# **Results Recording (QM-IM-RR)**



Release 4.6C



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## Icons

lcon	Meaning
Δ	Caution
	Example
➡	Note
	Recommendation
<b>SUD</b>	Syntax
$\mathbf{P}$	Тір

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**Results Recording (QM-IM-RR)** 

## **Results Recording (QM-IM-RR)**

## Purpose

In the *Results Recording* component, you record and process results for inspection characteristics. The <u>inspection lot [Ext.]</u> is the reference object in results recording.

The recorded inspection results document the quality of the inspected product and provide the basis for creating batch specifications and inspection certificates. You can use the recorded result data to make evaluations for quality control purposes.

## Integration

In addition to results recording based on characteristics, you can also use <u>process-optimized</u> <u>results recording [Page 94]</u> to record inspection results for all operations, inspection points or lots depending on your requirements.

You can also process defect data using the defects recording [Ext.] function.

## **Prerequisites**

To be able to record inspection results, the following conditions must be met:

• Inspection specifications (task list or material specification) are assigned to the inspection lot



If you inspect according to configuration or batch, the inspection specifications are changed correspondingly from the task list or material specification. For more information, see Editing the Inspection Setup [Ext.].

- Characteristics have been created
- Sample calculation [Ext.] has been carried out

⇒

The processing status of an inspection lot is documented by the inspection lot status. For more information about the inspection lot status, see <u>Status Management for</u> <u>Inspection Lots [Ext.]</u>.

## **Features**

Using this component, you can:

- Process results for an operation [Page 59]
- Process results for multiple samples
- Process results for different inspection point categories [Page 66]:
  - For an inspection point during production
  - For a physical sample
  - For equipment
  - For a functional location



#### Results Recording (QM-IM-RR)

- Process results for a delivery in sales and distribution
- Display individual results for a characteristic (confirmation number)
- Decide to accept or reject the inspection characteristics
- Calculate summarized characteristic values
- Record defect data straight from the results recording function
- <u>Close inspection characteristics [Page 88]</u>
- Print inspection results

#### **Processing of Inspection Results**

## **Processing of Inspection Results**

## Purpose

This process describes how to **record**, **valuate**, and **close** inspection results for:

- Characteristics (individual samples)
- Dependent and independent multiple samples
- Inspection points during production
- Physical samples
- Equipment/functional locations
- Partial lots

## **Process Flow**

Inspection results processing is comprised of the following steps:



<u>Process-optimized results recording [Page 94]</u> differs from the above procedure in the order the events occur.

#### **Processing of Inspection Results**

## Result

If the inspection results have been completely confirmed, the usage decision can be made using the inspection lot. For more information, see <u>Inspection Lot Completion [Ext.]</u>.

**Recording Forms** 

## **Recording Forms**

## Use

There are various recording forms for inspection results. For example, which recording form you use depends on whether you record the inspection result for each inspected single unit, or whether it may be enough just to save summarized values, such as the mean value and standard deviation.

## **Prerequisites**

You define the recording form for inspection results using the control indicator in the inspection characteristic in the task list.

## **Features**

The recording form determines which entries are required for results recording on the characteristic main screen. The following recording forms are generally supported:

- <u>Summarized recording [Page 11]</u>
- Single value recording [Page 13]
- <u>Classed recording [Page 16]</u>

You can also record results for a characteristic in several partial samples. Depending on the characteristic definition in the task list that is determined by the *control indicator* for this characteristic and the *sampling procedure*, you can record characteristics:

- Quantitatively (measured values)
- Qualitatively (attribute codes for characteristics with selected sets)
- Attributively (for example, a successful evaluation or unsuccessful evaluation)

#### **Summarized Results Recording**

## **Summarized Results Recording**

### Use

When you record summarized statistics, you can process the following types of results:

- Number of defects
- Number of nonconforming units
- Coded characteristic attributes for the inspection characteristic
- Quantitative confirmation

## **Features**

#### **Number of Defects**

For purely attributive results recording based on the number of defects, you enter the number of inspected single units for an inspection characteristic or a partial sample in the *Inspected* field. For each inspection characteristic in the task list, you can define how much the inspected sample size in the *Inspected* field can deviate from the predefined sample size in the *Inspect* field. When you close the inspection characteristic or partial sample, the system checks whether the conditions for adhering to the sample size have been met.

The confirmation of the number of defects is defined by a control indicator in the inspection characteristic in the task list.

To confirm the number of defects observed in the sample, enter the number of defects in the *No. of defects* field. When you confirm the number of defects for the first time, the number of inspected units is automatically recorded (= target sample size). You can confirm more than one defect for an inspected unit.

#### **Number of Nonconforming Units**

In the Inspected field, you enter data as described in the above section, "Number of Defects".

The confirmation of the number of nonconforming units is defined by a control indicator in the inspection characteristic in the task list.

To confirm the number of nonconforming units, enter the number of defective sample units in the *Defective* field. This number cannot be greater than the number of inspected units specified in the *Inspected* field. When you confirm the number of nonconforming units for the first time, the number of inspected units is automatically recorded (= target sample size).

#### **Coded Characteristic Attributes for the Inspection Characteristic**

You can confirm coded characteristic attributes for an **inspection characteristic**, if you have assigned a **selected set** to the characteristic in the inspection plan.

For more information, see Assigning Code Groups or Selected Sets [Ext.].

#### **Quantitative Confirmation**

For quantitative inspection characteristics with a **single-sided or double-sided tolerance range** and for which a summarized quantitative confirmation is defined, you can make the following entries:

#### **Summarized Results Recording**

Field Name	Possible Entry	Comment
Inspected	Number of inspected singles units	
No. above or No. below	The number of inspected single units above or below the tolerance range	After you enter the values and choose <i>Enter</i> , the system determines the number of nonconforming units from the number of inspected single units outside the tolerance range. The number of nonconforming units is displayed in the <i>Nonconforming</i> field.
S	Standard deviation for valid measured values	
x-bar	Mean value for valid measured values	

For quantitative inspection characteristics **without tolerance limits**, enter the number of nonconforming units in the *Nonconforming* field. The fields *No. above* and *No. below* are not displayed.

If **no quantitative confirmation** is defined for a quantitative inspection characteristic with a single-sided or double-sided tolerance range, enter only the number of single units above and/or below the tolerance range.

#### See also:

Valuation Procedures [Page 79]

#### **Recording of Single Values**

## **Recording of Single Values**

### Use

When you record single values, you can process the following types of results:

- Number of defects
- Number of nonconforming units
- Coded characteristic attributes for single units
- Measured values

## **Features**

#### **Number of Defects**

For an attributive single value recording based on the number of defects, enter the number of defects for each unit to be inspected in the *Defect number* column of the *Single Values* screen area. The system updates the values in the fields *Inspected, Number of defects* and *Nonconforming*.

For each inspection characteristic defined in the task list, you define how much the inspected sample size (in the *Inspected* field) can deviate from the predefined sample size (in the *Inspect* field). When you close the inspection characteristic or the partial sample, the system checks whether the conditions for adhering to the sample size have been met.

#### **Number of Nonconforming Units**

For an attributive single value recording based on to the number of defects, enter the valuation (acceptance or rejection) for each unit to be inspected in the *Valuation* column of the *Single Values* screen area. If necessary, you must also enter a defect class when a unit is rejected. The system updates the values in the fields for *Inspected* and *Nonconforming*.

For each inspection characteristic defined in the task list, you define how much the inspected sample size (in the *Inspected* field) can deviate from the predefined sample size (in the *Inspect* field). When you close the inspection characteristic or the partial sample, the system checks whether the conditions for adhering to the sample size have been met.

#### **Coded Characteristic Attributes for Single Units**

You can confirm coded characteristic attributes for a **single unit** if you have assigned a **selected set** to the characteristic in the inspection plan.

You can enter the attribute codes directly. The valuation of the single unit and the defect class are copied from the code.

#### **Measured Values**

You enter the measured values for the unit to be inspected during measured value recording. The system valuates the measured values that lie **within** the tolerance range by entering an **A** (accepted) in the *Val* column. The tolerance range is limited by an upper and lower specification limit (screen section *Specifications*). Measured values that lie **outside** the tolerance range are rejected. If a measured value is rejected (R), the system enters the defect class of the code predefined in the task list in the *Defects Class* column. If no defect code is available, the system

#### **Recording of Single Values**

copies the defect class from the plant settings defined in Customizing for *Quality Management* at plant level.

After a measured value is entered, the system updates the data in the fields *Inspected*, *Nonconforming*, *No.above*, *No.below*, and *x-bar*.

If **no confirmation of measured values** has been planned for an inspection characteristic with a single-sided or double-sided tolerance range, you only confirm the valuation (OK / not OK) for each single unit. After the valuation is entered for each single unit, the system updates the values in the fields *Inspected* and *Nonconforming*.

#### **Calculating Statistical Moments**

To calculate additional statistics such as the standard deviation and the maximum and minimum valid measured values, choose *Extras*  $\rightarrow$  *Statistics*  $\rightarrow$  *Calculate statistical moments*.

The <u>characteristic detail screen [Page 37]</u> appears on which the calculated statistics are displayed in the *Results* screen area. This function is carried out automatically when you valuate or close a characteristic or a partial sample.

#### **Offset and Factor**

To simplify the data entry for measured values recording, you can define the additive offset constant using the *Possible entries help*.

A dialog box appears in which you enter the values for the offset and factor. You can enter the factor value to the power of ten. If you enter a \* in the Offset field, the system places the target value of the characteristic in the field.



The purpose of the offset and factor is to simplify the entry of data. For example, if you want to confirm the measured values 200.345 and 200.299, it is advisable to enter the value 200 as the offset value and confirm the measured values 0.345 and 0.299.

This position and scale conversion only affects the presentation of the characteristic values on screen. The system saves and processes the absolute values internally.

## **Activities**

You **record** single values in the *Single Values* screen area of the characteristic single screen. You can record single values on the characteristic overview screen during <u>results recording for units to be inspected [Page 30]</u>. After you have entered the values for a single unit in the *Measured value* column, choose *Continue*. The system updates the data in the fields for *Inspected* and *Nonconforming*. The system

always displays the values recorded most recently in the single values list.

You can only delete single values for a unit to be inspected on the characteristic single screen.

You can only delete single values as long as you have not saved the values and they have not been written to the database. You can mark single values that you can no longer delete as invalid using *Attribute*.

#### Important Columns for Recording Single Values

The following two columns are important for each form of single-value recording:

### **Recording of Single Values**

Column	Meaning	Comment
Attribute	You can indicate a single value as invalid (/). In this case, you must record an additional single value in order to meet the required sample size.	The system calculates statistics, such as the mean and standard deviation, from the <b>valid</b> single results only.
Number of unit to be inspected	You can externally number a unit to be inspected. In this way, you can assign individual inspection results to a specific unit to be inspected.	For example, in the task list header you define whether external numbering is mandatory, optional, or explicit. If you use serial numbers that exist in the system as master records, you define the numbering on the basis of the serial number profile (in the material master for materials requiring serial numbers) and the indicator for single unit inspection (in the inspection setup of the material master).

See also:

Results Recording for Units to be Inspected [Page 30]

#### **Classed Results Recording**

## **Classed Results Recording**

### Use

Recording inspection results in classes enables you to reduce both the effort required to record results and the amount of storage needed to maintain the results. It is no longer necessary to record and store the individual results for each inspected single unit. The *Quality Management* application component supports two types of classed results recording:

- **Quantitative classes** for characteristics that have double-sided tolerance limits and for which measured values are confirmed.
- Qualitative classes for characteristics for which attribute codes are confirmed.

## **Features**

#### **Quantitative Classes**

Using the predefined specifications from the task list, the system calculates an **upper** and **lower class limit** for each class in results recording. The following data is specified in the task list:

- Number of classes
- Class width
- Class midpoint

The system creates an upper and lower marginal class in addition to the predefined number of classes. You define the creation of marginal classes in Customizing for plant settings. You define whether the marginal classes are unlimited or limited using plausibility limits.

During results recording in quantitative classes, you enter the number of inspected single units (for which the measured value is in the predefined interval of the respective class) in the *Number* column on the *Confirmation Classes* screen. Classes outside the tolerance limit are valuated with an *R* valuation; classes within the tolerance limit are valuated with valuation *A*. If you choose *Enter* after each entry, the system determines:

- The inspection sample size in the Inspected field from the sum of the numbers in all classes
- The number of nonconforming units in the *Nonconforming* field from the sum of the numbers in all classes with the valuation R
- The value in the *No. below* field from the sum of the numbers in all classes that fall outside the lower tolerance limit
- The value in the *No. above* field from the sum of the numbers in all classes that fall outside the upper tolerance limit
- The *Mean value* for the characteristic or the partial sample from the numbers in the classes and the class midpoints

#### **Qualitative Classes**

In order to confirm inspection results in qualitative classes you must have assigned a selected set to the characteristic in the task list. Each code in the selected set corresponds to a class. The valuation and the defect class are copied from the selected set code to the appropriate class.

#### **Classed Results Recording**

To record results in qualitative classes, enter the number of single units that corresponds to each of the given codes in the *Number* column of the *Confirmation Classes* screen area. If you choose *Enter* after each entry, the system determines:

- The inspection sample size in the Inspected field from the sum of the numbers in all classes
- The number of nonconforming units in the *Nonconforming* field from the sum of the numbers in all classes with the valuation *R*

**Digital Signature in QM** 

## **Digital Signature in QM**

## Use

The SAP System provides the <u>digital signature [Ext.]</u> tool to identify and approve digital data. The digital signature ensures that certain tasks are only performed by specially authorized users and documented in a signed document together with the name of the undersigned person, and the date and time. You need the digital signature to meet the GMP guidelines (Good Manufacturing Practices) for the approval of quality-related processes and documentation.

The *Quality Management (QM)* application component uses the simple signature. This means, that a document is signed or approved by the signature of a single authorized person. You can use the digital signature for the following functions:

- During results recording
- At the usage decision
- When confirming the physical-sample drawing. This means, when releasing the first physical sample in a physical-sample drawing.

#### See also:

Approval Using Digital Signatures [Ext.]

## Integration

In the SAP System, the digital signature is supported by the Basis component <u>Secure Store and</u> <u>Forward (SSF) [Ext.]</u>. This provides you with various <u>signature methods [Ext.]</u>. If you use the user signature as the signature method, you require an external security product that is linked to your SAP System using SSF.

## **Prerequisites**

The following prerequisites must be met for a user in QM to be able to use a digital signature:

- You have made the general settings for a digital signature (see <u>Approval with Digital</u> <u>Signatures [Ext.]</u>).
- You have activated the digital signature for QM. For this, you must:
  - Define the necessity of a digital signature in the QM-Material Authorization for inspection processing (see Customizing for Quality Management, Environment → Central Functions → Authorization Management → Define Authorization Groups)
  - Enter the QM material authorization for the relevant material in the Quality Management view of the material master

#### **Entering a Digital Signature**

## **Entering a Digital Signature**

## **Prerequisites**

You have selected a function that requires a digital signature. As a result, the *Digital signature* dialog box appears.

## **Procedure**

- 1. If necessary, enter a comment in the text field.
- 2. If you want to use the user signature as the <u>signature method [Ext.]</u>, make sure that the system can access your <u>Personal Security Environment (PSE) [Ext.]</u>.

The procedure is dependent on your security product. For example, if you work with a smartcard reader, you enter your smartcard in the card reader.

- 3. Enter your user name and password in the dialog box for the digital signature.
- 4. Choose 🖋 Continue.

The system checks whether:

- You are authorized to enter a digital signature.
- Your entries correspond to the data in your user master record.
- Your entries for the user signature correspond to the data in your PSE.
  - Depending on the result of the check, processing continues as follows:
- If your entries are invalid or the system cannot access your PSE, the dialog box appears again and you can re-enter your signature (step 3).
  - The function is canceled after a number of attempts. This number is defined by the user. Your user is locked for the digital signature and for the renewed system logon with the system signature.
- If your entries are correct, the chosen function is performed.
- 5. Save the data.

#### Monitoring and Logging of Signature Processes

## **Monitoring and Logging of Signature Processes**

## Use

Digital approval processes must be reliable and transparent in order to comply with security requirements. For this reason, the SAP System offers the following:

- You can lock users after a customer-specific number of unsuccessful attempts has been reached.
- You can monitor security-relevant activities that occurred during the signature process.
- You can analyze all activities performed in the context of the signature process.

## **Features**

#### **User Lock**

When a signature is executed, unsuccessful attempts can take place for a number of different reasons (for example, the user has entered the wrong password, the user is not authorized to execute the signature, or the system could not verify the signature). After a certain number of unsuccessful attempts has been exceeded, the user is locked as follows:

- When a system signature is executed, the user is locked by the SAP System. The lock applies to the digital signature and a new system logon. You set up the number of unsuccessful attempts in the system profile (see <u>Limiting Logon Attempts and Defining</u> <u>Clients [Ext.]</u>).
- When a user signature is executed, the user is locked by the external security product. The lock only applies to the digital signature. The number of allowed unsuccessful attempts is managed by the external security product.

#### Security Audit Log

Any failed signature attempt is logged in the Security Audit Log along with other security-relevant events of the SAP System. The system documents, for example, the reason for the error, date and time, and the signatory's user ID. The security administrator can use the CCMS alert monitor to evaluate the Security Audit Log.

#### Log for Digital Signature

The log for the digital signature documents all relevant steps in a signature process. This includes successful and canceled signatures as well as signatures that were deleted when the signature process was canceled. You can evaluate the signature log, for example, by signature object, signature time, and the signatory's user ID (see <u>Analyzing Logs for Digital Signatures</u> [Page 21]). It contains the result of the signature steps along with all messages and the data that is transferred to the signed document if the signatures were successful.

#### **Analyzing Logs for Digital Signatures**

## **Analyzing Logs for Digital Signatures**

### Use

You can use this procedure to get an overview of the course signature processes took and evaluate all activities performed in the course of the signature process.

## ⇒

If you only want to analyze the security-relevant events that occurred both in the context of digital signatures and during other activities in the SAP System, use the CCMS alert monitor to analyze the Security Audit Log instead (see <u>The Alert Monitor</u> [Ext.]).

## Procedure

1. Call up the log for the digital signature as follows:

Area	Choose:
Engineering Change Management (ECH)	Reporting $\rightarrow$ Log for Digital Signature
Process management (PP-PI)	Evaluations $\rightarrow$ Log for Digital Signature
Batch record (PP-PI)	Goto $\rightarrow$ Log for digital signature

2. Enter the criteria for log selection and choose .

The overview of the logs that the system selected appears. The following data is displayed:

 In the top screen area, the logs' header data, that is, the date and time, the signatory name, the number or log messages, and the reason for signature

There is exactly one log for each signature attempt.

 In the bottom screen area, the messages of the logs selected, that is, the result of the signature steps and all relevant signature data

Messages are marked according to their type and logs are marked according to the most serious message type they contain:

Symbol	Message Type
0	Information
4	Warning
	Error

#### **Analyzing Logs for Digital Signatures**

5TOP

Abend

In addition, the following log classes are highlighted in different colors:

Log or Error Class	Text Color
Signature process canceled	Log red, message highlighted in yellow
Wrong password, name not maintained, missing SSF info	Log and message highlighted in yellow

- 3. Use the following functions to analyze the logs:
  - If you only want to display messages of a particular type, choose the corresponding icon in the symbol bar at the bottom of the screen.
  - If you only want to display messages of a particular log, double-click the log in the top screen area. By double-clicking the higher-level node, the system again displays all logs of the corresponding object type.
  - To display the long text for a message, choose 0 in the corresponding line in the bottom area of the screen.

#### **User Settings**

## **User Settings**

### Use

You use this function to make individual settings for results recording and, as a result, organize the procedure based on your requirements.

For example, you can:

- Define the navigation control, for example, on the *Recording configuration* tab page in results recording
- Define the *field combination* for inspection point categories on the *Inspection point identification* tab page (only possible on the initial screen)
- Define particular entries for recording on the *Default values* tab page (for example, plant, work center, inspector, possible recording views for the <u>characteristic overview screen [Page 28]</u>)
- Define the report type on the *Defects recording* tab strip and offer a *multiple selection* of defect codes

## **Activities**

To define your user settings, choose 📴 on the characteristic overview screen.

## **Results Recording**

### Use

This function includes a worklist for recording inspection results for all objects that allow results recording (*inspection lots, partial lots, inspection points* in production or goods receipt, *physical samples, equipment, and functional locations*).

On the selection screen, you first define the selection criteria for the objects to be processed and then start the selection.

You can navigate between different processing objects on the recording screen. You can use an integrated graphic display in the lower screen area to call up a:

- Histogram [Page 50]
- Run-chart [Page 52]
- <u>Control chart [Ext.]</u>

 $\Rightarrow$ 

For more information about setup options for the graphic, see <u>Chart OCX</u> <u>Presentation Graphic [Ext.]</u>.

## **Features**

#### **Selection Screen**

You can define search criteria for inspection lots on the selection screen using the following tab pages:

Tab Page	Function
Material	Multiple ways to limit the search for inspection lots (for example, according to <i>material</i> )
Physical sample	Limiting the inspection lot search to certain physical samples
Equipment/Functional location	Limiting the inspection lot search to certain equipment/functional locations
Inspection lot number	Limiting the inspection lot search to certain inspection lot numbers or number intervals

You can simplify the selection by defining personal selection criteria using *My default*. For more information, see <u>Defining Report Variants [Ext.]</u>.

#### **Recording Screen**

After inspection lot selection, the first operation with characteristics to be processed appears automatically. The corresponding <u>characteristic overview screen [Page 28]</u> is displayed to record results. (If you select a characteristic for results recording, the <u>characteristic single screen [Page 32]</u> appears.)

There is an overview tree of the inspection lots in the worklist in the screen area on the left. The hierarchy has the following levels:

Hierarchy Level	lcon
Inspection lot or partial lot	Q
Operation	Z
Inspection point (physical sample, equipment, functional location)	Q
Inspection characteristic	<del>Q</del>

The objects in the overview tree are displayed differently depending on your recording needs:

Presentation	Meaning
Highlighted in color and underlined	The object needs results recording because outstanding characteristics exist.
	Outstanding characteristics are:
	Unprocessed required characteristics
	Characteristics being processed
	Valuated characteristics
	You access the recording transaction by clicking on the object.
Highlighted in color but not underlined	Only at inspection lot and partial lot level:
	Results recording is necessary because outstanding characteristics exist.
Not highlighted in color (or underlined)	These are not outstanding characteristics.
	If required, you can access the recording transaction by double clicking on the object.

The current valuation status is displayed according to the valuation level by a traffic light:

lcon	Meaning
Gray	No valuation
Green	Valuation "Accepted"
Red	Valuation "Rejected"
Ø	Unsuccessful valuation

#### Characteristic Valuation

#### • Valuation of the Inspection Point, Equipment, Functional Location

lcon	Meaning
🔷 Gray	No valuation
Green	Valuation "Accepted"
Red	Valuation "Rejected"

#### • Valuation of Physical Samples

lcon	Meaning
Þ	Physical sample released for results recording
×	Physical sample not released for results recording
Green	Valuation "Accepted"
Red	Valuation "Rejected"

You can also use the following basic functions on the recording screen:

Function	Icon/Pushbutton	What you should know
Show the overview tree as	2	Drop-down menu for:
standard size		Hiding the overview tree
		Restoring standard size
Expand subordinate hierarchy levels of the overview tree at the inspection lot level	<b>9</b> 3	The function relates to a selected object in the hierarchy or, if no object has been selected, for the whole overview tree.
Collapse subordinate hierarchy levels of the overview tree at the inspection level	<b>5</b>	The function relates to a selected object in the hierarchy or, if no object has been selected, for the whole overview tree.
Update overview tree	61	Drop-down menu for:
		Updating the overview tree
		New selection
Define sorting for the overview tree	8	You can define certain Sort fields (for example, <i>Inspection lot,</i> <i>Material</i> ) from a <i>Field list,</i> according to which the overview tree is structured. You can sort these in ascending or descending order.



Layout functions	For example, if you have defined field selection and sorting for the overview tree, you can save this as a variant, and then use the desired variant directly when you use results recording again.

For more information about functions for the recording screen (characteristic overview screen or the characteristic single screen), see <u>Single Functions [Page 33]</u>.

 $\Rightarrow$ 

You can access other (context-related) functions using the right mouse button.

When you have recorded inspection results for an inspection lot, you can switch to the usage decision by double clicking on the corresponding inspection lot.

## **Activities**

To access the results recording function, choose *Logistics*  $\rightarrow$  *Quality Management*  $\rightarrow$  *Quality Inspection*, and then:

- Worklist → Results Recording
- Result  $\rightarrow$  Results Recording

#### **Characteristic Overview Screen**

## **Characteristic Overview Screen**

## Use

The characteristic overview screen displays an overview of all the characteristics in an operation. On the characteristic overview screen, you can confirm the following inspection results depending on the recording view:

- Summarized values and single values
- Summarized values
- Single values for a unit to be inspected

You can organize the view selection according to your needs using <u>user settings [Page 23]</u>. The characteristic overview is structured with a different focus in the following main views:

Main View	Meaning
General	Overview and possible entries for summarized values and single values
Summarized	Overview and possible entries for summarized values
Unit to be inspected	Overview and possible entries for single values for a unit to be inspected
Indicator	Overview and possible entries for summarized values and single values with a display of control indicators (for example, <i>summarized recording, partial samples, measured values, controlling characteristic, automatic defects recording</i> )

## **Prerequisites**

You can predefine the recording view for the characteristic overview screen in the following ways:

- As a user parameter (controlled using the User settings)
- On the operation overview screen in the task list
- In the Customizing settings for the inspection type



The user parameter takes precedence over the other settings mentioned.

If a recording view is predefined both for the inspection type and at the operation level in the task list, the recording view defined in the inspection plan takes precedence.

## **Features**

You can navigate between characteristics and operations using the characteristic overview screen. You can display all types of notifications (for example, for a material) using the *Notifications* pushbutton.

You can use an integrated graphical display to call up the following objects in the lower screen area of the characteristic overview screen:

Histogram [Page 50]

#### **Characteristic Overview Screen**

- Run-chart [Page 52]
- <u>Control chart [Ext.]</u>



For more information about the setup options for the graphic, see <u>Chart OCX</u> <u>Business Graphic [Ext.]</u>.

You can display a list of the most important single functions by choosing <u>Single Functions [Page 33]</u>.

#### **Results Recording for Units to be Inspected**

## **Results Recording for Units to be Inspected**

### Use

Results recording for units to be inspected is one possible recording view in the characteristic overview screen. In contrast to the other views, you record single values as opposed to summarized values for the unit to be inspected. For this reason, you can only make entries in the fields that are relevant to single-value recording. You cannot make entries, if there are no characteristics with original-value recording at operation level.

## **Prerequisites**

To use this function, note the following:

- Results recording for independent multiple samples is not supported with this function.
- For each inspection characteristic, you define how much the inspected sample size (in the *Inspected* field) can deviate from the predefined sample size (in the *Inspect* field). If the target sample size has been reached and you have set the control indicator *Scope fixed* or *Smaller scope*, the fields for recording the inspection results are no longer ready for input.

## **Features**

When you record results for units to be inspected, a distinction is made between the following cases:

• Results recording for units to be inspected (with changeable unit numbers)

When you create units to be inspected, the system proposes numbers for the units to be inspected in an ascending order. You can change the proposed number for a unit to be inspected until you have recorded the first characteristic result for the unit. (You can still change the number for a unit to be inspected on the characteristic single screen.) The unit numbers provide the user with a means of identifying the units to be inspected. These numbers are not maintained as master data in the system.

#### • Results recording for units to be inspected (with serial number profile)

When you record inspection results for a unit to be inspected, for which the maintenance of serial numbers is specified in the material master, you must use the predefined serial numbers.

To record results for units to be inspected with a **serial number requirement**, the following conditions must be met:

- The material was assigned a serial number profile and the serializing procedure was defined for maintaining inspection lots.
- You have set the indicator for single unit inspection in the QM inspection setup of the material master.

## **Activities**

When you record inspection results for single units, you can record the single results on the characteristic overview screen or on the characteristic single screen. When you select a characteristic for a unit to be inspected, the characteristic single screen appears. This screen contains all units to be inspected for a characteristic.

#### **Results Recording for Units to be Inspected**

Processing Options on the Characteristic Overview Screen and the Characteristic Single Screen

Processing	Characteristic Overview Screen	Characteristic Single Screen
Record results	Yes	Yes
Change results	Yes	Yes
Delete results	No	Yes
Create unit to be inspected	Yes	Yes



You can only delete single values as long as you have not saved the values and they have not been written to the database. You can mark single values that you can no longer delete as invalid using *Attribute*.

To make sure that you record only one result for each unit to be inspected, you must set the indicator for external numbering in the task list header.

**Characteristic Single Screen** 

## **Characteristic Single Screen**

## Use

You enter inspection results for an individual inspection characteristic on the characteristic single screen depending on the <u>recording form [Page 10]</u>. You can navigate between individual characteristics and operations on the characteristic single screen.

## **Features**

You can display a list of single functions by choosing Single Functions [Page 33].

## Use

On the characteristic overview screen and the characteristic single screen, you can use many display, processing, and evaluation functions for results recording.

## **Features**

You can use the following single functions among others (COS = characteristic overview screen, CSS = characteristic single screen):

Function	Pushbutton/Menu path	What you should know
Call up another inspection lot	唱 (COS)	You call up the initial screen to record results for another inspection lot.
Make <u>user settings</u> [Page 23]		
Record defects	Defect with quick info Defect for an operation COS); Column Defect for a characteristic (COS); Defect with quick info Defect for a characteristic (CSS); Edit $\rightarrow$ Defect $\rightarrow$ Defect for an inspection lot (COS,CSS); Edit $\rightarrow$ Defect $\rightarrow$ Defect for an operation (COS,CSS); Edit $\rightarrow$ Defect $\rightarrow$ Defect for a characteristic (COS,CSS)	You choose the corresponding option based on the required level of detail in defects recording
Display an inspection method	Inspection method (COS)	
Call up a control chart	☑ Control chart (COS, CSS)	You select a characteristic on the COS and call up a control chart using the function, that is displayed in the lower screen area. For more information about the setup options for the graphic, see <u>OCX Chart</u> <u>Business Graphic [Ext.]</u> .

Call up a <u>histogram</u> [Page 50]	Histogram (COS, CSS)	You select a characteristic on the COS and call up a histogram using the function, that is displayed in the lower screen area. For more information about the setup options for the graphic, see <u>OCX Chart Business Graphic</u> [Ext.].
Call up a <u>run-chart</u> [Page 52]	😹 Run chart (COS, CSS)	You select a characteristic on the COS and call up a run- chart using the function, that is displayed in the lower screen area. For more information about the setup options for the graphic, see <u>OCX Chart</u> <u>Business Graphic [Ext.]</u> .
Display the <u>results</u> history [Page 53]	🖪 Results history (COS, CSS)	
Display valuation parameters	Valuation parameters (COS, CSS)	
Select a characteristic	🗟 (COS)	
Select all characteristics	E (COS)	You select all characteristics in the table. The pushbutton functions beneath the table are executed for all selected lines.
Deselect all characteristics	COS)	You deselect all characteristics in the table.
Create an <u>additional</u> <u>characteristic [Page 46]</u>	Ger (COS)	
Valuate characteristics	uantin and a construction of the construction	On the COS, the function is valid for all selected characteristics or for the characteristic on which the cursor is positioned, if no characteristic is selected.
Close characteristics	🛱 (COS, CSS)	On the COS, the function is valid for all selected characteristics or for the characteristic on which the cursor is positioned, if no characteristic is selected.

Set characteristics for processing [Page 38]	СОS, CSS)	On the COS, the function is valid for all selected characteristics or for the characteristic on which the cursor is positioned, if no characteristic is selected.
Evaluate <u>formula [Page</u> <u>48]</u>	$\boxed{\blacksquare} (COS);$ Extras $\rightarrow$ Formula $\rightarrow$ Evaluate formula (CSS)	
Displa <u>y formula [Page</u> <u>48]</u>	Extras $\rightarrow$ Formula $\rightarrow$ Display formula (COS, CSS)	
Enter an <u>inspector, date,</u> and inspection time [Page 41]	$\textcircled{IIII} (COS); Goto \rightarrow Date and inspection time (CSS)$	
Display <u>change history</u> [Page 57]		
Force <u>closure [Page 45]</u>		
Call up the <u>characteristic</u> detail screen [Page 37]	Pushbutton Further details(COS); Goto $\rightarrow$ Characteristic detail screen (CSS)	
Activate/deactivate the entry of a defect class [Page 39]	Settings → Defect class on or Defect class off (COS, CSS)	
Enter an <u>inspection</u> description [Page 42]	Columns Inspection description and Long text: Inspection description for characteristic	
Confirm a <u>code for a</u> <u>catalog [Page 40]</u>	$Extras \rightarrow Catalogs$ (COS, CSS)	
Display <u>conditional</u> <u>characteristics [Page 56]</u>	Extras → Display conditional characteristics (COS, CSS)	Select the corresponding controlling characteristic on the COS.
Display <u>defect structure</u> [Page 55]	$\begin{array}{l} \textit{Edit} \rightarrow \textit{Defect} \rightarrow \textit{Defect structure} \\ (COS, CSS) \end{array}$	
Calculate <u>share of</u> <u>defects [Page 43]</u>	Extras $\rightarrow$ Statistics $\rightarrow$ Calculate shares (COS, CSS)	
Call up the <u>QM-STI</u> evaluation [Ext.]	Extras $\rightarrow$ Statistics $\rightarrow$ QM-STI evaluation (COS, CSS)	
#### **Characteristic Detail Screen**

# **Characteristic Detail Screen**

## Use

Only the most important data for a characteristic is displayed on the characteristic single screen (depending on the recording form and the characteristic category). If you want to see more data for a characteristic, you can access overview screens or additional screens with qualitative or quantitative data for a characteristic.

## **Features**

Data on the characteristic is displayed in a shortened form on the detail screen. The middle screen area contains data about the sample size (to be inspected), the number of inspected single units, the number of defects, or the number of nonconforming units.

For a quantitative characteristic with measured value recording, the following additional statistics are displayed:

- Maximum value (*Maximum*), greatest valid value in the sample
- Mean value (x-bar)
- Standard deviation (s)
- Minimum value ( Minimum ), smallest valid value in the sample

For single-value recording these statistics are determined by the system; for summarized recording you enter them manually.

For quantitative characteristics **with lower and/or upper tolerance limits** the following values are also displayed:

- Number below/above: The number of inspected single units below or above the tolerance range
- Share below/above: Estimated share below or above the tolerance range

You can valuate and close a characteristic on the detail screen for a characteristic.

# **Activities**

For **single-value recording**, choose  $Goto \rightarrow Characteristic detail screen$  from either the characteristic overview screen or the characteristic single screen.

For summarized recording choose:

- Characteristic detail screen on the characteristic overview screen
- Extras  $\rightarrow$  Extras (qualitative) or Extras (quantative) on the characteristic single screen

**Set Characteristics for Processing** 

# **Set Characteristics for Processing**

## Use

You can enter data for results recording only if the inspection characteristic status is set for processing. After a characteristic is valuated or closed, you can no longer enter data. However, you can reset the status of valuated characteristics (status 3) or closed characteristics (status 5) back to *Processed* (status 2) using the reset function. Once the status is changed, you can again enter data in the data entry fields for the characteristic and on the recording screens. You can also change existing data and the characteristic valuation.

#### Activating the Entry of a Defect Class

# Activating the Entry of a Defect Class

# Use

If a characteristic is rejected, you can define a defect class for the characteristic in a dialog box. You can activate or deactivate this dialog box.

- After you have activated the defect class, the system displays a dialog box in which the defect class is displayed as a proposed value. You can overwrite the proposed value.
- After you have deactivated the defect class, the proposed value for the defect class will automatically be assigned to the characteristic; the system does not display a dialog box.

If the confirmation of defect codes from the defect catalog (catalog type 9) was defined in the task list for certain characteristics, the system determines the defect class on the basis of **predefined defect codes**. If no defect classes were predefined, the system uses the standard defect class defined in Customizing under the plant settings.

You can save your setting for the entry of a defect class in user settings [Page 23].

#### **Confirmation of Catalogs**

# **Confirmation of Catalogs**

## Use

If catalog confirmation is defined in the task list, you can display the assigned catalog entries and confirm codes on the current recording level (characteristic, single unit).

# **Activities**

To access the function, choose  $Extras \rightarrow Catalogs$ .

The screen appears with the assigned catalog types and selected sets or code groups. If you enter a \* in the *Code* field, or execute the list function from the toolbar, you call up a list of codes for selected sets or code groups. You can then select the appropriate code from this list.

If you have to confirm catalogs when recording single values, the function for confirming catalogs is active in the recording table.

Entry of the Inspector, Date, and Inspection Time

# Entry of the Inspector, Date, and Inspection Time

## Use

For each characteristic, each unit to be inspected, or each class, you can change the proposed data for the *inspector, start date, end date, inspection start,* and *inspection end*.

# $\Rightarrow$

If the requirement for a <u>digital signature [Page 18]</u> was specified for the inspection lot in Customizing for Quality Management, the system prompts you to furnish the signature in a dialog box when you save the characteristic results. The system stores the user name of the person who entered the digital signature as the name of the person who inspected the characteristics. The inspection end date and time reflect the system time when the digital signature was entered. **Inspection Description** 

# **Inspection Description**

# Use

You must enter an inspection description for characteristics if you have set the "documentation required" indicator, or if documentation is required when the characteristic is rejected. When the characteristic is closed, the system checks whether documentation is required.

Depending on the recording form, you can maintain an inspection description as a short text and long text for each characteristic, single unit, or class.

#### **Calculation of the Share of Defects**

# **Calculation of the Share of Defects**

## Use

You can statistically estimate the share of nonconforming units for each characteristic. For this calculation, the original-value distribution category is taken into account.

The share of defects for a characteristic is used in some quality score procedures to calculate the quality score.

In the standard system, function modules are defined for calculating the defect share for the following statistical distributions of characteristic values:

#### • Normal distribution

This distribution category is used only for characteristics with at least one tolerance limit for which the measured values are confirmed.

#### • Binomial distribution

This distribution category is used for qualitative characteristics for which the number of nonconforming units is confirmed.

#### Poisson distribution

This distribution category is used only for qualitative characteristics for which a confirmation of the number of defects is required.

## **Prerequisites**

A parameter that describes the distribution model is used to estimate the share of defects for the inspection characteristic in the task list.

## **Features**

If you execute the function, the system issues a message that the share estimation was carried out for the characteristic and a dialog box is displayed with the inspection characteristic overview. In this dialog box the share of defects is displayed in the *Share* field. If the characteristic has tolerance limits and original-value recording, the share of values above and/or below the tolerance range are displayed in the *ShareAbove* and/or *ShareBelow* fields.

When you valuate or close a characteristic, the share calculation is automatically carried out.

# Activities

To access the share calculation function, choose  $Extras \rightarrow Statistics \rightarrow Calculate$  shares on the characteristic single screen.

#### See also:

Recalculating the Quality Score [Ext.] Valuating Inspection Characteristics [Page 76] Closing Inspection Characteristics [Page 88] Calculation of the Share of Defects

#### **Forced Closure**

# **Forced Closure**

# Use

With the *Force closure* function, you can force the closure and valuation of inspection characteristics that cannot be closed in the normal way. For example, you may need to force closure for an inspection characteristic if the inspection results have not been completely recorded for the characteristic.

You can also use this function to accept and close inspection characteristics without confirming the inspection results.

The forced closure of an inspection characteristic is documented in the characteristic results record using an indicator.

# **Prerequisites**

To use the function, you need authorizations for:

- The valuation or closure of inspection characteristics
- Completing an inspection if outstanding characteristics exist that require confirmation

## **Activities**

To access the function, choose *Force closure* on the characteristic overview screen, *or Edit*  $\rightarrow$  *Force closure* on the characteristic single screen.

Then, valuate the characteristic manually.

#### **Creating an Unplanned Characteristic**

# **Creating an Unplanned Characteristic**

## Use

Even after an inspection lot has been released in order for inspection results to be recorded, you may need to make allowances for additional characteristics for results recording. Therefore, you can create additional inspection characteristics for the inspection lot that are not contained in the task list during results recording. You can also enter inspection results for these additional inspection characteristics.

# **Prerequisites**

Fully maintained master inspection characteristics are used as the basis for defining additional inspection characteristics (*Complete copy model* or *Reference characteristic* attribute).

#### You cannot create unplanned characteristics, if an approval requirement was defined for the inspection lot in Customizing for *Quality Management* under *Environment* $\rightarrow$ *Central Functions* $\rightarrow$ *Authorization Management* $\rightarrow$ *Define Authorization Groups* $\rightarrow$ *Authorization groups for QM materials.*

# Procedure

1. Choose Create additional characteristic on the characteristic overview screen.

The screen for choosing a master inspection characteristic appears.

2. Enter a Master inspection characteristic.

The specifications for this characteristic are copied when you define the unplanned characteristic.

If you have authorization to change the master inspection characteristic, you can change the copied characteristic specifications.

Quantitative characteristic	Qualitative characteristic
Short text	Short text
Upper tolerance	
Lower tolerance	
Target value	
Number of decimal places	

You can make the following changes:

- 3. If necessary, change the specifications and then choose *Continue*.
- 4. If the indicator is set for a sampling procedure, assign a sampling procedure to the master inspection characteristic.

#### **Creating an Unplanned Characteristic**

 $\Rightarrow$ 

If the indicator for the sampling procedure is not set in the master inspection characteristic, the system uses the sampling procedure predefined in Customizing at plant level. If a sampling procedure is not predefined at this level, the characteristic is subject to a 100% inspection.

# Result

The system indicates the number under which the characteristic was created. The system administrator in Customizing maintains the first characteristic number for unplanned characteristics.

You can now process the new characteristic as a planned characteristic.

**Formula Evaluation** 

# **Formula Evaluation**

## Use

You can have the measured values of a characteristic (**calculated characteristic**) automatically calculated from the input and results of other characteristics (**calculation input characteristics**). The formula is automatically evaluated when the characteristic is valuated. You can trigger the formula evaluation before the characteristic valuation.

You can determine the weight of a glass bottle, by determining the weight of the empty bottle and the volume of water needed to fill it. Both these measurements are represented as calculation input characteristics; the total weight is then the calculated characteristic.

# **Prerequisites**

For formula calculation, the following prerequisites must be fulfilled:

• You have defined the formula that is used in the inspection characteristic for the task list.

You can use standard mathematical functions in this formula, as well as the following operands:

- Numerical constants
- The specifications and results of other characteristics in the same operation
- External function modules
- For inspection lots with an assigned serial number profile or units to be inspected with external numbering, the following applies:

To evaluate the formula for original values, you must ensure that a reference is made to the same serial number for the calculation input characteristics. The "Serial number - original value" assignment is the decisive factor for the first (leading) calculation input characteristic. If a serial number is not available for the first calculation input characteristic in another calculation input characteristic, you cannot evaluate the formula.

#### **Formula Evaluation**





# **Activities**

To calculate the formula from the valuation, choose:

- Evaluate formula on the characteristic overview screen
- Extras  $\rightarrow$  Formula  $\rightarrow$  Evaluate formula on the characteristic single screen

If values from other characteristics are used in the formula, these calculation input characteristics must have already been valuated before the formula can be calculated.

To **display the formula**, choose  $Extras \rightarrow Formula \rightarrow Display formula$  on the characteristic overview screen or the characteristic single screen.

The formula printout is then displayed in a window.

#### Histogram for Displaying Inspection Results

# **Histogram for Displaying Inspection Results**

## Use

A histogram is a graphical representation of a frequency distribution presented in the form of a bar chart. It provides a simplified display of a data record. In a histogram, you can see the typical and extreme values of a sample and you can evaluate the location, dispersion width, and the form of the distribution. The following data is contained in a histogram:

- All results for a sample with "valid" attributes
- Lower and upper specification limits •
- Target value ٠

You can also display the probability density of a normal distribution if required.

# Integration

You can call up a histogram in the transactions for recording and displaying characteristic results and in the results history [Page 53]. In the results history, you can also display the sample mean values in the form of a histogram.

# **Prerequisites**

To display the detailed results for an inspection characteristic in a histogram, make sure the following conditions have been met:

- Measured values must be confirmed
- Valid **single results** or **classed results** have been recorded for the sample •

To display mean values in a histogram, make sure the following conditions have been met:

- Measured values must be confirmed
- Valid mean values have been confirmed for the sample

#### **Class Divisions for a Histogram**

The class divisions for the histogram are such that all classes have the same width and the lower class limit is included in the class. Each class contains values that are greater than or equal to its lower limit and less than its upper limit (with the exception of the uppermost class, which contains both upper and lower boundary values).

With respect to the class divisions, a distinction is made between two cases:

If you are already recording the results in a classed form, this class division is copied in the histogram.

The class widths for both marginal classes are replaced by the standard width used for the other classes. This display error is taken into consideration, because histograms with unequal class widths are often misinterpreted. Classes that are not occupied at the upper and lower edges of the class divisions are suppressed in the graphic.

If the characteristic does not have class divisions yet, suitable class divisions are generated on the basis of existing values. The system initially calculates a preliminary class width using the following formula:

#### **Histogram for Displaying Inspection Results**

 $I = (x-max - x-min) / (2n)^{**}1/3$ 

In this formula, **I** = class width, **n** = the number of valid values, **x-max** = the largest valid value and **x-min** = the smallest valid value.

The class width is rounded off and the lower boundary of the classification is adapted to a multiple of the new class width. As a result, the number of classes may change. The class division is expanded in such a manner that the lower specification limit, upper specification limit, target value and, if necessary, the normal distribution for the characteristic can be displayed.

## **Features**

You can use the following functions in a histogram:

• Changing the frequency display

You can specify whether the class frequencies are displayed as absolute or percentage frequencies or as relative parts. In the display of relative parts, the area beneath the histogram curve has a content of 1. The initial display is shown as a percentage frequency.

• Displaying the normal distribution

You can display the probability density for a normal distribution. The mean value and standard deviation of the sample displayed in the histogram are used as the location and dispersion parameters.

You can also hide the normal distribution using the same pushbutton.

- Calculating the capability index
   If the tolerance range for a characteristic is limited on one or both sides, the system can
   calculate and display the capability indexes c<sub>p</sub> and c<sub>pk</sub>. For more information, see
   <u>Calculating Capability Indexes [Ext.]</u>.
- Print graphic
- Exit graphic

#### • Change class width

When you display the results for a characteristic without predefined class divisions, you can double or halve the class width. You can then restore the original class width.

#### **Run-Chart for Inspection Results**

# **Run-Chart for Inspection Results**

# Use

A run-chart is a graphical representation of the single values for a quantitative characteristic over time.

# Integration

In contrast to a control chart, a run-chart can only be displayed.

You can display both specification limits and trends.

However, you cannot display action limits.

# **Prerequisites**

To display the run-chart, the following conditions must be met:

- Measured values must be confirmed
- Single results have been recorded

# **Features**

You can use the following functions in a run-chart:

- Displaying and hiding the series line
- Calculating and displaying a regression line based on the least square method, to display the trends in the value series.
- Scrolling function on the object axis
- Switching between time axis and object axis
- Print graphic
- Exit graphic

#### **Display of Results History**

# **Display of Results History**

## Use

In the results history, you can compare the current inspection results with the results of past inspections. The evaluation is based on an inspection characteristic in the task list or master inspection characteristic. The selected samples are displayed in a list. A color-coded traffic light indicates which samples have been accepted or rejected.

# Integration

For each selected sample in the results history, you can switch to the transaction for displaying detailed results. You can also call up the function to display the inspection lot. To analyze the sample results statistically, you can use the <u>QM-STI Interface [Ext.]</u> to call up an external statistics software package.

# Features

You can configure the lists for the results history. To configure the lists and selection screen, you can define general or user-specific list variants in Customizing for *Quality Management* (see *Quality Inspection*  $\rightarrow$  *List Definition*  $\rightarrow$  *Define variants [list view function*]).

You can use the following functions in the results history:

- Display of single results for one or more samples
- Detail display of all inspection results for a sample by calling up the corresponding transaction
- Run-chart for the sample mean values
- Run-chart for single values
- Histogram of sample mean values with a display of the process capability indexes cp and cpk
- Histogram of single values with a display of the process capability indexes cp and cpk
- QM-STI evaluation for statistical analysis using an external statistics software package
- Link to the XXL List Viewer

# **Activities**

1. To display the results history, position the cursor on the desired characteristic and choose *Results history*.

A dialog box appears for entering the selection criteria.

2. Enter the desired selection criteria.

In the dialog box, you can choose whether you want to evaluate on the basis of an inspection characteristic for the task list or master inspection characteristic.



Note that you can only display an evaluation for an inspection characteristic, if the inspection characteristic references a master inspection characteristic. With master inspection characteristics, you can specify an evaluation for all versions.

#### **Display of Results History**

In the *Display variants* field, you can enter list variants to influence the creation of the list.

3. To start the selection process, choose *Execute*.

The system displays the list of selected samples for the desired characteristic.

4. Choose the desired function.

# **Display of the Defect Structure**

# Use

If you have recorded defects, you can display the defect structure. Depending on the defects recording level, this structure contains the following information:

For defects recording for an inspection lot	For defects recording for an operation or characteristic
List of defects	A hierarchical tree structure that displays where the defects were confirmed. You can drill down a node in this tree structure to display additional information.

#### **Display of Conditional Characteristics**

# **Display of Conditional Characteristics**

# Use

You use this function to display the conditional characteristics for a controlling characteristic. The controlling characteristic is the previous required characteristic in the same operation.

# Integration

You define a conditional characteristic with the control indicators *After acceptance* and *After rejection* in the inspection characteristic. In this way, you have defined whether the inspection characteristic is to be inspected when the controlling characteristic is accepted or rejected. Depending on the valuation of the controlling characteristic, you inspect or skip the conditional characteristic accordingly, so the controlling characteristic can be closed.



For example, if you define a conditional characteristic so that it only has to be inspected if the controlling characteristic is rejected, the following situations may occur:

- The controlling characteristic is accepted. You can close the controlling characteristic without having to process the conditional characteristic.
- The controlling characteristic is rejected. You must first valuate the conditional characteristic so the controlling characteristic can be closed.

#### **Change History**

# **Change History**

# Use

To document changes made to results that have already been entered, you can write change documents for certain inspection characteristics.

The change documents contain the following data:

- Last changed by
- Field changed
- Time of change

In this way, you can trace all changes made to an inspection characteristic in a lot.

Change documents are written for characteristics and samples.

# **Prerequisites**

To write a change document for an inspection characteristic, make sure the following conditions have been met:

- The indicator Change document at results recording is set in the characteristic.
- Results recording for the inspection characteristic has been **completely closed and saved**. The inspection characteristic is then **reset for processing**, and you can continue processing the characteristic.

# Activities

To display the change history, choose:

- Change history on the characteristic overview screen
- Extras  $\rightarrow$  Change history on the characteristic single screen

Display of the Master Data, Movement Data, and Additional Data

# Display of the Master Data, Movement Data, and Additional Data

## Use

From within results recording, you can access detailed information about master data objects, certain movement data, and additional information.

Information about master data objects	Information about movement data	Additional information
Material	Inspection lot	Long text for the:
Task list/Specification	Inspection lot status	Inspection lot
Task list/Specification characteristic	Quality level	Characteristic     Inspection method
Inspection method	Partial lot (in the results recording function for delivery in SD)	inspection method
Master inspection characteristic		Valuation parameters
Sampling procedures		<ul> <li>Test equipment for an operation:</li> <li>You can display a list of the planned production resources/tools and test equipment. You can call up details for a production resource/tool in the list and start an assigned application for documents (for example, a graphics program to display a usage diagram for the tool). This application is started immediately when you display the list, if a production resource/tool has been assigned.</li> </ul>

# **Activities**

You can call up the individual functions on the characteristic overview screen or the characteristic single screen by choosing *Environment*.

**Recording Results for Inspection Operations** 

# **Recording Results for Inspection Operations**

# **Prerequisites**

For operation-based results processing, the following prerequisites must be fulfilled:

- The inspection lot status supports results recording.
- You always process all the characteristics for an operation.
- The <u>recording form [Page 10]</u> for the inspection characteristic depends on the inspection characteristic definition in the task list. The characteristic category, the control indicators for the inspection characteristic, and the sampling procedure all play an important role in the definition of the characteristic.

## Use

There are two procedures for operation-based results recording. You can choose the direct entry to results recording [Page 24] using the worklist function, or choose Results  $\rightarrow$  For an operation. The procedure described below relates to the second option.

# Procedure

1. Choose Logistics → Quality management → Quality inspection → Results → For an operation → Record.

The initial screen appears.

2. Enter an inspection lot, operation, and a value for the *Characteristic filter*.

In the *Administrative data*, an *Inspector* and *Inspection start* are suggested. You can change these entries.

3. Choose Goto  $\rightarrow$  Results data.

The characteristic overview screen [Page 28] appears.

4. Record inspection results.

You can do this in the following ways:

On the characteristic overview screen (for example, <i>General</i> view)	On the characteristic single screen
Summarized confirmation occurs for these inspection characteristics:	All inspection characteristics
Single values for units to be inspected	

5. You can either <u>valuate [Page 76]</u> the inspection characteristic(s), or skip characteristic valuation and **directly close** the inspection characteristics. When you close a non-valuated characteristic, the system **automatically** valuates the characteristic.

То	Choose	What you should know
Valuate one or more inspection characteristics on the characteristic overview screen	One of the characteristics that needs to be valuated and then <i>Valuate</i> .	If no characteristic is selected, the system valuates the characteristic on which the cursor is positioned.

#### **Recording Results for Inspection Operations**

Valuate one characteristic	Valuate.	
one the characteristic single		
screen		

Before you valuate a characteristic, you must have completely processed the characteristic. If you have valuated the characteristic, you can no longer enter data in the fields. If you then want to process the characteristic, you must <u>reset the characteristic for processing [Page 38]</u>.

If the valuation of a characteristic is not successful, the system will enter a comment in the characteristic log or display an error message on the screen.

6. To close the characteristic, choose *Close*.

You can <u>close [Page 88]</u> a characteristic on the characteristic single screen or on the characteristic overview screen.

If an error occurs when closing a characteristic, the system will enter a comment in the characteristic log or display an error message on the screen.

7. Save the inspection results.



If the requirement for a <u>digital signature [Page 18]</u> was specified for the inspection lot in Customizing for Quality Management, the system prompts you to furnish the signature in a dialog box when you save the characteristic results. The system stores the user name of the person who entered the digital signature as the name of the inspector who inspected the characteristics. The inspection end date and time reflect the system time when the digital signature was entered.

#### Inspection Results for Multiple Samples

# **Inspection Results for Multiple Samples**

## Use

In addition to recording inspection results for characteristics, you can also record results for independent and dependent multiple samples. To do so, you must specify the use of partial samples in the *sampling procedure*.

#### Independent Multiple Samples

For each inspection characteristic, you can record results for several samples. You also specify the number of samples in the sampling procedure.

When you set the indicator for *Independent multiple sampling* in the sampling procedure, you define an additional valuation rule for independent multiple samples. You can record inspection results for individual samples and then valuate each sample.

For more information, see Independent Multiple Samples [Ext.].

#### **Dependent Double and Multiple Samples**

If the result for the current sample lies between the acceptance and rejection number during an attributive inspection, the sample size is increased based on the sampling scheme. If you have recorded results for the new samples, the samples are re-evaluated based on the updated valuation parameters.

For more information, see Dependent Multiple Samples [Ext.].

# **Prerequisites**

When processing multiple samples, the following prerequisites must be fulfilled:

- You have set the corresponding indicator in the *Multiple samples* screen area of the *sampling procedure*.
- You have defined the number of partial samples for independent multiple samples in the sampling procedure.

## **Features**

You can use the following functions:

- Record, change, and display results for the individual partial samples of an inspection lot
- Execute sample changes [Page 64]
- Call up the sample overview screen [Page 65]

#### Sample Results for Characteristic-Based Results Recording

You can also record sample results for a characteristic with partial samples during characteristicbased results recording. In this case, the navigation is based on the characteristic. This means that when you switch to the next characteristic, the system always offers the **first** sample of the next characteristic for processing.

#### Inspection Results for Multiple Samples

#### Sample Results for Sample-Based Results Recording

For **sample-based** results recording the navigation is based on the sample. This means that when you switch to the next characteristic, the system always offers the **current** sample of the next characteristic for processing.

# 2

Sample-based results recording is ideal for an inspection during production. You can record results for specific characteristics at specific time intervals. For example, only characteristics 10, 30, and 50 should be inspected and results should be recorded for the samples.

The following graphic clarifies the difference between characteristic-based and sample-based navigation.



# **Activities**

To call up sample-based results recording, choose Logistics  $\rightarrow$  Quality management  $\rightarrow$  Quality inspection  $\rightarrow$  Results  $\rightarrow$  For sample  $\rightarrow$  Record, Change, or Display.

If you are processing results for samples, proceed in analog for <u>results recording for an operation</u> [Page 59].

On the initial screen *Record Sample Results*, there is a field for the *Sample number*. If you do not enter a sample number, the system determines the next available sample number from the start

#### Inspection Results for Multiple Samples

value parameters and the increment for the sample number allocation. These parameters are defined in Customizing for plant settings.

After you select a characteristic from the characteristic overview screen, the single screen for the characteristic sample appears. On this screen there is:

- The number identifying the current partial sample in the Sample No field
- The number of partial samples that have already been created for the inspection characteristic in the *Partial Sample* field

#### See also:

Creating Sampling Procedures [Ext.]

Sample Change

# Sample Change

# Use

You can use this function to change the sample and:

- Navigate between the samples of an inspection characteristic
- Create a new partial sample for the characteristic, if you have already processed the last partial sample for the characteristic

# Activities

You can call up the functions on the single screen for the sample.

To do this, choose  $Goto \rightarrow Change \ sample$  and then the required function (*First sample, Previous sample, Next sample* or *Last sample*).

• If you want to create a new partial sample for the characteristic, choose Next sample.

A dialog box appears in which you are asked, whether you want to create a new sample. The system offers a default value for the new sample number and increases the existing number of partial samples by the increment. You can overwrite the system default.

If you want to create a new sample, choose Continue.

#### **Sample Overview**

# **Sample Overview**

## Use

You use this function to display an overview of all partial samples for a characteristic.

The upper screen area contains the number of **created** partial samples and the number of **valid** partial samples. A sample is counted as a valid partial sample when it:

- Has been processed
- Is not specified as invalid in the attribute (Att) column.

In the *Partial samples* table, all partial samples created for a characteristic are listed along with their *status, valuation, attribute, sample size (to be inspected), inspected single units,* and *nonconforming sample units.* 

# **Functions**

On the sample overview screen, you can:

- Select individual samples for processing on the single screen for a sample
- Valuate individual or all selected samples
- Close individual or all selected samples
- Set individual or all selected samples for processing

# Activities

To access this function, choose  $Goto \rightarrow Sample \text{ overview}$  on the characteristic overview screen or on the single screen for the sample.

The sample overview dialog box appears.

#### See also:

Valuation of Partial Samples [Page 86]

Closure of Partial Samples [Page 90]

#### **Results Recording for Inspection Points**

# **Results Recording for Inspection Points**

# Use

The *Results Recording* component is set up for quality inspections in different business processes. You can record results in the foreground for the following processing objects:

Processing object	Business area	Business meaning
Freely defined <u>inspection point</u> [Ext.]	Production, goods receipt, other inspections	Time-related, quantity- related, or event-related quality inspections in the production process, or inspections at goods receipt and other inspections.
Physical sample [Ext.]	Production, goods receipt	Quality inspections in production and at goods receipt (above all in the process industry).
Equipment [Ext.], functional location [Ext.]	Test equipment management; plant maintenance	Calibration inspections for test equipment; quality inspections in plant maintenance

# **Prerequisites**

The following prerequisites apply for the named processing objects in results recording:

Processing object	Prerequisites	
<i>Inspection point</i> (in production or at goods receipt)	• You create the user field combination for <i>freely defined inspection points</i> in Customizing for <i>Quality Management</i> and define it in the task list header.	
	<ul> <li>The inspection lot must be released for results recording (status management)</li> </ul>	
<i>Physical sample</i> (in production or at goods receipt)	• You create the user field combination for a <i>physical sample</i> in Customizing for <i>Quality Management</i> and define it in the task list header.	
	<ul> <li>The inspection lot must be released for results recording (status management)</li> </ul>	
	<ul> <li>The physical sample is released; physical samples must be explicitly released if confirmation is required.</li> </ul>	

#### **Results Recording for Inspection Points**

Equipment	• You create the user field combination for equipment in Customizing for Quality Management and define it in the task list header.
	<ul> <li>The inspection lot must be released for results recording (status management)</li> </ul>
	<ul> <li>The equipment is contained in the object list for the plant maintenance order/calibration order</li> </ul>
Functional location	• You create the user field combination for the <i>functional location</i> in Customizing for <i>Quality Management</i> and define it in the task list header.
	The inspection lot must be released for results recording (status management).
	• The equipment is contained in the object list for the plant maintenance order.

# **Features**

The <u>single functions [Page 33]</u> on the characteristic overview screen and the characteristic single screen are always available.

#### **Recording Results for Inspection Points**

# **Recording Results for Inspection Points**

## Use

This procedure describes how to record inspection results for the following objects, if you do not directly call up the results recording function using a worklist:

- Freely defined inspection points (in production or at goods receipt)
- Physical samples
- Equipment/functional locations

For more information about entry over a worklist, see Results Recording [Page 24].



For information about <u>process-optimized results recording [Page 94]</u> for the inspection points of an operation, see <u>Processing the Inspection Points of an Operation [Page 98]</u>.

You can define the field combination for inspection points for each recording transaction in the <u>user settings [Page 23]</u> () for results recording.

⇒

If there is no default value for the inspection point field combination in the user settings, the system uses the first entry in the Customizing table that is suitable for the recording transaction to format the identification fields. The system first looks in the customer name range and then in the SAP name range.

You can record values for the current inspection point field combination in a dialog box, if the field combination for the inspection point differs from the one predefined in the user settings. The user field combination is copied for further processing.

# **Record Results**

- 1. Choose Logistics  $\rightarrow$  Quality management
- 2.

lf you:	Choose:	What you should know
Record information for an <i>inspection point</i> (production or a goods receipt)	Quality inspection → Results → For an inspection point → Record	
Record results for a physical sample	Quality inspection → Results → For a physical sample → Record	During results recording for an inspection lot you can create and inspect a physical sample for an operation in one step. The data from the previous sample drawing is displayed as default values. You can overwrite these values.



#### **Recording Results for Inspection Points**

Record results for equipment	Test equipment management $\rightarrow$ Inspection results $\rightarrow$ Record	
Record results for a functional location	Test equipment management $\rightarrow$ Inspection results $\rightarrow$ For a functional location $\rightarrow$ Record	

3. Specify the *inspection lot*, operation, and the corresponding processing object.



You can change the identification fields retrospectively. This is excepting the fields *Physical sample, Equipment,* and *Functional location*. If the inspection point has already been valuated, you need special authorization to change its identification.

- 4. You then record the results as described in Recording Results for an Operation [Page 59].
- 5. Close all characteristics that require inspection and save your entries.

The system controls whether the inspection point closure is automatic or manual at the operation level of the task list using the field *Inspection point closure*. Automatic valuation occurs based on the Customizing setting. After closing all characteristics during manual valuation, a dialog box appears for the results valuation and confirmation of inspection point data.

You can call up the dialog box using a pushbutton independent of the setting defined for *Inspection point closure*.

#### **Results Valuation and Confirmation of Inspection Point Data**

Depending on the processing object, you can execute different functions in the dialog box. You can limit the given maximum function scope using the variants for inspection point closure.

Processing object	Functions	What you should know
Inspection point during production	<ul> <li>Quantity assignment</li> <li>Inspection point valuation</li> <li>Confirmation of activities for an order</li> </ul>	For more information Recording the Inspection Point Confirmation [Page 71].
	<ul> <li>Partial lot/batch assignment</li> </ul>	
Inspection point at goods receipt	Valuation	
Physical sample during production	<ul> <li>Quantity assignment</li> <li>Valuation</li> <li>Confirmation of activities for an order</li> <li>Partial lot/batch assignment</li> </ul>	For more information, see <u>Recording the Inspection Point</u> <u>Confirmation [Page 71]</u> .

## **Recording Results for Inspection Points**

Physical sample at goods receipt	•	Valuation	
Equipment/functional location	•	Valuation	
	•	Confirmation of activities for a maintenance order	

#### **Recording the Inspection Point Confirmation**

# **Recording the Inspection Point Confirmation**

# **Prerequisites**

The *Inspection point completion* field at the operation level of the task list determines whether the inspection point completion should occur manually or automatically. An automatic valuation of inspection points occurs on the basis of the settings in Customizing. With a manual valuation, the system displays a dialog box in which you valuate the results and confirm the inspection points after you have closed all inspection characteristics.

You can also display this dialog box manually by means of a pushbutton, regardless of the setting for the *Inspection point completion* field.

## Use

With a manual completion of inspection points, you must confirm the inspection point data when you save the inspection results. The screen for confirming the data is displayed automatically once all characteristics for the operation have been closed and if inspection point data has been recorded yet.

## **Procedure**

- 1. If the dialog box for confirming the inspection point data is not displayed automatically, choose  $Goto \rightarrow Data$  for inspection point to call up the dialog box.
- 2. Depending on your inspection completion variant, enter the quantity data for the inspection point (yield, scrap, and rework), if necessary.

With inspection points for orders, you have the following options (depending on the inspection completion variant):

- For inspections in a repetitive manufacturing environment, you can use the reporting point function to <u>backflush operations [Ext.]</u>.
- If you are processing a production or maintenance order, the function for <u>confirming</u> <u>operations [Ext.]</u> is active.
   Depending on the PP Customizing settings for the order type and the operation control key, the system proposes the indicators for *partial confirmation, final confirmation* or *no confirmation*.

You can change the system proposal, if necessary.

- If you want to confirm data other than the inspection point quantities to production planning, you can display a screen for <u>detailed confirmations [Ext.]</u> for the order, in which you can confirm actual times and personnel data.
- If you are using a process order, the system automatically proposes the No confirmation indicator for the operation. You can change the system proposal, if necessary.



Note the following special feature for process manufacturing applications: If you are producing the inspected material on the basis of a process order:

 The confirmation may possibly be triggered from the process control (that is, with the help of a process message or by means of a function call from the process instruction (PI) sheet.

#### **Recording the Inspection Point Confirmation**

 The processed quantity for the operation must be confirmed. This quantity may not be the same as the produced quantity specified for the inspection point.

For this reason, do not trigger the confirmation in QM module, if:

- A confirmation from the process control is planned in the process order
- The quantities for the operation and the inspection point are different
- 3. You can enter a *Cause* for a value that deviates from the planned value (for example, if it resulted from scrap or was caused by equipment damage).



You should only enter a cause if you also confirm it to production planning. You can also start **trigger points** (among other things) using the cause.

- In the section Valuate inspection point, the system proposes the usage decision code based on the plant settings contained in Customizing. You can select a different usage decision code within the predefined code group using the Choose other valuation function.
- 5. The following steps depend on the partial lot assignment level predefined in Customizing application or in the task list header. Depending on the assignment level, you may have to assign the following items to the inspection point:
  - A partial lot (step 6)
     Provided the assignment level calls for the creation of partial lots
  - A partial lot and a batch (steps 6 and 7)
     Provided the assignment level calls for the creation of partial lots and batches and the material is a batch material
- 6. Assign a partial lot to the inspection point.
  - If a partial lot does not exist yet, a message appears that prompts you to create a new partial lot. Choose New partial lot to do so.
  - If partial lots already exist, the system proposes the partial lot that was processed last.
     You now have the following options, depending on the inspection point valuation:
    - You accept the proposed partial lot assignment.
    - You choose a different partial lot (if available).
    - You create a new partial lot.

The system copies the inspection point valuation to the partial lot.

- 7. Assign a batch to the partial lot.
  - If a batch does not exist yet, you must create a new batch. Choose Create batch to do so. If you do not specify a batch number for the new batch, the system automatically assigns one.
  - If batches already exist, you can either enter an existing batch or create a new batch.
     In doing so, you can compare the batch values with the inspection results [Ext.].

You can assign several partial lots to a single batch.
#### **Recording the Inspection Point Confirmation**



You can only create a single batch while you are processing an inspection point.

- 8. After you have made the required entries, choose *Enter* to return from the inspection point valuation and partial lot assignment dialog box to the results recording.
- 9. Save the data.

### Inspection point confirmation and valuation

<ul> <li>Results for insp. point</li> </ul>	Material Yield Scrap Rework Cause Valuation Partial lot Short text				
Close characteristics	Batch				
• Save					

When you confirm the inspection point data, the following functions are available, depending on the assignment level you are using (for example, inspection points only or inspection points and partial lots):

Function	Use this function to:
General	
Detailed confirmation [Ext.]	Record additional PP confirmation data
Choosing a different valuation [Ext.]	Change the inspection point (and partial lot) valuation
Partial lot	
New partial lot	Create a new partial lot
Change new PL	Change the description of the new partial lot
Reassign new PL [Ext.]	Assign previous inspection points to the current partial lot

### Recording the Inspection Point Confirmation

Other material [Ext.]	Assign a different material to an inspection point (co- product)
Choose different partial lot [Ext.]	Choose a different partial lot
Batch	
Create batch	Create a new batch
Reassign batch [Ext.]	Assign previous partial lots to the current batch
Compare batch values [Ext.]	Compare the values of a batch with the inspection results

#### **Results Recording at Goods Issue**

# **Results Recording at Goods Issue**

### Use

You can record inspection results at a goods receipt inspection (for example, for an existing delivery note). Results recording for a *Partial lot* occurs if the goods to be inspected are batch materials and a batch split has been executed.

# **Activities**

To call up the function, choose Logistics  $\rightarrow$  Quality management  $\rightarrow$  Quality inspection  $\rightarrow$  Results  $\rightarrow$  For delivery in SD.

You then record the results in analog as described in <u>Recording Results for an Operation [Page 59]</u>.

#### **Valuation of Inspection Characteristics**

# **Valuation of Inspection Characteristics**

### Use

When you valuate inspection characteristics or partial samples, you determine whether the predefined quality requirements have been met. The results provide the basis for making the usage decision, and they are used to automatically determine the sample scope for future inspections. A successful valuation is a prerequisite for closing a characteristic or a partial sample.

The function for valuating characteristics is contained on the characteristic overview screen and characteristic single screen when you record results for characteristics.

The selected characteristic is valuated from the single screens. From the characteristic overview screen all selected characteristics are valuated. If no characteristic is selected, the system accesses the characteristic on which the cursor is positioned.



The valuation function is called up automatically by the system when you attempt to close a characteristic that has not been valuated. You can therefore skip the valuation step and **directly close** the inspection characteristics.

If the valuation is successful, the status of the characteristic is set to "valuated" (status 3). The result of the valuation is displayed on the single screen and on the characteristic overview screen in the *Valuation* column.

The valuation contains the inspection result that can be used to make the usage decision. Possible values:

- No valuation
- A (Acceptance)
- R (Rejection)
- U (Unsuccessful valuation)

### **Features**

#### Accepting a characteristic

A characteristic is generally accepted when the predefined quality requirements are met; if this is not the case, a characteristic is rejected.

After the valuation of a characteristic, you can no longer enter values in the data fields and entry screens. If you want to change or add to the inspection results for a characteristic that has already been valuated, you must reset the status so that the characteristic can again be processed.

#### **Rejecting a Characteristic**

When you reject a characteristic, you must also enter a <u>defect class [Ext.]</u> for the characteristic in a dialog box. Defects can be divided into three classes:

- Critical defect
- Major defect

#### Valuation of Inspection Characteristics

• Minor defect

For more information, see Activating the Entry of a Defect class [Page 39].

If the confirmation of defect codes from the defect catalog (catalog type 9) was defined in the task list for certain characteristics, the system determines the defect class on the basis of **predefined defect codes**. If no defect classes were predefined, the system uses the standard defect class defined in Customizing under the plant settings.

The quality score, assigned to the defect class in Customizing, is used by some procedures to determine the quality score for the inspection lot.

If a characteristic is rejected in the valuation, the system automatically creates a **defect record**, provided certain conditions are fulfilled.

For more information, see:

- Generating Defect Records Automatically [Ext.]
- Assigning Code Groups or Selected Sets to a Characteristic [Ext.]
- <u>Recalculating the Quality Score [Ext.]</u>

#### **Unsuccessful Valuation**

The valuation is not successful if an acceptance or a rejection decision cannot be made by the predefined valuation procedure. The most common reason for an unsuccessful valuation is that the inspection results needed for the valuation are either partially or completely missing.

If the valuation of a characteristic is not successful, the system displays a characteristic log. In this log, you can determine why the valuation was not successful.

#### **Manual Valuation**

You have to manually valuate if:

- No sampling procedures have been defined for a characteristic in the task list
- A sampling procedure with manual valuation is defined for a characteristic in the task list
- An inspection type 100% inspection is defined in the inspection setup of the material master
- The target sample size is greater than the inspection lot quantity

If you valuate manually, you execute the valuation function on the characteristic overview screen or on the characteristic single screen. The dialog box for manual valuation appears.

#### **Evaluating Formulas**

Calculated characteristics are automatically evaluated during the valuation.

For more information, see Formula Evaluation [Page 48].

#### **Calculating Share of Defects**

When you valuate a characteristic, the share of defects is automatically calculated for the characteristic. The share of defects for a characteristic is used in some quality score procedures to calculate the quality score.

For more information, see Calculating Share of Defects [Page 43].

#### See also:

Single Functions [Page 33]

### Valuation of Inspection Characteristics

Valuation Procedures [Page 79]

#### **Valuation Procedures**

# **Valuation Procedures**

## Use

The valuation type is defined in the sampling procedure of the valuation mode. Different valuation rules are used to valuate inspection characteristics. Valuation rules are defined on the basis of the characteristic category and the sampling procedure that is assigned to the inspection characteristic in the task list.

The following valuation procedures are available:

- Manual valuation [Page 80]
- Valuating with a code [Page 81]
- Single sampling plans for an <u>attributive inspection [Page 82]</u> according to the number of nonconforming units or the number of defects
- Single sampling plans for a <u>variable inspection [Page 83]</u> with a single-sided or double-sided limited tolerance range (s-method)
- An inspection in which the mean value is checked against the <u>tolerance specifications [Page</u> 85]
- Valuation based on the action limits of a control chart

#### See also:

Changing Sampling Procedures [Ext.]

Control Charts in Inspection Processing [Ext.]

**Manual Valuation** 

# **Manual Valuation**

## Use

You must manually valuate characteristics that do not have a sampling procedure or a sampling procedure with manual valuation assigned to them in the inspection plan.

# **Activities**

Enter the characteristic valuation on the characteristic overview screen or in a corresponding dialog box. The system designates the characteristic as "valuated".

Valuating With a Code

# Valuating With a Code

## Use

In an inspection plan, you can assign a sampling procedure with a code valuation to a qualitative characteristic with a **selected set** and **summarized recording**.

When you confirm the characteristic attribute, the system valuates the characteristic by copying the valuation defined for the code in the inspection catalog.

#### Attributive Inspection

# **Attributive Inspection**

## Use

An attributive inspection (OK or not OK) is an acceptance sampling inspection. This means that the number of nonconforming units or the number of defects in a sample determines the acceptability of the inspection lot. ISO 2859 serves as a standard for attributive inspections. The *Quality Management* component has two valuation procedures for attributive inspections:

- Attributive inspection based on nonconforming units
- Attributive inspection based on the number of defects

For an attributive inspection, you determine the number of defects or the number of nonconforming units per sample size. Depending on the recording form, you either enter the results or the system determines these results from the single values.

The inspection result is compared with the acceptance number and the rejection number for the characteristic in question. The inspection characteristic is accepted if the number of defects or the number of nonconforming units does not exceed the acceptance number. The characteristic is rejected when the rejection number is reached or exceeded. If the result falls between the acceptance number and the rejection number, the characteristic is accepted (but rejected for the dynamic modification valuation).

An attributive valuation is also possible when the rejection number is reached with a smaller sample size or when the acceptance number is not exceeded with a larger sample size. In all other situations, you must use the sample size defined in the sampling plan.



#### Variable Inspection

# Variable Inspection

## Use

In a **variable inspection**, you must specify at least one **tolerance limit** in the inspection plan for the **quantitative characteristic** in question. ISO 3951 serves as a standard for a variable inspection. The *Quality Management* application component has two valuation procedures for variable inspections:

- S-method, single-sided tolerance range
- S-method, double-sided tolerance range

When you perform a variable inspection according to the s-method for normally distributed characteristic values, the sample size, mean value (x-bar), and standard deviation (s) of the characteristic values are required as inspection results. Depending on the <u>recording form [Page 10]</u> used, you either enter the statistics, or the system calculates them from the single values.

Depending on whether there is an upper specification value (*USL*) or a lower specification value (*LSL*) for the characteristic values, the inspection characteristic is rejected if the following conditions are met:

Mean > USL - k \* s

or

Mean < LSL + k \* s

The value k is the acceptance factor defined in the sampling plan. The mean value and standard deviation must be known.

If the **tolerance range is limited on both sides (double-sided)**, there are two variants for conducting the s-method valuation. You define which variant is used in the function module for the valuation rule. The variants differ in their acceptance range.

When the s-method uses the double-sided tolerance range, **both limits of the tolerance range are treated together**. The share above the tolerance range and the share below are estimated and compared with a critical value that is calculated from the sample size and acceptance factor. This form of variable inspection leads to the same decision as the graphical procedure described in the ISO 3951 standard (see the figure below). Given the same sampling plan, the acceptance range is smaller than for the variant of the s-method in which the two limit values are handled separately. In this case, the **upper and lower specification values are checked separately**. The characteristic is rejected when one of the two rejection conditions is met.

#### Variable Inspection

#### Acceptance Areas for a Variable Inspection



#### **Inspection of the Tolerance Specifications**

# **Inspection of the Tolerance Specifications**

## Use

When the **tolerance specifications are inspected** (special case k = 0), a characteristic is rejected when the mean value does not lie in the tolerance range; that is, when the condition LSL < x-bar < USL is not met. In this case, the standard deviation is not used in the valuation.

Valuation of Partial Samples

# Valuation of Partial Samples

# **Prerequisites**

You record inspection results for multiple samples.

## Use

You can valuate an individual partial sample on:

- Single screens
- The dialog box with the sample overview

After a successful valuation, the status of the partial sample is set to "valuated" (status 3). The result of the partial sample valuation is displayed on the single screen and on the sample overview screen in the *Valuation* column.

The process for valuating a partial sample is the same as that described above for valuating an inspection characteristic and is based on the same valuation procedure.

# Activities

To valuate a partial sample, choose  $Edit \rightarrow Sample \rightarrow Valuate$  on the single screen.

To valuate a sample, choose Valuate sample on the sample overview screen.

#### See also:

Valuation of Related Characteristics [Page 87]

Valuation of Inspection Characteristics [Page 76]

Valuation Procedures [Page 79]

#### Valuation of Related Characteristics

# **Valuation of Related Characteristics**

### Use

After you have valuated the individual samples, you valuate the related characteristics on the characteristic overview screen. Follow the same procedure described in <u>Valuation of Inspection</u> <u>Characteristics [Page 76]</u>.



If you do not want the partial sample to be considered in the valuation of the characteristic, use the attribute for the partial sample to mark it as invalid.

Two valuation rules apply for **independent multiple samples**: A valuation rule for the decisions of the individual samples and a valuation rule for a collective decision for all samples associated with the characteristic. The valuation rule, which combines the decisions for the individual samples into a collective decision for the characteristic, is defined in the sampling procedure:

The characteristic valuation can be based on the worst valid partial sample ("worst case") or on the last inspected sample ("last case"). In a worst case scenario, the inspection characteristic is accepted **only** if all valid partial samples are accepted. In a last case situation, the inspection characteristic is accepted only if the last inspected partial samples was accepted.

#### See also:

Changing Sampling Procedures [Ext.]

#### **Closure of Inspection Characteristics**

# **Closure of Inspection Characteristics**

### Use

The processing of an inspection characteristic is completed when you close the characteristic. The system checks whether the conditions specified in the inspection plan for processing the characteristic have been fulfilled. You must close all required characteristics and all optional characteristics for which results were processed, before the usage decision can be made for the inspection lot.

The function for closing inspection characteristics is contained on the <u>characteristic overview</u> <u>screen [Page 28]</u> and <u>characteristic single screen [Page 32]</u>, when you record inspection results.

As in the valuation of characteristics, you can close one or more selected characteristics on the characteristic overview screen. In addition, you can <u>force the closure of a characteristic [Page 45]</u>.



If you want to close **all processed** characteristics on the characteristic overview screen, first use the function to select all the characteristics and then close them. Unprocessed optional characteristics, skipped characteristics, and characteristics that are already closed are not taken into consideration in this case.

#### **Characteristic Log**

If a characteristic cannot be closed successfully, the system specifies the reason in the characteristic log.

## **Prerequisites**

Before a characteristic is closed, the system checks whether:

- The required sample scope was adhered to.
- The conditional characteristics were processed (status 2) independently of the valuation for the controlling characteristic.
- An inspection description was entered for characteristics that require documentation.

If there is no inspection description, the system displays a dialog box in which you can enter a short text. You can also enter a long text for the inspection description by calling up the long text function from the dialog box.

When you close a non-valuated characteristic, the system **automatically valuates** the characteristic. If the characteristic is successfully closed, the status of the characteristic is set to "closed" (status 5). In this way, you can **immediately close** inspection characteristics.

For more information about the navigation options when closing characteristics, see Customizing for *Quality Management* by choosing *Quality Inspection*  $\rightarrow$  *Results Recording*  $\rightarrow$  *Define Recording Configurations* 

#### See also:

Display of Conditional Characteristics [Page 56]

**Closure of Inspection Characteristics** 

**Closure of Partial Samples** 

# **Closure of Partial Samples**

## Use

You can close individual partial samples on:

- Single screens
- The dialog box with the sample overview

When you close a non-valuated sample, the system **automatically valuates** the sample. If the sample is successfully closed, the status of the partial sample is set to "closed" (status 5). In this way you can **immediately close** partial samples.

# **Activities**

To close a partial sample, choose  $Edit \rightarrow Close$  on the single screen.

To close a sample, choose *Close sample* on the sample overview screen.

#### **Closing Related Inspection Characteristics**

When closing related inspection characteristics, the procedure is the same procedure as that described in <u>Closure of Inspection Characteristics [Page 88]</u>.

#### See also:

Valuation of Partial Samples [Page 86] Valuation of Inspection Characteristics [Page 76]

#### **Printing of Inspection Results**

# **Printing of Inspection Results**

### Use

In results recording, you can print out inspection results for inspection lots. The program, devised for this purpose, reads inspection lot information from the logical database and creates a printout of the inspection results for the lots. The SAPScript form QM\_INSP\_RESULT is used in the standard system for the printout.

You can mix lots of different origins in your printout selection.

At the beginning of the report, the form printout is started. A complex data object is filled for each lot that is then printed out. This structure is dependent on the origin of the corresponding lot. As a result, different segments of the complex object are filled for production lots, for example, as opposed to goods receipt lots.

After an inspection lot is printed, the object is initialized again.

For each lot, the form printout is started by the function module START\_FORM and ended by the function module END\_FORM. When all inspection lots have been printed, the form printout is terminated. In the standard system, the printout contains the processing status for each characteristic and, if available, the valuation.

## **Features**

On the selection screen, you have the following **options for controlling the printout** (among others):

 If you do not want to use the form QM\_INSP\_RESULT, you must create, activate, and finally enter a new form on the selection screen.



When creating a new form, you should use the standard form as a copy model because the function module is only called up in the report for the text elements used in this form, and it is this report that prints the relevant text element. You need to modify the report for other text elements to be printed.

- You can define whether inspection descriptions, created during results recording, should be printed.
- You can define whether long texts should be printed for:
  - Inspection characteristics
  - Usage decisions
    - Lots or partial lots
- You can print out any available defects for the corresponding lot.
- With the indicator *Partial lot view for production lots,* you can specify whether partial lots should be added as an additional hierarchy level for inspection lots created for production inspections (inspection lot origin 03).

When you set this indicator, the following hierarchy is valid for the printout:

Lot > partial lot (n) > operation (n) > inspection point (n) > characteristic (n)

#### **Printing of Inspection Results**

Otherwise, the following default hierarchy applies:

- Lot > operation (n) > inspection point (n) > characteristic (n)
  - In this view, the system displays brief information for each inspection point about the partial lot to which it is assigned.

This indicator has no effect on the representation of inspection lots that are not subject to inspections during production.

In the partial lot view, an inspection point is printed for the partial lot that was assigned to the last operation. Moreover, only the inspection points that were processed in **all** operations are printed out. For this reason, you should only print out a list with the partial lot view for those inspection lots for which a usage decision has already been made.

- With the *Single values/class values* indicator, you specify whether the system should print the information for characteristics with original values or classed values, in addition to the summarized information.
- With the Samples indicator, you specify whether the system should print the sample information for characteristics with independent multiple samples. If the Single values/class values indicator is set, the system prints the single values or classed values, in addition to the summarized sample data.
- With the *Empty classes* indicator, you specify whether the system should print the data for empty classes.
- With the *Print dialog* indicator, you specify whether the print dialog box should be displayed before the inspection results are printed. In this dialog box, you can specify the output device or you can branch to the print preview. If this indicator is not set, the system uses the output device specified in the user master record and it does not branch to the print preview. If no output device is defined in the user master record, the system always displays the print dialog box.

#### **Printing Inspection Results**

# **Printing Inspection Results**

### Procedure

1. Choose Logistics  $\rightarrow$  Quality management  $\rightarrow$  Quality inspection  $\rightarrow$  Results  $\rightarrow$  Print.

The selection screen for printing results appears.

2. Enter the selection criteria.



You should specify an inspection lot to limit the printout of results to one inspection lot.

You also limit the printout if you select the results data using a match code. Programspecific selection criteria, such as *plant, origin* etc are not taken into consideration.

3. Choose Execute.

If you have set the *Print dialog* indicator or there is no printer specified in the user master, the window for entering print options appears.

4. Enter the print options and choose Print.

The system displays a message confirming that the printout was executed.

#### **Process-Optimized Results Recording**

# **Process-Optimized Results Recording**

### Purpose

Process-optimized results recording is a flexible method of processing characteristics in tabular form that is suitable for simple, self-contained recording processes. In this way, you can process inspection results according to the requirements of the recording procedure and work center. There are several possibilities for processing characteristic results in tabular form on one screen. In comparison with the usual inspection results processing [Page 8], process-optimized results recording allows you to:

- Overcome limits set by operations, inspection points and inspection lots
- · Group characteristics in a flexible way for processing

In the standard system the following recording transactions are offered:

- Processing characteristics for several inspection lots [Page 96]
- Processing inspection points of an operation [Page 98]
- Processing for the master inspection characteristic across all inspection lots [Page 100]

### **Prerequisites**

Process-optimized results recording is possible for summarized characteristics.



When processing **quantitative characteristics** (Variable inspection [Page 83]), the mean value is ready for input in process-optimized results recording. You enter the *standard deviation* in the usual results recording screen.

## **Features**

You can process original values, calculated characteristics, classed results recording and manual valuation by branching to the usual results recording.

Due to a separation of user interface and internal data processing, process-optimized results recording allows you to implement new recording variants and techniques of data output on the frontend relatively easily.

### Limitation

The following objects are not suitable for process-optimized results recording:

- Partial lots in SD
- Dependent and independent multiple samples
- Entries which require a <u>digital signature [Page 18]</u>



Operations that include conditional characteristics are not suitable for processoptimized results recording.

#### **Process-Optimized Results Recording**

## **Process Flow**

- 1. You choose the appropriate transaction for processing inspection characteristics.
- 2. A work list with inspection lots is generated.
- 3. You select one or more inspection lots, according to your requirements.
- 4. You record or edit characteristic results.
- 5. When you save your data, the recorded results are saved on the data base.

#### **Processing Characteristics for Several Inspection Lots**

# **Processing Characteristics for Several Inspection Lots**

### Use

Using this function, you can record the characteristic results for several inspection lots in a tabular form on a single screen.

## **Features**

This function provides the following processing options:

- Displaying, recording, and changing characteristic results
- Setting characteristics for processing
- Branching to and returning from the display and processing transactions of the standard results recording function
- Closing and saving the processed characteristics
- Entering an inspection description (long text)
- Calling up an error log
- Calling up a control chart
- Displaying the results history
- Calling up an STI evaluation

## **Activities**

The system displays the individual inspection lots with the recorded inspection results in columns in the table, sorted by the operations and their associated characteristics.

The entry fields for the characteristics that have not yet been valuated or closed are ready for input. If necessary, you can set the characteristics that have already been closed for processing by double-clicking them.

To save new results, choose *Close characteristics and save*. The system closes the characteristics that meet the requirements for being closed; the others are only saved. Your valuation is displayed in the table.

**Recording Results for Inspection Lots in Tabular Form** 

# **Recording Results for Inspection Lots in Tabular Form**

- 1. Choose Logistics  $\rightarrow$  Quality management  $\rightarrow$  Quality inspection, and then either:
  - Results  $\rightarrow$  For all inspection lots
  - Worklist  $\rightarrow$ Results recording  $\rightarrow$  For all inspection lots

The system displays the selection screen for tabular results recording for several inspection lots.

2. Enter the required selection criteria.

The system displays a list of inspection lots that meet the selection criteria.

3. Select the desired inspection lots, record the results, and save your entries using *Close characteristics and Save*.

#### Processing of Inspection Points for an Operation

# **Processing of Inspection Points for an Operation**

### Use

Using this function, you can process characteristic results for <u>inspection points [Ext.]</u> in production, <u>equipment [Ext.]</u>/functional locations and <u>physical samples [Ext.]</u> at operational level in the inspection lot. All inspection points and characteristics in the operation are displayed in tabular form and can be processed.

## **Features**

This function provides the following processing options:

- Displaying, recording, and changing characteristic results
- Creating inspection points
- Setting characteristics for processing
- Switching to and returning from the display and processing transactions of the usual results processing
- Closing and saving the processed characteristics
- Entering an inspection description (long text)
- Calling up an error log
- Calling up a control chart
- Displaying the results history
- Calling up an STI evaluation

## **Activities**

On the processing table, the individual inspection points for the inspection lot are displayed in rows in descending order.

• New inspection points must be entered in the first inspection point row.

When you create an inspection point, you must enter the inspection point identification. When you have entered and saved the data, the current row moves down one row, and a new row appears in which you can create another inspection point.

• When you want to change the characteristic values of existing inspection points, you can enter data in recording fields for characteristics that have not yet been closed. Characteristics, which have already been closed, can be set for processing with double-click if required.



**Recording Results in Tabular Form for Inspection Points** 

# **Recording Results in Tabular Form for Inspection Points**

- 1. Choose Logistics  $\rightarrow$  Quality management  $\rightarrow$  Quality inspection, and then either:
  - Results  $\rightarrow$  For inspection points
  - Worklist  $\rightarrow$ Results recording  $\rightarrow$  For inspection points

The selection screen appears for tabular results recording for inspection points within an operation.

2. Enter the required selection criteria.

The system displays a list of inspection lots that meet the selection criteria.

3. Choose an inspection lot, record the results, and save your entries using *Close characteristics and save*.



When you have selected several operations, you can choose *Back* to call up the next operation for processing.

**Results Recording for the Master Inspection Characteristic** 

# **Results Recording for the Master Inspection Characteristic**

## Use

Using this function, you can record the results for a master characteristic for several inspection lots in a tabular form on a single screen. For example, you can use this function if you have to inspect one characteristic for several materials/batches.

## **Features**

This function provides the following processing options:

- Displaying, recording, and changing characteristic results
- Setting characteristics for processing
- Branching to and returning from the display and processing transactions of the standard results recording function
- Closing and saving the processed characteristics
- Entering an inspection description (long text)
- Calling up an error log
- Calling up a control chart
- Displaying the results history
- Calling up an STI evaluation

## **Activities**

The system displays the inspection lots that have been selected for the master inspection characteristic in rows in the processing table.

**Recording Results in Tabular Form for a Master Inspection Characteristic** 

# **Recording Results in Tabular Form for a Master Inspection Characteristic**

- 1. Choose Logistics  $\rightarrow$  Quality management  $\rightarrow$  Quality inspection, and then either:
  - Results  $\rightarrow$  For a master inspection charac.
  - Worklist  $\rightarrow$ Results recording  $\rightarrow$  For a master inspection charac.

The selection screen appears for tabular results recording for a master inspection characteristic.

2. Enter the required selection criteria (master inspection characteristic).

The system displays a list of inspection lots that meet the selection criteria.

3. Select the desired inspection lots, record the results, and save your entries using *Close characteristics and save*.

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#### **Results Recording on the Intranet or Internet**

# **Results Recording on the Intranet or Internet**

## **Purpose**

You can use this function to record inspection results using the Intranet or Internet. As shown in the graphic, you can use this type of results recording for a source inspection:



The ordering parties make a HTML recording screen for inspection results accessible to their vendor using the Intranet or Internet. In this way, the vendor can record summarized results and single values for an inspection lot.

The following count as summarized results:

- A single measured value or the mean value
- An attribute code from a selection list
- The number of nonconforming units
- The number of defects

The following count as single results:

- A single measured value
- The number of defects

The following attributes can be set for a given measured value (summarized or single value):

#### **Results Recording on the Intranet or Internet**

Attribute	Meaning
<	True value is less than or equal to; valid result
>	True value is greater than or equal to; valid result
~	Result negligible; valid result
#	Result not determinable; valid result
1	Invalid result

⇒

Single values can no longer be deleted, if they have been saved to the database. You can overwrite the single values. You can use the attribute "/" to mark a measured value as invalid.

# **Prerequisites**

For results recording using the Intranet or Internet, the following prerequisites must be met by the person who supplies the HTML recording screen (in this case, the ordering party):

- An Internet Transaction Server is available.
- In the SAP System, an alias is created for an R/3 user in user maintenance.

This alias identifies the WEB results recorder as an R/3 user.

In the SAP System, you have limited data selection using transaction QEW01V, and in this
way created a user variant for an R/3 user. The user variant is called U\_xxx (xxx represents
the user's name).



The standard variant *SAP&SOURCEINSP* is available as a selection example for inspection lots that are defined for a source inspection. If required, this can be used as a copy model.

## **Process Flow**

The following example process flow refers to a source inspection:



If results recording on the WEB should be accessed via the Workplace, the necessary hyperlink for calling up the service must be defined in the corresponding user role on the user page (vendor). For more information, see the role documentation <u>Link: Results Recording on the Web [Ext.]</u>. In addition, you need the necessary authorizations. For more information on authorization allocation, see the role documentation <u>Results Recording on the WEB - Processing [Ext.]</u>.

If the function is not accessed via the Workplace, the service can be started in the Internet browser by entering the necessary hyperlink.

#### **Results Recording on the Intranet or Internet**

- 1. Vendors log on via the Internet browser using <u>service [Ext.]</u> *QEW01* at the premises of the ordering party. (The ordering party has an SAP System.)
- 2. They enter their alias and password in the ordering party's system.
- 3. A worklist for the relevant inspection lots is displayed.
- 4. They select an inspection lot for results recording.
- 5. A HTML recording screen appears with all the operations and corresponding characteristics for the inspection lot.
- 6. They record inspection results.
- 7. They save their entries and close the WEB results recording function.

## Result

The recorded inspection results are in the vendor's system.

#### **Mobile Results Recording**

# Mobile Results Recording

## Purpose

With mobile results recording, you can immediately record inspection results that do not occur in the work center using a mobile application and then transfer them to the SAP System. For example, mobile results recording can be used during:

- Field inspections in the area of environmental management
- Tours of inspection
- The inspection of single components in a product
- The inspection of heavy objects

In the SAP System, you define in the transaction "Mobile results recording", which inspections should be made using a mobile application. The selection is made in the form of an allocation at the inspection operation level and defines which inspector performs the inspection with which application.



# **Prerequisites**

 One or more mobile recording devices with an application for results recording and synchronization with the SAP System. This is not a part of the SAP standard system. You can access information about available mobile applications, supported devices, and corresponding BAPI interfaces on the QM homepage in SAPNet.

#### **Mobile Results Recording**

• The mobile applications are defined in Customizing: *Quality Management* → *Quality Inspection* → *Subsystems* → *Define Applications for Mobile Recording.* 

## **Process Flow**

- 1. Create and save a worklist for a mobile application and inspector using the transaction "Mobile results recording". (*Logistics* → *Quality Management* → *Quality Inspection* → *Worklist* → *Mobile Results Recording.*)
- 2. The inspector synchronizes the mobile application with the SAP System. The exact procedure depends on the type of device and the synchronization software that is used. During synchronization, the worklist defined for the inspector is transferred to the mobile recording device.
- 3. The inspector inspects and records results using the mobile application.
- 4. The inspector synchronizes the mobile application with the SAP System. In this way, inspection results are transferred to the SAP System and the new worklist is created.

The single assignments in the transaction "Mobile results recording" can still be monitored and edited. This is required for the postprocessing of confirmation errors.

## Result

The inspection results recorded using a mobile application are transferred.

#### **Creating Worklists**

# **Creating Worklists**

### Use

You can specify which operations are defined for recording using a mobile recording device. During this process, you assign the operations to a specific inspector and application. This assignment is called an allocation.

## Procedure

- 1. To call up the function, choose *Logistics* → *Quality Management* → *Quality Inspection* → *Worklist* → *Mobile Results Recording.*
- 2. First choose an entry in the field Selection scope on the selection screen.

You determine whether you want to edit new and/or existing allocations. A new allocation is a selection of several inspection operations, which is created from the inspection lot stock as a mobile worklist. An existing allocation was already created. However, since no results have been recorded yet, you can continue editing this allocation. This means, you can assign another inspector or application.

3. You choose the application on the selection screen with which you have recorded results.

You can see the list of available applications on the QM homepage in SAPNet. However, you can also write your own applications and link to the SAP System using the open BAPI interfaces.

- 4. You choose the inspector who should record results.
- 5. If you want to edit new allocations, you can further limit the worklist to an inspection lot and/or operation.

6.	There	are	two	ways	to	create	the	worklist:
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То	Choose:
Manually select the worklist	<i>Execute.</i> The list of selected inspection operations is displayed. Select the required operations and assign them to the inspector and application, which are displayed in the upper screen area, using the function <i>Create allocation</i> . Save the worklist.
Automatically create the worklist	The entry "Automatically create new allocations" in the field <i>Selection scope</i> for the worklist. Enter the required mobile application and inspector, choose the selection criteria in the upper screen area, and select <i>Execute</i> . All selected inspection operations are automatically allocated to the chosen inspector.

#### **Managing Worklists**

# Managing Worklists

## Use

You can use the worklist to change or delete existing allocations, monitor the confirmation of results, display confirmation errors, switch to results recording, and post subsequently.

## Procedure

To postprocess defects during the confirmation (synchronization) of results in a worklist:

- 7. Either choose "only existing allocations" or "new and existing allocations" in the field *Selection scope* on the selection screen.
- 8. Select the application and inspector.
- 9. Choose Execute.
- 10. Choose the tab page *Existing allocations* in the chosen worklist. Incorrect confirmations can be recognized by the "X" in the "Error" column.
- 11. Choose Display log to display the corresponding log.
- 12. Choose the function *Record inspection results* to access (normal) results recording, and manually record or correct results.

If a confirmation error can be eliminated by posting subsequently (for example, because the inspection characteristic has been locked by another user):

- 1. Choose *Change allocation* for the existing allocations. The selected operation is then placed in the lower screen area.
- 2. Select the operation and choose *Post subsequently* in the context menu.

To change a worklist for an inspector:

- 1. Either choose "only existing allocations" or "new and existing allocations" in the field *Selection scope* on the initial screen.
- 2. Select the application and inspector.
- 3. Select the worklist.
- 4. Choose the tab page Existing allocations.
- 5. Select the allocations that you want to change and choose the function *Change allocations*. The selected entries are copied to the table with the edited allocations. You can change the application, status, and the predefined inspector in this table.
- 6. Save the changes.