfer of requirements is affected by the creation of a sales document.



In the example shown above, the customer orders 100 pieces of material M1 for 06.01.92. On the basis of the availability status, 50 pieces can be confirmed on 06.01.92 and 40 on 06.09.92. The remaining 10 pieces cannot be confirmed. The confirmed quantities (90 pieces) are taken into account in the availability check for additional orders. This means that no other orders can access this quantity.

The order quantity is forwarded to material requirements planning as a requirement. There, if a planning run determines insufficient availability, inward stock movement elements (for example, purchase requisitions or planned orders) can be created.

By specifying the order quantity and the confirmed quantity, the original customer request is documented. As a result of, for example, additional production capacity, it may be still be

Effects of the Transfer of Requirements in the Sales and Distribution Documents

possible to fulfil the original customer requirements (and thus confirm the entire order quantity by performing rescheduling). For more information on this subject, see

[Performing rescheduling of sales documents \[Page 30\]](#)

[Fixing Quantities and Dates in Sales Documents \[Page 24\]](#)



Unconfirmed sales orders can be called up using the sales order change function and matchcode C.

Allocating and Reducing Independent Requirements in Sales and Distribution Processing

When you plan for future sales orders, you specify the order quantities which you expect to receive over a specified period for product groups and salable products. Planned independent requirements are created in demand management for a specified period of time for expected order quantities. After incoming orders have been processed, appropriate consumption quantities are transferred to material requirements planning for the order quantities of materials for which the requirements are consumed by demand management. For further information, see the R/3 PP documentation on demand program planning.

Planning consumption and the allocation of the various consumption strategies are activated in Customizing and are dependent on the requirements class.



Prerequisite for planning consumption is that the relevant sales and distribution applications perform transfer of requirements. If the availability check is also switched on, the check is carried out against the ATP (available to promise) quantity rather than the planning quantity. However, a consumption quantity is still forwarded in the requirements record.

Allocating Independent Requirements in the Sales Document

If planning allocation takes place for an item during sales processing, the planning allocation control screen appears if the independent requirements allocated to the material do not cover the order quantity. This screen is identical to the availability control screen.

The planning allocation control screen does not appear if the availability check is switched on for the resulting schedule line category.

Reducing Independent Requirements

Independent requirements from planning are reduced by the goods issue posting in the delivery. The quantity decrease is determined from the consumption quantity which is transferred for the relevant item in the underlying order, as well as from the appropriate consumption period and mode.

You enter the consumption mode and the consumption period in the *MRP 3* screen in the material master record.

Consumption Mode

The consumption mode defines whether and in which direction on the time axis from the requirements date the consumption of customer requirements with planned independent requirements should occur. The requirements date corresponds to the date the sales order items were created.

You have the following options:

- No planning consumption
- Backwards consumption only

Starting from the requirements date, backwards consumption is carried out within the relevant consumption period.

Allocating and Reducing Independent Requirements in Sales and Distribution Processing

- Forwards consumption only
Starting from the requirements date, forward consumption is carried out within the relevant consumption period.
- Backwards/forwards consumption
Starting from the requirements date, backwards consumption is performed first of all. Then, if no planned independent requirements can be allocated before the requirements date, forward consumption is performed. Both procedures are carried out for the relevant consumption period.
- Forwards/backwards consumption
Starting from the requirements date, forward consumption is performed first of all. Then, if no independent requirements can be allocated after the requirements date, backwards consumption is performed. Both procedures are carried out for the relevant consumption period.

Consumption Period

You can enter a consumption interval for both backwards and forwards consumption. This interval determines the consumption period. If backwards/forwards consumption or forwards/backwards consumption is activated, both consumption periods are taken into account.

Planning Material

You can create a common planning material and assign similar materials to it. Independent requirements are created for the planning material to cover the requirements which are expected for the materials assigned to the planning material. Thus, customer requirements for these materials are consumed by the independent requirements of the planning material. This means that you do not have to create independent requirements for each material.

You assign the planning material to the materials on the *MRP 3* screen. You must also enter the appropriate strategy group for planning with planning materials on the *MRP 1* screen.



You cannot perform the transfer of requirements with the availability check when planning is carried out using planning materials.

Displaying Allocations

You can display the quantities allocated by planning consumption to a material for which planning is carried out.

For example, to display the quantities allocated to a planning material, proceed as follows:

1. Select *Logistics* → *Production* → *Master planning* → *Demand management* on the main menu screen.
You reach the *Demand Management* screen.
2. Select *Evaluations* → *Displ.total reqmts.*
You reach the *Display Total Requirements* screen.
3. Enter the number of the planning material, the requirements type of the planned requirements (for example, **VSEV**), the allocation indicator **4** (Information on all allocations) and the appropriate plant. If necessary, maintain additional selection criteria.

Allocating and Reducing Independent Requirements in Sales and Distribution Processing

4. Press ENTER.

You reach the *Display Total Requirements* screen, where data on planning consumption for the planning material is displayed along with the numbers of the documents and items which created the requirements.

To display the documents which created the requirements, place the cursor on the appropriate document number in the list and select *Display*.

This takes you to the document where you can access the information which you require.

Displaying the Requirements/Stock Situation

Displaying the Requirements/Stock Situation

You can obtain the following information on material requirements:

- Stock/Requirements situation by material
- Stock/requirements situation by item in the sales document

Stock/Requirements Situation by Material

To display the stock/requirements situation by material, proceed as follows:

1. Select *Logistics* → *Materials management* → *Inventory management* on the main menu screen.

You reach the *Inventory Management* screen.

2. Select *Environment* → *Stock* → *Stock/reqmts list*.

You reach the *Stock/Requirements List: Initial Screen*.

3. Enter the material number and plant for which you want to check the stock situation and press **ENTER**.

You obtain a list where current requirements are displayed. However, it is only the order quantities which are listed. The confirmed quantities which have an effect on existing stock and outward movements of stock are not displayed.

4. To determine the quantities which are available for future outward movements of stock, select *List* → *Calculate ATP qty*.



The quantities displayed here reflect the availability from the requirements planning view, that is, it is the order quantities displayed here rather than the confirmed quantities. In the availability check, however, the system takes the confirmed quantities from other orders into account.

As long as all order quantities can be confirmed, the results of the availability check and the calculation for the ATP quantity match. However, if only some of the order quantity can be confirmed or a delivery proposal is created, these two amounts can deviate from each other so that the display of the ATP quantities only corresponds to the material requirements planning viewpoint and the availability situation for sales can only be taken from the control screen for the check.

Requirements/Stock Situation by Item

For information on this subject, see [Display the Availability Situation in Sales Documents \[Page 35\]](#) in the section 'Availability for an Item in the Sales Document'.

Availability Check in Shipping

[About the Availability Check in Shipping \[Page 50\]](#)

[Working with the Availability Check in Shipping \[Page 51\]](#)

About the Availability Check in Shipping

About the Availability Check in Shipping

When you create a delivery, an availability check is initiated for the picking date. This check is carried out along the same lines as in the sales order.

It makes sense to carry out an availability check in the delivery for the following reasons. If you do not carry out an availability check for particular materials in the sales order, you should definitely check whether the order quantity is available and can be delivered when you create the delivery. Even if you have checked the availability situation in the order, it makes sense to check it once again in the delivery. The availability check is calculated using planned inward and outward movements of goods. Therefore the delivery situation might have changed in the meantime due to unforeseen circumstances, such as lost output. The availability check in the delivery takes any such changes into account.

Working with the Availability Check in Shipping

When you create the delivery for a sales order, the sales order requirement is reduced by the delivery quantity. A delivery requirement which is transferred to material requirements planning is created at the same time. You can define whether delivery requirements are managed as individual or collective requirements. Collective requirements can include, for example, requirements from all deliveries for one particular day or week. The availability check treats these delivery requirements as outward movements of goods.

For further information on working with the availability check in shipping, see

[Controlling the Availability Check in Shipping \[Page 52\]](#)

[Performing the Availability Check in Shipping \[Page 53\]](#)

For further information on the availability check in sales order processing, see [Availability Check in Sales and Distribution Processing \[Page 6\]](#).

For further information on transfer of requirements in sales order processing, see [Requirements in Sales and Distribution Processing \[Page 37\]](#).

Controlling the Availability Check in Shipping

Controlling the Availability Check in Shipping

The same control elements are used for carrying out the availability check in deliveries as in the availability check in sales documents. The availability check in deliveries is dependent upon the requirements class which itself is linked to the requirements type of the material. In addition, delivery item categories can be used to control whether an availability check is performed in deliveries.

Prerequisites

An availability check can only be carried out if the following prerequisites have been fulfilled:

- Control elements for the availability check must be maintained in Customizing and appropriately assigned to the sales and distribution transactions
- The availability check and the transfer of requirements must be switched on at requirements class level and may not be deactivated at item level.
- A plant must be defined at document item level
- A checking group must be defined in the material master record on the *Sales/plant data* screen in the *Availability check* field

Performing the Availability Check in Shipping

When you enter a delivery, the system carries out an availability check on the material availability date if the availability check is activated using the requirements class.

Which Elements are Taken into Account?

The following elements can be taken into account during an availability check in the delivery:

- Stock
 - safety stock
 - stock in transfer
 - quality inspection
 - blocked stock
- Inward/Outward movement of goods
 - purchase orders
 - purchase requisitions
 - planned orders
 - production orders
 - reservations
 - dependent reservationsdependent requirements
 - sales requirements
 - delivery requirements

Process Flow

The system determines the date on which the availability check should be carried out on the basis of the earliest material availability date of all the schedule lines in the delivery. If the system determines that insufficient stock will be available on that date, it responds as follows:

- If a material is not available for delivery by the material availability date, the system enters a delivery quantity of zero in the delivery. The item is only included in the delivery if the quantity zero is permitted for the item category.
- If the quantity available of a material is lower than the order quantity, the system enters the available quantity as the delivery quantity. If a partial delivery is not allowed for the sales order, the fact that the delivery quantity is smaller than the order quantity is noted in the log for the delivery.

Availability Check Against Product Allocation

Availability Check Against Product Allocation

[Product Allocation \[Page 55\]](#)

[Availability Check against Product Allocation During Order Entry SD \[Page 57\]](#)

[Display Availability Check Against Product Allocation \[Page 58\]](#)

Product Allocation

A precise planning and controlling mechanism is of the utmost importance for the execution of competitive order processing with guaranteed efficient and timely delivery to the customer of the required order quantity. Unforeseen problems, such as production deficits or increased demand can have critical consequences for order processing and must be brought under control as soon as possible.

Product allocation is a function provided by the R/3 system for carrying out these control options intended to help your company to avoid critical requirement and procurement situations. This should enable you to keep production to a minimum at the same time as allowing you to react quickly to bottlenecks and changing market situations.

In the R/3 system, product allocations represent an ordered allocation of production for certain periods. Product allocations can be created according to various criteria (i.e., customer, regions).

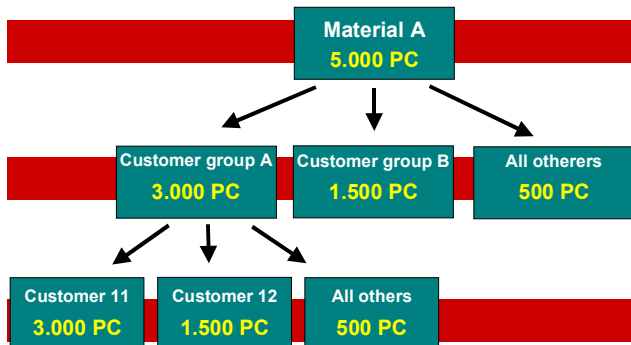
Product allocations are created in the logistics controlling area in the planning hierarchy (*Logistics → Logist. controlling → Flexible planning → Planning create/change → Planning type: COMMIT for SAP standard planning type*). Product allocations are always divided right up to the lowest level in the hierarchy. The basis for the planning hierarchy is info structure "S140", which SAP issues as the standard info structure. It determines the criteria of the hierarchy. You can define your own info structures in Customizing for LIS (*Logistics General → Logistics Information System → Reporting → Standard Analyses → Change settings*).



When creating product allocations, make sure that you use version number "000". Because updates are carried out for this version number.

If a product allocation of 5000 pieces were to be entered at the material level as depicted in the diagram below, it would be automatically distributed among the lower levels

(= consistent planning). Changes are possible at every level, but the other levels are still adjusted automatically.



As of Release 3.0F, it is possible to carry out an availability check against product allocations. The check is still carried out if neither the availability check nor transfer of requirements are activated in Customizing. This ensures, for example, that when production is low, the first customer does not get the full amount, resulting in following sales orders not being confirmed or being confirmed far too late. The check is carried out on the basis of the confirmed quantity from the ATP check against the corresponding product allocation.

Product Allocation

To get reliable information and to recognise critical situations, the actual requirements are compared with the planning product allocations throughout the entire product allocation period.

General Requirements

To carry out availability check against product allocation, certain requirements must be met:

- Material master
- In the material master, the product allocation determination procedure must be entered in the basic data screen for general data.
- Statistics update
 - In Customizing for the Logistics Information System, statistics updating must be set for the information structure. This is required at customer, material and header level. The update group must also be maintained in Customizing for the Logistics Information System.
- In Customizing for SD, the settings must be made for availability check against product allocation. You will find the necessary steps described in the Implementation Guide in section “Availability check against product allocations”. This is where, the necessary Customizing activities for the statistics update are described.

Availability Check Against Product Allocation During Order Entry SD

The planning hierarchies for product allocations are created in logistics controlling. If the correct settings have been made in Customizing, the system carries out an availability check against the ATP quantity in SD during order entry. If the availability check determines that the ATP quantity can fully or partially cover the order requirement, then a confirmed quantity is determined as the result of the check. The confirmed quantity is the basis for the availability check against product allocation, which is carried out along with the ATP check.

The confirmed quantity from the ATP check is checked against the relevant product allocation. This ensures that the product allocation for this period is not exceeded. Required quantities that cannot be confirmed, because the product allocation for that period is used up, are postponed until the next period.

The result of the product allocation check can change confirmed quantities that have already been determined. In this case you receive a message before branching to the availability control screen.

For example, even though the material for an order for 100 pieces may be available in full for the required date according to the ATP check, it is only partially confirmed because the product allocation for that customer only had a value of 80 pieces remaining at the time of order entry. The confirmed quantity for the required quantity and an alternative delivery date is displayed on the control screen.

Unlike the ATP check, the check date for the availability check against product allocations is the planned delivery date for the customer and not the material availability date.

The actual order quantities are updated in the planning hierarchy of the LIS. Comprehensive reporting tools and an early warning system in the LIS that has to be set in Customizing monitor the status of the product allocation period and report critical situations immediately.



Product allocation uses a blocking mechanism similar to quantity block in the ATP check: The check hierarchy of the corresponding product allocation object is only blocked exclusively during the check itself. Afterwards, the same object can also be used by other processes without the current procedure having been saved. The product allocation quantity used is, however, seen in all subsequent processes (via this blocking mechanism) to prevent over-confirmation.

Display Availability Check Against Product Allocation

Display Availability Check Against Product Allocation

The system can carry out an availability check against product allocation automatically during order entry. When availability is low, you branch to the availability control screen automatically. From there, you can view the result of the product allocation.

This is done as follows:

1. In the availability control screen, branch to the display of the availability situation with regards to product allocations via *Goto* → *Product allocations*.
2. By clicking on the “product allocation” symbol, you can view the product allocation that was checked against. You can see which product allocations are available for which periods, how much the product allocation has been used up by other orders and how much product allocation remains.

Available-to-Promise on the Internet

Use

An essential activity in many business processes within Logistics is the checking of available resources before making critical decisions or commitments. For customer-oriented companies, it is vital that reliable information on the availability of resources can be access at all times. This is especially important in the sales department as before the salesperson can provide the customer with reliable dates, s/he requires immediate access to information on the availability of a product.

The availability check in the R/3 System provides decision support for a large number of logistics operations at all organizational levels, that is, at plant level, storage location level and at batch level. The check can be adjusted to suit the specific requirements of each company. This guarantees the necessary flexibility for dealing with the customer and within the company itself. For more information on the availability check refer to the R/3 Knowledge Product *Availability Check*.

The Internet Application Component *Available to Promise* has been created as an example scenario in the SD environment. The Available to Promise screen shows the results of the material availability check in a clear and simple overview.

Type of Internet Application Component

- Business-to-Business
- Consumer-to-Business

For customer-oriented companies, easily accessible information on material availability that can be read at a glance provides an important basis for making decisions in an increasingly competitive market environment. Therefore, many companies (especially in the high tech and consumer goods branches of industry) are keen to take advantage of the new opportunities provided by the Internet. They want the necessary support for their business processes, for example:

- Tools for the salesperson must be transparent and easy to use.
- System information must be provided quickly and should be easy to understand.

If you work in Production Planning, in Sales and Distribution or if you are a customer and you use the Internet Application Component *Available to Promise*, you have the following advantages:

- You can access *Available to Promise* from anywhere in the world around the clock.
- The layout of *Available to Promise* is simple and easy to use. For example, to select the product in which you are interested, you only have to select the line.
- Using the Internet, the customer can access information on the available quantities for certain products without having to get in touch with the sales department of the company (if a customer master record has been created in the R/3 System).
- Vendors can see which products are still available and how much is still available. This means that they know when to anticipate necessary deliveries.

Available-to-Promise on the Internet

Prerequisites

Authorizations/Security

No special authorizations are required for this Internet Application Component.

Internet Users

To trigger the Internet Application Component in the Internet, you must log on using your SAP user name and your password. If you are a customer, you also require a customer master record and a password of your choice in the R/3 System.

Using transaction SU05, you can create, change and delete passwords for Internet users. To specifically identify users, enter the object type KNA1 as well as the number of the SAP user master record or the customer number.

Standard Settings and Default Values

Browser

The browser used must be Java-enabled (for example, Netscape Navigator >3.0, Microsoft Internet Explorer > 3.0). The browser must also be set so that Java programs can run.

Product Selection Using the Java Applet

You select a product for which you want to see *Available to Promise* using a Java applet. A Java applet is a small program that is loaded and executed on your PC along with the HTML page.

When started, the Java applet loads the contents of the product catalog from two files saved in the Web server. Using the product hierarchy tree and a text search, you can select a product in the applet and copy it to the input field for the availability check.

Using the text search functions in the applet, you can search for material numbers and descriptions. You can also carry out a generic search using '*'. If you enter "test", for example, a search will be made for precisely this string. Entering "test*" triggers a search for everything that starts with "test". Entering "*test" triggers a search for everything that contains the string "test". The search does not differentiate between lower and upper case characters.

In problem cases, for example, if a file cannot be read or contains inconsistent data, the applet terminates and an error message is displayed in the status line of the browser. In the Netscape Navigator, this message also appears in the *Java Console* that can be displayed via the menu.

Default Values for Input

Using the Java applet, you can preset certain parameters for accessing information from the R/3 System. The contents of the applet are provided by the report PCATALOG which accesses the data in the product catalog which it saves as two files. Copy these files to the Web server.

This procedure requires the maintenance of a product catalog in the R/3 System. Here, make sure that materials are not assigned more than once. Furthermore, use the base unit of measure. (See also the SAP documentation on the product catalog.)

Activities involved in including your own product catalog

1. Create a product catalog in the R/3 System's product catalog maintenance screen.
2. Use the report PCATALOG to create the input files for the Java applet.
3. Place the input files for the Java applet on the Web server.

- Adjust the applet parameters on the HTML page to the new files.

Default Values for the Checking Rule

Information on material availability in the R/3 System is given according to the scope of the check which is determined by the material’s checking group and the checking rule A of the sales department. See also the documentation on the function module, BAPI_MATERIAL_AVAILABILITY for tips on transferring special checking rules.

Features

Modification Options

You can change the layout of this Internet Application Component.



Every change to the R/3 development objects used in the Internet Application Component is taken as a modification.

Do not in any circumstances change the development objects of the standard system.

Service Name

The service name of this Internet Application Component is CKAV. You can find all the relevant data under this service name in the SAP@Web Studio.

Modification Options

The Java applet can be controlled using the following parameters:

Parameter	Description	Example
Products (Essential parameter)	Path and file name for the product file. You must specify an absolute path (starting with '/') that is valuated from the root directory of the Web server.	/sap/its/startpages/ckav/data/materials.txt
Hierarchy (Essential parameter)	Path and file name for the file with the product hierarchy. You must specify an absolute path (starting with '/') that is valuated from the root directory of the Web server.	/sap/its/startpages/ckav/data/hierarchy.txt

Available-to-Promise on the Internet

BgColor (Optional)	Background color of the HTML page that contains the applet. By specifying this parameter, the background of the tab (the area to the right of the two index cards) is displayed in the transferred colors. The color is specified as a hexadecimal number with 6 numbers. The format is the same as a color specification in the HTML. However, note that you cannot enter a leading '#'. C0C0C0	C0C0C0
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The parameters are specified in the applet tag in the HTML page. With the above example data, the applet tag is as follows:

```
<APPLET name=catalogApplet archive="catalog.zip"
codebase=/sap/its/startpages/ckav/classes
    code=catalogApplet.class width=320 height=295 mayscript>
    <PARAM name=cabbase value="catalog.cab">
    <PARAM name=products
value=/sap/its/startpages/ckav/data/materials.txt>
    <PARAM name=hierarchy
value=/sap/its/startpages/ckav/data/hierarchy.txt>
    <PARAM name=bgColor value=C0C0C0>
</APPLET>
```

R/3 Development Objects

In the R/3 System, the data exchange via the Internet is carried out using transactions and function modules. The following developments are required for creating and passing on service messages:

Development class:	MDW1
Transaction:	CKAV
Function group for the screens:	W61V
Function modules:	BAPI_MATERIAL_AVAILABILITY

Data Output via the Internet Transaction Server

Data output is performed using the Internet Transaction Server (ITS). The data is merged with the output forms and made available on the Internet/intranet in HTML format.

The output forms are in the subdirectory CKAV of the directory TEMPLATES. The following forms are used:

SAPMAVCK_500.HTML

SAPMAVCK_600.HTML

SAPMAVCK_1100.HTML

SAPMAVCK_1200.HTML

SAPMAVCK_1300.HTML

CKAV_D.HTRC

CKAV_E.HTRC

CKAV_J.HTRC

The numbers in the names of the forms correspond to the R/3 screen numbers.

Use of Available-to-Promise on the Internet

Use of Available-to-Promise on the Internet

If you use the Internet Application Component *Available to Promise* for information on material availability, the procedure is as described below.

Material Selection

The salesperson, MRP controller or customer can check to see whether sufficient quantities of the product are available on the required date directly in the Internet.

After logging on, you receive a graphic overview of the range of products in the left-hand corner of the screen.

You can select the product you are interested in from this overview as follows:

- By navigating in the product tree
- Using the text search function

You can also select the product in question directly by entering the material number or the material short description.

Accessing Available to Promise

To carry out the availability check, the R/3 System also requires the desired delivery date and the desired quantity.

On the right-hand side of the screen, the results of the availability check are displayed. The following information is displayed:

- Material number and material description
- Material provision date
- Available-to-promise (ATP) quantity

The ATP quantity is the quantity that is still available after the confirmed requirements have been taken into account.

If you check with replenishment lead time and the required quantity is not available for the desired date, the end of the replenishment lead time is also displayed.



The availability check is carried out per plant and material. The plant is determined using the user parameters in the R/3 System.

The date in the display is not the delivery date, but the material provision date as no delivery scheduling is active in the Internet Application Component.