



# SCM595

## **Batch Management**

THE BEST-RUN BUSINESSES RUN SAP



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- Software components: **SAP ECC 5.0** (Enterprise Central Component)
- 2005/Q2
- Material number: 50062311

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- **Basic knowledge of the following applications in the SAP ECC system:**
  - **Materials Management (Purchasing, Inventory Management)**
  - **Order-controlled Production (Production or Process Order)**
  - **Sales and Distribution**
  - **Quality Management**
  - **Classification System**

- **Participants:**
  - **Members of the project team responsible for implementing batch management functions (consultants, business requirements analysts)**
  - **Managers and employees in user departments who are involved in the process of batch management**
- **Duration: 3 days**



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### Notes for the user:

- The training materials are **not teach-yourself programs**. They **complement the course instructor's explanations**. The documents provide space for you to write down additional information.

## **Contents:**

- **Course Goals**
- **Course Objectives**
- **Course Content**
- **Course Overview Diagram**
- **Main Business Scenario**
- **Introduction to Batch Management**

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**This course will prepare you to:**

- **Use the main Batch Management functions**
- **Make important Customizing settings for Batch Management**
- **Use self study to learn about other special functions**



**At the conclusion of this course, you will be able to:**

- **Make important master data and Customizing settings for Batch Management**
- **Use the main batch management functions**
- **Evaluate batch information using the Batch Information Cockpit**



## Preface

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<b>Unit 1</b>	Course Overview	<b>Unit 3</b>	Functions of Batch Management
<b>Unit 2</b>	Basics of Batch Management	<b>Lesson</b>	Batch Status Management
<b>Lesson</b>	Material and Batch	<b>Lesson</b>	Restricted-Use Stock in MRP and the Availability Check
<b>Lesson</b>	Batch Levels	<b>Lesson</b>	Evaluation Options in the BIC
<b>Lesson</b>	Batch Classification	<b>Lesson</b>	Valuation for a Single Batch
<b>Lesson</b>	BIC - Batch Information Cockpit	<b>Lesson</b>	Evaluation Options for Separately Valuated Batch Stocks in the BIC

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<b>Lesson</b>	Batch Determination in Applications	<b>Unit 4</b>	Batch Management and Supply Chain Management
<b>Lesson</b>	Customizing Settings for Batch Determination	<b>Lesson</b>	Batch Classification and Quality Inspection
<b>Lesson</b>	Batch Determination in the BIC	<b>Lesson</b>	Electronic Batch Records
<b>Lesson</b>	Shelf Life	<b>Lesson</b>	Batch Derivation
<b>Lesson</b>	Shelf Life Expiration Date Check in the BIC	<b>Lesson</b>	Batch Where-Used Lists in the BIC

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**Unit 5**     Batch-Specific Material Units  
                 of Measure

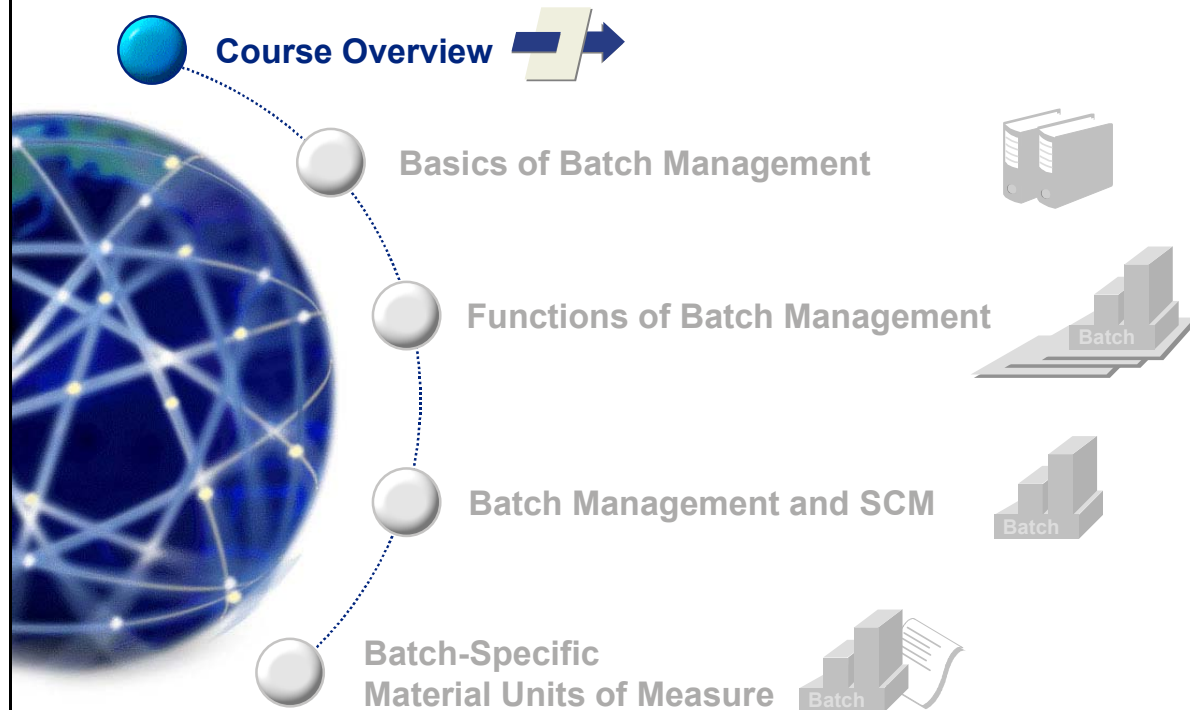
**Lesson**     Data Concept

**Lesson**     Batch Valuation Based on  
                 Proportion and Product Units

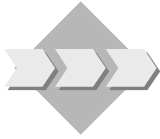
**Lesson**     Actual and Planned Values;  
                 Inventory Correction Factor

**Lesson**     Batch Information Cockpit:  
                 Alternative Units of Measure

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- **Your company is implementing SAP and Batch Management.**
- **You are using SAP ECC for your logistics processes, and want to optimize usage of the batch functions along the supply chain.**



**Partial quantity of a material, which is managed separately from other partial quantities of the same material.**

**The main characteristics of a batch are homogeneity and non-reproducibility.**

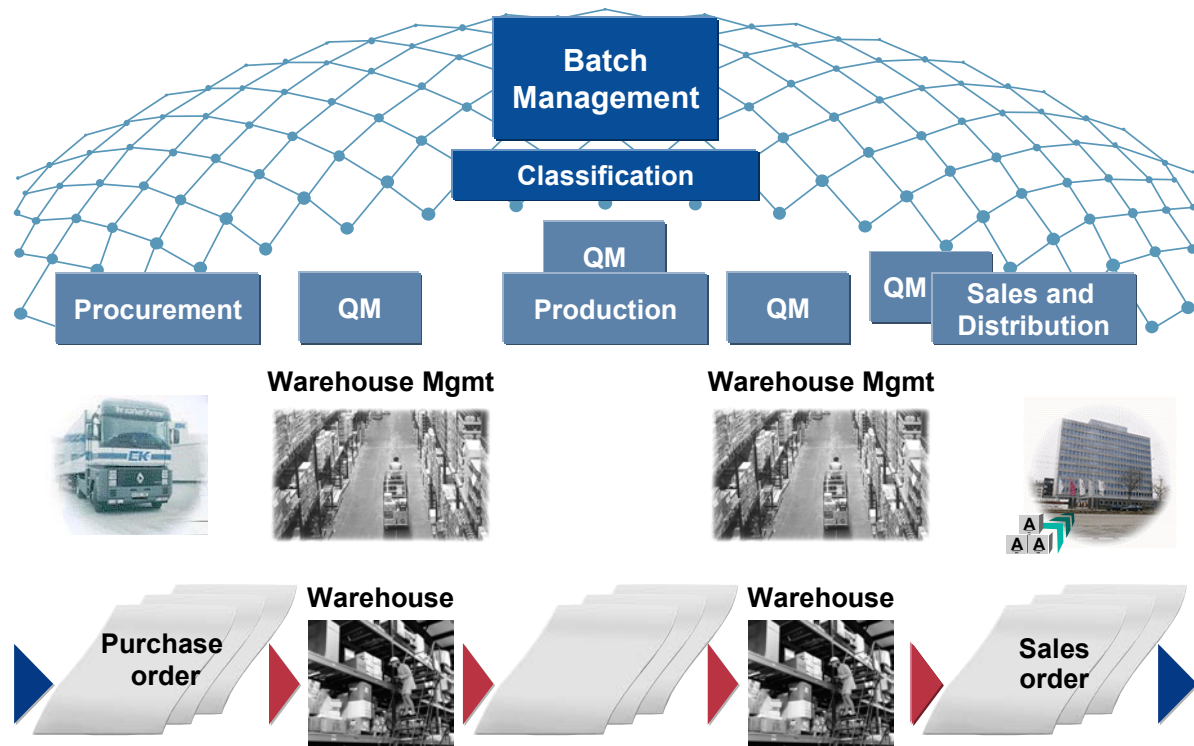
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- In many industries, in particular process industries, it is necessary to work consistently with homogeneous partial quantities of a material or product all along the logistic quantity and value chain.
- This can be due to the following:
  - Legal requirements, for example, GMP (Good Manufacturing Practice) guidelines or hazardous material directives.
  - Tracking defects, recall actions, liability to recourse
  - The need for differentiated quantity- and value-based inventory management, for example, using heterogeneous yield/results qualities or unequal ingredients in production.
  - Differentiated usage and monitoring during MRP, in sales, and in production
  - Production-related/procedural requirements, for example, material quantity settlements based on different batch specifications

- **Batch Management**
  - **Integrated in all R/3 system applications**
  - **Supports the management and processing of batches in all enterprise business processes**
- **Features:**
  - **Batch Number Assignment**
  - **Batch Specification**
  - **Batch Status Management**
  - **Batch Determination**
  - **Batch Record**
  - **Batch Where-used List**
  - **Active Ingredient Management**
  - **Batch Derivation**

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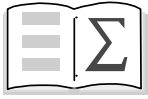
- Batch Management can be used in all industries
- It is particularly important in the following industries:
  - Chemicals
  - Pharmaceuticals
  - Cosmetics
  - Health and hygiene
  - Foodstuffs
  - Retail



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- Batch Management incorporates the entire logistics process, from procurement to sales.
- Batch Management can be used with and without classification. If you include classification, Batch Management offers you a number of extra functions, for example:
  - Automatic batch determination
  - Batch derivation
  - Active ingredient management





**You are now able to:**

- **Explain what is meant by a batch**
- **Understand the functional scope of batch management and how it is integrated in the supply chain**

## **Contents:**

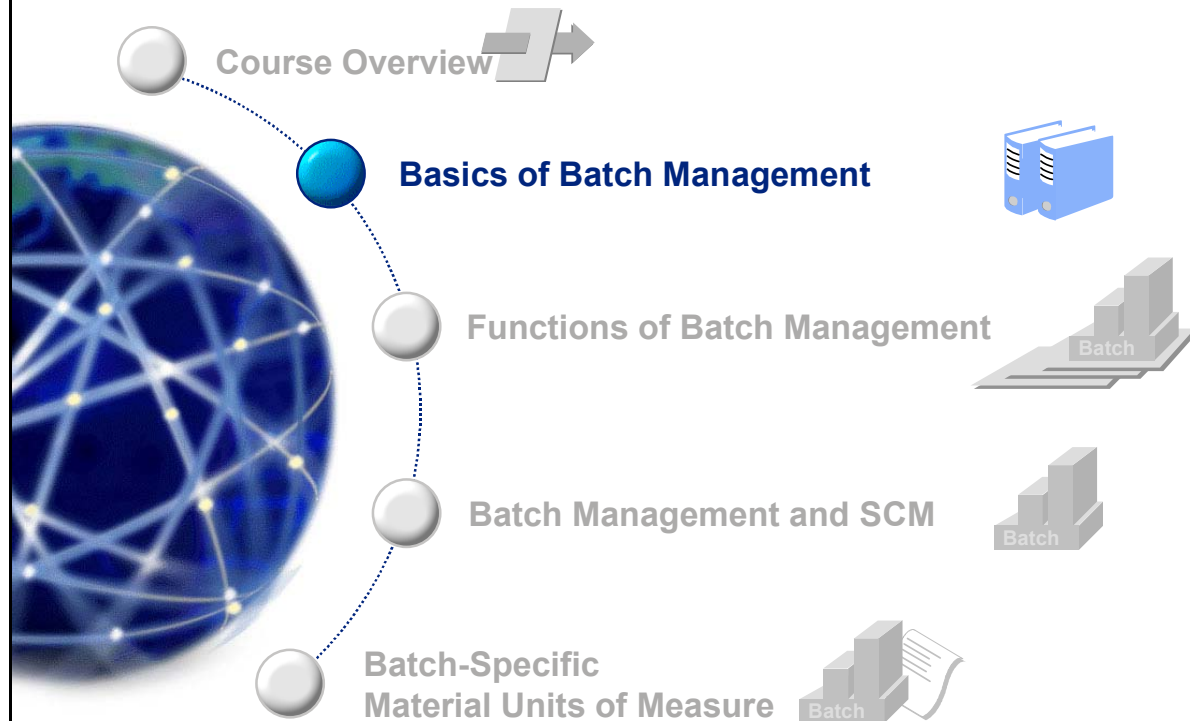
- **Material Master Data**
- **Batch Master Data**
- **Batch Levels**
- **Batch Classification**
- **BIC - Batch Information Cockpit**

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**At the conclusion of this unit, you will be able to:**

- **Make batch-specific settings in the material master record**
- **Create and maintain a batch**
- **Explain Customizing settings that relate to creating batches**
- **Name the batch levels that can be set**
- **Define batch properties using the classification system**
- **Use the Batch Information Cockpit to select and process batches**





- **Your company wants to manage stocks of materials separately in batches. There are various features you have to include when defining specific batch characteristics.**
- **Your company also has to determine the batch level that is best suited to its requirements.**



**At the conclusion of this topic, you will be able to:**

- **Flag a material as subject to batch management**
- **Assign a batch class to a material**
- **Describe the connection between a material and a batch**
- **Maintain batch master data records and distinguish between manual and automatic creation**
- **Name the different methods for number assignment**

### Material

**Type of good or object that is traded or used,  
consumed or created during manufacture.**

### Material Master Record

**Data record containing all the basic information that  
is required in the system for a material**

**The data is descriptive as well as possessing  
control functions**

**It is sorted on the basis of different criteria**

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- Materials are created as material master records.
- A material master record contains data that is descriptive in nature (such as size, dimensions, weight) and data that has control functions (such as the type of material).
- As well as this data that is maintained by the user, there is data that is automatically updated by the system (such as stocks).
- A material master record is identified in the system by an alphanumeric material number. The material number is unique at client level.

### Batch

**Partial quantity of a material, which is managed separately from other partial quantities of the same material.**

**Quantity of a material that is produced in a particular production run and represents a non-reproducible, homogeneous unit with distinct specifications. A production lot can consist of one or more batches.**

**Batches are always uniquely assigned to one material.**

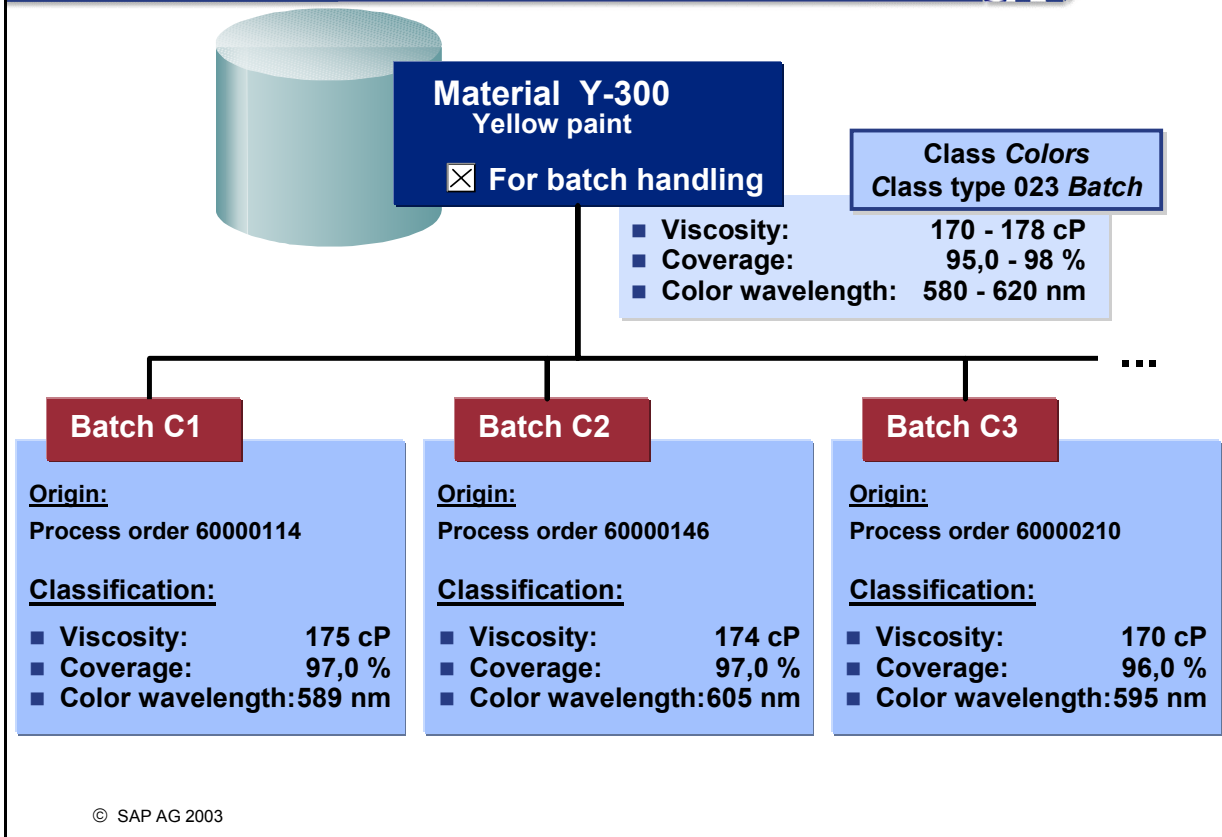
### Batch Master Record

**A data record that stores the information required to manage a batch.**

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- A batch master record is identified by an alphanumeric batch number. You can use business or company-specific criteria to determine the level at which the batch number is unique.
- The material number is unique at client level. You can determine that batch numbers are unique at the following levels:
  - In combination with the plant and the material
  - In combination with the material number
  - At client level





- In the SAP ECC System, batch master records always depend on material master records. Batches are created for a material.
- Accordingly, the batch object contains the material, batch and plant key fields, although the plant key field is only relevant if you choose the plant level for the batch level.
- The data in a material master applies in general for all the batches assigned to this master record. By contrast, a batch master record contains data that uniquely identifies the corresponding batch and characterizes the unit as one that cannot be reproduced.
- You can obtain a more detailed, specific description of batch properties by classifying them in a class that belongs to the class type 023 *Batch*.
- If a material is to be produced in batches and stock records maintained, you have to indicate that it is to be handled in batches in either the Purchasing, Work Preparation or Warehouse view.
- A batch master record is created manually in master data maintenance or automatically in the background by the system (with the first goods movement, for example).

The screenshot shows the SAP Batch Master Record interface. At the top, there are input fields for Material, Batch (A4356-01), Plant, and Storage location. Callouts point to these fields: 'Assignment of batch nos: internal/external numeric/alphanumeric' points to the Batch field, and 'Material master record excerpt, (shelf life...)' points to the Plant field. Below these are 'Fields for free use' and 'Batch class, characteristics' callouts. A 'Change documents' callout points to the bottom right. The main area is divided into tabs: Basic data 1, Basic data 2, Classification, Material data, and Changes. The 'Basic data 1' tab is active, showing 'SLED' (Production date, Expiration date, Available from) and 'Miscellaneous' (Next check) fields. The 'Batch status' section shows 'Unrestricted use' selected. The 'Retail data' section shows Vendor, Vendor batch, and Last GR fields.

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- Various types of information are stored in the batch master record. Some can be updated manually, some automatically. Here you can see some of the relevant information on the tab pages:

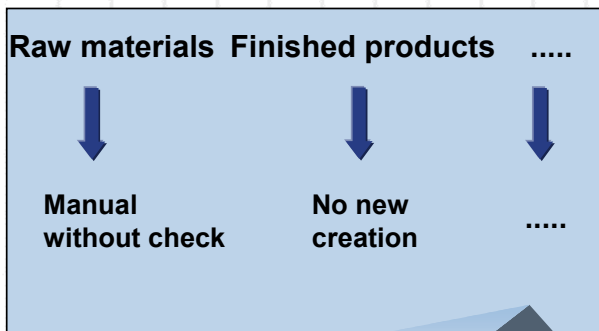
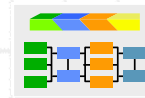
- Basic data 1
  - Various data (production date, shelf life expiration date, goods receipt date, and so on)
  - Batch status
- Basic data 2
  - Texts
  - Freely-definable date fields
- Classification
  - Characteristics and their value assignments
  - Change documents from batch classification
- Material data
  - Information from the material master record
- Changes
  - Change history
  - Change documents

- **In batch master record maintenance (Batch Management)**
- **In goods movement (Inventory Management)**
- **In purchase orders (Purchasing)**
- **In production / process orders (Production)**
- **In results recording (Quality Management)**

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- You can create batch master records either manually or automatically (online or in the background) in the various applications along the supply chain, such as Batch Management, Materials Management, Production, and Quality Management.
- In Customizing for Batch Management, you specify whether the batch master record is controlled manually or automatically.

## Create batch master record manually

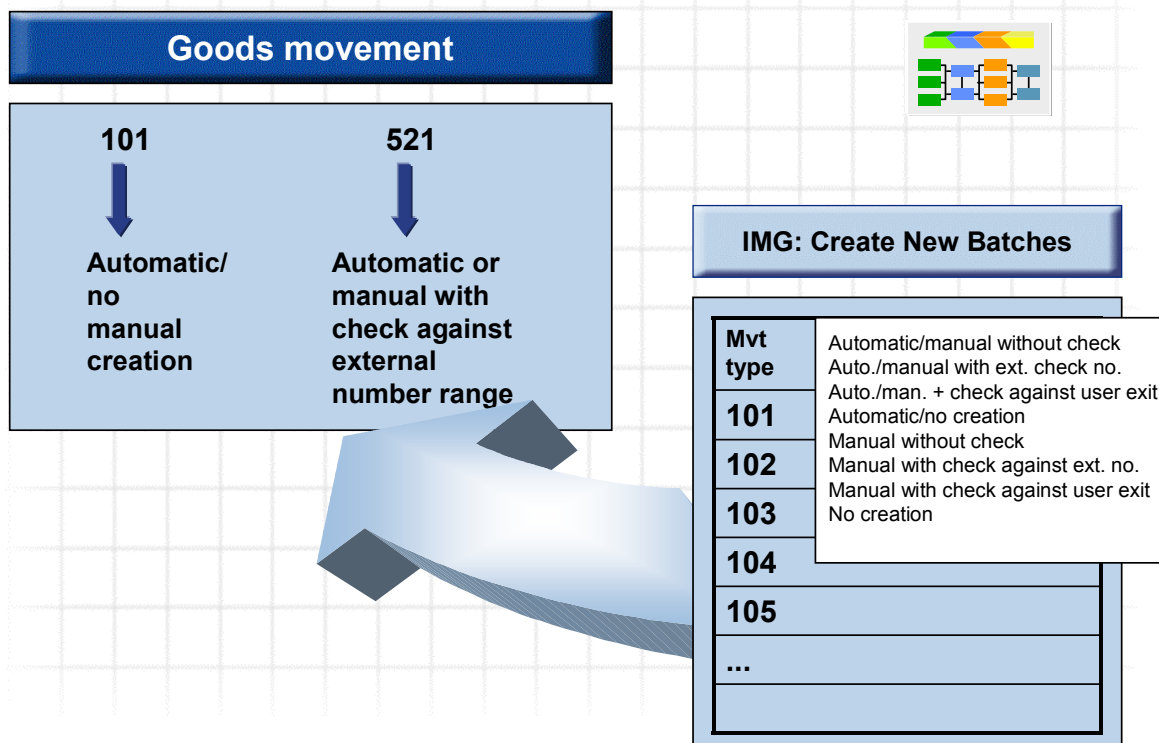


### IMG: Create New Batches

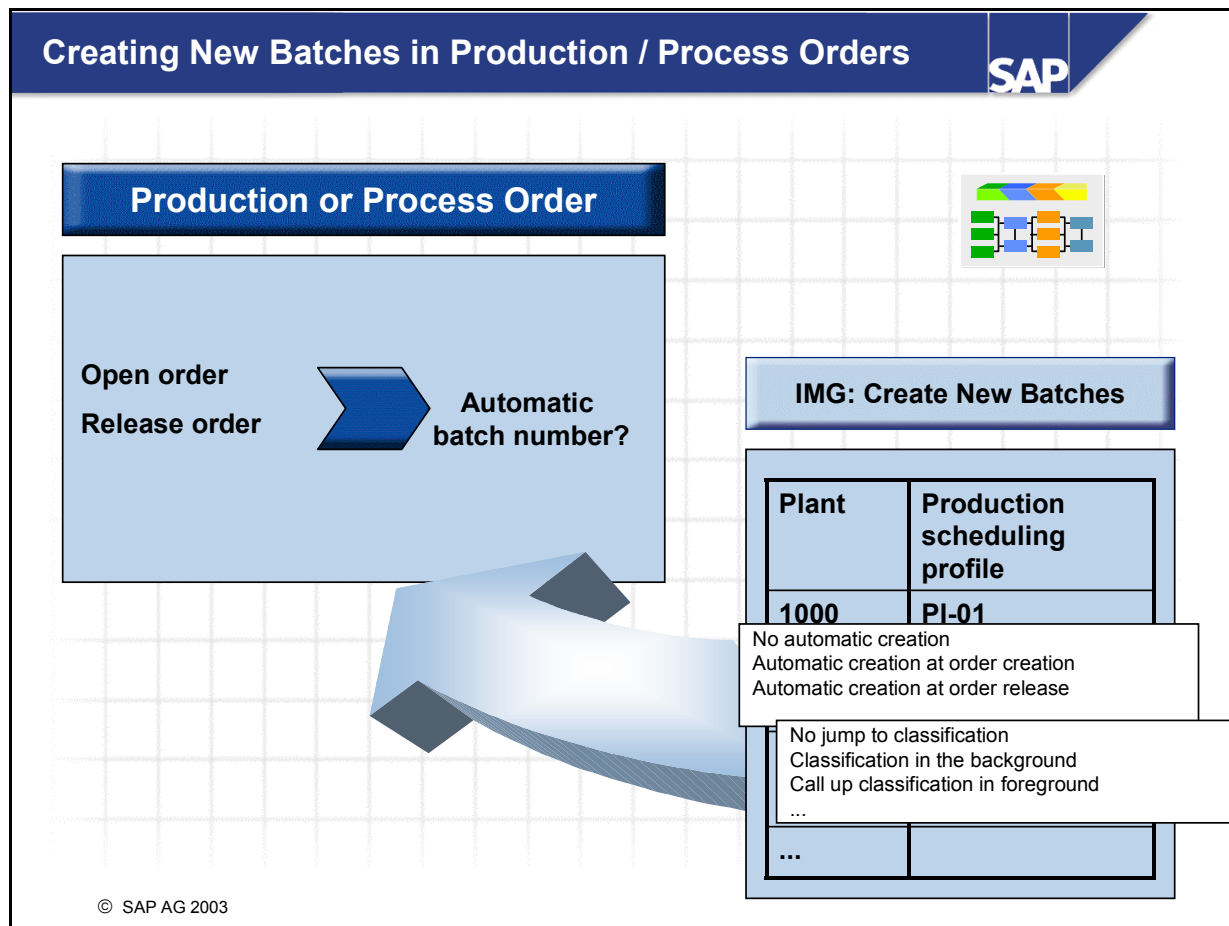
Mat. type	Automatic/manual without check Auto./manual with external check no. Auto./man. + check against user exit
RAW	Automatic/no creation
PROD	Manual without check Manual with check against ext. no.
HALF	Manual with check against user exit No creation
...	
...	
...	

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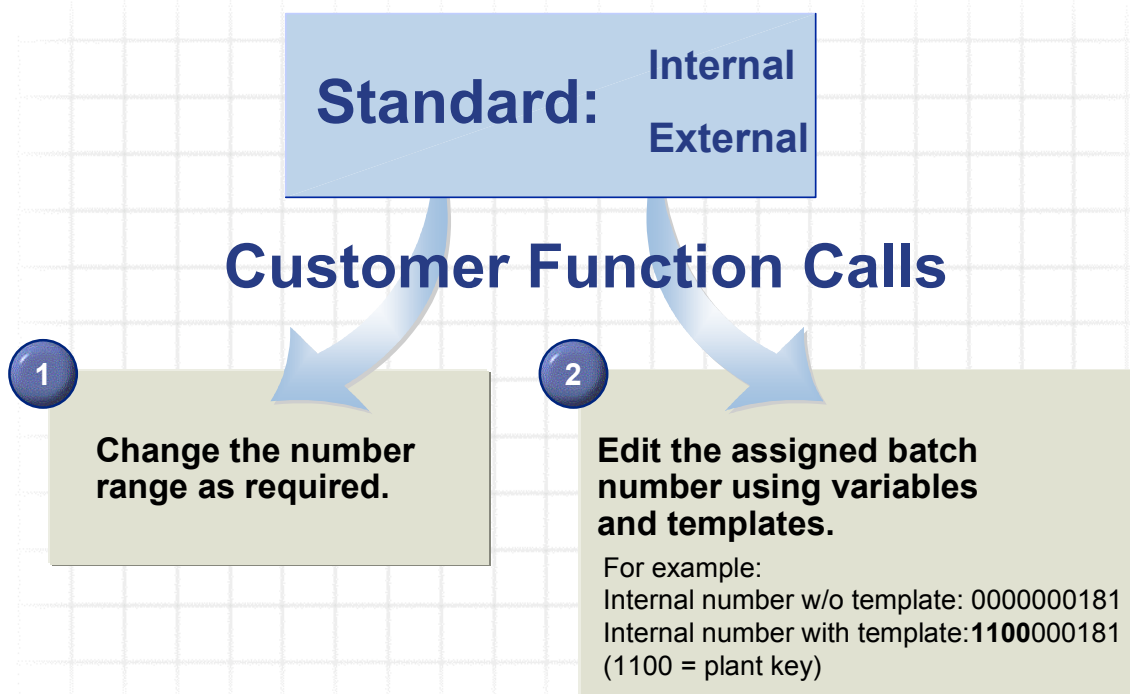
- You can create batch master records manually. In Customizing for Batch Management, you determine how batches are created manually for the separate material types.
- You assign the batch number manually, or automatically using *internal number assignment*.
- You make this setting in Customizing for Batch Management under *Internal Batch Number Assignment*.



- **Define creation upon goods movements:** For each movement type you can determine whether a new batch is created upon a goods receipt and how it is created.



- In Customizing for Batch Management, you can make settings to determine whether new batches are created by a production or process order. The following settings are possible:
  - No automatic creation
  - Automatic creation at order creation
  - Automatic creation at order release
- If you have chosen batch creation, you can then determine whether the system should call up the classification data.



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- Customer function calls make it easier to customize the SAP system. This function module is delivered empty and can be filled by customers with their own programs without having to modify the source code. There are user exits for internal and external batch number assignment.
- The following user exits are delivered for automatic batch number assignment:
  - EXIT\_SAPLV01Z\_001. You can use this exit to define your own number range object and/or interval. You can create dependencies for particular variables (for example, for a plant or material). The numbers can be numerical only.
  - EXIT\_SAPLV01Z\_002. You can use this exit to change the number the system determines, or to determine a number yourself that contains variables or templates. These numbers can be alphanumeric.
- The following user exits are delivered for manual batch number assignment:
  - EXIT\_SAPLV01Z\_003. You can use this exit to replace the proposed number range object BATCH\_CLT and/or external interval 02 with your own defined number range object and/or external interval. You can create dependencies for particular variables (for example, for a plant or material).
  - EXIT\_SAPLV01Z\_004. You can use this exit to define your own checking rules without being restricted to a number range. If, for example, users assign batch numbers according to a particular template, this function module ensures that the structure for batch number assignment is maintained.



**At the conclusion of this topic, you will be able to:**

- **Explain the three possible levels at which you can uniquely define the batch number**
- **Describe the conditions under which you can change to a different a batch level**



## Unique batch number

- At client level

Material Y-300

Batch 1

Material P-300

Batch 2

~~Batch 1~~

- In combination with the material number

Material Y-300

Plant 1

Plant 2

Batch 1

Material P-300

Plant 1

Plant 2

Batch 1

- In combination with the plant and the material

Material Y-300

Plant 1

Plant 2

Batch 1

Batch 1

Material P-300

Plant 1

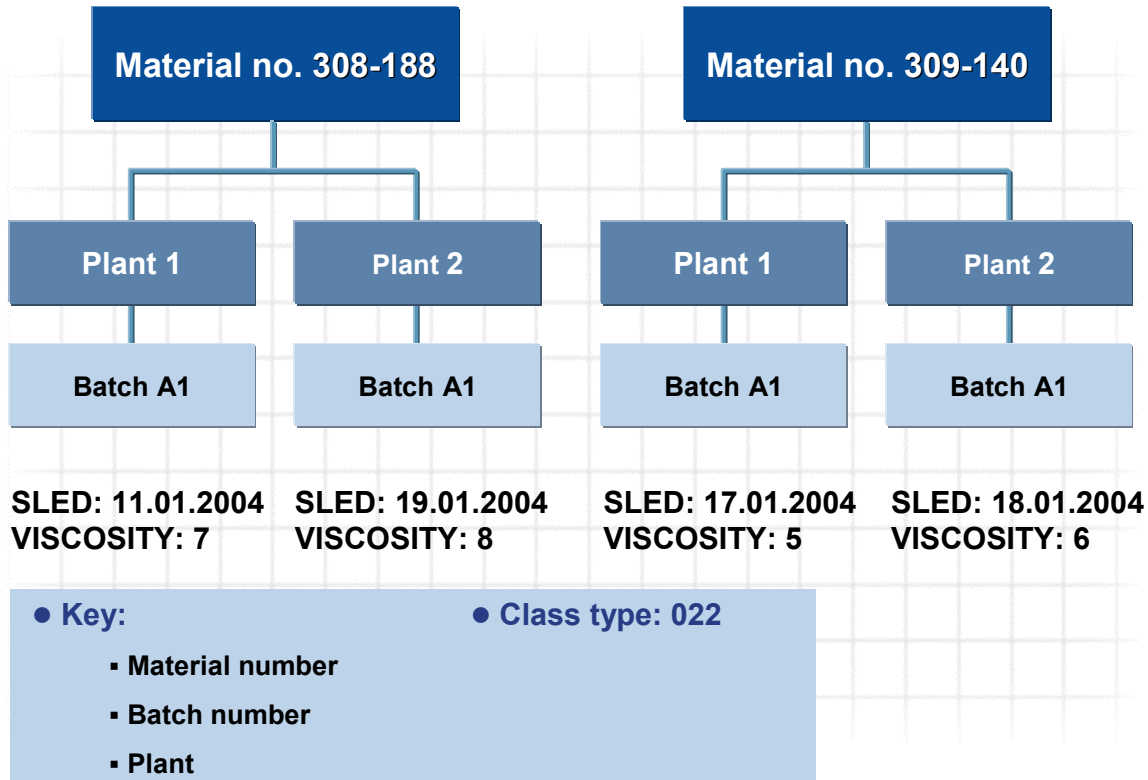
Plant 2

Batch 1

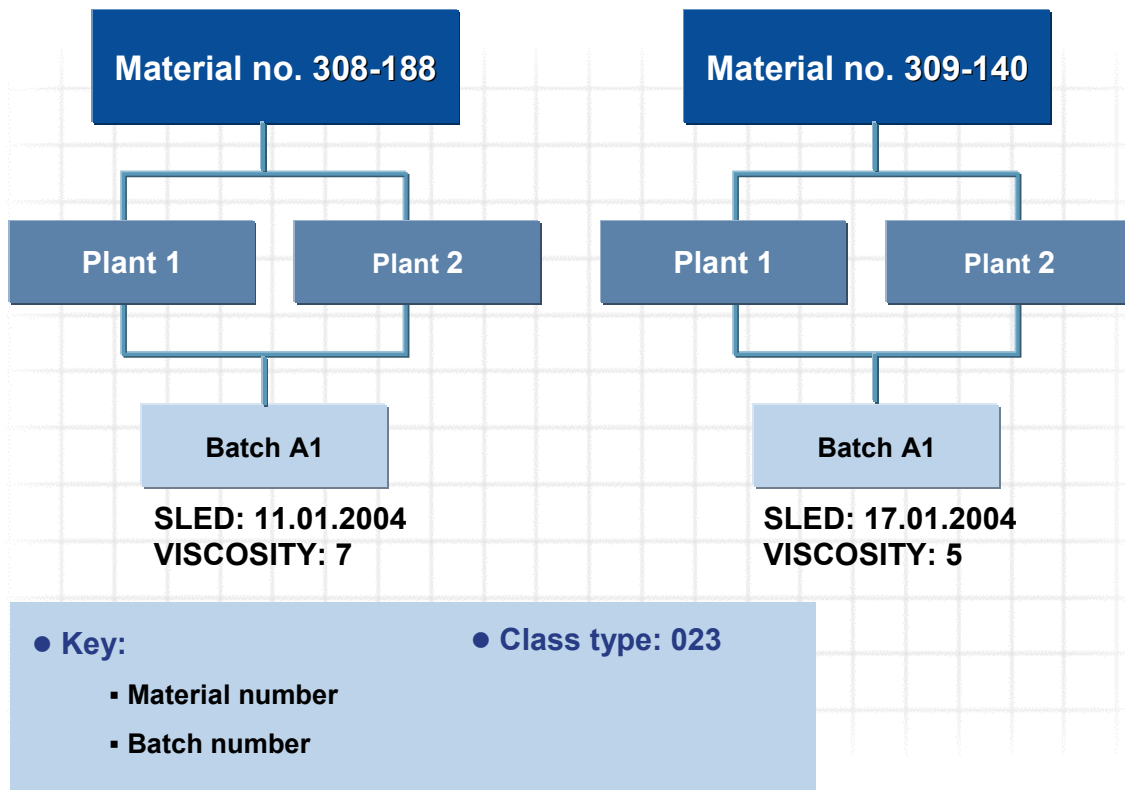
Batch 1

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- A material master record is identified by an alphanumeric material number. The material number is unique at client level.
- A batch master record is identified by an alphanumeric batch number. You can use business or company-specific criteria to determine at which of the three levels shown in the graphic the batch number is unique.

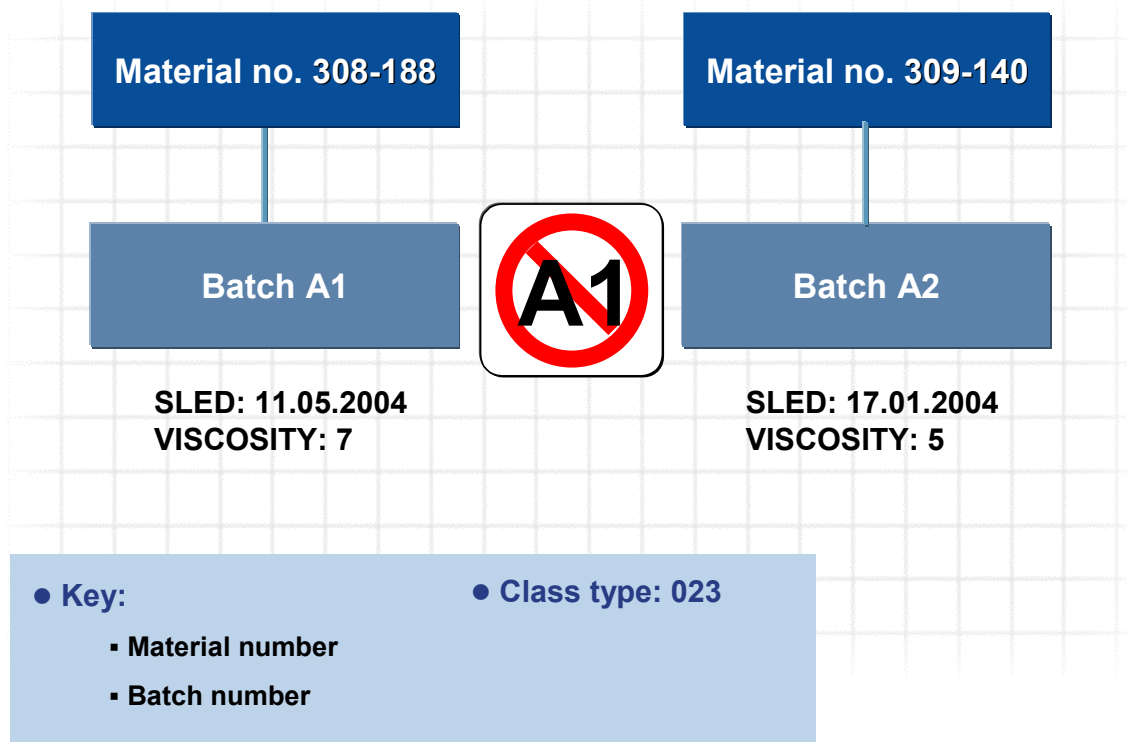


- If the batch level is set to "Plant/Material" (plant-dependent batch requirement) in your system, the following applies:
  - There is a unique connection between the batch number and the material and plant
  - The batch number can be reassigned for each permitted material with a different specification in each plant.
  - However, you can transfer a stock from one plant to another and from one material to another between batches with the same number, even though the batches do not necessarily have the same specification. In such cases, the batch quantity transferred assumes the specification of the destination batch.
  - If you want the batch specification to be unique across all plants, you can only achieve this through organizational measures. The system does not support this. In this case, you are recommended to switch to a higher batch level.



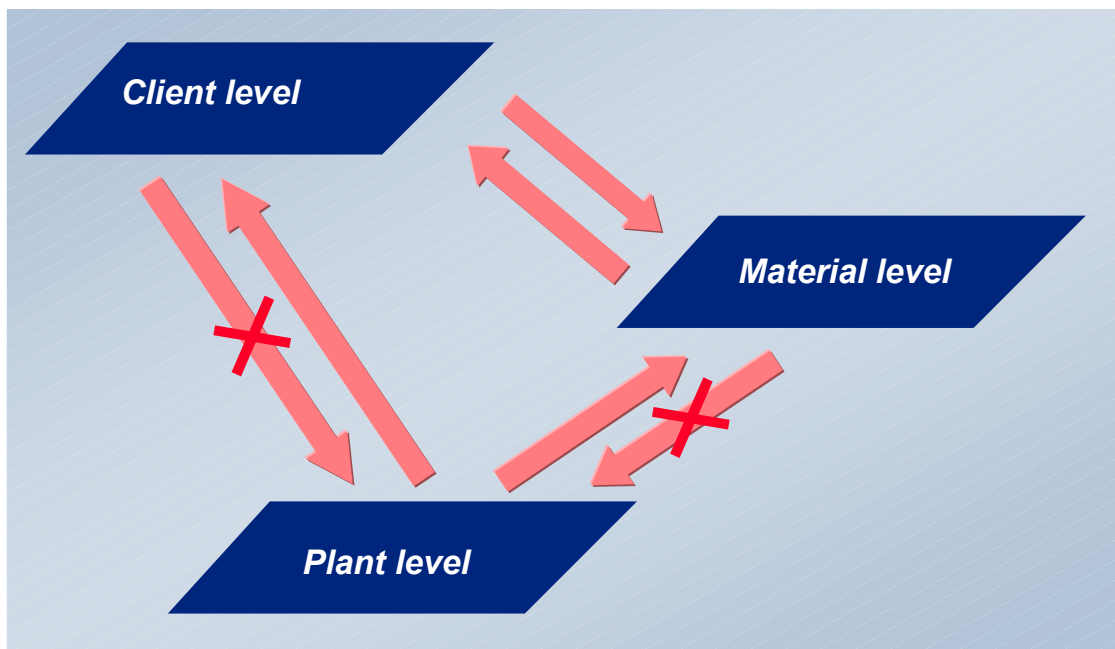
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- If you have defined the material level as the batch level in the system, the following applies:
  - There is a unique connection between the batch number and the material
  - A batch has the same specification for all plants in which a material is stored.
  - The same batch number can be reassigned with a different specification to different materials.



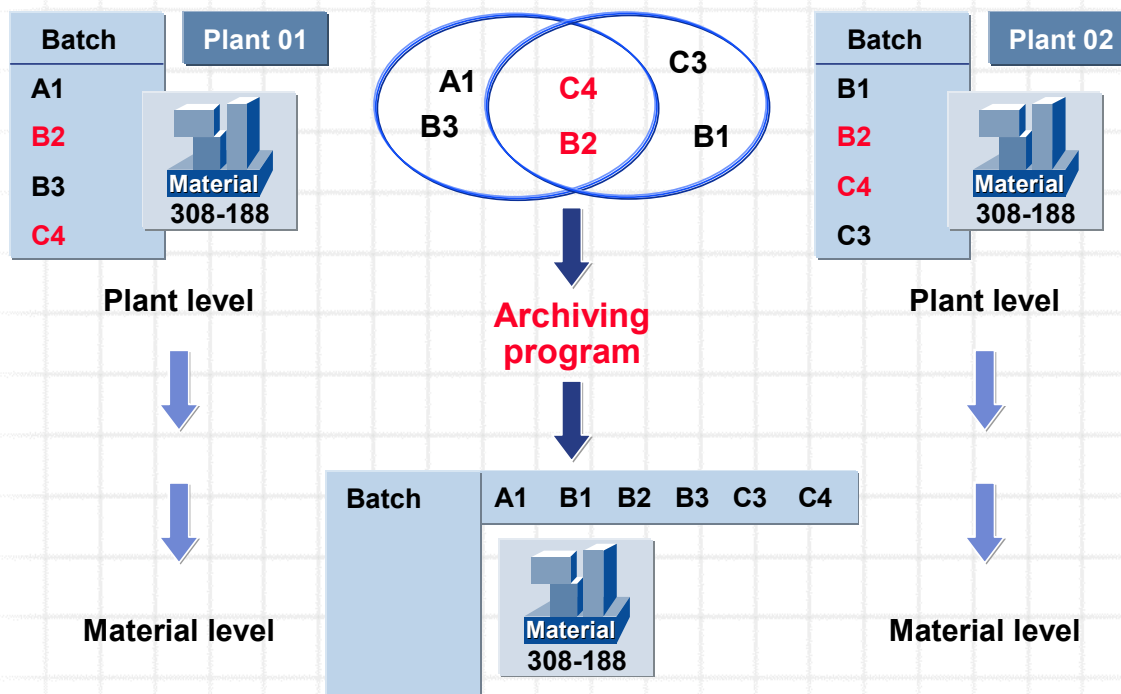
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- If the batch level is set to "Client" in the system:
  - The batch number is unique at client level.
  - The same batch number can only be assigned once within the entire client.
  - It is uniquely assigned to only one material number.



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- In Customizing, you use the batch level to specify the uniqueness of a batch number. Of the three batch levels, plant level is defined as the default in the standard system.
- You can switch to a higher level at any time. In the standard system, switching back to a subordinate level is at present allowed only from client level to material level. You cannot switch back to material/plant level. This is due to the organization of the batch data, which has to be converted whenever you switch batch level. Batch status management is also affected by this change and has to be subsequently maintained. To switch batch levels, start a conversion report in Customizing.



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- If batch numbers have previously been unique in a plant but are now only to be unique for materials, this change must be accompanied by a conversion of the batch numbers.
- Until now, you could assign the same batch number for a material number in each plant. The batches did not have to be identical since they were entirely independent of each other. In the example, we assume that they have completely different specifications.
- Now you have to check whether identical batch numbers exist for the material in both plants. If this is the case, you will have to prepare for archiving.  
A utility program is automatically offered in Customizing as soon as a change in the batch level has taken place. It determines all the batches that occur in several plants. It also allows you to carry out a test run and provides you with a log. This analysis must precede actual batch archiving. Only after a successful data update can batch management be used at the new level.
- The batch number is unique for each material at the new batch level. A further distinction according to plant is no longer made.
- The points listed above also apply when the batch level is changed from the material level to the client level.



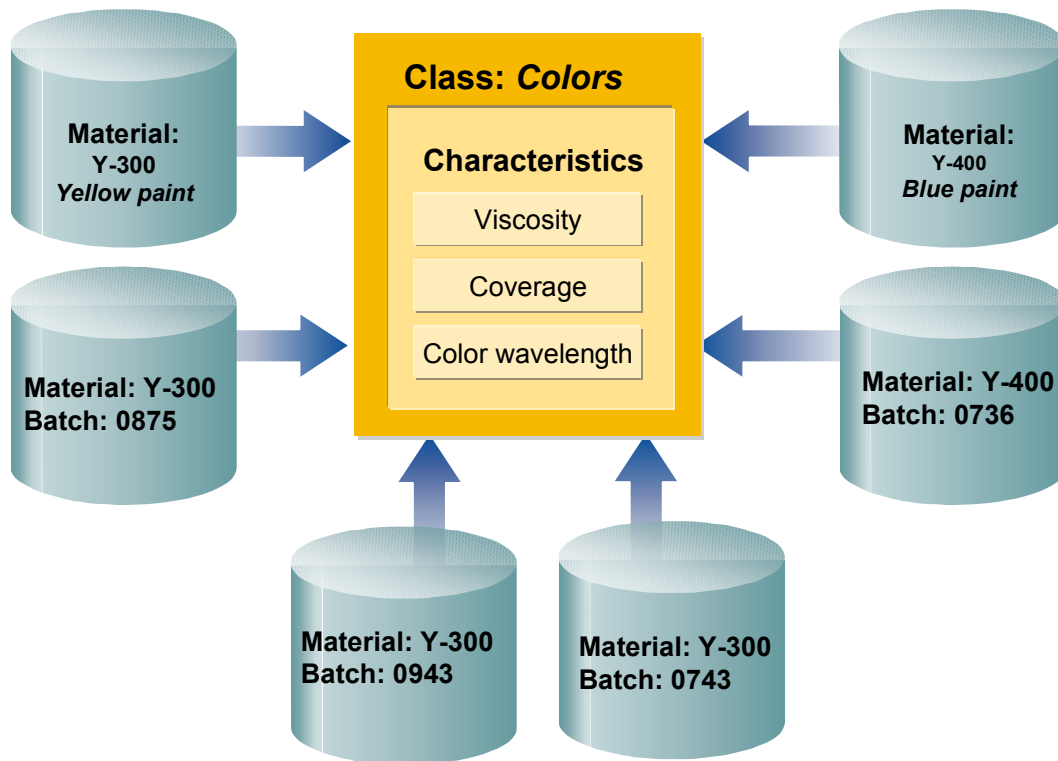
**At the conclusion of this topic, you will be able to:**

- **Maintain classes and characteristics in the class system**
- **Classify materials and batches in the *batch* class type**
- **Use standard characteristics**

## Classification System

- ***Classification:***  
Grouping of objects into classes
- ***Characteristic Value Assignment:***  
More detailed description of classified objects using class characteristics
- ➔ ***Search for / Assignment of***  
objects using classes and characteristics





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## Class: *Colors*

### Assigned Objects

Characteristics	Assigned Objects		
	Material: Y-300 <i>Yellow paint</i>	Mat.:Y-300 Cha.: 0875	
	Viscosity	170 – 178 cP	175 cP
	Coverage	95 – 98 %	97 %
Color wavelength	580 – 620 nm	589 nm	740 – 760 nm

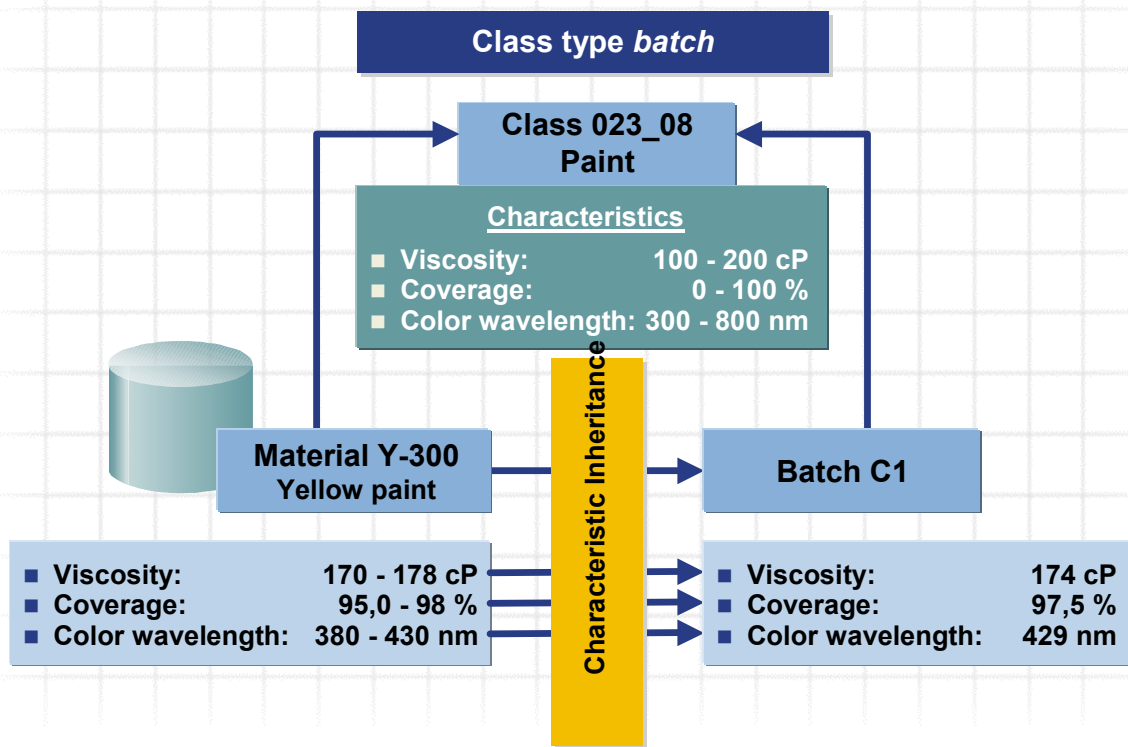
## Class Type

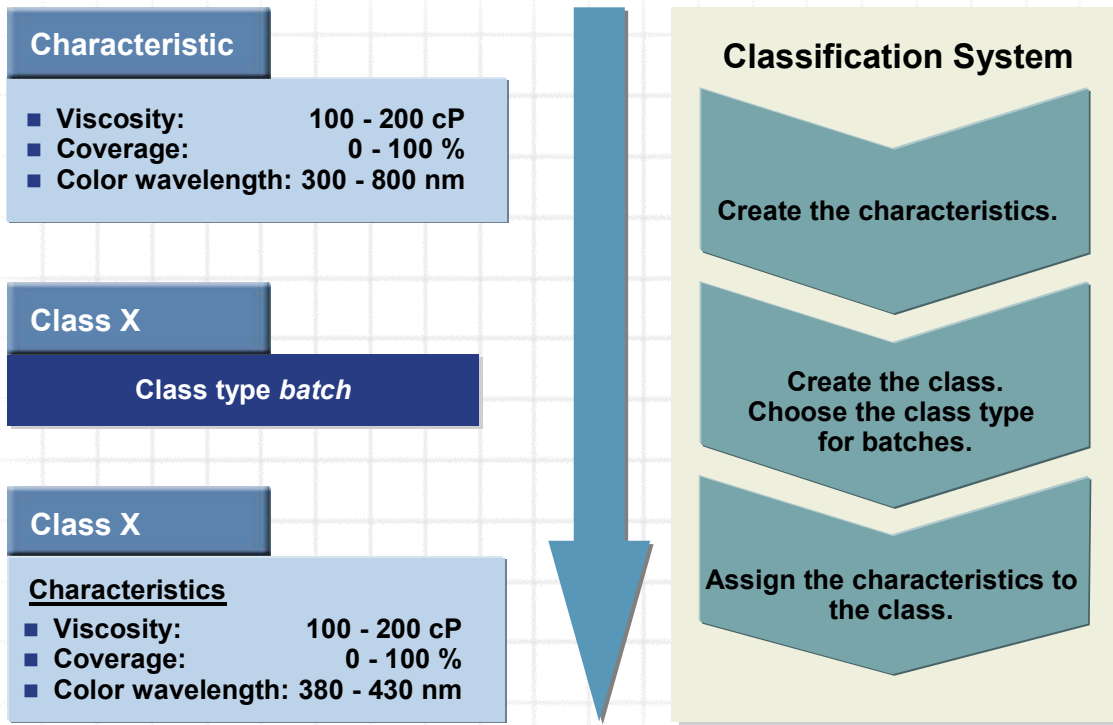
**A class type is the higher-level control unit for classes. Each class must be assigned to one class type.**

**A class type determines:**

- **Which objects you can classify in a class**
- **Whether objects belonging to different categories can be classified in a class**

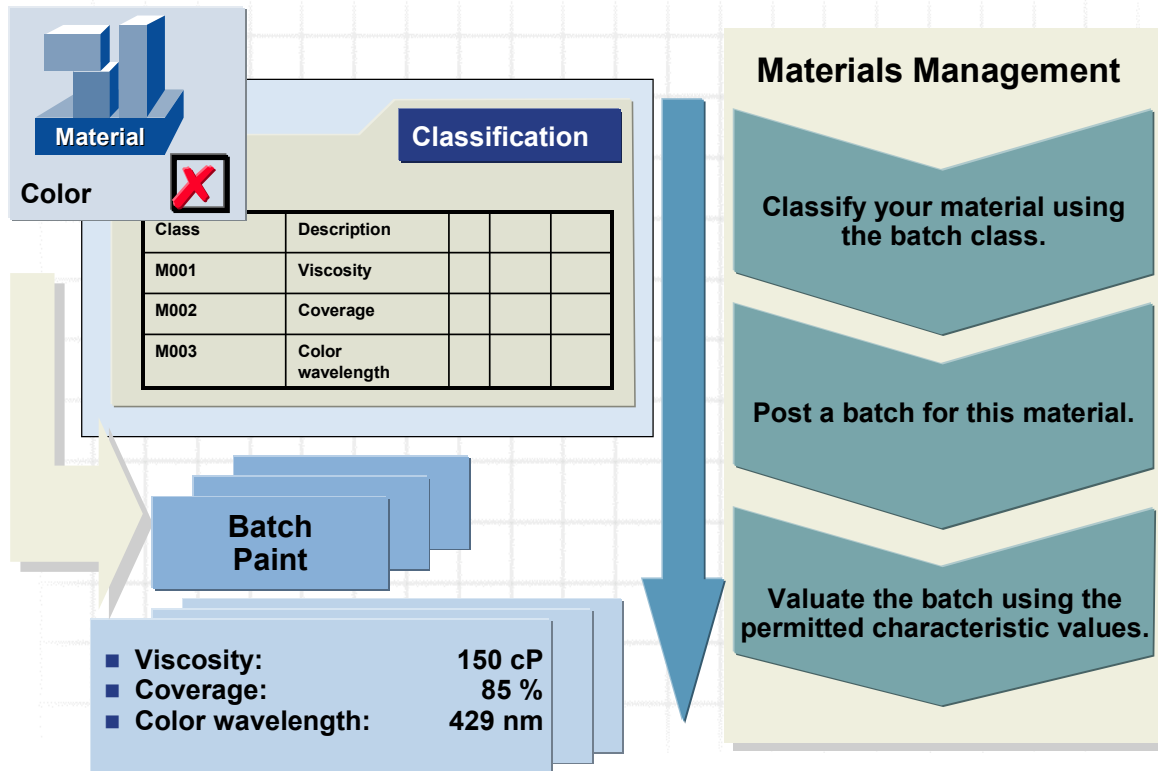
Class Type	Classifiable Objects
<b>001 <i>Material</i></b>	<b>Materials</b>
<b>023 <i>Batch</i></b>	<b>Materials, batches, BOM items / reservations</b>
<b>050 <i>Reconciliation</i></b>	<b>BOM items / reservations</b>
<b>019 <i>Work center class</i></b>	<b>Work centers (= resources), planned items (= operations) /order operations</b>
<b>( ... )</b>	<b>( ... )</b>





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- Since the specifications of a material and its batches are stored as classification data, you must prepare the classification system accordingly.
- First, you define the attributes that the material and its batches are to have. You create them in the classification system as characteristics.
- Now, you create the classes that you want to use for the material and its batches. You can create a selection of different classes for this purpose. You can subsequently assign only one class from the *Batch* class type to the material. Additionally, you can also assign classes from other class types (such as class type 001, material class).
- The assignment you make must be to class type 022 or 023, as these have been provided specially for batches in the standard SAP system. The applicable class type depends on the batch level you have chosen.
- If you have specified plant level as the area of validity in Customizing, you should choose class type 022 in the standard SAP system. The class type is otherwise 023. The system determines the correct class type automatically.
- In the final step, the characteristics are assigned. The value intervals can be further restricted in the process.



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- You create both the material master record and the batch master record in Materials Management. The material must be classified. You assign the batch class in the "Classification" view of the material master record. You can restrict all sets of values specified for batch characteristics.
- If you create a batch for this material, the system automatically copies the classification data for the material. The system automatically proposes the value intervals for the characteristics.
- The system checks whether the characteristic value assignments fall within the permitted tolerances if the characteristics have been defined accordingly. This means that you cannot set the *Additional Values* indicator.

		Example
<b>User-defined characteristics</b>	<b>Classification:</b> Characteristics that do not reference table fields	<b>Z_PURITY</b> Format: Numeric Values: Interval
<b>Reference characteristics</b>	<b>Classification:</b> Characteristics that refer to table fields	<b>Z_BISMT</b> Field: BISMT Table: MARA
<b>Standard characteristics</b>	<b>Batch Management:</b> User-defined and reference characteristics in the standard system	<b>LOBM_VFDAT</b> Field: VFDAT Table: MCHA/MCH1

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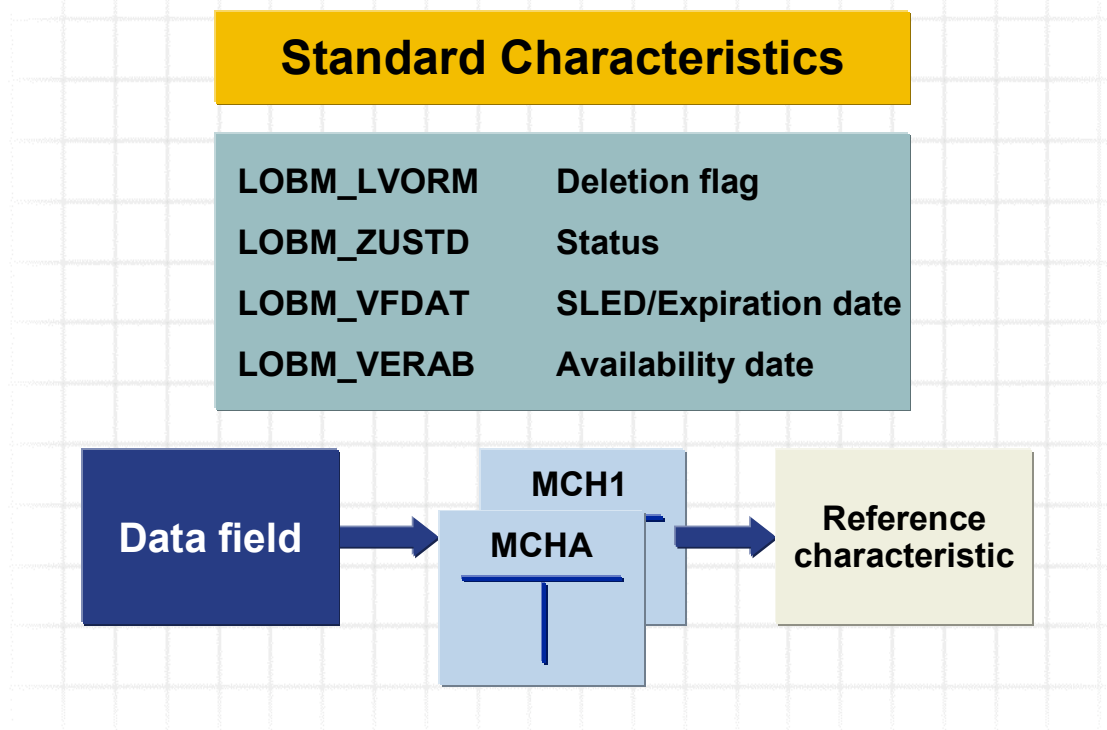
- There are various characteristic types available for storing batch information.
  - *User-defined characteristics*: Characteristics that do not reference table fields
  - *Reference characteristics*: Characteristics that refer to table fields. You create the master records using maintenance transactions for the classification system. After you enter the table field and the relevant table, the system copies the format defaults defined in the SAP system. The value assignment for these characteristics is always copied from the current values in the table fields (such as MARA, MART, and MCHA), and cannot be overwritten as long as the *Not ready for input* indicator is set in the characteristic.
  - *Standard characteristics*: These are Batch Management characteristics that are delivered in the SAP standard system. They are reference characteristics from tables MCHA and MCH1. If the report *Update standard characteristics* has been started beforehand in Customizing, you can see all the standard characteristics by entering LOBM\_\* and choosing the input help. You are normally not allowed to make changes to standard characteristics in the characteristic master record.



Characteristic name/description	Formatting instructions	Valuation	Values
<b>such as</b> <b>Z_SDP</b> <b>Boiling point</b> <b>Multilingual</b>	<u><b>Formats</b></u> <b>Numeric</b> <b>Character format</b> <b>Date format</b> <b>Time format</b> <b>User-defined</b> <u><b>No. of spaces</b></u> <b>UoM</b>	<b>Single/multiple values</b> <b>Intervals</b> <b>Input required</b>	<u><b>Characteristic values</b></u> <b>Other value check</b> <b>Allowed values</b> <b>Check table</b> <b>Function module</b> <b>Catalog characteristic</b> <b>Additional values</b>
<u><b>Additional data:</b></u> <b>Document management system</b> <b>Behavior during valuation</b>		<u><b>Constraints:</b></u> <b>Class type</b>	

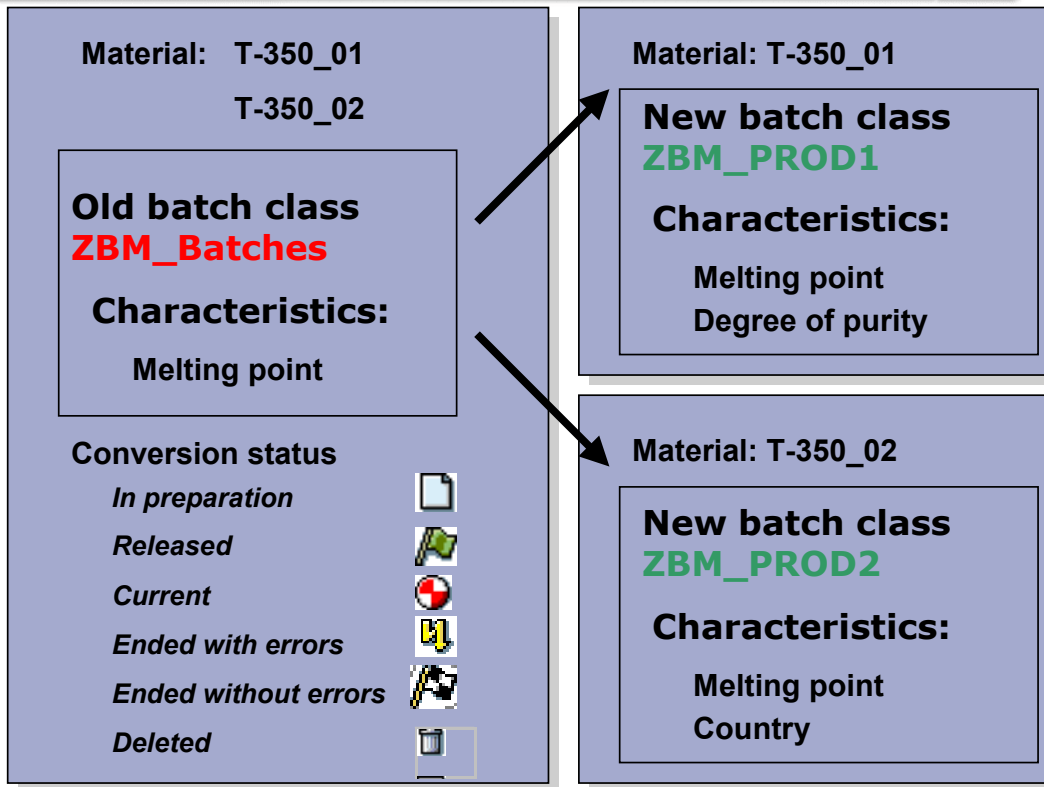
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- *User-defined characteristics* are usually characteristics you have defined yourself that do not refer to table fields. For each characteristic, you select a format type, such as numeric, character format, or date format. You can store up to 30 spaces for the format type CHAR (characters).
- In master records for user-defined characteristics, you can also specify whether valuation is performed with single or multiple values, and whether a required entry or optional entry is necessary for valuating the characteristic.
- For numeric characteristics, you can allow interval values to be entered. You also determine the permitted values for each characteristic. To make the values available for the characteristic, you can predefine values or you can use the *Other value check* function to use check tables (for example, T005 for countries) or catalogs created in Customizing or function modules. By setting the *Additional Values* indicator, you can add any other value to the stored values in order to enhance the format defaults.



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- Some characteristics are contained in the standard ECC system. These standard characteristics have a key for batch selection. You should therefore include them both in the respective batch classes and in the selection classes in batch determination if the respective business application is used. This improves the performance of the selection runs.
- The standard characteristics listed are reference characteristics. They are linked to a data field for the batch master record by way of the table MCHA/MCH1. The content of this data field is stored directly in the classification system as a characteristic value. The information is updated redundantly, which means that it is not just referenced.
- If the content of the data field changes, the change is also made in the characteristic value.
- In addition, *free standard characteristics* are offered by the system.
- Although a *free characteristic* is defined independently of existing data fields, it is also supplied with the standard system. One example is the characteristic *remaining shelf life* (LOBM\_RLZ).
- As of release 4.0, you can use Customer Function Calls to automatically adopt the master data from a source batch when you create a batch. You can also copy and change the characteristic value assignments of free characteristics in this way.



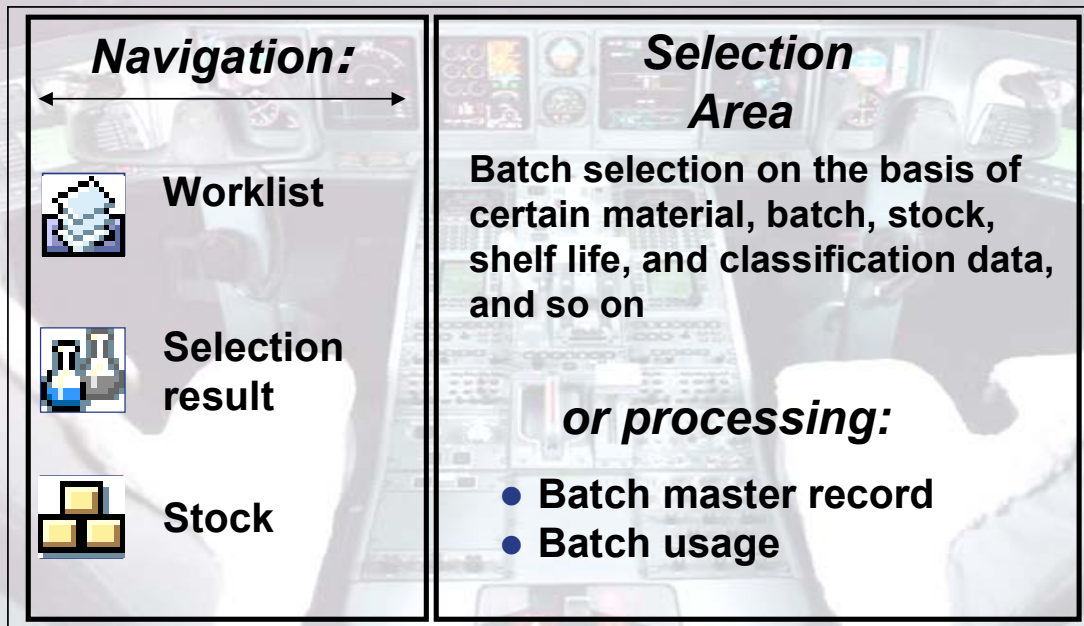
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- The *Batch Class Conversion* function enables you to change the assignment of a batch-managed material and its batches to a batch class, even though stock postings, reservations, production orders, and so on already exist for batches of the material in the system. Any existing characteristic value assignments are retained.
- The following conditions must be met so that a conversion can be performed:
  - The material must be subject to batch management and assigned to a batch class.
  - No batches must exist for the material.
  - A material that is not assigned to a class acquires the new class after the conversion has taken place.
  - All batches assigned to the old class acquire the new class.
  - Non-classified batches remain unclassified after the conversion.
  - The classification must allow the status of the new class. You make the class status settings in Customizing for the *Classification System* under *Classes -> Maintain Object Categories and Class Types*.
  - The new class must contain all the characteristics from the old class. The new class can also contain additional characteristics.
  - The classification status cannot be changed using a conversion.
  - Classes must not be in processing at the time of release.
- Each conversion is documented in a log.



**At the conclusion of this topic, you will be able to:**

- **Work with the Batch Information Cockpit and display the necessary batch information**
- **Maintain batch master records using the Batch Information Cockpit**
- **Make user settings**



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- The Batch Information Cockpit is a central tool that offers extensive evaluation options for batch data.
- It was developed as part of the Enjoy initiative as a single screen transaction.
- In the Batch Information Cockpit, you can start a flexible selection of batch data. Various basic data can be used as input on the selection screen, for example, material data, stock data, shelf life data, or specification data that is stored in the classification.
- Existing batch functions were integrated into the Cockpit:
  - Batch master and batch where-used list
  - Stock overview and minimum shelf life evaluations
  - Worklist
- The BIC is a new development in SAP release 4.6C (downgrade available to 4.6B).
- You start the BIC with transaction /nBMBC.

With user settings for easy adjustment

1. Subarea: Selection result  
Focus on batch master information for selected batches

2. Subarea: Stock  
Focus on the stock situation of the selected batches

3. Subarea: Worklist  
Batches can be copied into the worklist and processed sequentially

## ***Navigation:***



**Selection result**



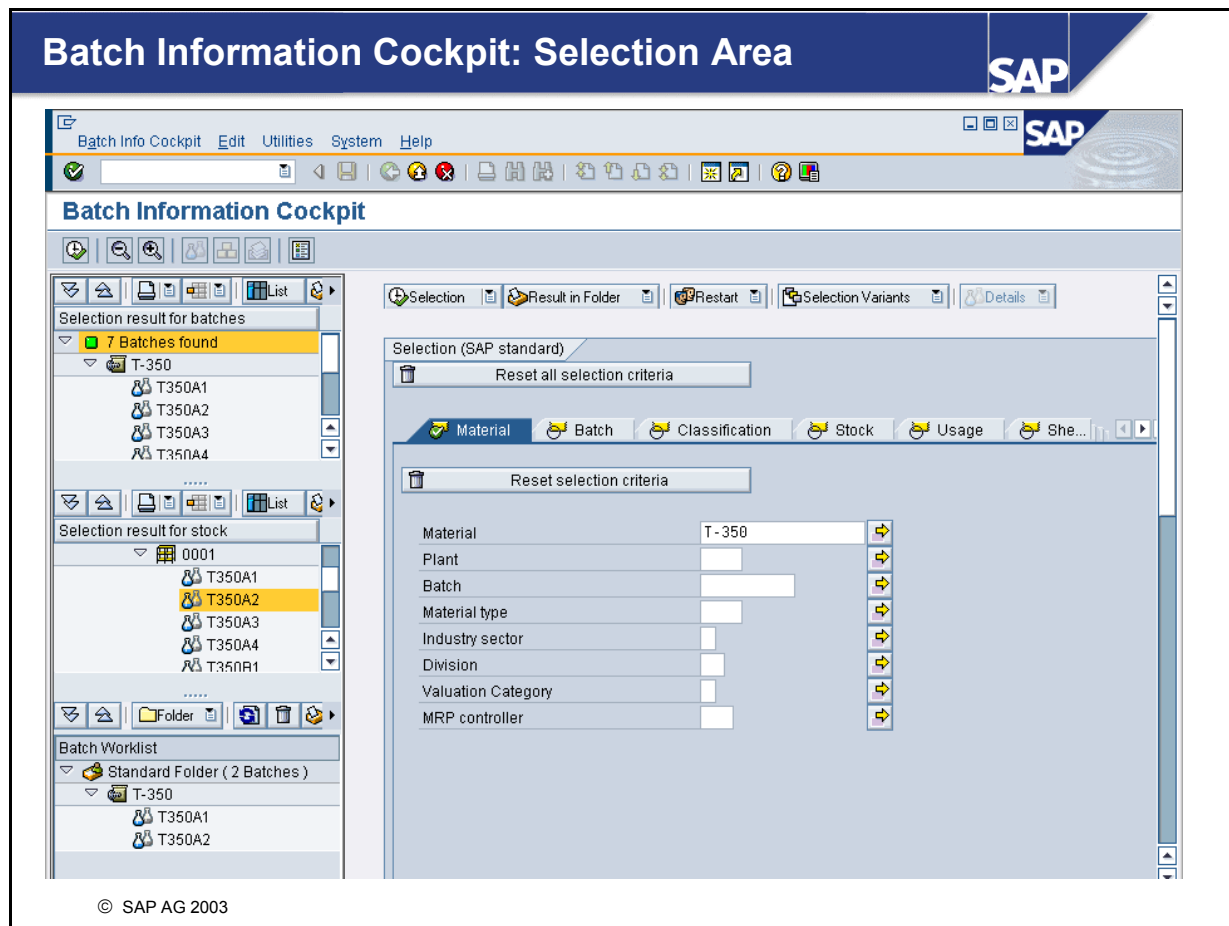
**Stock**



**Worklist**

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- In the Batch Information Cockpit, you can choose between a hierarchy display and a list display.
- For the navigation area, you can:
  - Deactivate individual sub-areas
  - Specify the sequence of sub-areas
  - Determine which subareas are opened automatically
  - Specify whether the "batches" or "stock" selection result is automatically shown as a list
- You can determine the preferred width of the navigation area.
- You can specify the form in which the material is displayed in the navigation area (material number and/or material short description).



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- The selection screen enables you to select batch information according to your specific requirements.
- Flexibly definable in Customizing:
  - Deactivation of individual selection tabs
  - Changing the title of selection tabs
  - Adding your own selection fields to the selection tabs (tables MARA, MARC, MARD, MCHA, MCHB, MKOL, MSLB, MSKU, MSKA, MSPR)
- The BIC enables you to answer concrete questions regarding batches, such as
  - Which batch has the status "Unrestricted"?
  - Which batches must be used because their shelf lives have nearly expired?
  - Which "unrestricted" batch stocks exist for a product group and how are the batches specified?
  - Which batch stocks exist within a certain materials planner's area of responsibility?

- **Hierarchy display**
- **List display**
  - **Filters**
  - **Totals and subtotals**
  - **Sort functions**
  - **Search functions**
  - **Export functions**
- **Different layouts defined for each selection area**
  - **User-specific**
  - **Global**

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■ In the list display:

- You can use the filter to restrict the search results to your requirements.
- You can create totals and subtotals for numeric values.
- You can use the sort function to list results in ascending or descending order.
- You can use the search function to find selected results in the list.
- You can process the list further in other programs such as Microsoft Excel, for example, after the export.
- You can define the layout for each user.



Selection | Result in Folder | Restart | Selection Variants | Details

Details (Batch master)

Material: T-350 Glycerin

Batch: T350A1

Basic data 1 | Basic data 2 | Classification | Material data | Changes

Expiration Date

Date of Manuf.  Sh. life exp. dte  D Available from

Batch Status

Batch Status ☒ Unrestr.-use ☐ Batch restr. Last status chge

Miscellaneous

Next inspection  ☐ Batch Deletion Flag

Trading Data

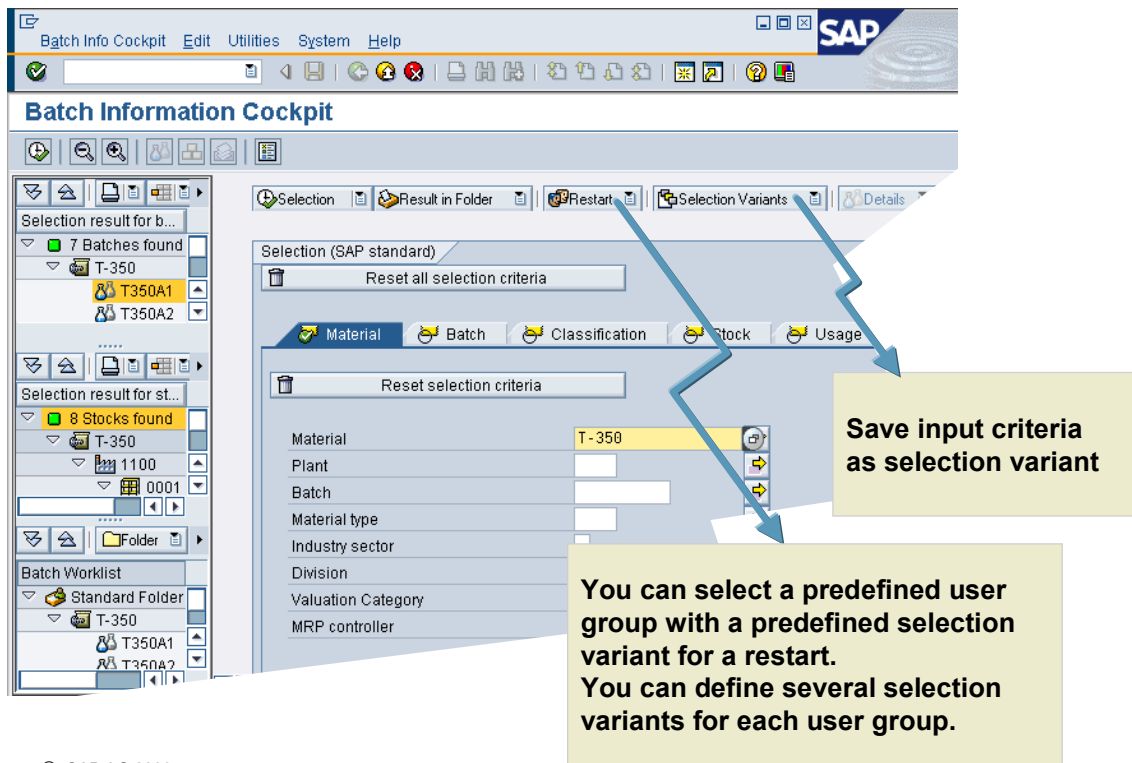
Vendor  Ctry of origin

Vendor Batch  Reg. of origin

Last goods rec. 30.05.1995 Exp/imp group

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- The selection results show you a list of batches for each material. Click on the relevant batch in the selection results to see the detail view. On the right side of the screen you can see the batch master record. You can switch between display and change modes.
- Choose *Details* in the batch master record to see the batch where-used list.



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- When you start the Batch Information Cockpit, you can choose between the SAP standard selection or user-specific selection templates. These are defined in Customizing for Batch Management using user groups. They determine the tab pages and fields that appear on the screen and can be used to enter data for the selection.
- As of the SAP R/3 Enterprise release, you can also work with selection variants. If evaluations exist that you want to use again, it is advisable to save these input criteria as a variant. For each selection template or user group, you can store more than one variant. You can then select the variant(s) when you restart the transaction.

**Batch Information Cockpit**

**Start settings**

User group assignment  
 User group selection  
 Selection Variant  
 Automatic selection at start ☐

**Navigation area**

	Active	Sequence	Display	List
Selection result for batches	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Selection result for stock	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	<input type="checkbox"/>
Batch worklist	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	<input type="checkbox"/>

Width of navigation area  
 Width in mm 62

Detail function  
 Standard detail funct. MSCX  
☒ Details in Same Window  
☐ Details in New Window

**Current settings**

Automatic Actions After Selection  
☐ Maximize Navigation Area  
☐ Expand Selection Results

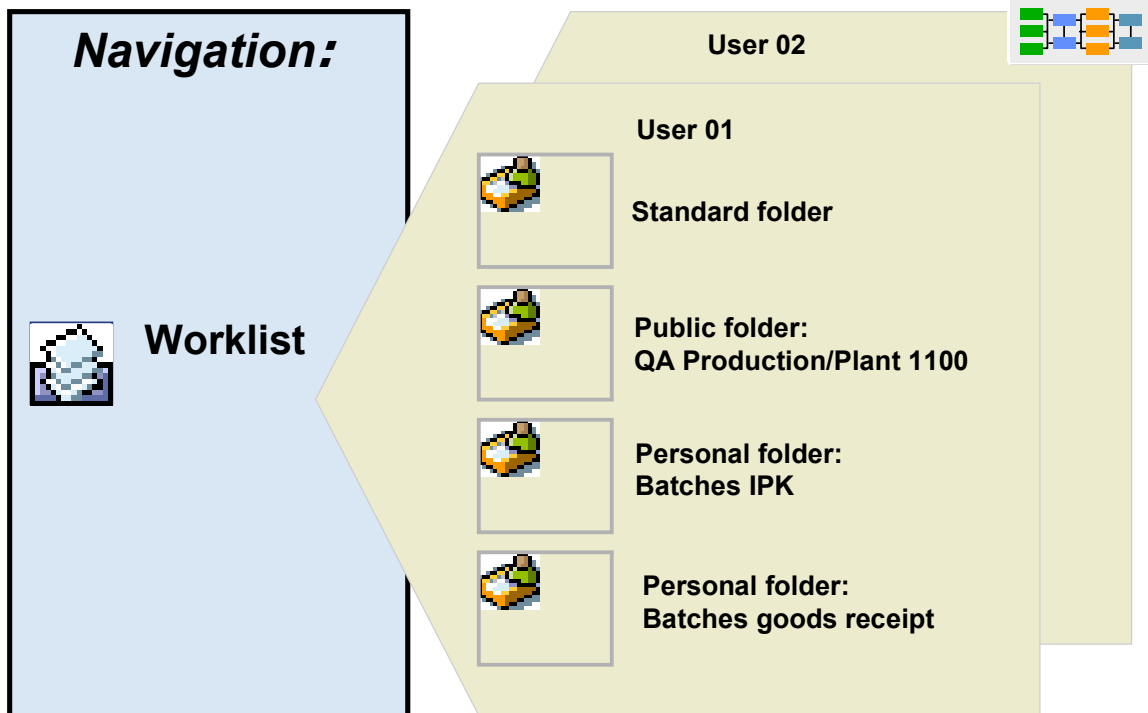
Deactivate confirmation prompt  
☐ when copying to worklist  
☐ when deleting from worklist

Format of material  
☒ Material number  
☐ Material description (matl no.)  
☐ Material no. (matl description)  
☐ Material description

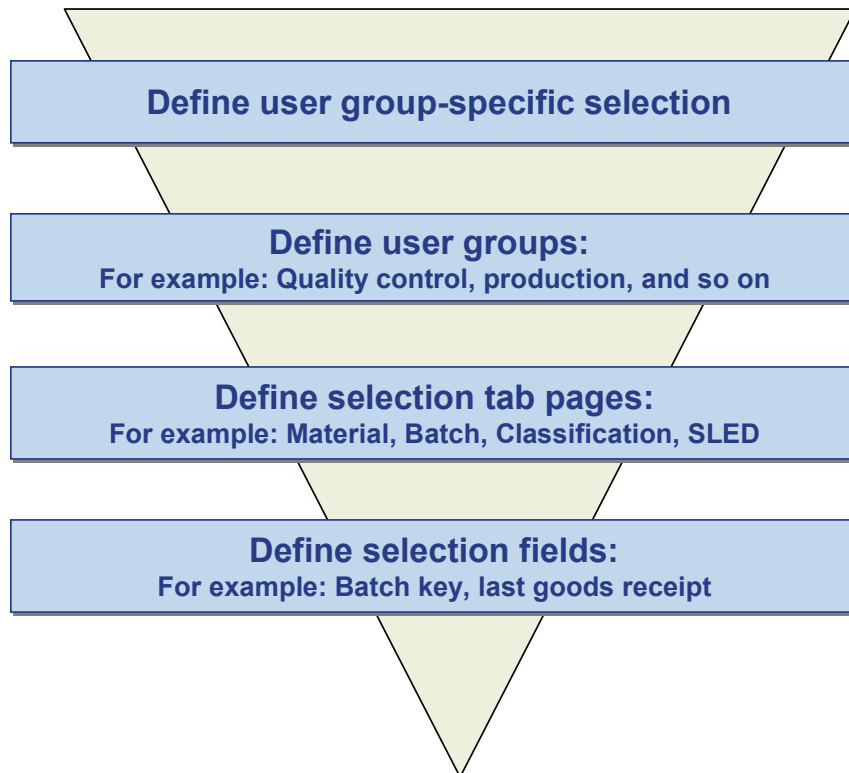
Database selection  
 Maximum No. of Batches 50

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- In the Batch Information Cockpit, you can adjust and save the Cockpit settings for each user.

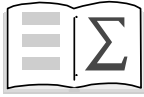


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- In addition to the SAP standard selection, you can define user-specific selections in Customizing for Batch Management. To do this, create a new user group. Define the required selection tab pages and assign the corresponding fields.
  - **User group:** The user group can reflect an organizational area in your company. If you set the *Standard Group* indicator, this user group is used automatically instead of the SAP standard selection. Set the *Selection with Plant Reference* indicator to determine whether batches defined at material or client level should be selected with reference to plants.
  - **Selection tab pages and fields:** For each user group, you can assign both standard selection and user-defined selection tab pages. You can choose the sequence and texts for your newly-defined tab pages. Make sure that you activate the selection tab pages you need to use. Use the input help to select selection tables and fields.
- The new user groups or selection tab pages can be simulated in Customizing, and compared with the SAP standard selection.









**You are now able to:**

- **Create batches manually and automatically in different applications**
- **Maintain classes and characteristics for classifying batches**
- **Assign batch classes to material master records so that you can classify charges**
- **Use the *Batch Information Cockpit (BIC)* as a central tool with analysis and control options**

# Exercise Data Sheet

## Key to Icons in Exercises and Solutions

	<b>Exercises</b>
	<b>Solutions</b>
	<b>Course Objectives</b>
	<b>Business Scenario</b>
	<b>Hints and Tips</b>
	<b>Warning or Caution</b>

## Data Used in Exercises

Type of Data	Data in Training System	
Materials	Y-500	Blue paint
	Y-500-##	
	T-HT2##	Cetapharm-N (tablet)
	T-HT1##	Aspirin
	AI-1201-0##	Orange mixture type 334
	AI-1202-0##	Orange juice concentrate
	AI-1200-0##	Orange concentrate type 334
	AI-1000-0##	Fruit nectar 0.1 L concentrate/liter
	H2O	Water
	CH_1107##	Aldekal
Split valuation	Y-GB##	Color
Batch management and split valuation	Y-C-GB##	Color
Valuation of single batches	Y-CEB##	Color
Class Type	023	Batch

Type of Data	Data in Training System	
Classes	231	Batch class for color
	AICL00010##	AI potency %
	AICL00010##	Liter substance/ liter AI
Characteristics	M001	Viscosity
	M009	pH level
	M010	Purity of color
	M011	Coverage
Characteristics	M012	Label
	M013	Available for:
	AIC010##	Active ingredient
	AIC020##	Active ingredient
Proportion unit	KW1	KG active ingredient 1
	KW2	KG active ingredient 2
	LW1	Liter of active ingredient 1
Ratios	LSL	Liter of active ingredient 1
	%	
Strategy type	ZMM1	Batch determination in Inventory Management: Movement type/plant/material
	ZSD1	Batch determination in Sales and Distribution: Customer/material
	ZPI1	Batch determination for production orders Order type/plant/component
Order type	PI06	Process order, internal number assignment
	PI01	Process order, internal number assignment
Recipe group for material T-HT2##	T-TAB##	Cetapharm-N (tablet)
Recipe group for material AI-1200-0##	AI000-##	Juice concentrate
Plant	1100	Berlin
Storage location	0001	Delivering warehouse

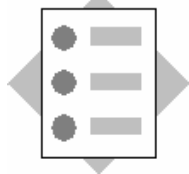


Type of Data	Data in Training System	
Vendor	1000	C.E.B Berlin
	100	Wald & Maier
Purchasing group	007	Lux, L.
Purchasing organization	1000	IDES Germany
Sales organization	1020	Berlin, Germany
Distribution channel	22	Industrial buyer
Customer	7777	Flatter & Asche AG Düsseldorf



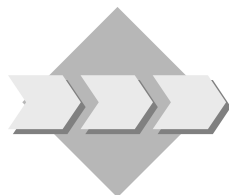
## Unit: Basics of Batch Management

### Topic: Creating a Batch-Managed Material



At the conclusion this exercise, you will be able to:

- Create a batch-managed material
- Find relevant batch information in the material master record



Some materials in your company are handled in batches. When you implement SAP ECC, these materials are created in the system. To do this, you use other materials subject to batch management as templates.



There is a template for all the master data you create in the exercises below. You can copy it if you wish. You can use this, but put your own group number at the end of each master record you create, and use your own data.

#### 1-1 Creating a new material master record

Create a new material master record. Copy all of material master record Y-500. Use the following values:

Material: Y-500-##  
Replace ## with your group number, for example 01.

Industry: Pharmaceuticals  
Material type: Semi-finished product

	Organizational levels	Template
Plant	1100	1100
Storage location	0001	0001
Sales organization	1020	1020
Distribution channel	22	22

**Edit all views!**

*Save your material.*

**1-2 Display the material you just created.**

Which views contain the indicator for the batch management requirement?

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**1-3 To which class in class type 023 (batch class) is the material assigned?**

Which characteristics are assigned to this class, and therefore to the material? Which values are allowed?

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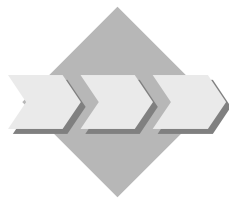
## Unit: Basics of Batch Management

### Topic: Creating Batch Master Records



At the conclusion this exercise, you will be able to:

- Create a batch master record manually
- Create a batch master record automatically from a goods movement



Some materials in your company are handled in batches. For some materials, the batch master records are created manually. However, you can also specify that the system creates the batch master automatically when the first goods movement takes place.

#### 2-1 Create a batch master record manually.

Refer to material CH\_1107## and plant 1100, storage location 0002. The batch number is 1107##-1. Choose the *Classification* tab page to valuate the characteristics. Choose any values within the predefined limits.

Characteristics	Value interval	Actual value
Solid state content	60 – 100 %	
Viscosity	19 -21 cp	
Density	1.1 -1.3 g/ccm	

#### 2-2 Call up the stock overview from the Inventory Management menu.

In the selection window, enter material CH\_1107## and plant 1100. Display the zero lines. What can you see in the stock overview?

### 2-3 Post a goods receipt using the Enjoy transaction for goods movements:

Transaction	Movement type
/nmigo	501

- Post 100 kg of material CH\_1107## in storage location 0002 from plant 1100.

Tell the system to assign the batch number:

- 
- In a second item, post 50 pieces in storage location 0002 for plant 1100. This is the existing batch 1107##-1 that you created manually in the first step of this exercise.
  - Check the document.
  - Post the goods receipt.

### 2-4 Use the stock overview to check the batches and stocks of material CH\_1107##.

Make additional entries in the table as required:

Field	Values	Quantities (unrestricted)
Plant	1100	
Storage location	0002	
Batch		
Batch		
Storage location	0002	
Batch		
Batch		

### 2-5 Display the batch master record that you created manually in step 2-1:

Batch	1107##-1
-------	----------

Check the classification and its characteristics. Have there been any changes?

Characteristics	Value interval	Actual value
Solid state content	60 -100 g/ccm	
Viscosity	19 -21 cp	
Density	1.1 – 1.3 gr/ccm	



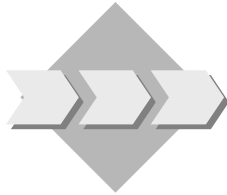
## Unit: Basics of Batch Management

### Topic: Batch Level



At the conclusion this exercise, you will be able to:

- Recognize the differences between batch levels



You want to implement batch management and want to know which level is appropriate for your requirements.

**2-6 Which settings can you choose for unique batch numbering? Where do you make these settings?**

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2-6-1 Which setting has been made in the training system?

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2-6-2 What are the consequences of this?

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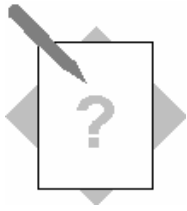
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2-6-3 Can you manage a material as subject to batch management in one plant, but not subject to batch management in another?

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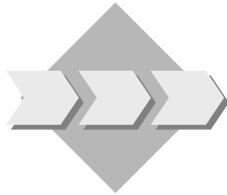
## Unit: Basics of Batch Management

### Topic: Specifying Batches



At the conclusion this exercise, you will be able to:

- Create characteristics and classes for a material that is managed in batches
- Classify a material
- Post a goods receipt for a material that is managed in batches and simultaneously value the batch characteristics



For materials handled in batches, you want to store classes in which the typical characteristics are defined. To do this, you have to define and assign classes and characteristics in the classification system. You also want to value the characteristics at goods receipt.



There is a template for all the master data you create in the exercises below. You can copy it if you wish. However, you must put your own group number at the end of each master record you create, and use your own data only.

## 2-7 Create characteristics and a class for a material that is handled in batches

### 2-7-1 Create characteristics

Create the following characteristics in the classification system. The key for the relevant template in the system is listed on the right.

M1-##	Viscosity	Template: M001
M2-##	pH level	Template: M009
M3-##	Purity of color	Template: M010
M4-##	Covering power	Template: M011
M5-##	Label	Template: M012
M6-##	Available for	Template: M013

Replace ## with your group number, for example, 01.

- Assign the value interval of your choice to the characteristic M1-##.
- Do not allow any interval values for the characteristic M2-## (pH level). Which indicator controls this?
- For the characteristic M3-## (purity of color), allow values that are not included in its list of values; that is, values that you have not explicitly allowed. Where can you set this in the characteristic?
- Assign the value interval of your choice to the characteristic M4-## (covering power)
- Define M5-## (label) as a required entry. Enter the values *yes* and *no* as possible characteristic values for M5-## and select *yes* as a default value. Where do you set the default value?
- Specify for the characteristic M6-## (available for) that your batch is available in Europe, Asia, Australia, and North America. You should be able to choose two or more values at the same time. Which indicator must be set to do this?

### 2-7-2 Create class and assign characteristics:

Create a class C##, in which you set your **own** characteristics.

Replace ## with your group number (for example, 01).

Ensure that you have used the class type that is allowed for batches.

Save the class.

You can use class 231 as a template. In a popup, you can select the areas you want to copy. Make sure that you do **not** select characteristics. This means that no characteristics are copied, and you can assign your characteristics directly without having to delete the copied ones.



## 2-8 Classifying a material subject to batch management

2-8-1 Change the material you created Y-500-##.

**Copy the transaction (Change material) to your favorites.**

Choose the *Classification* view.

On the classification screen, choose the class type 023 for batches first.

If necessary, choose **Extras** → **Change class type** to do this.

Delete the existing class and save the changes before you assign your class C##.

Now enter batch class C##.

Call up valuation for the characteristics.

Specify the target values as follows:

- For the characteristic M1-## (viscosity), limit the interval.
- For the characteristic M2-## (pH level), enter a discrete value from the interval.
- For the characteristic M3-## (purity of color), extend a value that is not listed as a possible entry.
- For the characteristic M4-## (covering power), you want to have the complete value interval available later in the batch classification.
- For the characteristic M5-## (label), allow both possible answers.
- For the characteristic M6-## (available for), choose at least two values.

**Save your material.**

## 2-8-2 Classifying batches – goods receipt

Assign the batch characteristic values during goods receipt.

***Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)***

**Copy this transaction to your favorites.**

Movement type: 501

Enter material Y-500-## and any quantity that you want to post to stock.

Plant                      1100

Storage location      0001

Enter any batch number or use automatic number assignment.

You can go directly to classification from the detail data on the *Batches* tab page.

Enter discrete values for the characteristics. Remember that you will want to search for this specification later in batch determination.

Repeat this transaction for several batches.



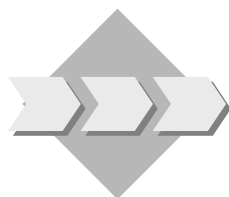
## Unit: Basics of Batch Management

### Topic: Batch Information Cockpit



At the conclusion this exercise, you will be able to:

- Manage worklists
- Select and process batches
- Analyze and evaluate information about batch usage and the stock situation



Every day you work with batches that have certain properties and have to monitor and occasionally change stock and batch data. To make your job easier, you wish to create worklists of batches that are to be processed. You can then work on these batches later, at your convenience.

### 2-9 Managing the worklist

2-9-1 Take a look at the defined worklist folders in Customizing. What is the significance of the *Public* indicator?

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Create your own private folder in Customizing.

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2-9-2 Assigning your user to the public folder *PUBL*.

Assign your newly created private folder to your user.

## 2-10 Using the Batch Information Cockpit

2-10-1 Call up the *Batch Information Cockpit* transaction. Select batches of materials in plant 1100 that begin with the letter *T* and end with your group number.

2-10-2 In the *Selection Results: Batches* area, select the two materials *lauryl alcohol* and *lemon juice* and copy all batches of these two materials into your private folder (standard folder or the one you created yourself). You can also select further materials or batches in the selection area and move them to the public folder.

Tip: If your selection results only contain material numbers, you can change the settings for your user as follows: *Utilities* → *User Settings* → *Display Material*

2-10-3 Now exit the *Batch Information Cockpit* transaction and immediately call it up again. What do the public and private folders contain?

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Start a new selection by entering class N-003 as an additional selection criteria. Make sure that batches are not displayed if they are not classified. Does this change your selection result?

2-10-4 Select all batches of the materials Y-500-## and 350-100 in plant 1100. Switch to the **list display** in the *Selection Result: Stock* area.

2-10-5 Display the unrestricted stocks in the *Selection Result: Stock* area. Sort the selected batches by the status *Unrestricted*. Add up the quantities of *unrestricted* stock. What is the total stock figure?

---

2-10-6 In the *Selection Result: Batch* area, select batch C4 of material 350-100 and find out about the usage of this batch.

## 2-11 Batch Information Cockpit: User Settings

2-11-1 Call up the *Batch Information Cockpit* transaction again. Configure the Batch Information Cockpit with the aid of user settings according to the following criteria:

Deactivate the *Selection Result: Stock*

Arrange the *Worklist: Batches* and *Selection Result: Batches* in such a way that the *Worklist: Batches* is displayed above the *Selection Result: Batches*.

Widen the navigation area to 100 mm.

Change the material display to *Material number (Material short description)*.

Save your user settings and restart the Cockpit in order to check the changes.

## 2-12 User groups and selection variants

2-12-1 User groups for the course SCM595 have already been defined in Customizing for Batch Management. Which selections exist in addition to the SAP standard selection?

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2-12-2 Simulate the selections and compare them with the SAP standard selection.

2-12-3 Start the Batch Information Cockpit using the selection *Batch Management SCM595*. Enter any selection criteria you want. You will use this choice of selection criteria in future, so you save them as a selection variant SE\_595\_## (selection variant for group ##). Save the variant as a private selection. Restart again and choose your selection variant. Enter data in the relevant fields.

2-12-4 Which settings do you need to make for the BIC to start using your selection variant?

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In the user settings, assign the user group SCM595 to *Batch Management SCM595* and save your settings.



## Unit: Basics of Batch Management

### Topic: Creating a Batch-Managed Material

#### 1-1 Create a new material master record

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Create – General → Immediately (MM01)*

*or*

*Logistics → Materials Management → Material Master → Material → Create - General → Immediately (MM01)*

Field name or data type	Values
Material	Y-500-##
Industry	Pharmaceuticals
Material type	Semi-finished product
Template	Y-500

Views	Values
Views	All

Organizational levels	Values (new material <u>and</u> template)
Plant	1100
Storage location	0001
Sales organization	1020
Distribution channel	22

Edit all views before you save!

Save your material.

## 1-2 Displaying a material master record

*Logistics → Materials Management → Material Master → Material → Display → Display Current (MM03)*

Field name or data type	Values
Material	Y-500-##

Views	Values
Views	All

Organizational levels	Values
Plant	1100
Storage location	0001
Sales organization	1020
Distribution channel	22

Views with batch indicator
Gen. Sales/Plant
Purchasing
Work Preparation
Plant/Storage 1
Warehouse Management 1

## 1-3 Checking a class in the material master record:

<i>Classification View</i>
Class type 023
023_08

**Characteristics from class 023\_08 and permitted characteristic values:**

Characteristics	Values
Viscosity	2 -200 cp
Density	0.1 - 5.00 g/ccm
Wavelength	200 -1000 nm



## Unit: Basics of Batch Management

### Topic: Creating Batch Master Records

#### 2-1 Creating a batch master record manually

*Logistics → Central Functions → Batch Management → Batch → Create (MSC1N)*

Field name or data type	Values
Material	CH_1107##
Batch	1107##-1
Plant	1100
Storage location	0002

Tab page	Classification	Values
Classification	Solid state content	60 – 100 %
	Viscosity	19 -21 cp
	Density	1.1 -1.3 g/ccm

#### 2-2 Displaying the stock overview

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

Field name or data type	Values
Material	CH_1107##
Plant	1100
No zero stock lines	Do not select



## 2-3 Posting a goods receipt

*Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)*

Field name or data type	Values
<b>Item</b>	<b>1</b>
Material	CH_1107##
Quantity	100
Plant	1100
Storage location	0002
Batch	Internal number
<b>Item</b>	<b>2</b>
Material	CH_1107##
Quantity	50
Plant	1100
Storage location	0002
Batch	1107##-1

## 2-4 Displaying the stock overview

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

Field	Values	Quantities (unrestricted)
Plant	1100	150
Storage location	0002	100
Batch	Internal number	100
Storage location	0002	50
Batch	1107##-1	50

## 2-5 Displaying a batch master record:

*Logistics → Central Functions → Batch Management → Batch → Display (MSC3N)*

Characteristics	Value interval	Actual value
Solid state content	60 -100 g/ccm	Unchanged
Viscosity	19 -21 cp	Unchanged
Density	1.1 – 1.3 gr/ccm	Unchanged



## Unit: Basics of Batch Management

### Topic: Batch Levels

2-6 ***Tools → Customizing → IMG → Edit Project → SAP Reference IMG → Logistics – General → Batch Management → Determine Batch Level and Activate Status Management***

2-6-1 **System settings:**

In the training system the batch level is defined uniquely at material level.

2-6-2 **Result:**

A batch number can only occur once for each material number. All batch stocks with this number are homogeneous across plants, which means that they have the same characteristic attributes.

2-6-3 **Plant-dependent batch management requirement**

You can only differentiate the batch management requirement between various plants if the batch level is *plant level*.



## Unit: Basics of Batch Management

### Topic: Specifying Batches

#### 2-7 Create characteristics and a class for a material that is handled in batches

##### 2-7-1 Create characteristics

*Logistics → Central Functions → Batch Management → Environment → Classification System → Master Data → Characteristics (CT04)*

or

*Cross-Application Functions → Classification System → Master Data → Characteristics (CT04)*

Choose the icon for *creating characteristics with a template* or choose *Characteristic → Template...*

Create new characteristics, using as a template the characteristics specified.

Special requirements:

- Do not allow any interval values for the characteristic M2-## (pH level).

The *Interval values allowed* field is not set in the basic data for the characteristic.

- For the characteristic M3-## (purity of color), allow values that are not included in the list of values.  
In the value range for the characteristic, select the *Additional values* field.
- Define M5-## (label) as a required entry. Enter the values *yes* and *no* as possible characteristic values for M5-## and select *yes* as a default value.

In the basic data for the characteristic, set the *Input Required* field.

In the value range for the characteristic, choose *Yes* in the column for the proposed value.

- Specify for the characteristic M6-## (available for) that your batch is available in Europe, Asia, Australia, and North America. You should be able to choose two or more values at the same time. In the basic data for the characteristic, set *multiple values* for the characteristic.

## 2-7-2 Creating a class and assigning characteristics

*Logistics → Central Functions → Batch Management → Environment → Classification System → Master Data → Classes (CL02)*

or

*Cross-Application Functions → Classification System → Master Data → Classes (CL02)*

Create a class C##, in which you set your **own** characteristics.

Field name or data type	Values
Class	C##
Class Type	023 (Batches)

Icon for *Create with template*

Field name or data type	Values
Template class	231

Save the class.

## 2-8 Classifying a material subject to batch management

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Change → Immediately (MM02)*

or

*Logistics → Materials Management →  
Material Master → Material → Change → Immediately (MM02)*

Copy this transaction (Change material) to your favorites.

### 2-8-1 Change the classification view in your material master record Y-500-##.

Field name or data type	Values
Material	Y-500-##
View	Classification
Class Type	023 (Batches)

If necessary, choose **Extras ?Change class type** to do this.

Delete the batch class assignment that was copied over, and save this change before you enter the new class.

Enter the class C## as the assignment.

Specify the target values as follows:

- For the characteristic M1-## (viscosity), limit the interval.
- For the characteristic M2-## (pH level), enter a discrete value from the interval.  
Caution: The result is that you can only assign this concrete characteristic value to batches for this material.
- For the characteristic M3-## (purity of color), extend a value that is not listed as a possible entry.  
Caution: Enter this additional value and select the four listed values too, otherwise they will not be offered for characteristic value assignment in the batch.
- For the characteristic M4-## (covering power), you want to have the complete value interval available later in the batch classification.  
Note: Do not enter any values here. The requirements from the characteristic will then apply.
- For the characteristic M5-## (label), allow both possible answers.  
Note: The default value only applies in the batch when the value assignment has been made.
- For the characteristic M6-## (available for), choose at least two values.

## 2-8-2 Classifying batches – goods receipt

***Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)***

Assign the batch characteristic values during goods receipt. The classification appears on the *Batches* tab page.

Data:

Field name	Values
Movement type	501
Plant	1100
Storage location	0001
Material	Y-500-##
Quantity	Any
Batch number	Any, internal or external
Characteristic value assignment	Any or within the allowed values

Repeat this transaction for some batches: Enter other items for your material Y-500-## in the document and assign more batch numbers and characteristic values before you save the document.



## Unit: Basics of Batch Management

### Topic: Batch Information Cockpit

#### 2-9 Managing the worklist

##### 2-9-1 Take a look at the defined worklist folders in Customizing.

*Tools → Customizing → IMG → Execute Project → SAP Reference IMG → Logistics – General → Batch Management → Worklist → Define Worklist Folder*

What is the significance of the *Public* indicator?

You can differentiate between public and private worklist folders. Folders can be assigned to any number of users. The content of a "public" folder can be viewed and edited by all users assigned to it. In private folders only those batches that the user has assigned can be displayed.

##### 2-9-2 Assigning your user to the public folder *PUBL*.

*Logistics General → Batch Management → Worklist → Assign Worklist Folders to Users*

#### 2-10 Using the Batch Information Cockpit

##### 2-10-1 Call up the *Batch Information Cockpit* transaction.

*Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*

Tab page	Field name	Values
Material	Material	T*##
	Plant	1100

*Execute selection button.*

##### 2-10-2 Copying the selection to the folder

In the *Selection Result* area in the left-hand part of the navigation area, select the two materials *lauryl alcohol T-RD2##* and *lemon juice T-RJ2##*. To do so, hold down the control key while selecting the two materials with the left-hand mouse button. Then click on the *Selection in folder* button and choose the relevant folder (standard folder or new folder of your own). You can also select further materials in the selection area and move them to the public folder.

### 2-10-3 Recalling the Batch Information Cockpit transaction

What are the contents of the public and private folders?

The private folder should contain the batches of the two materials copied there in exercise 2-10-2. The public folder contains batches copied into it by both yourself and other course participants.

Tab page	Field name	Values
Material	Material	T*##
	Plant	1100
Classification	Batch class	N-003
	Classification status	Do <u>not</u> select not classified

The restart has an effect on the results. The system only displays batches that are classified with class N-003.

### 2-10-4 Select all batches of the materials

Y-500-XX and 350-100 in plant 1100.

Tab page	Field name	Values
Material	Material	Y-500-## 350-100
	Plant	1100

*Execute selection button.*

Switch to the list display in the *Selection Result: Stock Area*.

Display the *Selection Result: Stock Area* using the relevant icon. Use the icon with the magnifying glass to enlarge the stock overview. In the *Selection Result: Stock Area*, click the *Display as List* button.

### 2-10-5 Sorting Stocks

Select the *Unrestricted-use* column and click the *Sort in ascending order* icon.

**What is the total stock figure?**

Select the *Unrestricted-use* column and click the *Total* icon.

### 2-10-6 Select batch C4

In the *Selection Result* area, select batch C4 of material 350-100.

If the batch master record is displayed in the right-hand frame, navigate to the batch where-used list via *Details – Where used*.



## 2-11 Batch Information Cockpit: User Settings

*Logistics → Central Functions → Batch Management → Tools → Batch Information Cockpit (BMBC)*  
*Utilities → User Settings*

- Deactivate the *Selection Result: Stock*
- Assign the *Batch Worklist* (1) and *Batch Selection Results* (2).
- Widen the navigation area to 100 mm.
- Change the material display to *Material number (Material description)*.

## 2-12 User groups and selection variants

### 2-12-1 Customizing: (...) → *Define user group-specific selection*

User-specific selections in Customizing in addition to SAP default selection:  
SCM595; SCM595\_PROD; SCM595\_QM

2-12-2 Simulate the individual selections or the SAP default selection using the relevant pushbuttons.

### 2-12-3 *Logistics → Central Functions → Batch Management → Tools → Batch Information Cockpit (BMBC)*

*Restart → Batch Management SCM595*

Enter any selection criteria and save them as selection variant SE\_955\_##.

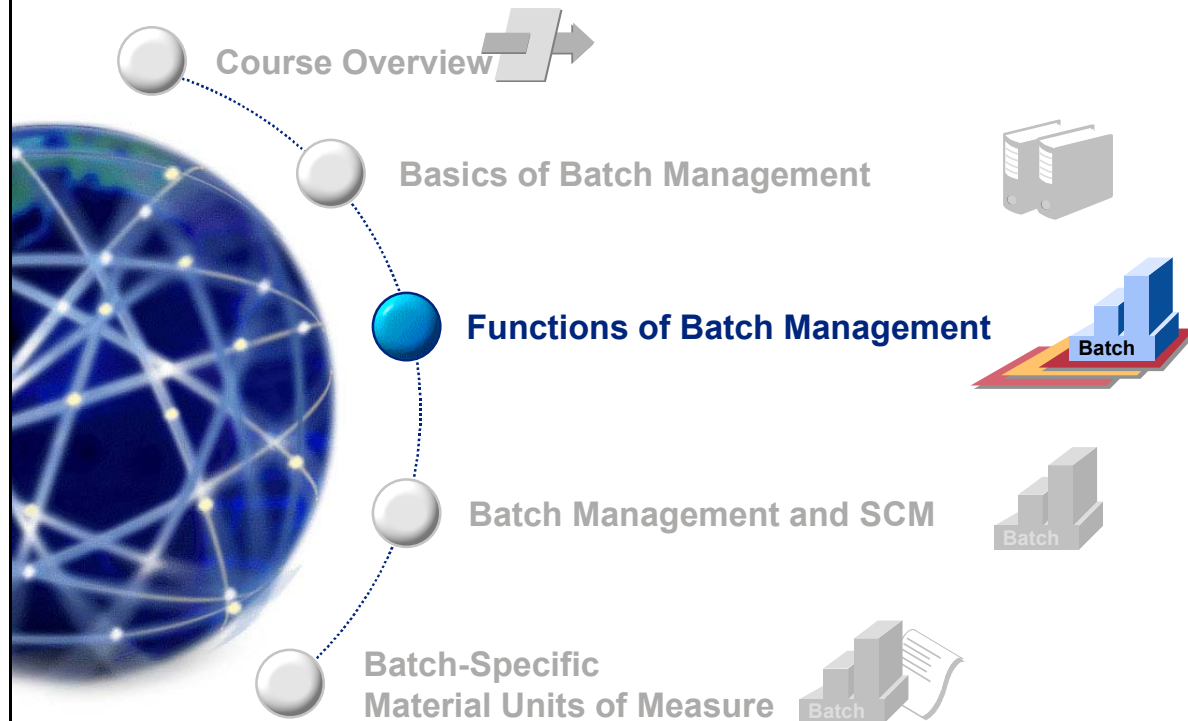
2-12-4 In the user settings (under *Utilities*) you can specify that user group SCM595 and variant SE\_955\_## are automatically used when you restart the transaction. You can also tell the system to start a selection automatically.

## **Contents:**

- **Batch Status Management**
- **Restricted-use stock in MRP and in the availability check**
- **Evaluation options in the BIC**
  
- **Valuation for a single batch**
- **Evaluation options for separately valuated batch stocks in the BIC**

### **Contents:**

- **Batch determination in applications**
- **Customizing settings for batch determination**
- **Batch determination in the BIC**
  
- **Shelf life**
- **Evaluation options in the BIC**



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**At the conclusion of this unit, you will be able to:**

- **Work with batch status management**
- **Set up and use automatic batch determination**
- **Understand individual batch valuation**
- **Use and evaluate shelf life expiration date check**
- **Use the Batch Information Cockpit as an information tool for the corresponding functions**

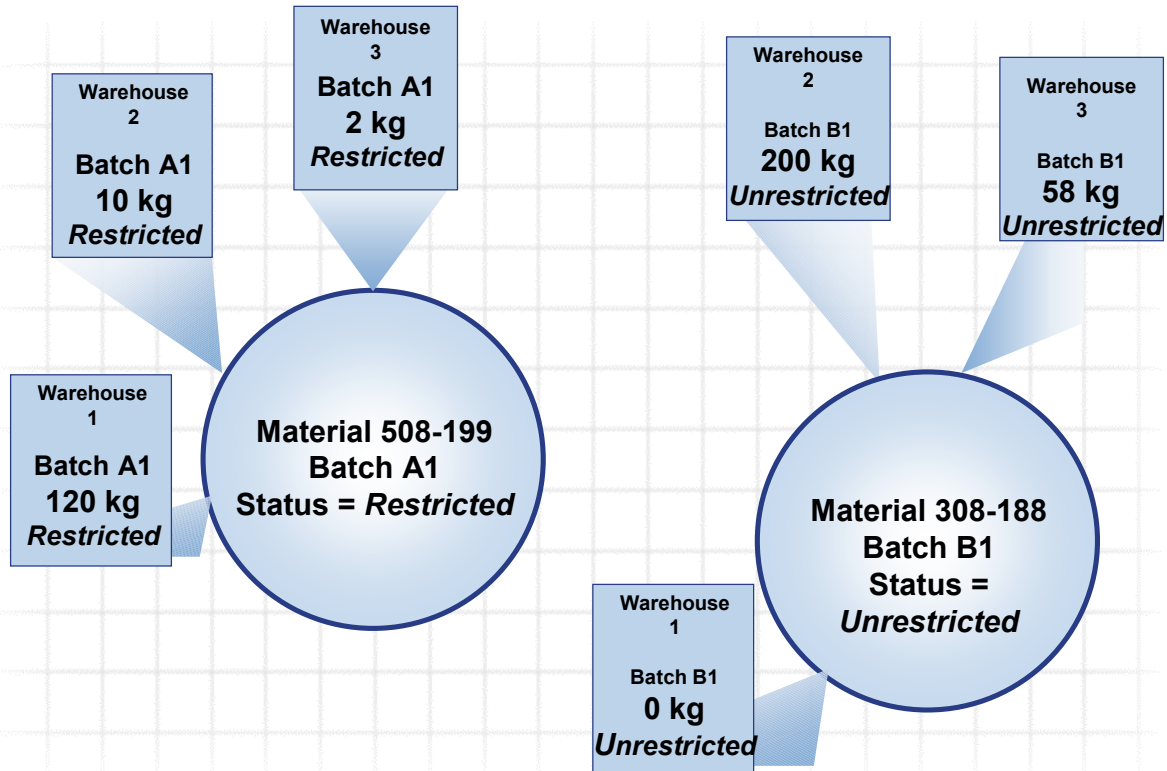


- **Your company wants to use batch status management to make it easier to transfer post the status of batch stocks.**
- **For certain operations, you want the system to help you find the correct batch in accordance with a specific requirement. To do this, you need to set up batch determination in the system.**
- **Your company's quality requirements include keeping to the shelf life expiration date. You therefore want to ensure that goods are checked on receipt and that the expiration data is stored as information in the batch master record.**



**At the conclusion of this topic, you will be able to:**

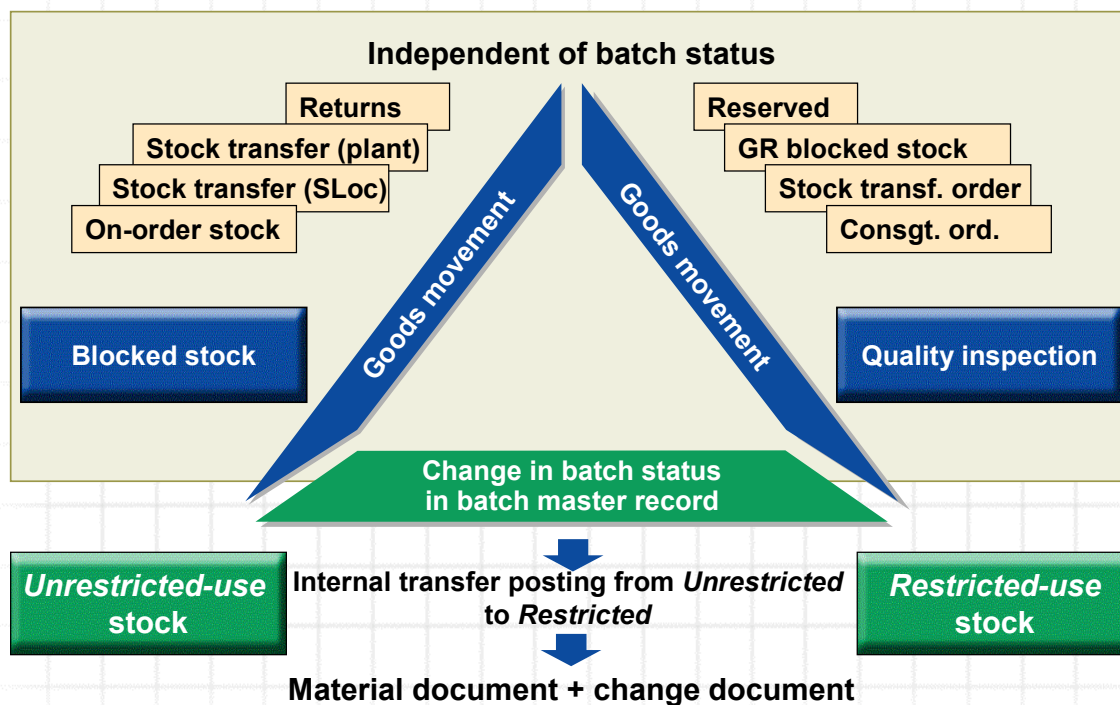
- **Explain how batch status management works**



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- The batch status is a central tool for identifying use of the batch as *Restricted* or *Unrestricted*. It is valid at the batch level set in Customizing.
- You change the batch status in the batch master record. This results in an automatic transfer posting of the individual stocks in one step.
- This means there is no need for transfer postings for each batch and storage location, because these are linked to the change in batch status.

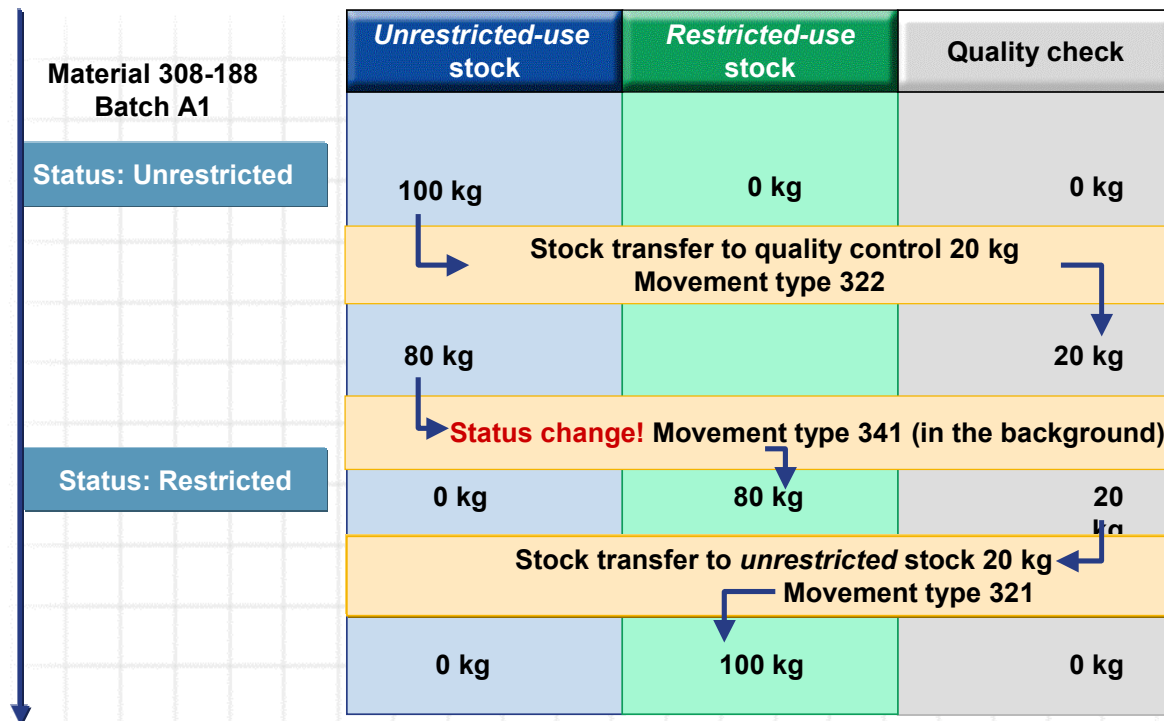




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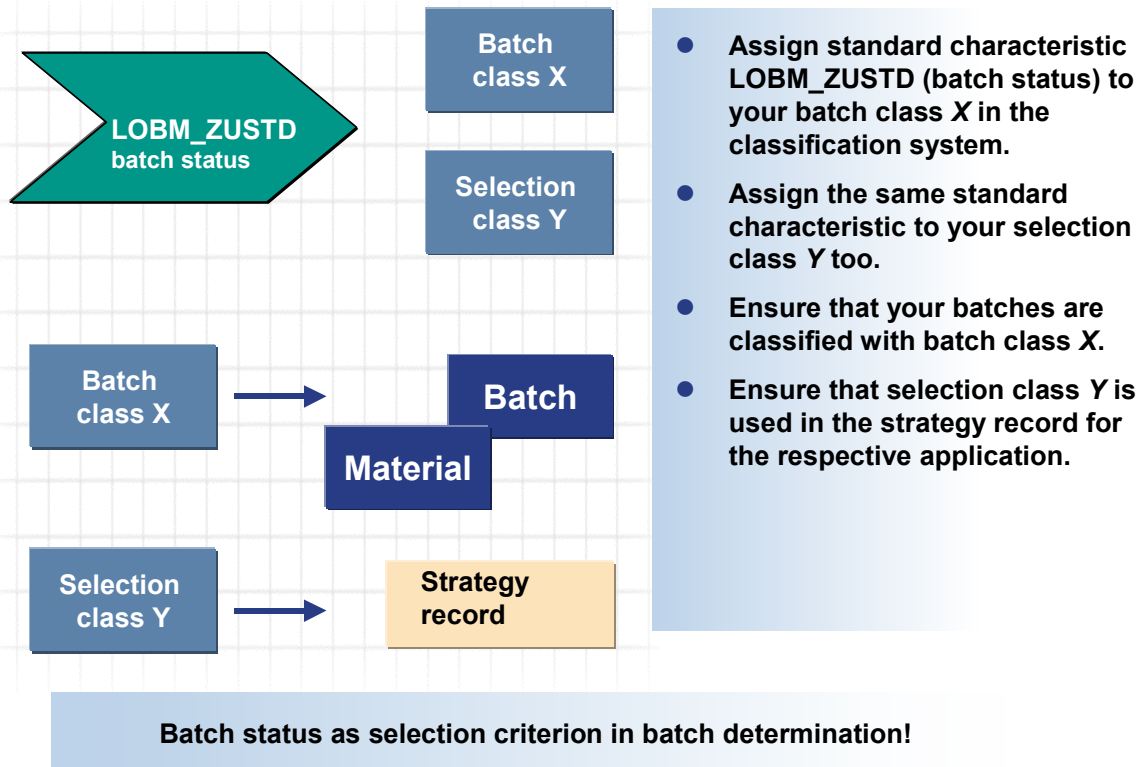
- A batch stock cannot be transferred directly from *unrestricted-use* to *restricted* stock:
  - After the status indicator has been changed in the batch master record, the system transfer posts the batch stock internally. A change document is created for the master record change and a material document is created for the transfer posting.
- Direct transfers are possible between all other stocks. Postings are made irrespective of the status indicator in the batch master record. If a quantity of batch material is withdrawn from them, the batch status determines whether it can be posted to *unrestricted* or *restricted* stock.

## Example:



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- In the batch master record, the *Batch Status* indicator is set by default to *Unrestricted*. The total quantity of the batch is therefore in unrestricted-use stock. A partial quantity is posted to quality inspection stock.
- The batch status is changed to *Restricted*. The total quantity of the batch is posted, across all storage locations, from *unrestricted* to *restricted-use* stock. The system creates a material document with movement type 341 in the background. A partial quantity remains in the quality inspection stock.
- When the quality stock is released (movement type 321), the system recognizes the current batch status and automatically posts to the *restricted-use* stock.



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- If you use batch status management, you should also use the batch status as a selection criterion for batch determination.
- As already mentioned in the unit on batch specification, the standard SAP system comes with standard characteristics.
- The standard characteristic LOBM\_ZUSTD stores the batch status in the classification system.
- You can
  - assign this standard characteristic to the respective batch class as a characteristic.
  - assign this standard characteristic to the respective strategy record as a selection criterion.
- In batch determination, this combination ensures that only batches with the required status are selected. This prevents long run times.
- For example, the system picks out only *unrestricted-use* batches for a delivery.
- This functionality is effective only in conjunction with batch determination, not when you select a batch manually.

## Standard characteristic LOBM\_ZUSTD

Unrestricted

Restricted

## User-defined characteristic "Blocking Reasons"

Damaged

Spoiled

Incorrect  
certificates

Inspection  
required

Unrestricted characteristic that supplements the standard characteristic LOBM\_ZUSTD!

- The standard characteristic is automatically assigned a field value.
- You can store additional information in *user-defined characteristics* as required.
- You create *user-defined characteristics* in the classification system.
- Like standard characteristics, you assign *user-defined characteristics* to the batch class and to the strategy record.

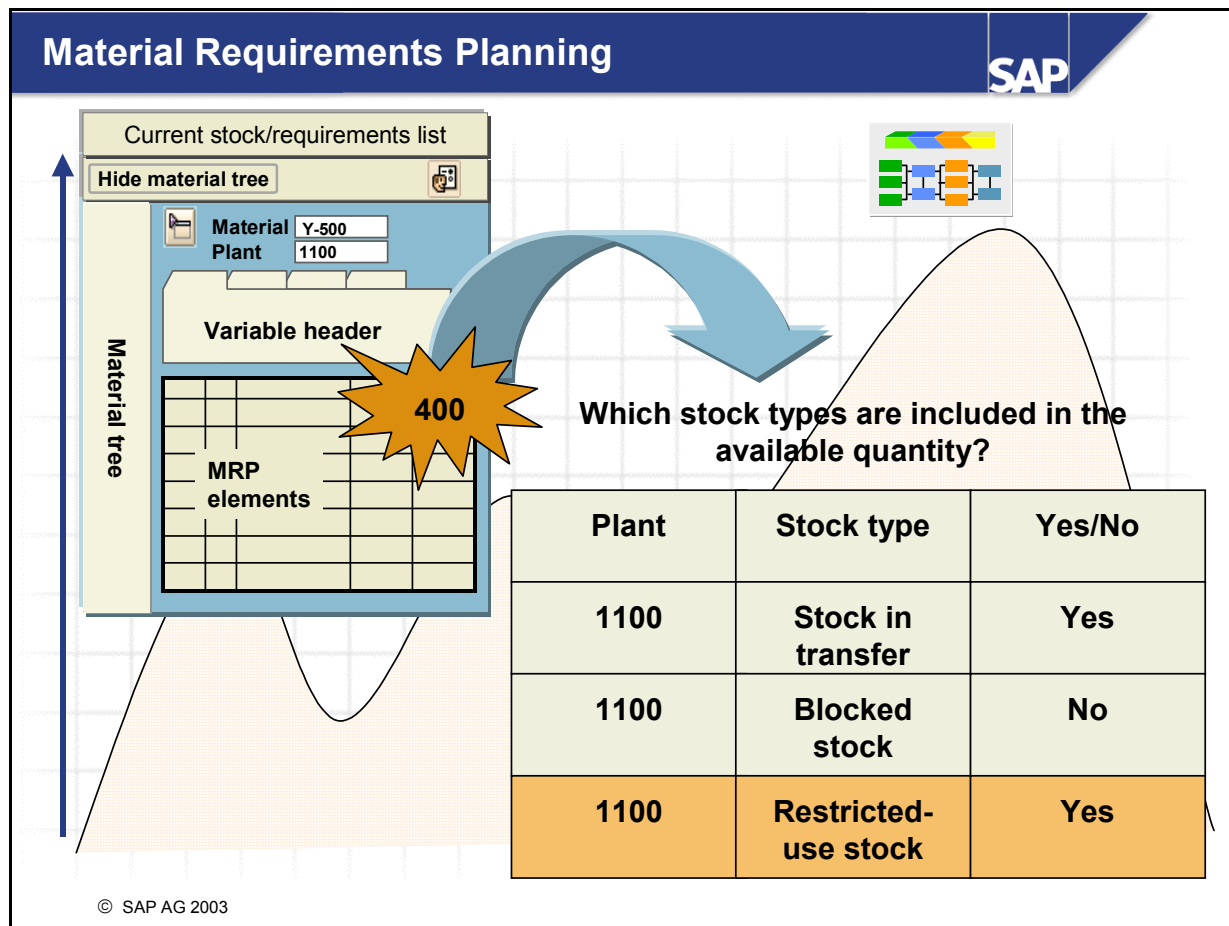
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- In addition to the standard characteristics, you can define as characteristics all attributes of a batch that you consider important and useful for subsequent batch selection.
- For example, a useful addition to the standard characteristic *status* would be the characteristic *blocking reasons* or also *possible use*.

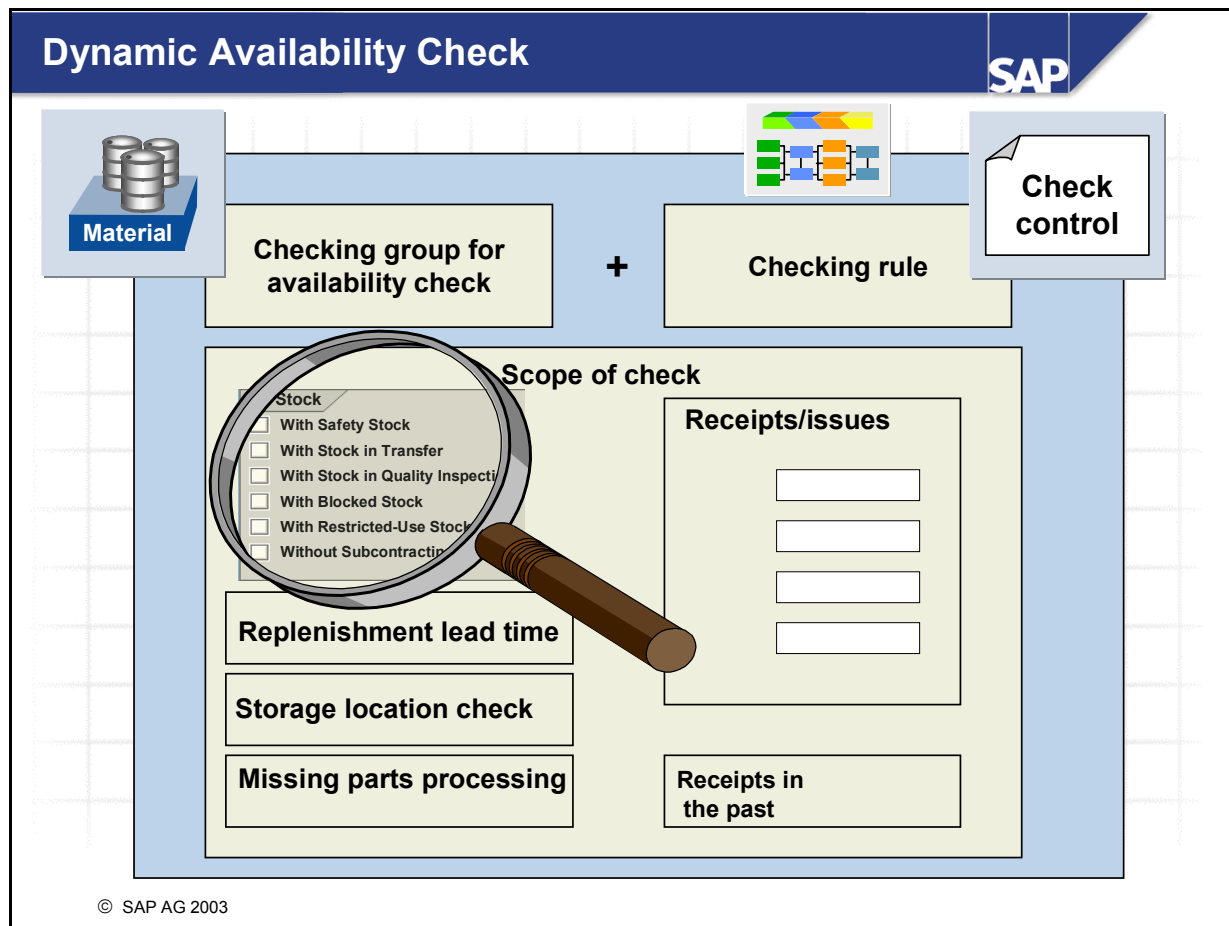


**At the conclusion of this topic, you will be able to:**

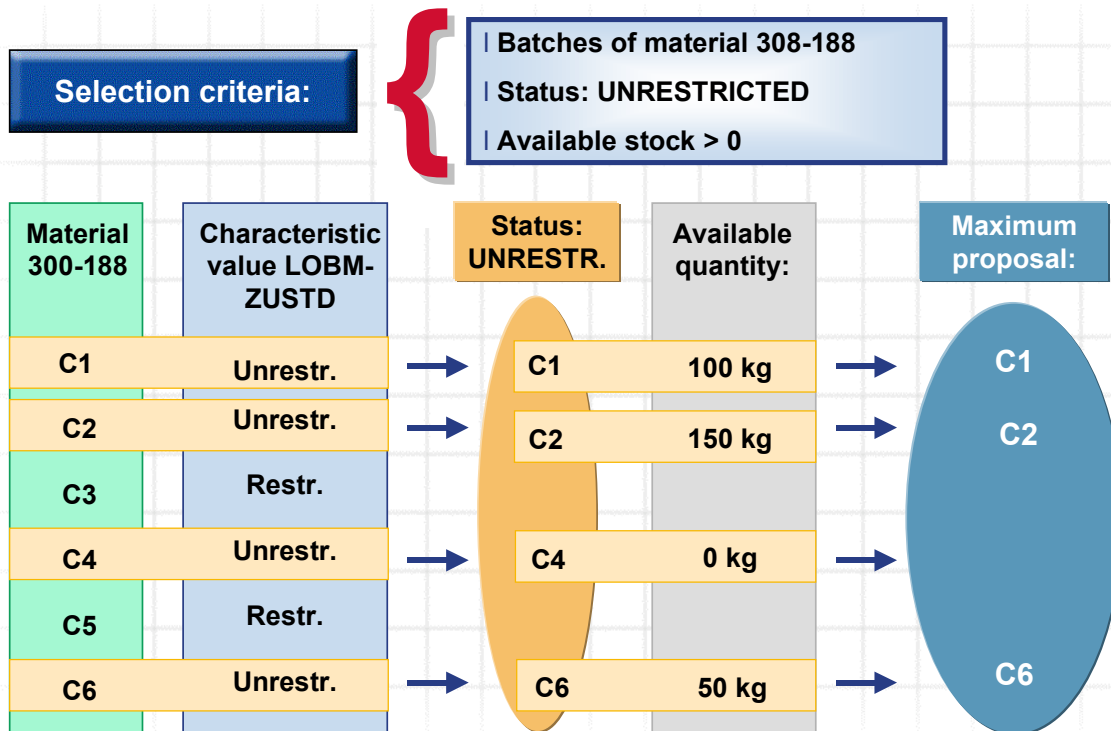
- **Decide whether *unrestricted-use* stock should be included in the MRP**
- **Decide whether *unrestricted-use* stock should be included in the dynamic availability check**



- In Customizing for Demand Planning, you can define whether the *restricted-use batch stock* should be used in calculations of the available quantity. The available quantity is the basis for material requirements planning.



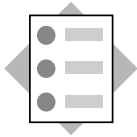
- The availability check is one of the checks carried out during the batch determination process.
- You determine the scope of the check for the combination of checking group and checking rule. When defining the calculation, you can decide whether or not *restricted-use* batch stocks should be included in the dynamic availability check.
- You set the checking group in the material master record in one of the following views: MRP 4, Sales: Gen./Plant Data, Work Preparation.



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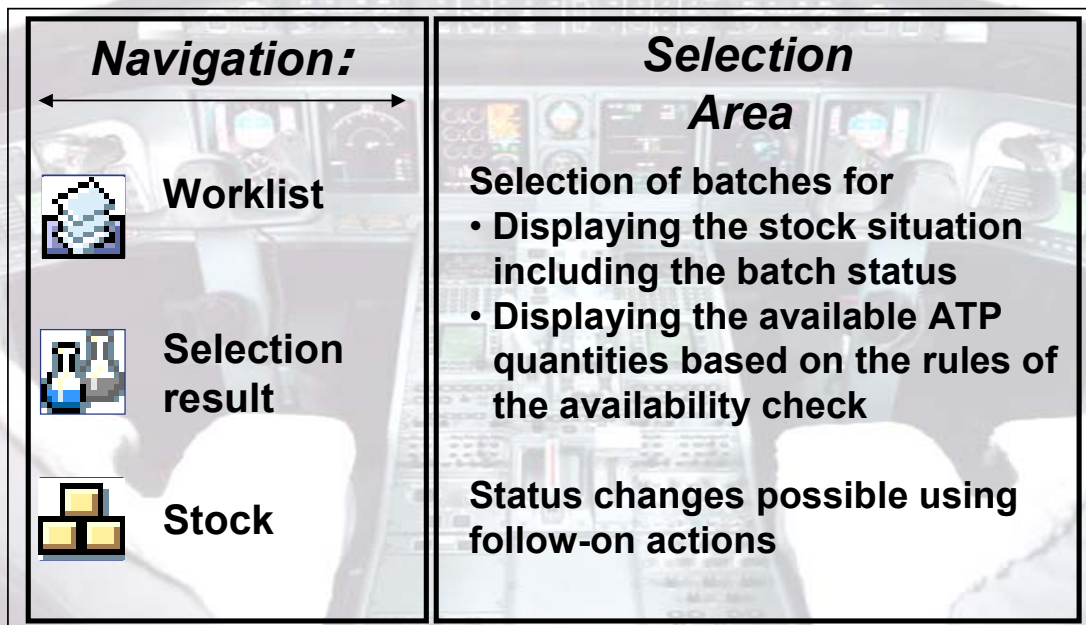
- The batches to be made available are selected in batch determination.
  - If you use the characteristic *LOBM\_ZUSTD* (batch status) in batch determination, the system differentiates between *unrestricted* and *restricted* batches.
  - If you want to find *unrestricted* batches only, the system selects only batches with the characteristic value *blank*.
  - After the selection run, the system checks the availability of the selected batches.
  - Only *unrestricted* batches are proposed that are available in sufficient quantity.





**At the conclusion of this topic, you will be able to:**

- **Monitor batch status using the BIC**
- **Trigger follow-on actions from the BIC**
- **Select batches taking the availability check into account and display their ATP quantities**



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- As a central tool for batch evaluations, the Batch Information Cockpit enables you to evaluate batches managed in separate stocks.
- You can also use the selection ATP/display quantities to check which quantities of the selected batches will be available based on the rules of the availability check.



**Batch status *restricted***



**Batch status *unrestricted***

Selection result for stock			
	Unit of Measure	Unrestricted	Restricted-use
8 Stocks found	KG	200	180
T-350	KG	200	180
1100	KG	200	180
0001	KG	200	179
T350A1	KG		89
T350A2	KG		90
T350A3	KG	100	
T350A4	KG	100	
T350B1	KG		
T350B2	KG		
T350B3	KG		
0002	KG		1

## Navigation:



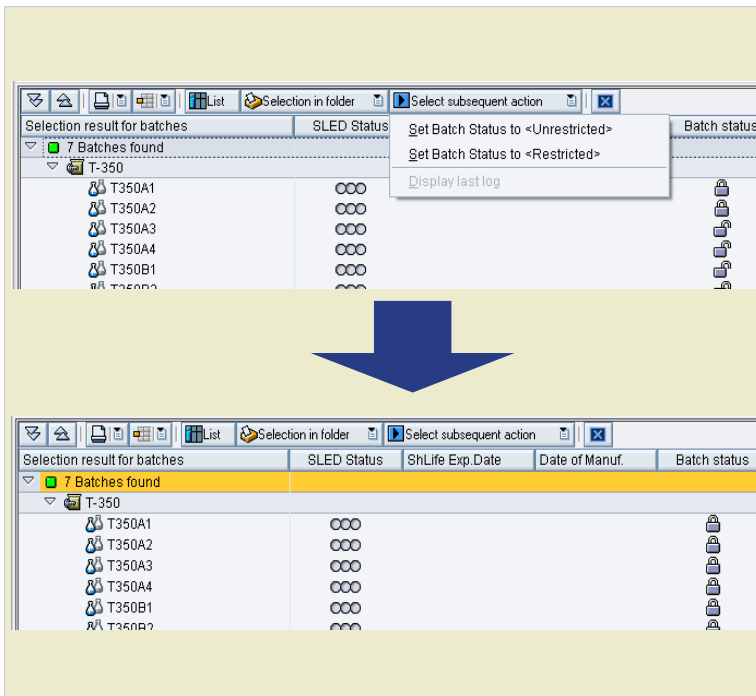
**Selection  
result**



**Stock**


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- The Batch Information Cockpit enables you to search for *unrestricted* or *restricted-use* batches. You can use the *Restricted Batch* selection field to find selection classes you have defined yourself, or to search a batch class for characteristics-based batches according to the batch status criteria *restricted* or *unrestricted-use*.
- The system displays the *restricted-use* batches or batch stocks in separate columns in both the selection results and the stock overview.
- The worklist can help you process *restricted-use* batches. You can store these in a separate folder for *restricted-use batches*.




The screenshot shows the SAP Batch Information Cockpit interface. A context menu is open over a table of batches, with options: 'Set Batch Status to <Unrestricted>', 'Set Batch Status to <Restricted>', and 'Display last log'. A large blue arrow points from the top screenshot to a bottom screenshot showing the same interface with the 'Batch status' column highlighted.


**Navigation:**



**Selection result**



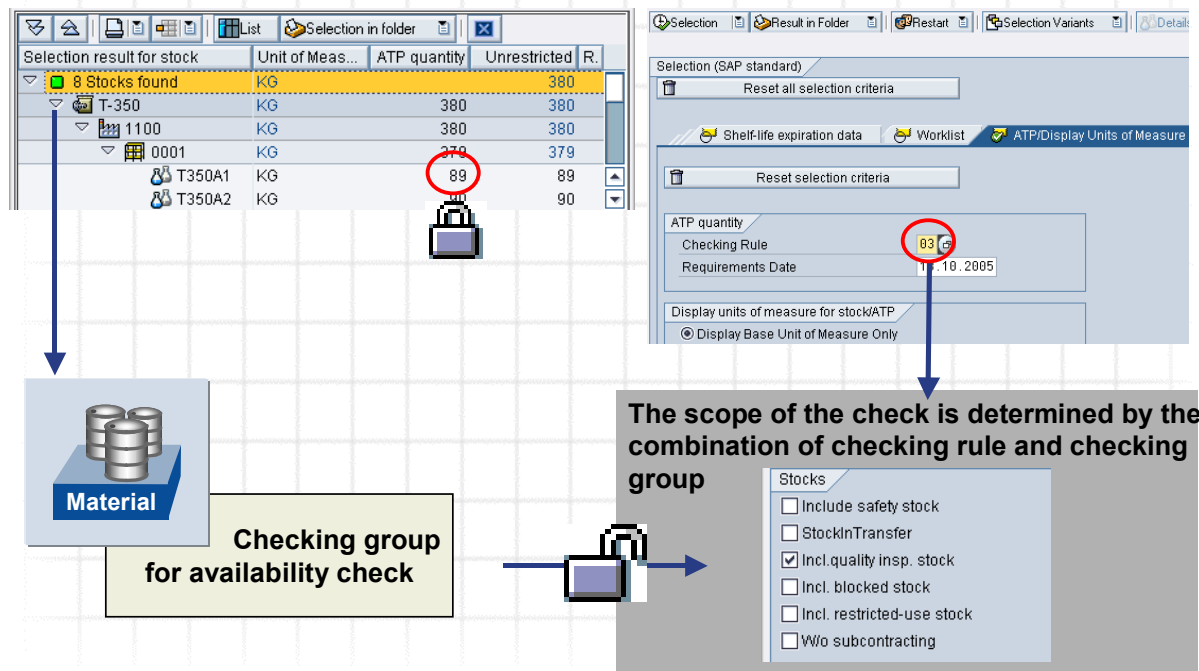
**Stock**



**Worklist**

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- You can use Business Add-Ins to integrate customer-specific enhancements for using follow-on actions after mass changes. This includes changing the batch status of several batches that were previously determined using the batch where-used list, for example.
- To set up follow-on actions in Customizing, define a four-character key for follow-on actions that you have created using the Business Add-In for defining follow-on actions (BIC\_FOLLOW\_UP\_ACTION). The descriptions of follow-on actions appear in the navigation area of the Batch Information Cockpit (in the Selection Results: Batches, Selection Results: Stock, and Batch Worklist) in the dropdown list for **Select Follow-Up Action**, as well as in the context menu for each batch.
- SAP delivers two follow-on actions as standard:
  - SAP1 : Set batch status to *Unrestricted*
  - SAP2: Set batch status to *Restricted*
- In a later Customizing step, you assign the required follow-on actions to user groups. When you then start the Batch Information Cockpit using this user group, you can trigger the follow-up action(s) using the context menu for a batch, or by choosing **Select Follow-Up Action** in all three work areas (*Batches*, *Stock*, *Worklist*).



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- Choose the *ATP/Display Quantities* tab page to see information about the availability situation of batches on a specific demand date. You can display the stocks and ATP quantities in the following units of measure:
  - Base unit of measure
  - Batch-specific units of measure (proportion units and product units of measure)
  - Alternative units of measure (such as a purchase order unit of measure)
- As of SAP R/3 Enterprise, the *ATP/Display Quantities* tab page is available in the SAP standard system.
- To display the ATP quantities in the selection results, you need to create a checking rule. Along with the checking group stored in the material master record, the system finds the scope of check defined in Customizing and calculates the available quantity.



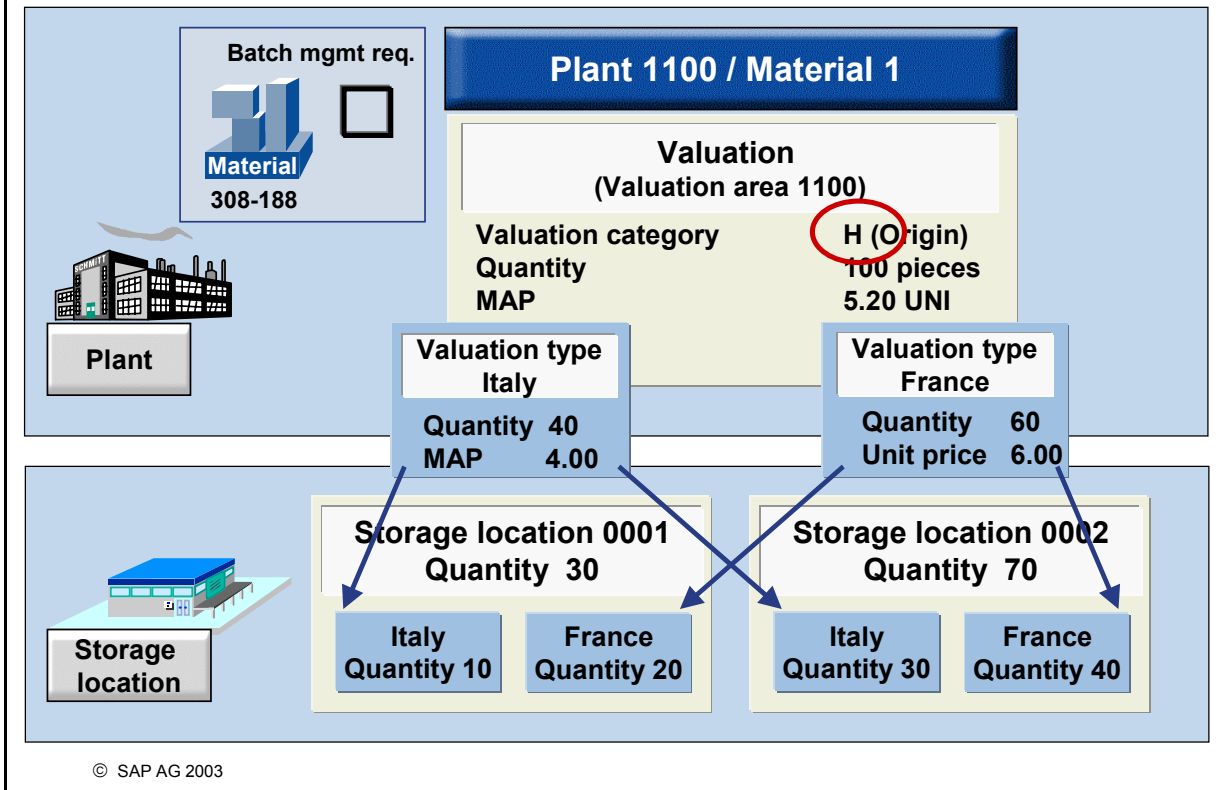
**At the conclusion of this topic, you will be able to:**

- **Perform split valuations for materials subject to batch management**
- **Use valuation for single batches**

	Batch management requirement	Split valuation
Split valuation and split inventory management according to set valuation types		✓
Split inventory management in batches (number = open)	✓	
Inventory management in batches and split valuation according to set valuation types	✓	✓
Split inventory management and split valuation in batches = valuation for a single batch	✓	X

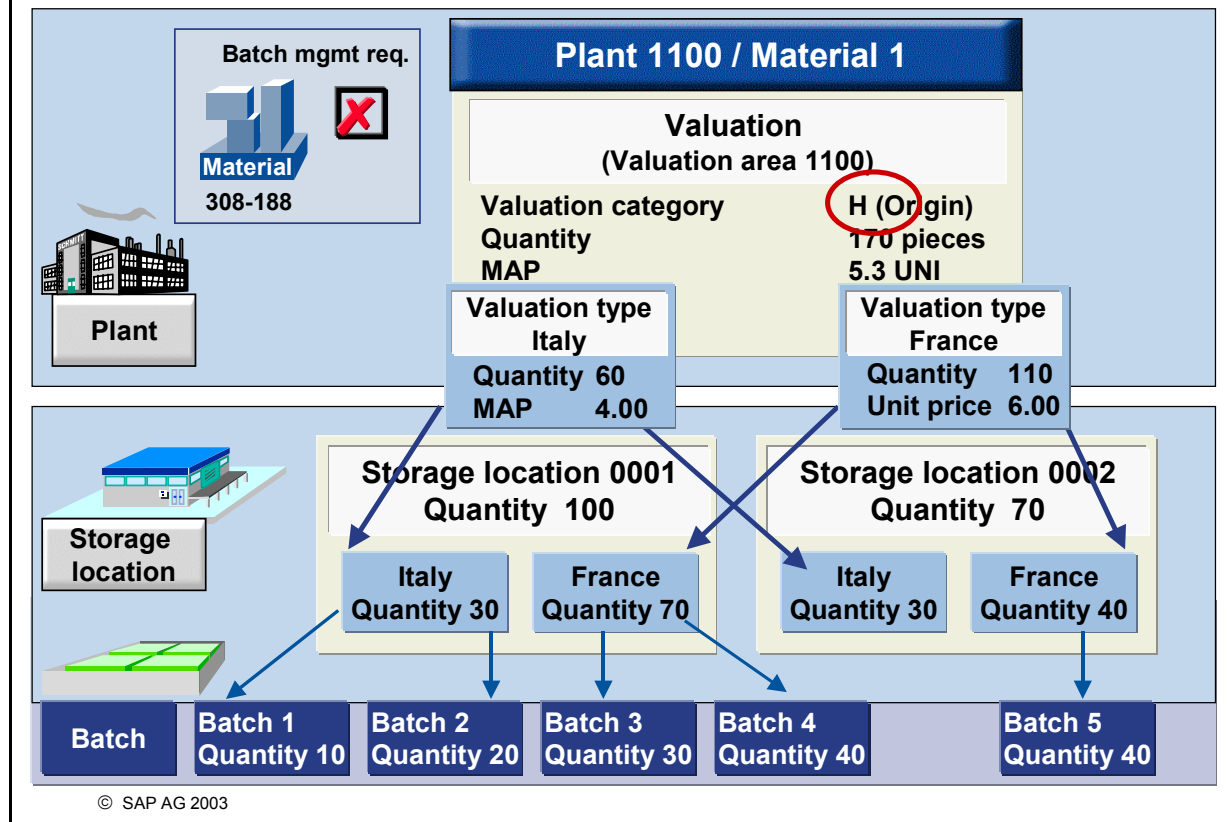
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- You use single batch valuation if you want to keep the price and value of each individual batch.
- Valuation for single batches is performed as part of split valuation and uses the same logic as, for example, differentiating between partial stocks of a material dependent on their origins. In valuation for single batches, the system creates a separate valuation type for each batch (batch number = valuation type).
- Valuation for single batches is a special type of valuation types with batches.
- To work with valuation for single batches, you must have selected the valuation type *Valuation of a Single Batch* in the material master record (default indicator X).

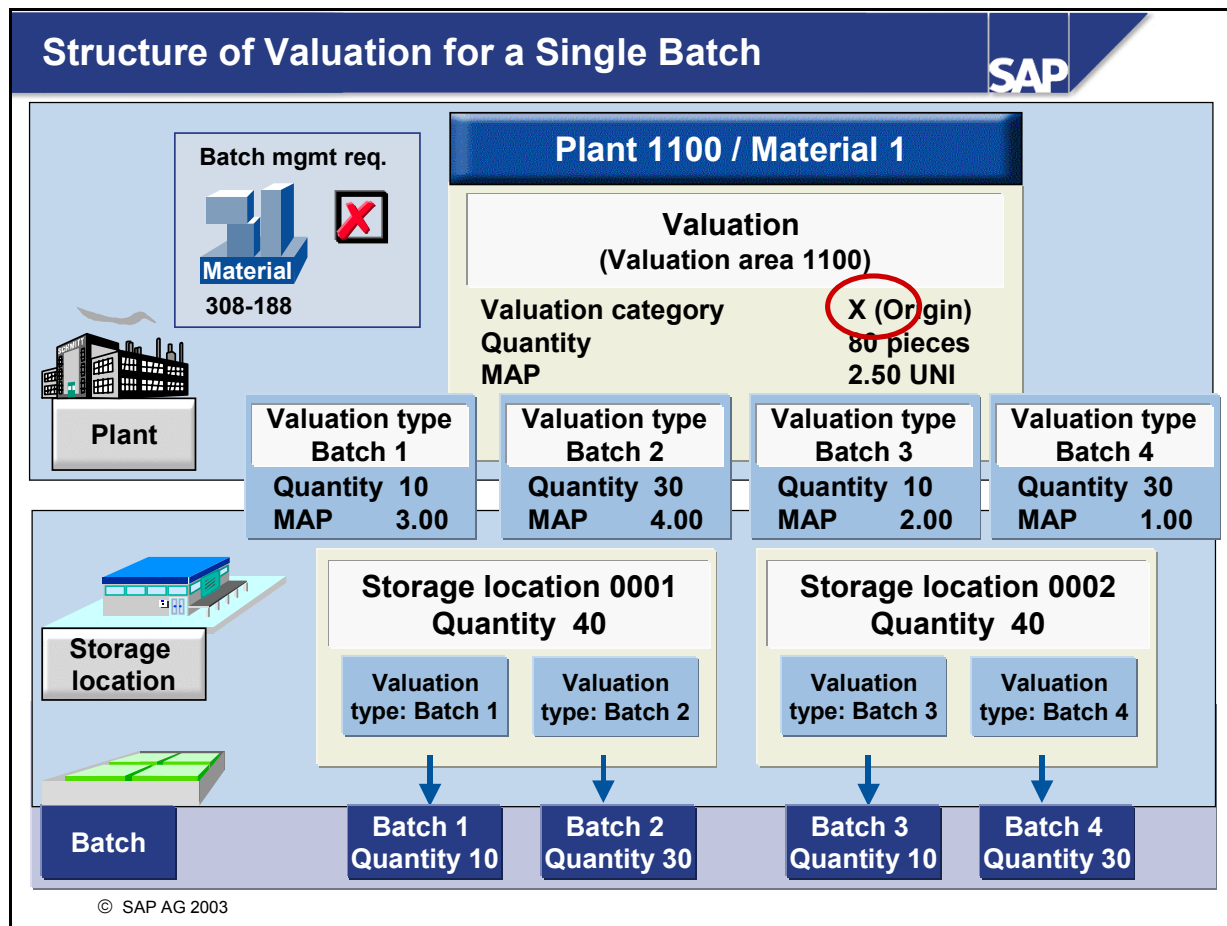


- For materials subject to the single batch valuation procedure, the stocks and stock values are managed on a cumulative basis at valuation area level. You have to use moving average price control for materials at valuation level because the moving average price is managed for the whole valuation area.
- In addition, the system creates a valuation record for each valuation type used. This contains specific valuation data. Here you can select your choice of price control.
- The valuation type information is now required for each goods movement. The value for Financial Accounting is calculated automatically from the accounting data for the relevant valuation type. In the stock overview, you can see the stocks for each valuation type listed for the warehouse.





- If you work with split valuation and use Batch Management, you should define the *valuation type* in addition to the batch when goods are received. This is stored as information in the batch master record. Batch classification is always possible. The valuation type is an additional characteristic of the batch. This means that a batch can only ever belong to *one valuation type*. You can automatically manage the valuation type as a batch characteristic using the standard characteristic *LOBM\_BWTAR*. This offers you additional search options in batch determination.

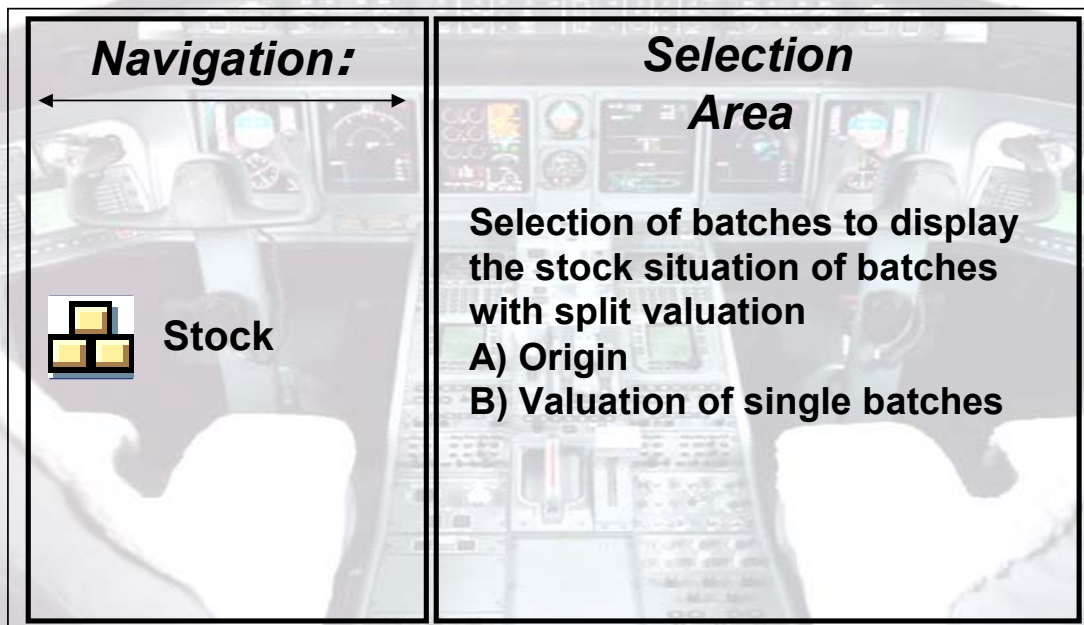


- In the case of valuation of single batches, you select a material as being subject to batch management and choose valuation category *X* (valuation of a single batch) in the *Accounting Data* view. The system automatically creates a new valuation type for each batch. Price control is taken from the default data for the material type. In Customizing for general Logistics, we recommend you work with MAP price control (default value for the material type).  
You determine the price from an order or from the production costs, for example.



**At the conclusion of this topic, you will be able to:**

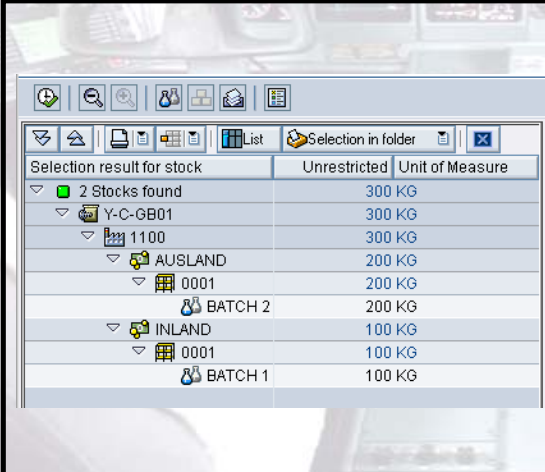
- **Evaluate split valuated batches in the Batch Information Cockpit and display the stock overview, including valuation types**



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- As a central tool for batch evaluations, the Batch Information Cockpit enables you to evaluate batches managed in separate stocks.
- You can also use the selection ATP/display quantities to check which quantities of the selected batches will be available based on the rules of the ATP availability check.

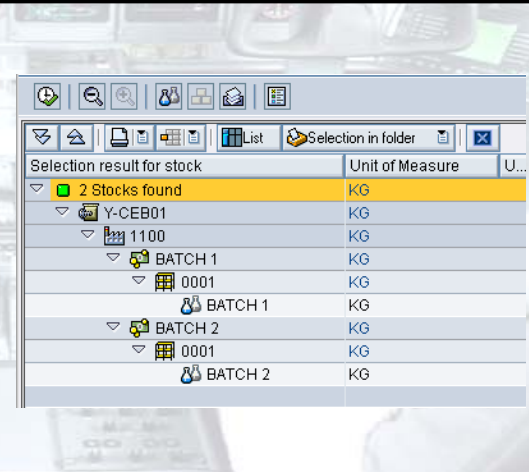
## Example A Split valuation and batch management requirement



The screenshot shows the SAP Stock Display interface for Example A. The table displays the following data:

Selection result for stock	Unrestricted	Unit of Measure
2 Stocks found	300 KG	
Y-C-GB01	300 KG	
1100	300 KG	
AUSLAND	200 KG	
0001	200 KG	
BATCH 2	200 KG	
INLAND	100 KG	
0001	100 KG	
BATCH 1	100 KG	

## Example B Individual batch valuation



The screenshot shows the SAP Stock Display interface for Example B. The table displays the following data:

Selection result for stock	Unit of Measure	U...
2 Stocks found	KG	
Y-CEB01	KG	
1100	KG	
BATCH 1	KG	
0001	KG	
BATCH 1	KG	
BATCH 2	KG	
0001	KG	
BATCH 2	KG	

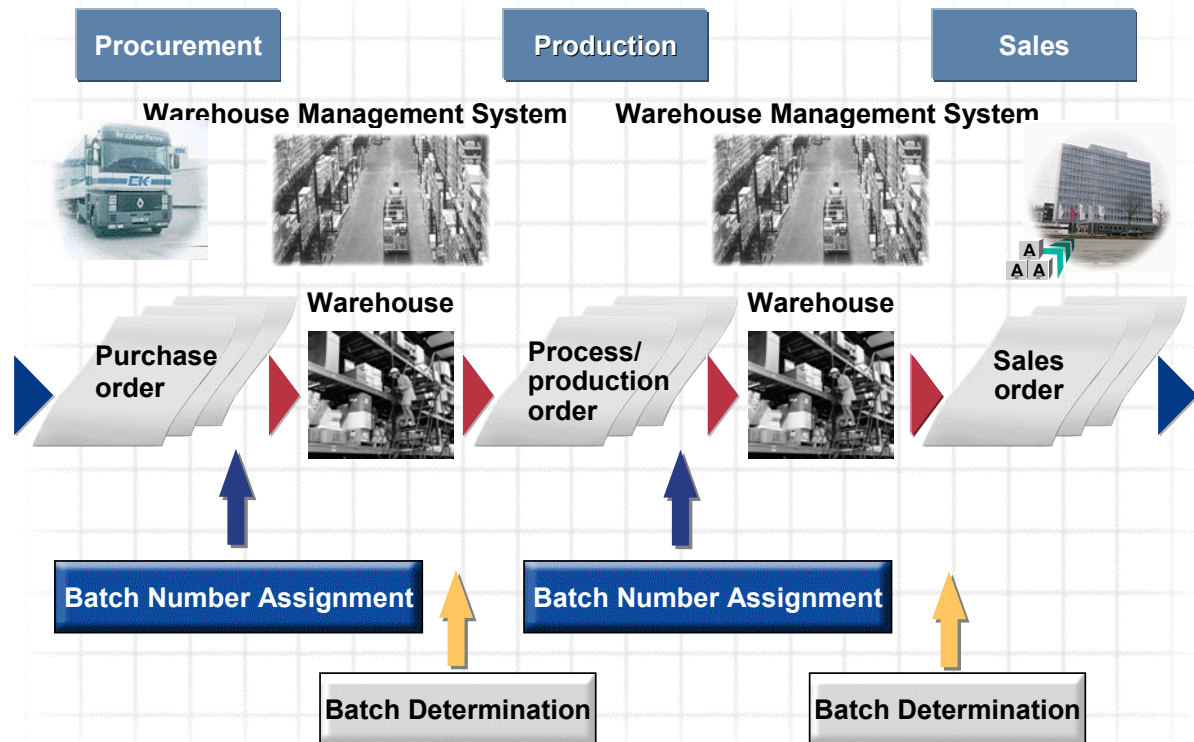
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- In the Batch Information Cockpit, you can see both batches and valuation types in the stock display. In the case of individual batch valuation, the valuation type always corresponds to the batch number.
- Make sure that the valuation type is displayed in the batch master record only when you are at plant level.



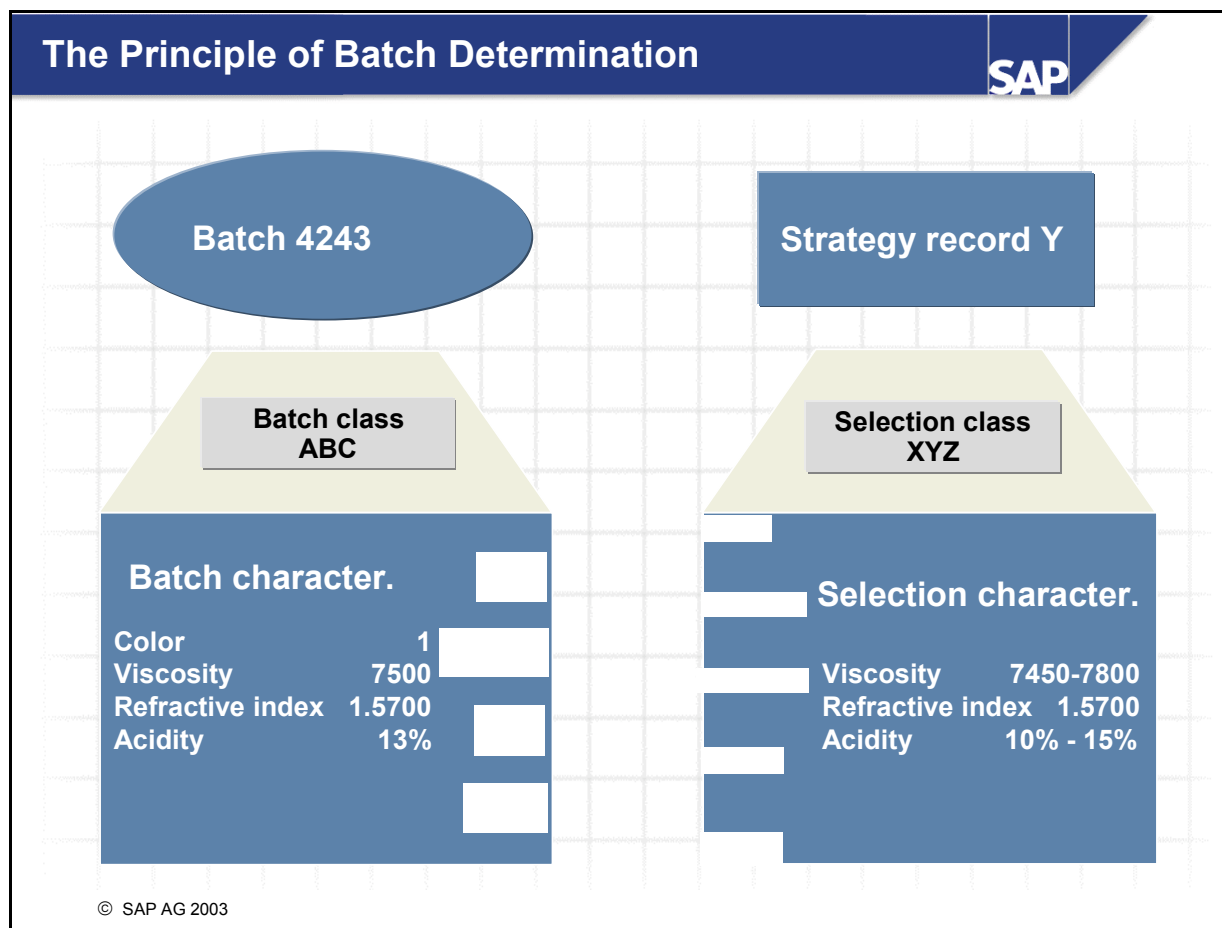
**At the conclusion of this topic, you will be able to:**

- **Explain the principle and the process of batch determination in individual applications**



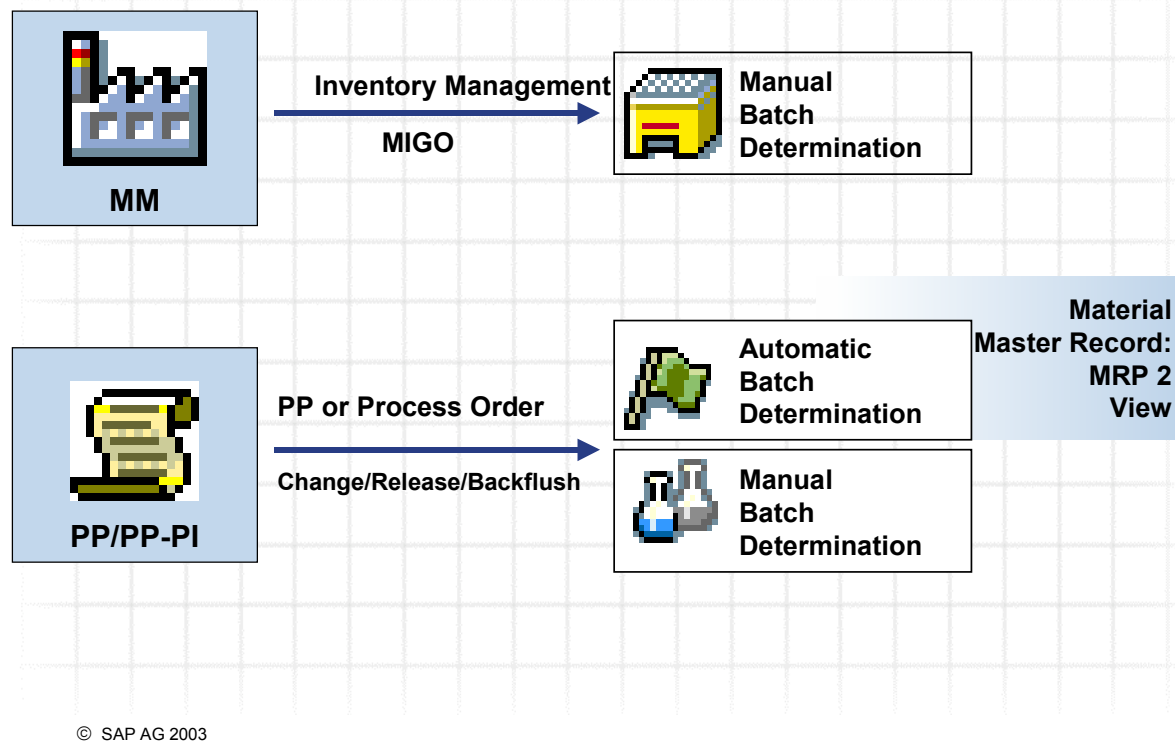
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- Batch numbers are assigned to materials subject to batch management requirements when goods are received (external procurement or in-house production). By contrast, batch determination is performed mainly when goods issues are posted.
- If you want to use a particular batch in the Logistics process, you first have to find the batch with the required specification in stock. In production, the system can automatically determine batches of suitable input components for producing a finished product in the production or process order.
- Sales needs to find the batch that fits the customer's requirements most closely. This can be done in the sales order and in the delivery.
- In goods movements, you need to find the correct batch for goods issues such as a consumption posting for an order or transfer posting.
- In Warehouse Management, you can initiate batch determination according to the LIFO or FIFO principle (but also according to other criteria) in the transfer order.



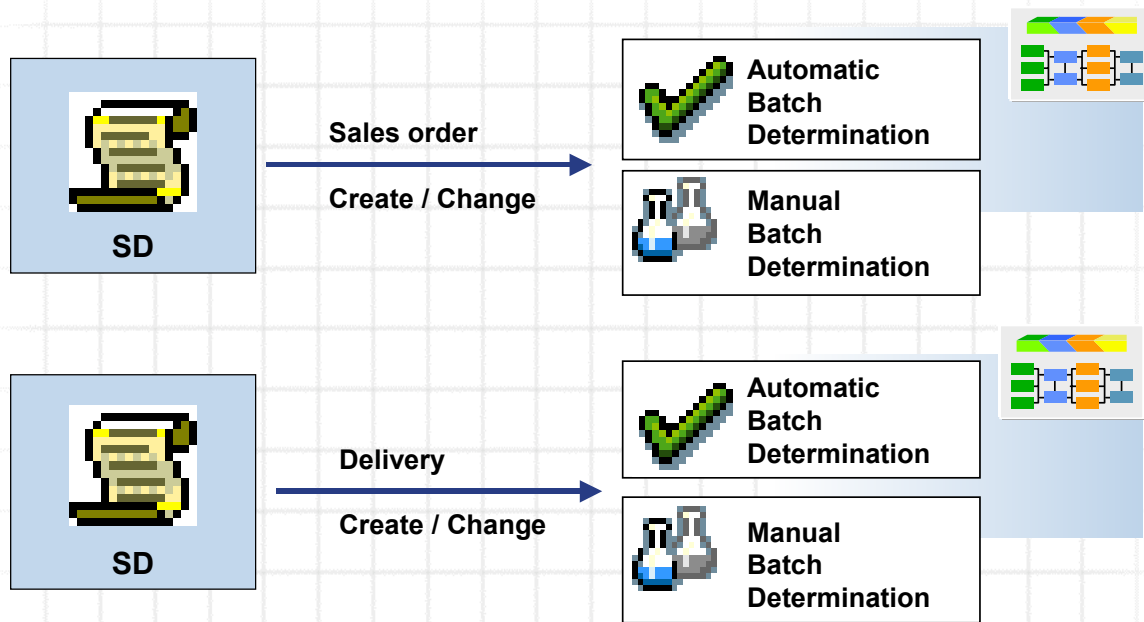
- For business transactions where batch determination is to be used, you have to enter strategy records. The structure of the search strategy depends on the settings made in Customizing. Linked to these strategy records are the target values for which you search with regard to a particular transaction. If you have a number of different requirements, you will have to create the corresponding number of records. Like the batch record, you also classify the strategy record using a class belonging to class type 022 or 023, storing the required selection criteria as characteristic values for this selection class.
- If you now want to find a suitable batch for a business transaction, the system accesses the relevant strategy record. Its characteristic values are proposed. You can change them for the current business transaction. The system searches for batches that have the required characteristic values. Auxiliary functions such as a strategy analysis and log printout are available if required. They provide user support by helping you to make suitable changes to your entries and thus to continue the search.





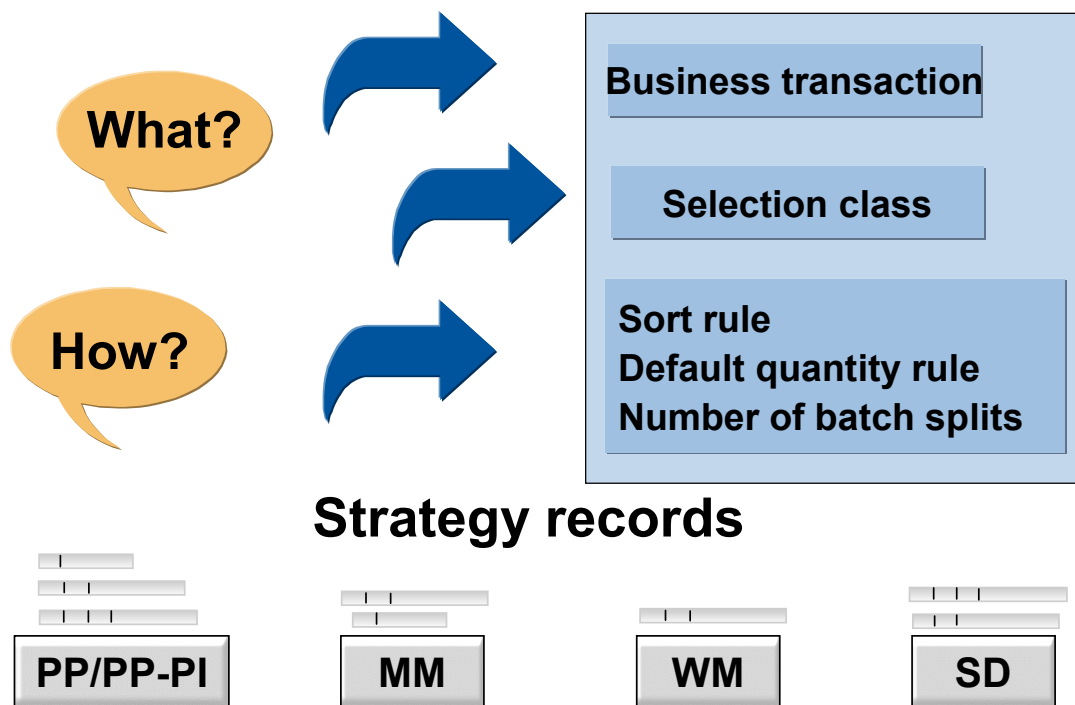
■ Batch determination is started in different ways in each of the applications:

- In Inventory Management, you can start batch determination by choosing the symbol for stock determination. In releases before 4.6, you enter \* in the batch field to get the system to find batches automatically.
- In production or process orders, batch determination can be triggered automatically by the order release. For this, you must maintain automatic batch determination at order release in the *Batch Entry* field in the *MRP 2* view of the material master record for all the relevant components. You can also trigger batch determination manually by choosing the relevant symbol.
- When backflushing a PP or PP-PI order, you can start batch determination manually or automatically, if this was not already done in the order.



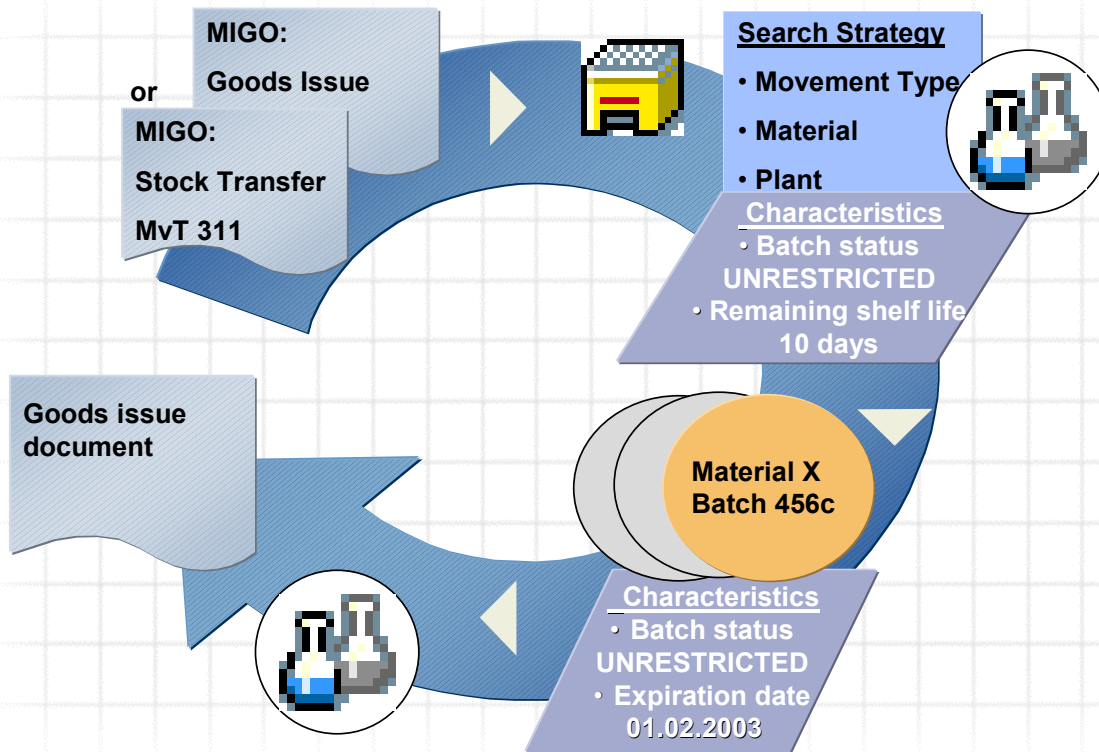
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- In Sales, you can trigger batch determination automatically in the sales order or in the delivery. You make this setting in Customizing for Batch Management: After you have entered all the necessary information in the document and chosen *Enter*, the system searches for all suitable batches.
- You can start batch determination manually in the sales order or delivery in either create or change mode.



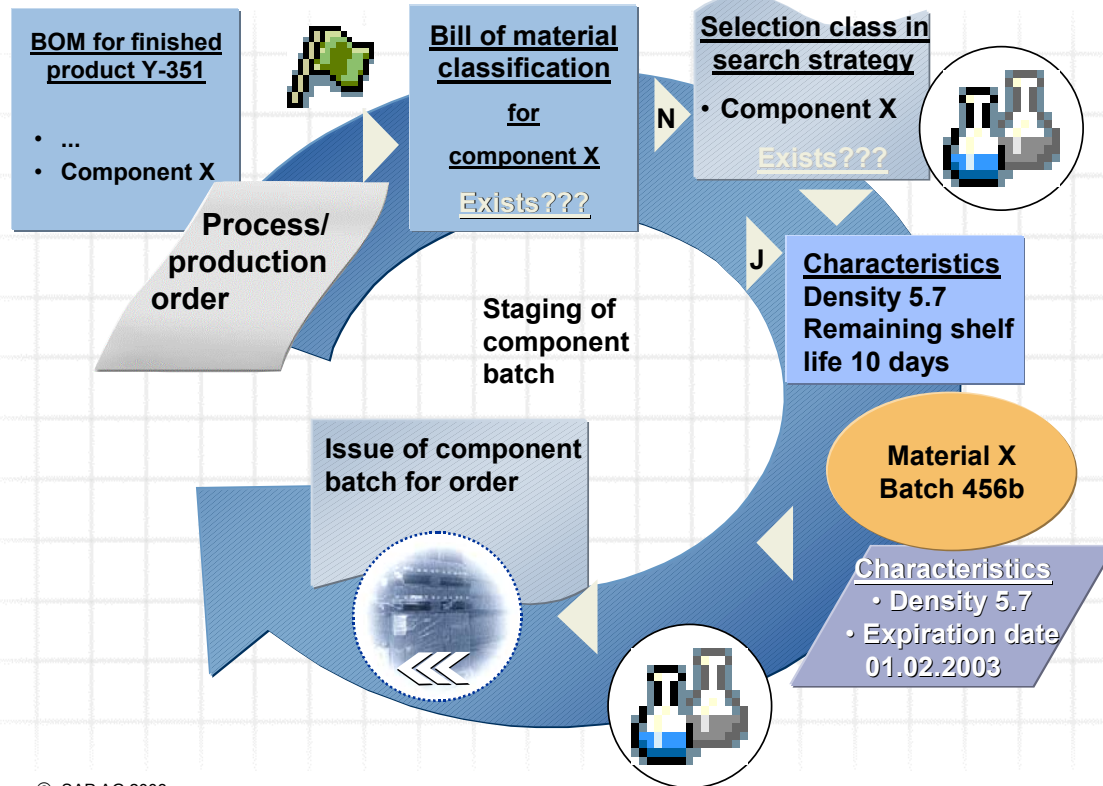
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- Batch determination depends on the strategy records of the respective application. You have to create different strategy records in the system for different business transactions.
- The strategy record that applies to the business transaction is determined by the system.
- The strategy record determines the search criteria. The selection class specifies the characteristics for the batch.
- The strategy record determines how the result of the search run is to be displayed.
- The sort rule specifies the sequence in which the batches found are listed.
- The default quantity rule determines the quantity in which the batches you are searching for must exist. You may want a withdrawal quantity to come from only one particular batch, or for it to be made only in complete pallets. A USER EXIT allows you to match the default quantity to the customer's individual requirements.
- The *number of batch splits* determines the maximum number of batches that can be proposed after a search run.



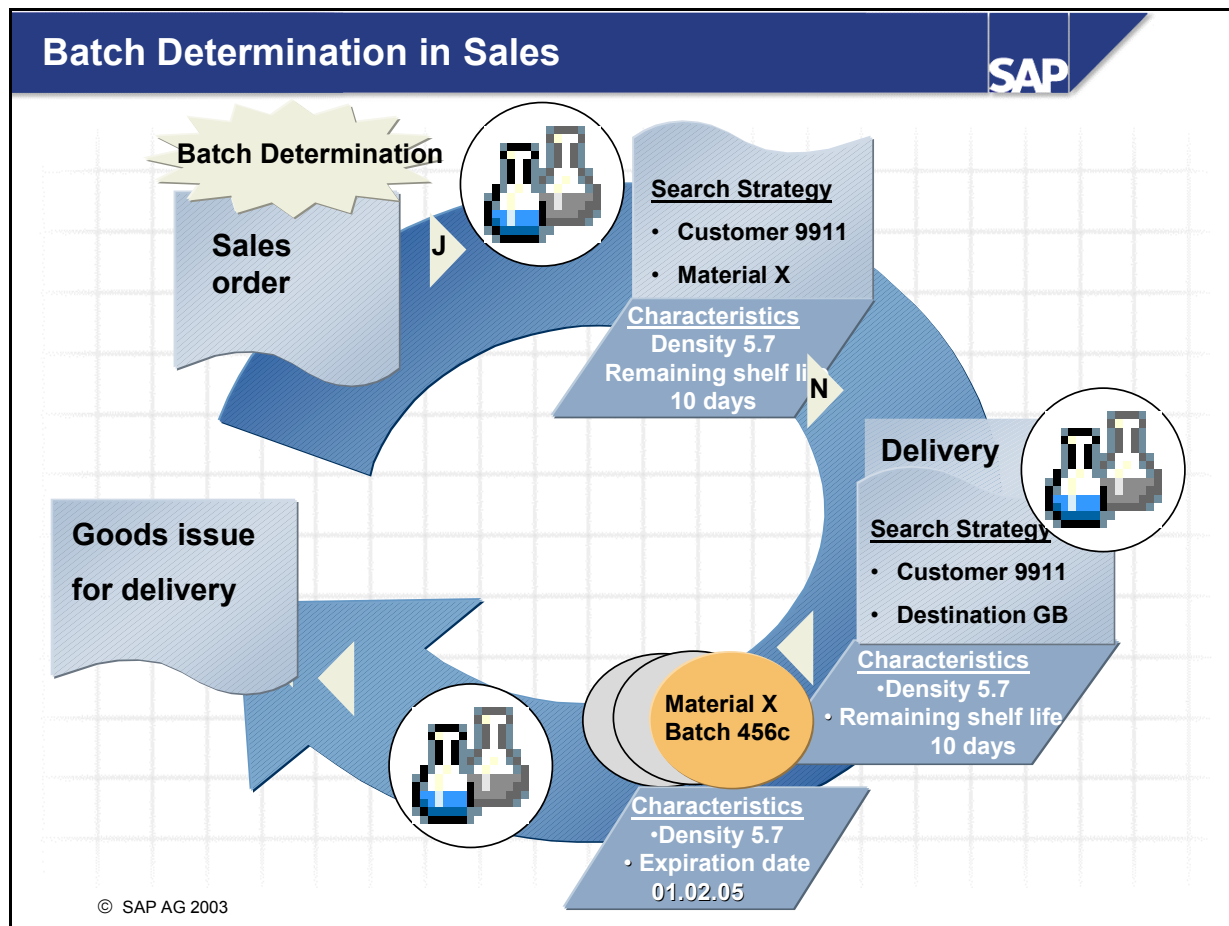
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- Batch determination can be fully used for stock transfers and goods issues. You can start batch determination by choosing *Stock Determination*. In releases below SAP R/3 4.6, you can start batch determination by entering \* in the batch field and choosing *Enter*. In the standard system, batch determination runs in the foreground. You can also run it in the background. To do this, you must predefine a strategy record.



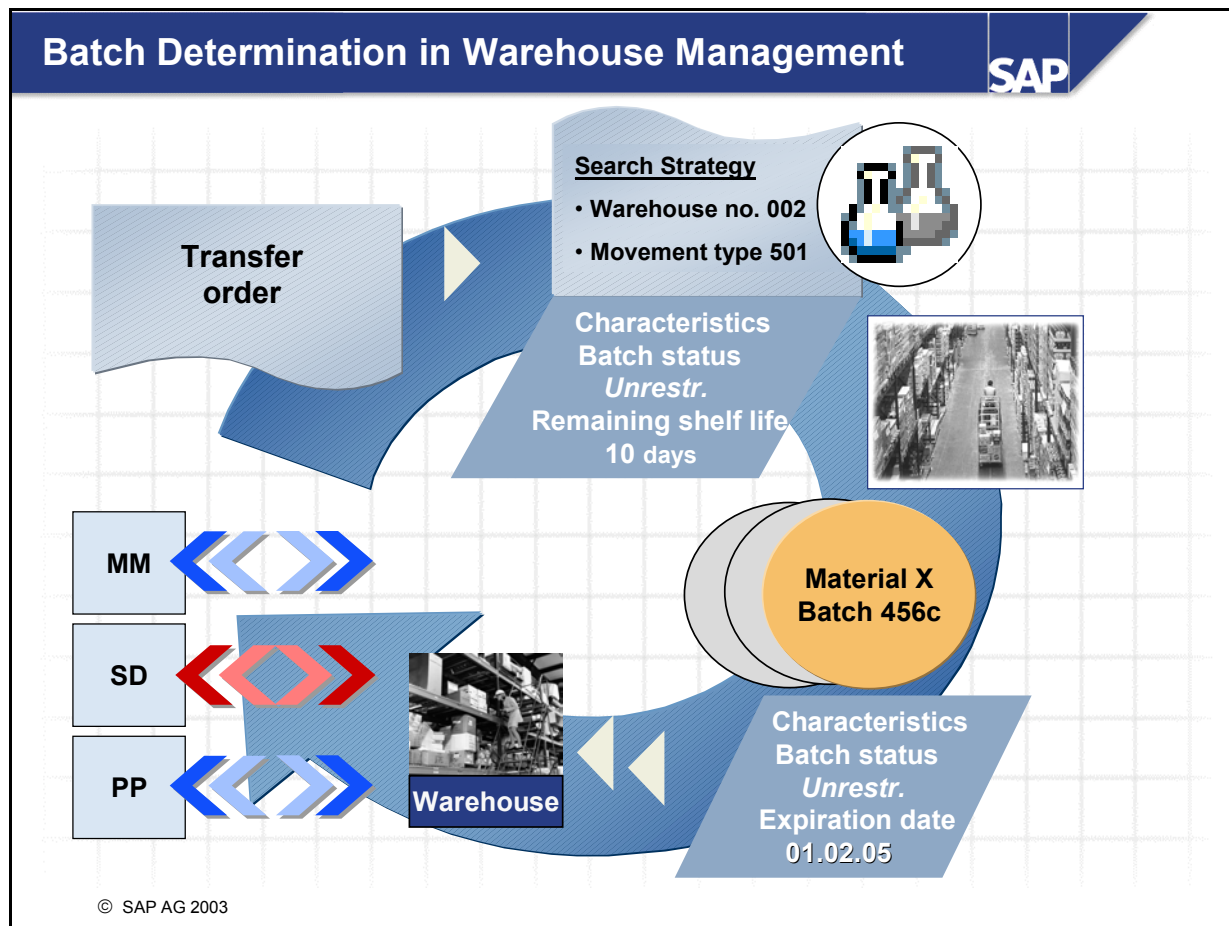
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- In production, suitable batches can already be selected in the production/process order for the individual components. Batch splitting is possible. You can also perform batch determination during backflush for the production order.
- Batch determination can work in two different ways here:
  - The selection criteria for the component are contained in the BOM (bill of material) and are fixed values for batch determination. They are stored as characteristic values for the individual BOM items. You can use BOM classification to classify the same components differently in alternative bills of material, so that you can perform batch determination for a component according to different criteria for each bill of material.
  - Only if there is no BOM classification (N) does the system check whether a selection class exists in the strategy record. Similar to batch determination in the other applications, the selection criteria are then taken from the strategy record.
- If you have not specified the batches in the production/process order or using the backflush, you must use batch determination in inventory management (movement type) to search for the batches during the goods issue posting for the production order.
- If you are using storage bin management in the ECC system, the batch information is passed on to the transfer order.



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- In Sales, batches can be determined at three points:
  - You can search for the corresponding batch in the sales order (J). The batch number found is then passed on to the delivery and the Warehouse Management system. If the system does not find a batch (N), the task is left to the subsequent functions.
  - You can also search for the relevant batch in the delivery. You make the settings for automatic searches in Customizing for Batch Management. You can also start the search manually in the document. In contrast to the sales order, you can perform a batch split in the delivery. The batch numbers found are passed on to storage bin management.
  - If the batches were not specified in Sales and Distribution, they must be found at the latest in the transfer order using batch determination for the Warehouse Management system.
- If you want to use batch determination in sales for a business transaction, you must first create a strategy record. Dependent on the usual fields (such as customer and material) it contains a selection class that contains the required specification for this transaction as a characteristic value.



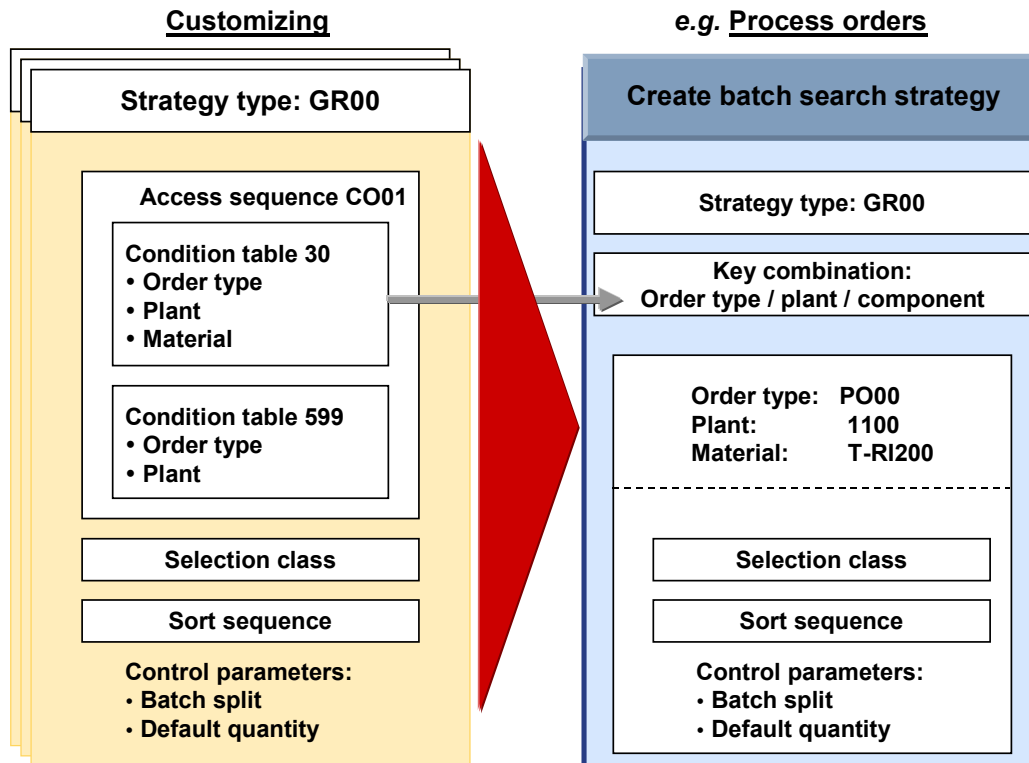
- In Warehouse Management, batch determination is used for goods issues and stock transfers.
  - For example, you want to post replenishment of a material to be handled in batches to its fixed storage bin in the picking location. For the transfer posting, the system searches for those batches with the status *unrestricted use* and the shortest shelf life. You want the batches to be sorted according to their shelf life expiration date. Using the sort according to date field, goods movements can be made on the basis of the LIFO and FIFO principle.
- Due to integration, the batches to be picked are either passed on to the WM system (batch determination takes place in the previous applications) or the batches are determined by the WM system (batch determination in WM).
- For external or internal inbound deliveries, the system posts a goods receipt for purchase orders or the manufacturing order in Inventory Management. If a new batch is booked in for a material that has is subject to batch management requirements, the new batch is created in the system. The new batch is classified at the same time.
  - The batch number is recorded in the quant that is updated as a result of the goods receipt. Alongside the material number, plant, stock category, and special stock, the batch number forms the material identification and thereby acts as a criterion for splitting stock in the Warehouse Management System.
  - The batch is included in all processes in the Warehouse Management System. If the stock that has been posted is placed in storage, it is posted with reference to the batch. All relevant business transactions and evaluations take the batch into account.



**At the conclusion of this topic, you will be able to:**

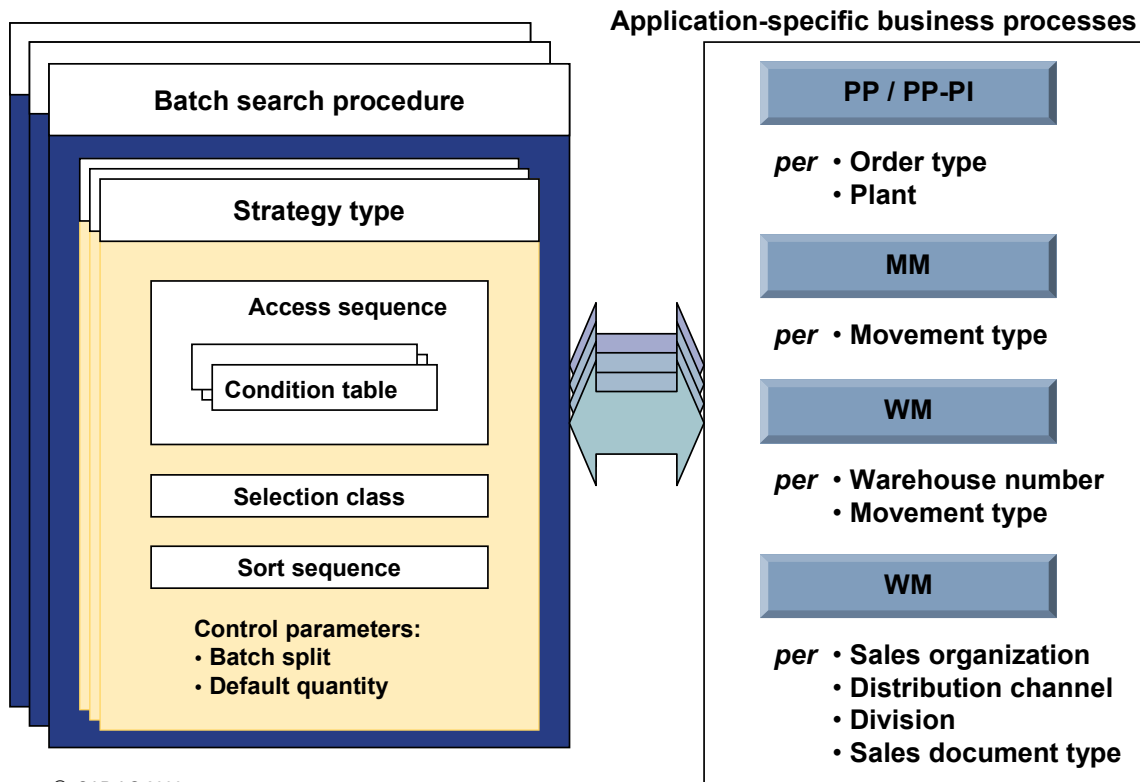
- **Make the necessary Customizing settings to set up batch determination in your application**





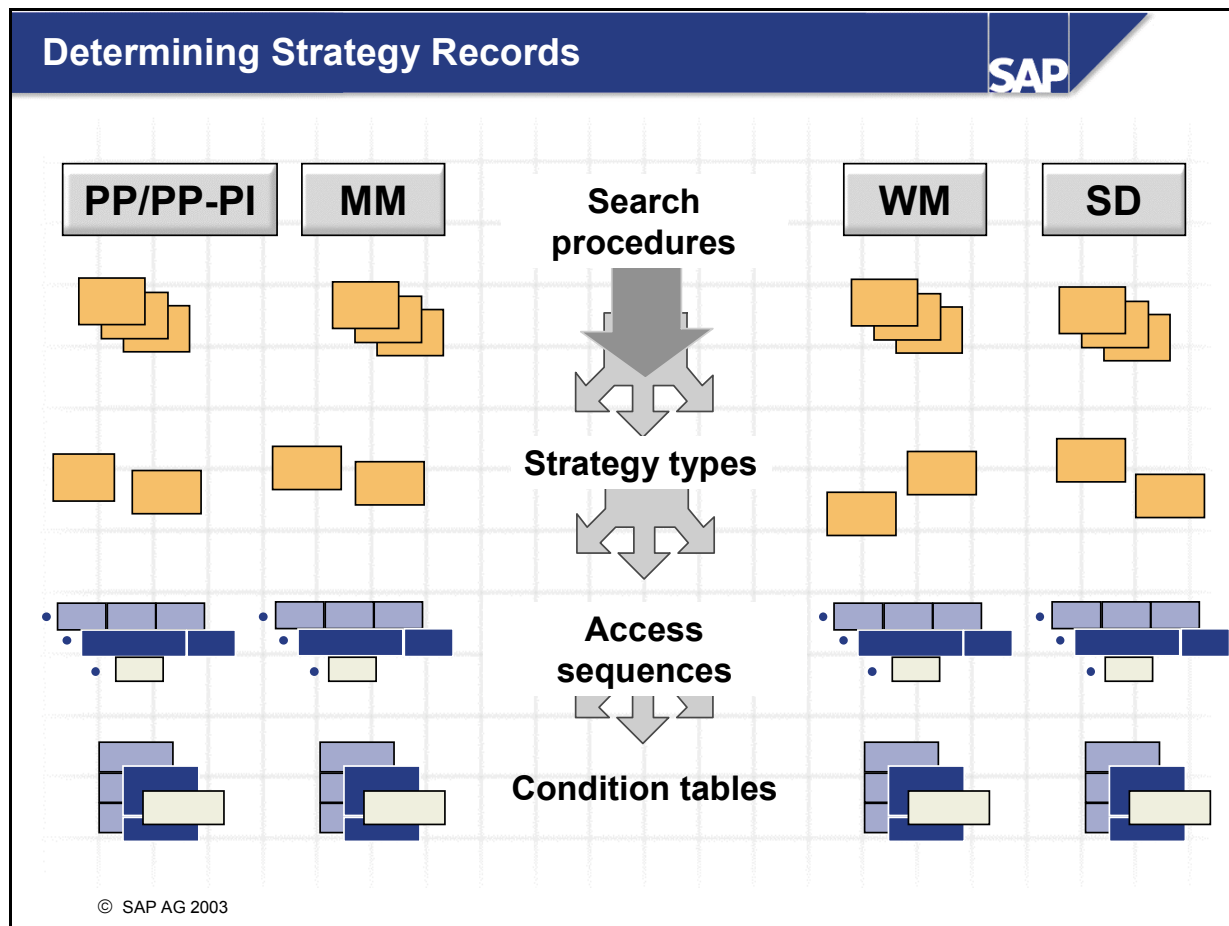
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- The batch search strategy specifies the selection criteria according to which batches are selected during batch determination and how they will be dealt with. The batch search strategy record is an application-specific master record.
- A batch search strategy is created with a reference to a strategy type (condition type) defined in Customizing.



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- Condition tables represent combinations of fields that form the key to the batch search procedure.
- The access sequence determines the order in which the system accesses condition tables in the process of batch determination.
- A strategy type contains default values which are adopted when a batch search strategy is created. The following information can be stored:
  - A selection class
  - A sort rule
  - Control parameters for the batch split and the default quantity
- The search procedure is pivotal to batch determination. Search procedures are assigned to application-specific keys. Strategy types are assigned to a search procedure. The system attempts to determine strategy records (batch search strategies) for the strategy types in the process of batch determination.

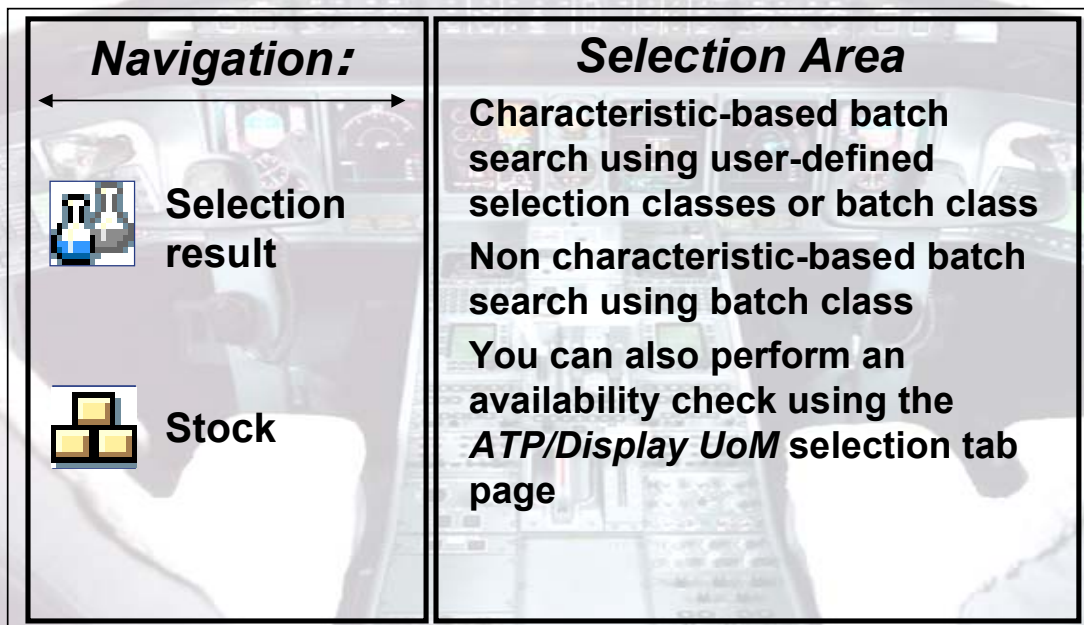


- For each application in which batch determination is possible, a chain of Customizing entries is linked to the search procedure .
- The system finds the search procedure (for the application) that is valid on this occasion. It contains the group of strategy types that are to be read.
- As a template for the strategy records, the strategy types contain control parameters according to which the batch determination procedure is to run. They are linked to an access sequence.
- The access sequence defines the order in which the system searches for existing strategy records. The access sequence consists of condition tables.
- The condition tables describe groups of fields that have been used as a model to create strategy records. If the table contains many fields, the strategy record is valid for a very special combination of data. If it contains few fields, the strategy record has a more general validity.
- The condition tables in the access sequence should be arranged from 'Special' to 'General'.



**At the conclusion of this topic, you will be able to:**

- **Use your own selection class or the batch class in the Batch Information Cockpit to search for characteristic-based batches**
- **Combine the batch search with an availability check**
- **Use the batch class in the Batch Information Cockpit to perform a non-characteristic-based batch search**



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- The Batch Information Cockpit is a central tool for evaluating batches, and enables you to perform characteristics-based searches for batches using your own defined selection classes or the batch class.
- You can also use the selection ATP/display quantities to check which stock quantities of the selected batches will be available according to the rules of the availability check.

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- With your own selection class containing your choice of batch characteristics, such as status or batch purity, you can use the *Batch Information Cockpit* to search for batches. To do this, enter the relevant selection class on the *Classification* tab page and evaluate the selection characteristics with the values you want to use in the subsequent batch search. The prerequisite for this is that the batches are valued with the relevant selection characteristics.
- If you want the system to take account of the batch availability in the selection, you can also enter an availability rule and a requirement date for the selection on the *ATP / Display Quantities* selection tab page.
- You can save the selection criteria in a selection variant.

### Batch Information Cockpit

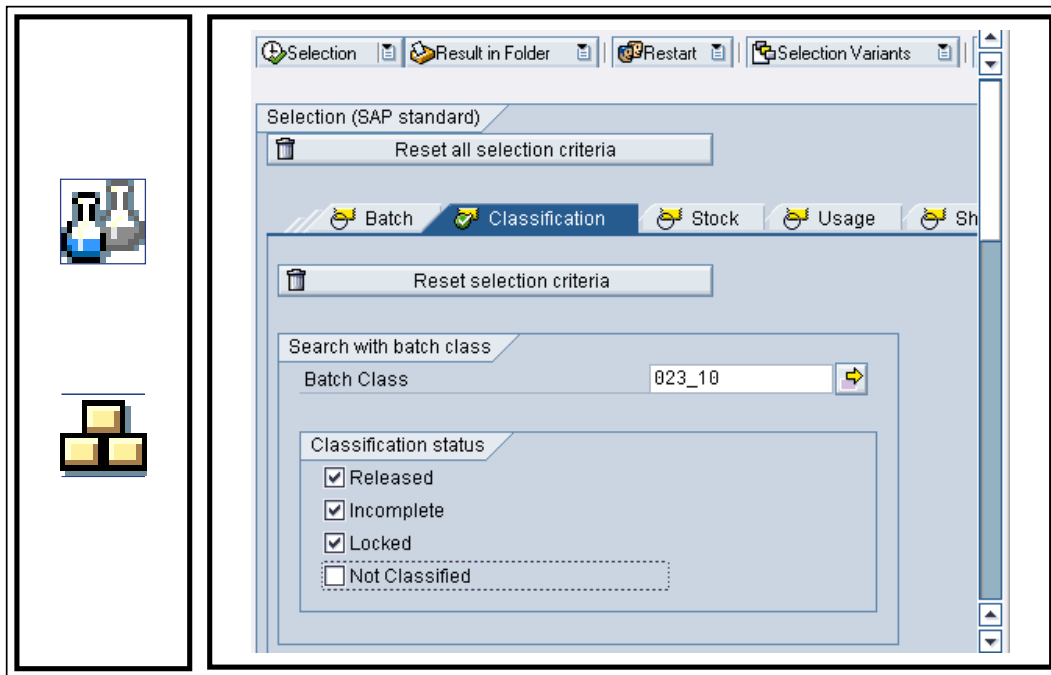
Selection result for batches	Batch status	Degree of purity	Batch Del. Flag	Material type	Division
7 Batches found					
T-350					
T350A1		85,00 %		HAWA	03
T350A2		95,00 %		HAWA	03
T350A3		88,00 %		HAWA	03
T350A4		86,00 %		HAWA	03
T350B1		90,00 %		HAWA	03
T350B2		89,00 %		HAWA	03
T350B3		91,00 %		HAWA	03

### Selection result for stock

Unit o...	ATP quantity	Unrestricted	In qual. insp.	Degree of purity	B.
8 Stocks found					
T-350					
1100	380	380	20		
0001	379	379	20		
T350A1	89	89	10	85,00 %	
T350A2	90	90	10	95,00 %	
T350A3	100	100		88,00 %	

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- In the *selection results for batches* and *stock*, you can also see the valuation of the characteristics in your selection class, for example, the batch status or degree of purity.
- In the stock overview you can see the results of the availability check in the *ATP Quantity* column.



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- You can also search for batches using the batch class (not characteristic-based). Before you make the selection, you can remove the *Not classified* indicator so that the system selects only classified batches.
- You can save the selection criteria in a selection variant.



### Batch Information Cockpit

Selection result for batches

22 Batches found

T-350

T350A1

T350A2

T350A3

T350A4

T350B1

T350B2

Batch status

023\_10

023\_10

023\_10

023\_10

023\_10

023\_10

Class

023\_10

023\_10

023\_10

023\_10

023\_10

023\_10

Classification status

Material type

HAWA

HAWA

HAWA

HAWA

HAWA

HAWA

Industry se...

C

C

C

C

C

C

Selection result for stock

33 Stocks found

T-350

1100

0001

T350A1

T350A2

T350A3

T350A4

ATP quantity

380

380

379

89

90

100

100

Unrestricted

3.830

380

380

379

89

90

100

100

In qual. insp.

120

20

20

20

10

10

Blocked

Stock i...

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- In the *batch selection results* and *stock selection results* you can see all the batches that were classified with the batch class you specified.

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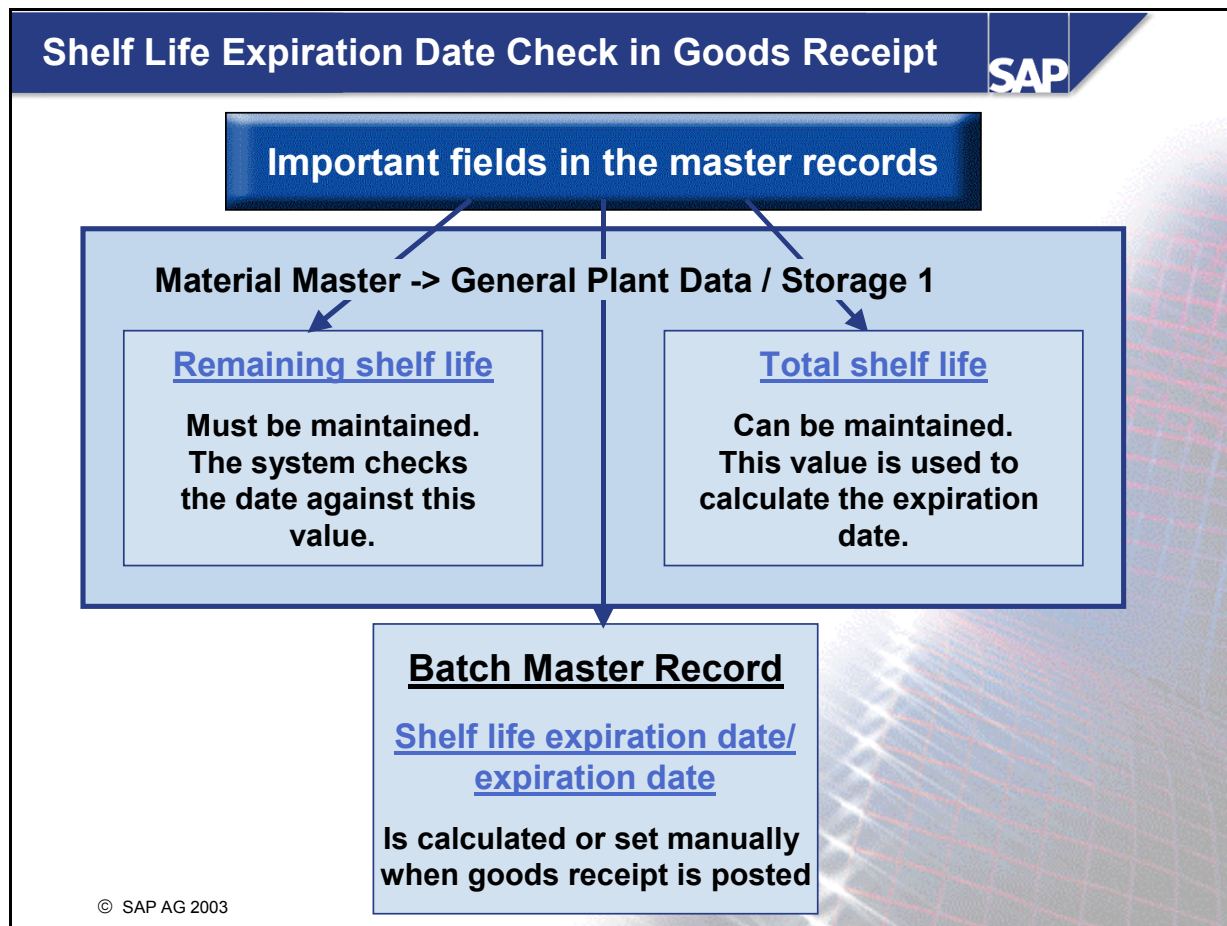
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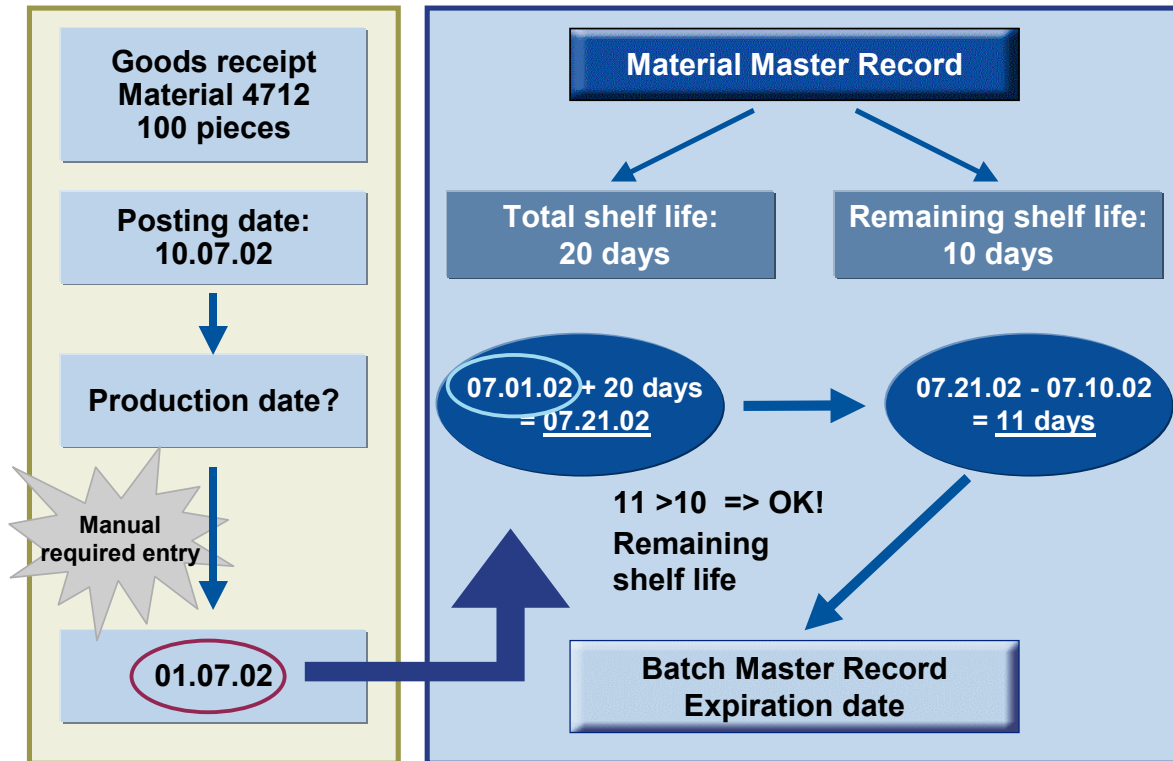


**At the conclusion of this topic, you will be able to:**

- **Explain the significance of the shelf life expiration date in connection with materials subject to batch management requirements**
- **Use the check function for the shelf life expiration date**



- Batches for materials that must not be used or sold after a certain period are usually given a shelf life expiration date (SLED). The shelf life expiration date check function calculates the SLED from the total shelf life and the production date for the following operations:
  - At goods receipt (GR)
  - For automatic goods movements
- The shelf life expiration date (SLED) is mainly used in the pharmaceuticals and food industries. This date is sometimes called the best before date.
- If the shelf life expiration date check is active, you must enter the shelf life expiration date or the production date of the material on receipt of goods, depending on whether or not the remaining shelf life field or the remaining shelf life and total shelf life fields in the relevant material master record contain values.
- At goods receipt the system checks whether the remaining shelf life is sufficient. If this is not the case, the system issues a warning or error message (depending on the system settings).
- When the goods receipt is posted, the system stores the shelf life expiration date in the material document and in the batch.



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- If you have maintained both the total shelf life and the minimum remaining shelf life, the system executes two functions in succession. It:
  - Calculates the shelf life expiration date of the goods received.
  - Checks the shelf life expiration date that has been calculated.
- The system calculates the shelf life expiration date the first time a batch is received:  
It is calculated from the date of production plus the total shelf life. You specify the date of production when making the goods receipt posting. If the total shelf life has not been stored in the material master record, you enter the shelf life expiration date at this point.
- The difference between the shelf life expiration date and the posting date is the remaining shelf life of the goods received. It must not be less than the minimum remaining shelf life from the material master record. If it were less, the system would respond with a warning or an error message, depending on the setting in Customizing.
- Upon the next goods receipt for the same batch, the system compares the shelf life expiration date of the goods received with the shelf life expiration date that has been calculated.  
You can overwrite the existing entry in the batch master record providing you have set a warning message in Customizing for this case.

**Activate the period indicator**

- Day
- Week
- Month
- Year

**Activate the shelf life expiration date check for each plant**

**Activate the shelf life expiration date check for each movement type**

- Do not check
- Enter and check
- Enter only
- No check at goods issue

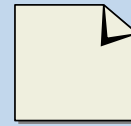
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- You can only enter a shelf life expiration date for a material, if
  - the remaining shelf life is maintained in the material master record. The remaining shelf life is the time for which the material must be retainable, in order for the goods receipt to be accepted by the system. The time you specify in the material master can be defined in days or in other time periods, controlled by means of the period indicator. You activate these beforehand in Customizing for Batch Management.
  - the shelf life expiration date is active in the plant.
  - the shelf life expiration date check is active for the movement type. You can enter the production date or shelf life expiration date at goods receipt without the system checking or calculating it. No message appears.
- In Customizing for Inventory Management, you can activate a message (M7 667) if at goods issue, or stock transfer, batches have already expired (expiration date < today's date). If an error message appears, you can prevent the entry of expired batches in goods issue documents. However, there may be transactions such as goods issue into scrap, for which you must permit the entry of expired batches. You can then exclude movement types from a check by entering the value 3 (no check at goods issue) in the *Check SLED* field in Customizing for Batch Management.
- The user exit EXIT\_SAPLMHD1\_001 in SAP enhancement SAPLMHD1 is used to calculate and check the shelf life expiration date (SLED). You can use this user exit to modify the data for calculating and checking the SLED.

## Deadline monitoring program

Today + lead time > batch expiration date

**X Block batch**



Immediately

## Batch status management in the plant

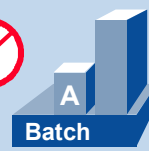
**Active**

**Status  
Restricted**



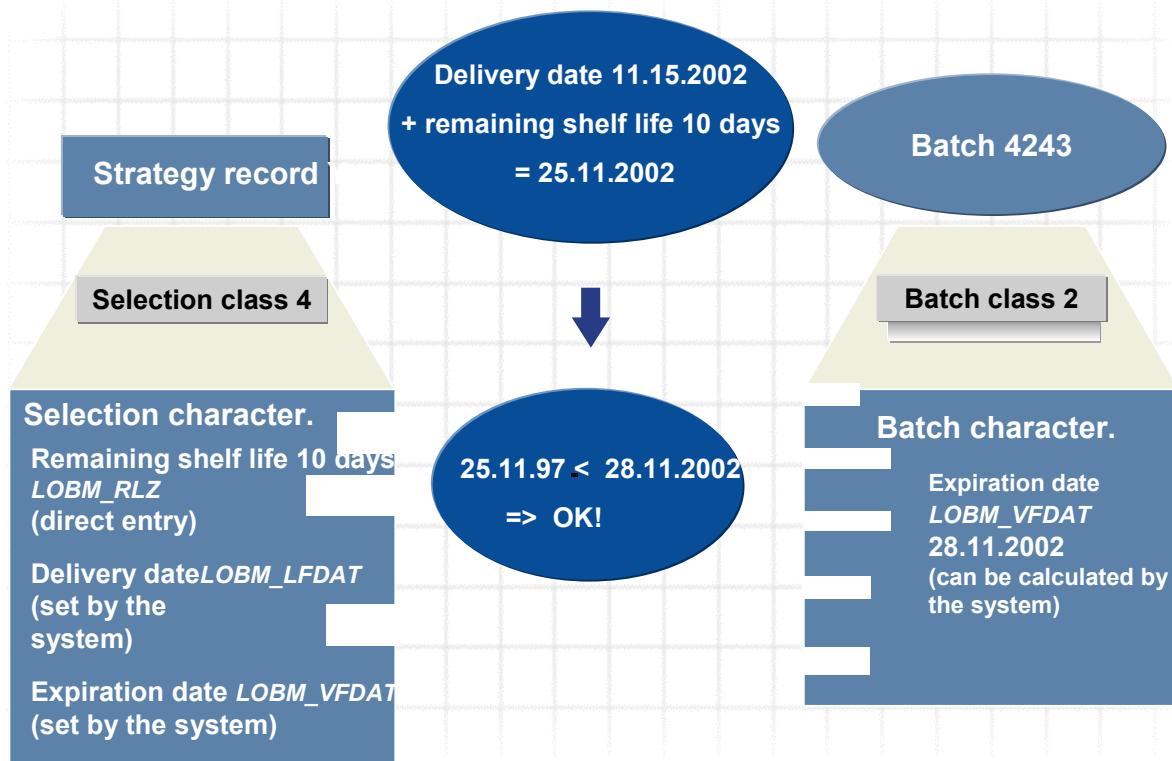
**Inactive**

**Blocked  
stock**



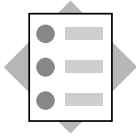
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- With the *batch deadline monitoring* program you can check whether the shelf life expiration date or the expiration date for a batch lies in a particular time frame. The system can automatically check the date using a program that runs periodically.
- When the batch expiration date is reached or passed, the batch is blocked. This results in a change in the batch status to *Restricted*, or a transfer posting of the batch quantity to the blocked stock if batch status management is not active. In this case, no inspection lot is generated.



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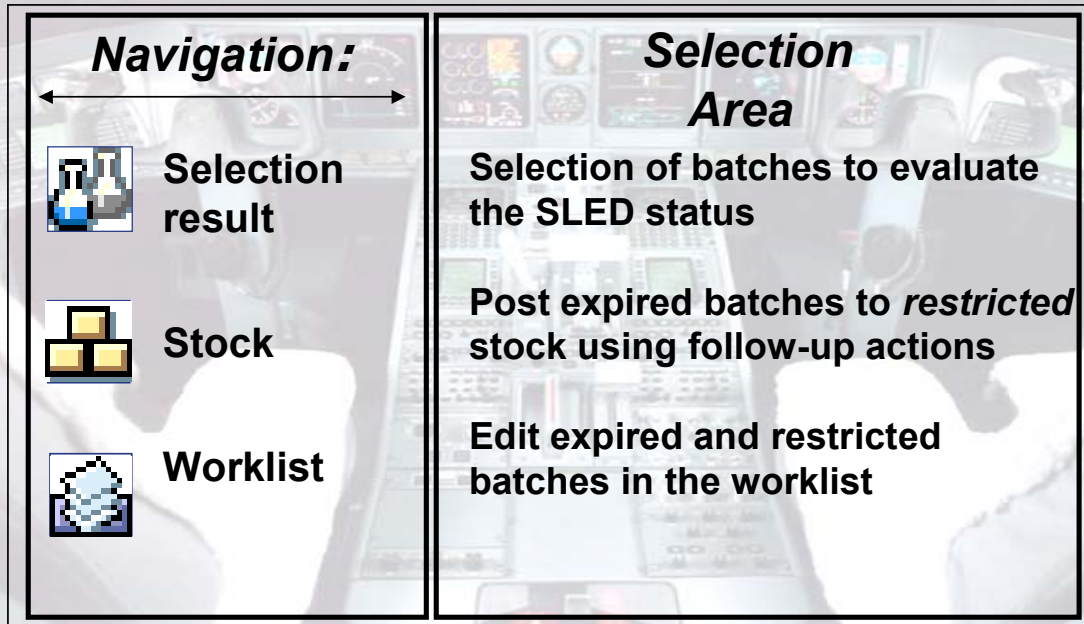
- In batch determination, you can select a batch using its shelf life expiration date.
- To do this, you must have added the standard characteristic *LOBM\_RLZ* for the remaining shelf life in the selection criteria, and the standard characteristics for both the delivery date *LOBM\_LFDAT* and the expiration date *LOBM\_VFDAT*.
- The batch class must contain the expiration date *LOBM\_VFDAT* as the standard characteristic.
- You enter the required remaining shelf life in the strategy record. Depending on the business transaction, this can be the required batch specification for production (availability date) or the requirements of the customer (delivery date) who is to be supplied.
- For example, the material should be available for production on the availability date, or have reached the customer by the required delivery date. The shelf life expiration date check in batch determination can be used in production as well as Sales and Distribution, in order to ensure that no expired batches of input components are used in production and also that no expired batches are delivered to customers.
- The system uses these two characteristic values to calculate a minimum required shelf life expiration date for the batch you are looking for, providing the standard characteristic *LOBM\_LFDAT* has been maintained accordingly.

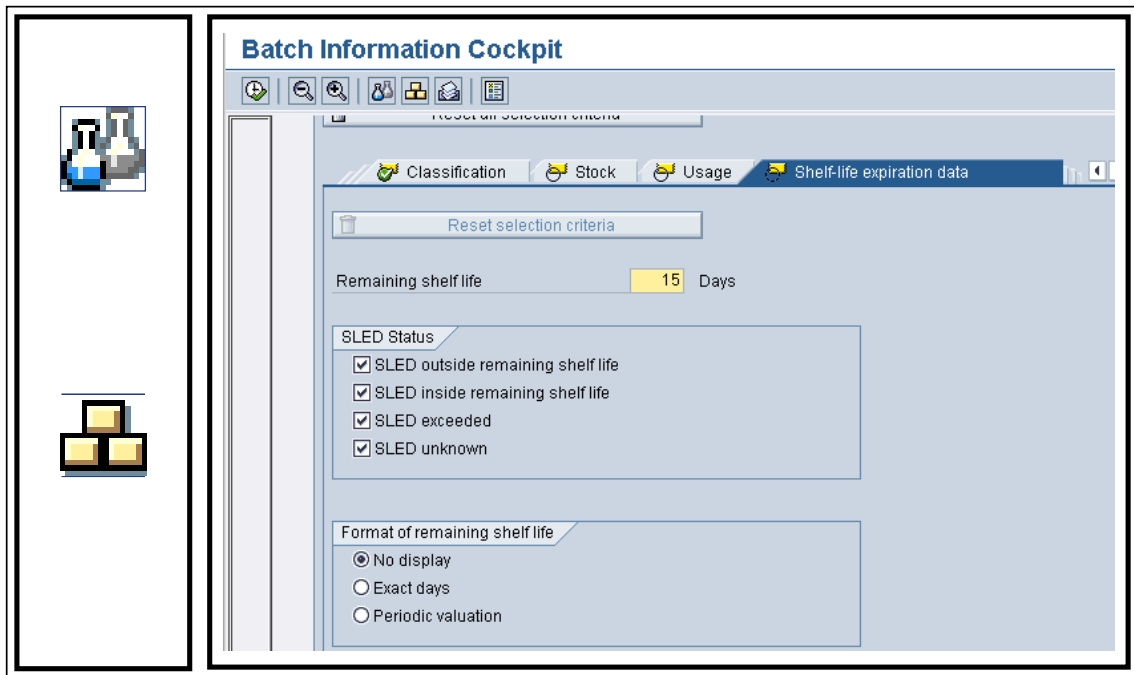


**At the conclusion of this topic, you will be able to:**

- **Start a report using the Batch Information Cockpit in order to display the SLED status of your batches**
- **Post expired batches into *restricted* stock using follow-up actions in the BIC**







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- To be able to select your batches according to the SLED status, enter a value for the remaining shelf life on the *Minimum Shelf Life* tab page in the Batch Information Cockpit.
- You can choose one of four statuses using the SLED evaluation:
  - Batches outside the remaining shelf life period. These batches have a valid expiration date.
  - Batches within the remaining shelf life period. These are batches that have not yet expired and have not exceeded the remaining shelf life.
  - Batches that have exceeded their expiration date.
  - Batches for which no expiration date is stored in the batch master record.
- You can also select whether and how the remaining shelf life is displayed in your selection results.

## Batch Information Cockpit

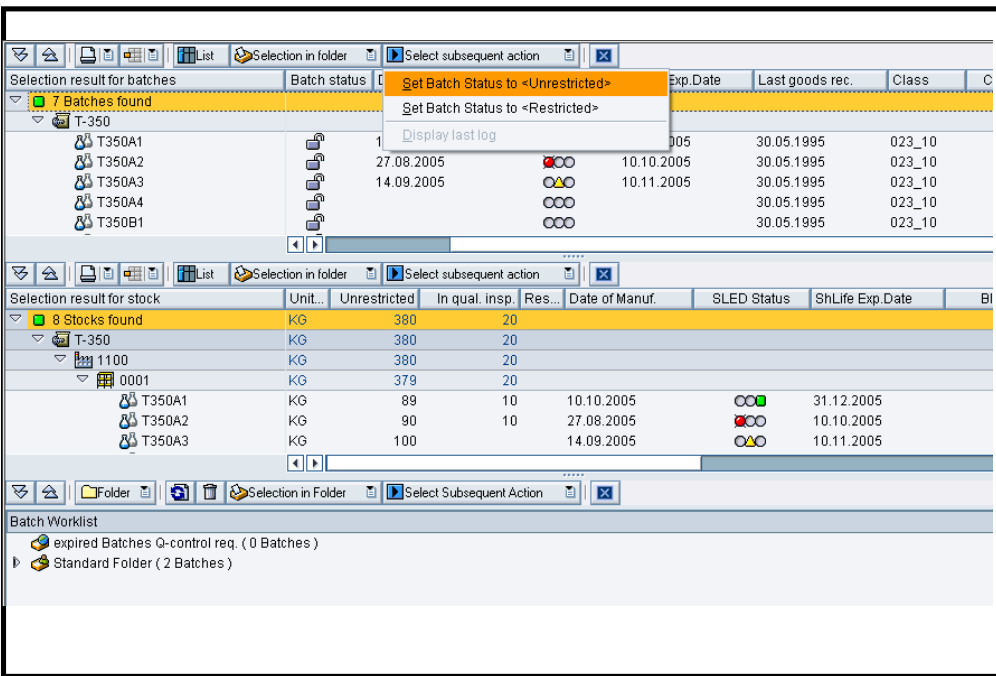
Selection result for batches	Batch	Date of Manuf.	SLED Status	ShLife Exp.Date	Available from	Last goods rec.
7 Batches found						
T-350						
	T350A1	10.10.2005		31.12.2005		30.05.1995
	T350A2	27.08.2005		10.10.2005		30.05.1995
	T350A3	14.09.2005		10.11.2005		30.05.1995
	T350A4					30.05.1995

## Selection result for stock

Unit...	Unrestricted	In qual. insp.	Re...	Date of Manuf.	SLED Status	ShLife Exp.Date	B.
8 Stocks found							
T-350							
	KG	380	20				
1100							
	KG	380	20				
0001							
	KG	379	20				
	T350A1	KG	89	10	10.10.2005		31.12.2005
	T350A2	KG	90	10	27.08.2005		10.10.2005
	T350A3	KG	100		14.09.2005		10.11.2005
	T350A4	KG	100				

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- The system displays the SLED status in the batch selection results and in the stock overview using a traffic light symbol.
  - Green traffic light: Batches outside the remaining shelf life period. These batches have a valid expiration date
  - Yellow traffic light: Batches within the remaining shelf life period. These are batches that have not yet expired and are within the remaining shelf life period.
  - Red traffic light: Batches that have exceeded their expiration date.
  - No traffic light: Batches for which no expiration date is stored in the batch master record.



The screenshot displays two SAP SLED reports. The top report, 'Selection result for batches', shows a list of batches with columns for Batch status, Exp. Date, Last goods rec., Class, and C. A context menu is open over the 'Batch status' column, showing options 'Set Batch Status to <Unrestricted>' and 'Set Batch Status to <Restricted>'. The bottom report, 'Selection result for stock', shows a list of stocks with columns for Unit..., Unrestricted, In qual. insp., Res..., Date of Manuf., SLED Status, ShLife Exp Date, and BI. A 'Batch Worklist' at the bottom shows 'expired Batches Q-control req. ( 0 Batches )' and 'Standard Folder ( 2 Batches )'.

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- The expired batches selected using the SLED report are posted into the restricted-use stock using follow-up actions in a single step.

**Selection result for batches**

Batch status	Date of Manuf.	SLED Status	ShLife Exp.Date	Last goods rec.	Cl...
T350A1	10.10.2005	○○○	31.12.2005	30.05.1995	023_
<b>T350A2</b>	<b>27.08.2005</b>	<b>○○○</b>	<b>10.10.2005</b>	<b>30.05.1995</b>	<b>023_</b>
T350A3	14.09.2005	○○○	10.11.2005	30.05.1995	023_
T350A4		○○○		30.05.1995	023_
T350B1		○○○		30.05.1995	023_

**Selection result for stock**

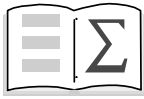
Unit...	Unrestricted	In qual. insp.	Res...	Date of Manuf.	SLED Status	ShLife Exp.Date
T-350	380	20				
1100	380	20				
0001	379	20				
T350A1	89	10	10.10.2005	○○○	31.12.2005	
T350A2	90	10	27.08.2005	<b>○○○</b>	<b>10.10.2005</b>	
T350A3	100		14.09.2005	○○○	10.11.2005	

**Batch Worklist**

- expired Batches Q-control req. (1 Batch)
  - T-350
    - T350A2
- Standard Folder (0 Batches)

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- The *restricted* batches are copied into the work folder for *expired batches*. Select the batches and then copy them using Drag&Drop or by way of the context menu.



**You are now able to:**

- **Work with batch status management**
- **Use split valuation for materials subject to batch management requirements**
- **Use individual batch valuation**
- **Set up and use automatic batch determination**
- **Use the shelf life expiration date check**
- **Use the Batch Information Cockpit as an evaluation tool for all functions**



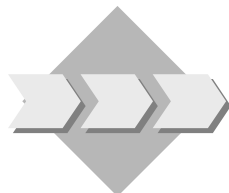
## Unit: Functions of Batch Management

### Topic: *Restricted* status and its consequences



At the conclusion this exercise, you will be able to:

- Change an unrestricted batch to a *restricted* batch
- Outline the difference between the stock type *Restricted* and other stock types



You want to see the effect of the change in batch status. The stock type *Restricted* is different to other stock types. You want to learn how to use this stock type in combination with quality inspection stock.

#### 3-1 The following situation has arisen in the system:

Display the stock overview using display version 14: Material T-350-##. The batch status of T350A1## is *Unrestricted*:

	Unrestricted-use	Quality inspection
<b>Storage location 0001</b>		
<b><i>T350A1##</i></b>	<b>100</b>	<b>20</b>
T350A2##	33	
T350A3##	508	
<b>Storage location 0002</b>		
<b><i>T350A1##</i></b>	<b>37</b>	
<b>Storage location 0003</b>		
<b><i>T350A1##</i></b>	<b>12</b>	

3-1-1 Change the batch status:

Change the status of batch T350A1## from *Unrestricted* to *Restricted*. Check the new stock situation using the stock overview. Enter the missing stocks in the following table.

	Unrestricted-use	Restricted-use	Quality inspection
<b>Storage location 0001</b>			
<i>T350A1##</i>			
<i>T350A2##</i>			
<i>T350A3##</i>			
<b>Storage location 0002</b>			
<i>T350A1##</i>			
<b>Storage location 0003</b>			
<i>T350A1##</i>			



3-1-2 The quality inspection stock is released:

Make a transfer posting of 20 KG of batch T350A1## within storage location 0001 from quality inspection stock to the unrestricted-use stock (movement type 321), and fill out the table:

	Unrestricted-use	Restricted-use	Quality inspection
<b>Storage location 0001</b>			
<i>T350A1##</i>			
<i>T350A2##</i>			
<i>T350A3##</i>			
<b>Storage location 0002</b>			
<i>T350A1##</i>			
<b>Storage location 0003</b>			
<i>T350A1##</i>			

3-1-3 Set batch status to *Unrestricted* for batch *T250A1##*.  
What is the stock situation now? Enter data into the table:

	Unrestricted-use	Restricted-use	Quality inspection
<b>Storage location 0001</b>			
<i>T350A1##</i>			
<i>T350A2##</i>			
<i>T350A3##</i>			
<b>Storage location 0002</b>			
<i>T350A1##</i>			
<b>Storage location 0003</b>			

## Exercises



### Additional Exercise:

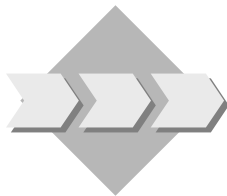
#### Unit: Functions of Batch Management

#### Topic: Assigning the Status *Restricted* to a Batch



At the conclusion this exercise, you will be able to:

- Change an unrestricted batch to a *restricted* batch
- Use the Batch Information Cockpit for evaluating blocked stocks and to trigger follow-up actions



You want to see the effect of the change in batch status. The Batch Information Cockpit displays this change. You can save the batch status as a characteristic and use it in batch determination.

### 3-2 Change the batch master record and set the status to *Restricted*

#### 3-2-1 Check the stocks of your material Y-500-## using the **Batch Information Cockpit**.

For one of your batches, change the status to *Restricted* by changing the batch master record manually. Use either the *Change Batch* transaction, or go to change mode directly in the BIC from the display mode for the master record.

Save your batch.

#### 3-2-3 Search for the material document that was created as a result of the change to the batch and make a note of the number and movement type:

Material document/movement type:

---

### 3-3 Monitoring and tracking *restricted* batches:

3-3-1 From the BIC select all you batches for material Y-500-##. Expand the navigation area to review the status of all the batches. Now, minimize the navigation area, and restrict the batch selection to "restricted" batches only, and reselect. Open the *Selection Results: Stock area* and check the quantity in the restricted-use stock. Open the *Worklist* area. Copy the restricted batch into your personal folder SCM595-##. Exit the Batch Information Cockpit.

3-3-2 Restart the Batch Information Cockpit. Instead of using, selection criteria. Select *Display Work List*, then review the details of your folder SCM595-## . To process the batch in this folder, select it and choose *Change Batch* to change the status back to *Unrestricted*.

Perform another selection using the material Y-500-##. Check the selection results and the stocks. Ensure that the batch you changed has the status *Unrestricted*.



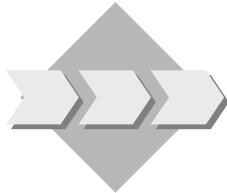
## Unit: Functions of Batch Management

### Topic: Valuation of Single Batches and Evaluations in the BIC



At the conclusion this exercise, you will be able to:

- Use the functions for valuating single batches
- Use the Batch Information Cockpit to monitor your stocks



You want to learn how to differentiate between the following functions:

- Split valuation
- Split valuation with Batch Management
- Valuation of single batches

#### 3-4 The following materials exist in the system:

Material number	Function:
Y-C-GB##	Subject to batch management and split valuation
Y-CEB##	Valuation of single batches
Y-GB##	Split valuation

##### 3-4-1 Goods movements with and without partial inventory management:

Post a miscellaneous goods receipt using transaction MIGO into plant 1100, storage location 0001, using movement type 501 or 561. Create three items. Batch numbers should be assigned internally. Take the following information into account, and enter data into the table as required:

Item	Material number:	Quantity	Valuation type	Batch
1	Y-C-GB##	150	Foreign	
2	Y-CEB##	225		
3	Y-GB##	700	Domestic	-----

3-4-2 Monitoring using the Batch Information Cockpit:

Display the results in the Batch Information Cockpit. Select the batch for the material Y-CEB-## and display the details in the batch master record. Open the selection results screen area for stocks, and click on the same batch number. Note the plant level in the batch master record: What is the difference?

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3-4-3 Restart a selection with user group *Batch Management SCM595*. Do you want to see the batch stocks for all batches in plant 1100 that were procured from *abroad*.

3-4-4 From vendor 1000, purchasing organization 1000, purchasing group 000, plant 1100 you order another quantity of 100 kg the material Y-C-GB## at the net price of 5 EUR. It is important that the color comes from exactly the same batch, which is why you specify your batch number from exercise 3-4-1 in the order.

Purchase order:

---

3-4-5 The goods arrive, and you post the goods receipt with reference to the purchase order to storage location 0001. The color was produced abroad. Check the valuation type to make sure that the origin is correct. Which tab page contains this information?

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3-4-6 Can you change the valuation type? Why/why not?

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- 3-4-7 Restart the BIC with user group *Batch Management SCM595*. Enter the material number Y-C-GB## and display the selected batch master record. Click *Detail* to go to the batch where-used list. Make sure you can see the purchase order you created, and can therefore track the origin of this batch. Can you see the goods receipt document?

**PO number:**

---

**Goods receipt document:**

---

- 3-4-8 Display the material master record for material Y-CEB-##. You want to see the *Accounting 1* view. Note the options available when you enter organizational levels. What valuations are there? How did they arise?

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## Unit: Batch Determination

### Topic: Batch Determination in the Various Application Components



At the conclusion this exercise, you will be able to:

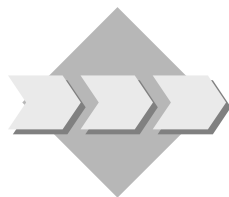
- Understand settings for Batch Determination in Customizing
- Create and verify batch search strategies
- Upon goods movements in Inventory Management

*or*

- In SD

*or*

- In process manufacturing



Upon goods movements, the system picks out the batch numbers in stock that meet particular selection criteria.

In Customizing, you can define flexible, application-specific rules for Batch Determination.



We have prepared exercise data you can use to set up and carry out Batch Determination for the application components **MM, PP, PP-PI, and SD**.

**Carry out parts A and B of the exercise. Then look for the application that is of most interest to you:**

**Section      3-5-1/3-5-2, 3-6-1/3-6-2, or  
                 3-7-1/3-7-2.**

You can use the same selection class and sort rule for all parts of the exercise. These are created centrally in Customizing:

**A) Define selection class**

Call up the *Create selection class* function.

The selection class contains the characteristics for which you want to find batches in the system.

Create a new selection class 023SE\_## with the description *Selection Class for Group ##* characteristics M1-## (viscosity) and M2-## (pH level).

**B) Define and edit sort rules**

Call up the *Create sort rule* function.

In the sort rule, you define the characteristics according to which the result of batch determination - in ascending or descending order .

Create a new sort rule 040SO\_## with the description *Sort Rules for Group ##* to sort the batches found for the characteristic M1-## (viscosity).



### 3-5-1 Batch determination for goods movements: Customizing

You want to find batches of a material with a particular pH level and viscosity for a stock transfer or goods issue.

In Customizing, choose *Tools* → *Customizing* → *IMG* → *Edit Project (SPRO)*.  
*Goto* → *Display SAP Reference IMG*. Choose  
*Logistics - General* → *Batch Management* → *Batch Determination and Batch Check*

#### Call up each of the functions that affect Inventory Management:

Function: *Condition tables*

The condition tables define the fields outlining a particular transaction for which batches are to be found, for example, the trigger for batch determination.

Look at the existing entries. You can make your own entries if you wish. However, the standard entries are usually sufficient.

Function: *Access sequences*

Access sequences describe the order in which the system reads the condition tables. It is best if the system reads the more specific condition tables and then the general ones.

Look at the existing entries. You can enter your own combinations if you wish. However, the standard entries are usually sufficient.

Function: *Strategy types*

Strategy types are a template. They contain default values that are transferred to the strategy records of each of the application components. They are always created with reference to a concrete strategy type.

When you create your own strategy type, technically, you can use your own selection class and sort rule. However, it is more advisable to assign the selection class and sort rule to the strategy record in the application component. You must not change the strategy type ZMM1 that has been defined for this exercise!

Strategy type **ZMM1** has been defined for this exercise. The *Class* and *Sort Sequence* fields are empty. Enter the data for these in the strategy record you subsequently create in Inventory Management.

This procedure offers more flexibility. In the example, you can thus use the same strategy type for all materials used in the course, even though they have various characteristics.

Look at the default values for strategy type ZMM1 and note the access sequence with which it is linked.



**IMPORTANT: Please do not change the strategy type ZMM1. Changing it would change the strategy type for all the participants.**

**Note that Customizing tables are blocked if you try to access the strategy type using the change function. Do not use the Customizing tables for any longer than necessary. If possible, use the display function.**

#### Function: *Define Batch Search Procedure*

Combinations of strategy types form search procedures.

A batch search procedure combines all strategy types that are to be taken into account for each particular transaction type in the application component. It collects them in MM and then assigns them to a movement type. Check which entry the strategy type ZMM1 contains.

#### Function: *Assign Batch Search Procedure and Activate Check*

This shows which search procedure is used for which purpose.

Look at the search procedure that contains strategy type ZMM1. Is it assigned to a movement type that you want to try to use in batch determination.



**RECOMMENDATION:** For test purposes, it is best to stick to movement type 201 or 311. If you use these, you do not have to change or extend the material master data and you do not need any additional documents.

### 3-5-2 **Batch determination for goods movements**

#### **Create batch search strategy for Inventory Management**

Create a batch search strategy with reference to strategy type **ZMM1**. Link the strategy record to your material and the movement type you want to use.

Create the strategy record for your material Y-500-## and the movement type 201 or 311.

In the strategy record, use your selection class 023SE\_## as a selection criterion and your sort rule 040SO\_## as a sort criterion. Define your target values for the selection characteristics. The system takes all the remaining data from the strategy type.



As you may still want to change the batch search strategy, it is advisable to copy the transaction *Change batch search strategy* to your favorites.

## Post goods movement with batch determination

Post the goods movement for your material Y-500-## using the movement type for which you have maintained data.



NOTE for movement type 201: Cost center **1000** has been created, plant 1100, storage location 0001

NOTE for movement type 311: You can enter storage location **0002** as the receiving storage location for this stock transfer, plant 1100, storage location 0001

Enter the material number and quantity.

In Inventory Management, you trigger batch determination by choosing the icon for stock determination. (In the old transactions such as MB1A or MB11, enter a \* in the *Batch* field).

The system displays all the batches that match your selection criteria.

To see how the system found the strategy record used, choose *Strategy analysis*.

For more information, you can double-click it.

To overwrite the target values of the selection characteristics, choose *Selection criteria*. Choose *Change* and enter a smaller interval or a single value. The search result changes.

Choose

***Batch Determination → Without selection criteria.***



The system shows all available, existing batches for this material.

To display a comparison of the selection values from the strategy record with the batch's actual characteristic values, choose *Classification*.

This shows you why a batch was found **or** why it was not displayed.

### 3-6-1 Batch determination in Sales and Distribution: Customizing

Case 1: You want to find batches of a material with a particular pH value and viscosity in a sales order. The batch numbers are transferred to all follow-on documents.

(Note: Batch splitting is not possible here.)

Case 2: You want to find batches of a material with a particular pH value and viscosity in a delivery for a sales order. The *Batch number* field must not be filled in the sales order.

In Customizing, choose *Tools → Customizing → IMG → Edit Project. Goto → Display SAP Reference IMG*. Choose *Logistics - General → Batch Management → Batch Determination and Batch Check*

#### Call up each of the functions that affect SD:

Function: *Condition tables*

The condition tables define the fields outlining a particular transaction for which batches are to be found, for example, the trigger for batch determination.

Look at the existing entries. You can make your own entries if you wish. However, the standard entries are usually sufficient.

Function: *Access sequences*

Access sequences describe the order in which the system reads the condition tables. It is best if the system reads the more specific condition tables and then the general ones.

Look at the existing entries. You can enter your own combinations if you wish. However, the standard entries are usually sufficient.

Function: *Strategy types*

Strategy types are a template. They contain default values that are transferred to the strategy records of each of the application components. They are always created with reference to a concrete strategy type.

When you create your own strategy type, technically, you can use your own selection class and sort rule. However, it is more advisable to assign the selection class and sort rule to the strategy record in the application component.

**You must not change the strategy type ZSD1 that has been defined for this exercise!**

Strategy type ZSD1 has been defined for this exercise. The *Class* and *Sort Sequence* fields are empty. You fill these fields subsequently in the strategy record you create in the SD menu. This procedure offers more flexibility. In the example, you can thus use the same strategy type for all materials used in the course, even though they have various characteristics.

Look at the default values for strategy type ZSD1 and note the access sequence with which it is linked.



**IMPORTANT: Please do not change the strategy type ZSD1. Changing it would change the strategy type for all the participants.**

**Note that Customizing tables are blocked if you try to access the strategy type using the change function. Do not use the Customizing tables for any longer than necessary. If possible, use the display function.**

Function: *Define Batch Search Procedure*

Combinations of strategy types form search procedures.

A batch search procedure combines all strategy types that are to be taken into account for each particular transaction type in the application component. In SD, the batch search procedure combines the strategy types and then assigns them to a combination of sales organization, distribution channel, division, and sales document type. The entries are used for both SD documents – the sales order and the delivery. Check which entry the strategy type ZSD1 contains.

Function: *Assign Batch Search Procedure and Activate Check*

This shows which search procedure is used for which purpose.

Look at the search procedure that contains strategy type ZSD1. Is it assigned to a sales document type that you want to try to use in batch determination?

**RECOMMENDATION: The entry TA is the standard order for the exercise.**

Function: *Activate automatic batch determination in SD*

Find out what this function is used for and how it has been configured in Customizing.

### 3-6-2 Carry out batch determination in Sales and Distribution:

#### Create batch search strategy for SD

Create a batch search strategy with reference to strategy type **ZSD1**. Link the strategy record to your material Y-500-## and the customer 7777.

In the strategy record, use your selection class 023SE\_## as a selection criterion and your sort rule 040SO\_## as a sort criterion. Define your target values for the search characteristics. The system takes all the remaining data from the strategy type.



As you may still want to change the batch search strategy, it is advisable to copy the transaction *Change batch search strategy* to your favorites.

For case 1 (sales order):

**Use the change transaction to add information to your material Y-500- ## for the *Sales* view: *SalesOrg.Data 1*.** Plant 1100, sales organization 1020, distribution channel 22.

**Maintain a price of your choice for the condition type PR00**

**Create a sales order and carry out batch determination**

Create your own sales order with the order type *standard order*.

Use the data below:

Sales organization:	1020
Distribution channel:	22
Division:	00
Sold-to party:	7777
Order number:	Any
Material:	Y-500-##
Quantity:	Any
Plant:	1100

Display the item overview.

After the search has run, you can see the batches found here.

Choose

***Edit → Batch determination.***

The system displays the selection screen for batch determination with all the information options. The system displays all the batches that match your selection criteria.

To see how the system found the strategy record used, choose *Strategy analysis*.

For more information, you can double-click it.

To overwrite the target values of the selection characteristics, choose *Selection criteria*.

Choose *Change* and enter a smaller interval or a single value.  
The search result changes.

Choose

***Batch Determination → Without selection criteria.***



The system shows all available, existing batches for this material.

To display a comparison of the selection values from the strategy record with the batch's actual characteristic values, choose *Classification*.

This shows you why a batch was found **or** why it was not displayed.

For case 2 (delivery):

**Create delivery and carry out batch determination**

Remove the batch number entered in the item overview.

Choose

***Sales document → Deliver***

Enter:

Shipping point: 1100

Selection date: Current date + at least 1 week

In the delivery document, choose

***Goto → Item → Batch Split***

Automatic batch determination was executed.

Pushbutton *New Batch Determination*

You will recognize the selection screen for batch determination. This also contains all the information that is described for batch determination in the sales order.

### 3-7-1 Batch determination in process manufacturing: Customizing

You want to manufacture a material T-HT2## and have to have the system search for a suitable batch for the component Y-500-##.

In Customizing, choose *Tools* → *Customizing* → *IMG* → *Edit Project. Goto* → *Display SAP Reference IMG*. Choose *Logistics - General* → *Batch Management* → *Batch Determination and Batch Check*

#### Call up the functions that are relevant for process manufacturing:

Function: *Condition tables*

The condition tables define the fields outlining a particular transaction for which batches are to be found, for example, the trigger for batch determination.

Look at the existing entries. You can make your own entries if you wish. However, the standard entries are usually sufficient.

Function: *Access sequences*

Access sequences describe the order in which the system reads the condition tables. It is best if the system reads the more specific condition tables and then the general ones.

Look at the existing entries. You can enter your own combinations if you wish. However, the standard entries are usually sufficient.

Function: *Strategy types*

Strategy types are a template. They contain default values that are transferred to the strategy records of each of the application components. They are always created with reference to a concrete strategy type.

When you create your own strategy type, technically, you can use your own selection class and sort rule. However, it is more advisable to assign the selection class and sort rule to the strategy record in the application component.

**You must not change the strategy type ZPI1 that has been defined for this exercise!**

Strategy type ZPI1 has been defined for this exercise. The *Class* and *Sort Sequence* fields are empty. Fill these fields subsequently in the strategy record you create in the Process Manufacturing menu. This procedure offers more flexibility. In the example, you can thus use the same strategy type for all materials used in the course, even though they have various characteristics.

Look at the default values for strategy type ZPI1 and note the access sequence with which it is linked.



**IMPORTANT: Please do not change the strategy type ZPI1. Changing it would change the strategy type for all the participants.**

**Note that Customizing tables are blocked if you try to access the strategy type using the change function. Do not use the Customizing tables for any longer than necessary. If possible, use the display function.**

Function: *Define Batch Search Procedure*



Combinations of strategy types form search procedures.

A batch search procedure combines all strategy types that are to be taken into account for each particular transaction in the application. In PP-PI, the batch search procedure combines the strategy types and then assigns them to a combination of plant and order type.

Check which entry the strategy type ZPI1 contains.

Function: *Assign Batch Search Procedure and Activate Check*

This shows which search procedure is used for which purpose.

Look at the search procedure that contains strategy type ZPI1. To which order type and plant is it assigned?

### 3-7-2 Carrying out batch determination in the production process:

#### Change BOM

You have to prepare the data for batch determination with your batch material. Change the BOM for the material T-HT2##.

Use the data below:

Material: T-HT2##

Plant: 1100

Use: 1

Add your material Y-500-## to the list of components by choosing **Edit** → **New entries**. Enter 1 kg as the quantity and *Stock items* as the item category. In the *Basic data* for the item, mark the item as a *fixed quantity*.

Save the BOM.

#### Create batch search strategy for production process

Go to

*Logistics* → *Central functions* → *Batch Management* → *Batch Determination* → *Batch Search Strategy* → *For Process Order* → *Create (COBI)*

Create a strategy record with the following data:

Strategy type: ZPI1

Order type: PI01

Plant: 1100

Material: Y-500-##

Selection class 023SE\_## (Define the selection conditions)

Sort rule 040SO\_##

#### Create process order and carry out batch determination for components

Open a process order for material T-HT2##. Use the data for which you have just created a strategy record. Enter a total quantity of 100,000 pieces and the current date as the start date. The system accepts the master recipe with the modified BOM. Call up the material overview.

Select your components that are subject to batch management and choose

***Material*** → ***Batch management*** → ***Carry out determination***

The system displays the selection screen for batch determination with all the required information, including The system displays all the batches that match your selection criteria.

To see how the system found the strategy record used, choose *Strategy analysis*.

For more information, you can double-click it.

To overwrite the target values of the selection characteristics, choose *Selection criteria*.

Choose *Change* and enter a smaller interval or a single value.  
The search result changes.

Choose

***Batch Determination → Without Selection Criteria.***



The system shows all available, existing batches for this material.

To display a comparison of the selection values from the strategy record with the batch's actual characteristic values, choose *Classification*.

This shows you why a batch was found **or** why it was not displayed.



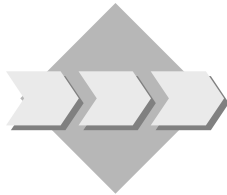
## Unit: Functions of Batch Management

### Topic: Shelf life expiration date



At the conclusion this exercise, you will be able to:

- Use the function for the shelf life expiration date check
- Make all required settings
- Monitor stocks with regards to remaining shelf lives



For materials with a limited shelf life that are handled in batches, the system should calculate and check the shelf life expiration date at goods receipt.

You want to verify,

- How the system calculates the shelf life expiration date of the delivered batch
- How the system checks whether the remaining shelf life meets the requirements
- How to search for stocks with a specific remaining shelf life

### 3-8 Change the shelf life data in the material master

Use the transaction *Change material master* from your favorites.

Call up the master data for material Z-MHD##.

For plant 1100, extend the following data in the *General Plant Data / Storage 1* view:

Minimum remaining shelf life: 30 days

Total shelf life: 50 days

3-8-1 Change the class C## of your material by adding the standard characteristic for the expiration date (search for the characteristic *LOBM\** using the F4 help).

### 3-9 Goods receipt for purchase order with entry of shelf life expiration date/production date.

#### 3-9-1 Create a purchase order.

Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*

Vendor	100
Purchasing organization	1000
Purchasing group:	008
Company code:	1000

Material:	Z-MHD##
Quantity:	100 kg
Price:	10 Euros per kg
Plant:	1100

Call up the item details and check in the delivery section that the remaining shelf life of 30 days has been copied from the material master.

In the second item, enter your material Y-500-##. Order 50 kg at 15 Euros per kg. Check the item details to see whether the system has proposed a remaining shelf life from the material master record. You want to ensure that the goods can be kept for at least another 3 months (90 days).

**Save the purchase order and make a note of the number.**

Purchase order: \_\_\_\_\_

### 3-10 Post the goods receipt:

Choose *Logistics* → *Materials Management* → *Inventory Management* → *Goods Movement* → *Goods Receipt* → *For Purchase Order* → *GR for Purchase Order (MIGO)*. Choose the transaction *Goods Receipt* and the *purchase order* document:

- Enter your purchase order number. Transfer the items by setting the indicator to *OK* at item level. Make sure that the *Where* tab page contains all the required data. In the detail data, display the *Batch* tab page. Add a batch number for both items.
- Check the document. What information do you receive?

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- The system requires you to enter a production date for the batch for material Z-MHD##, as you defined a total shelf life in section 3-8 of the exercise. Enter a date of production. The system then calculates the shelf life expiration date and checks whether the remaining shelf life is sufficient.
- For the item Y-500-##, the system asks you to enter an expiration date. Choose a date that fulfills your requirements (90 days remaining shelf life).
- Check the document. Save your goods movement.

Goods receipt document: \_\_\_\_\_

### 3-11 Verify shelf life expiration date in the batch master record

Call up the batch master records from your favorites or via the menu.

Check whether the *Expiration Date/SLED* field was automatically filled for the batch for material Z-MHD##. Try to track how the system calculated the date.

Display the batch master record that was posted for your material Y-500-##. What information do you find on the minimum shelf life?

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### 3-12 Evaluations in the Batch Information Cockpit:

Start the Batch Information Cockpit. Choose the SAP standard selection for material Z-MHD##. Go to the *Minimum Shelf Life* tab page and enter 20 days in the *Remaining Shelf Life* field. You want to see all batches whose shelf life expiration date falls within this remaining shelf life. What is the selection result?

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Change the selection criteria. You want to select all batches whose expiration dates fall outside a remaining shelf life of 25 days (in other words batches that do not expire within the next 25 days). Make sure that the selection result displays the remaining shelf life in days.

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### 3-13 Searching using selection classes:

Enter your class C## as the selection class on the *Classification* tab page. Create new characteristic values:

You want to find all batches of your material Y-500-## where the expiration date is before the date you have specified. Enter the expiration date as today's date + 1 year (enter < before the date to tell the system to search including batches where the expiration date does not match this expiration date exactly): Does the system find any batches? Check whether the system has selected correctly by reducing the selection date range (today's date + 1 day). What is the selection result?

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## Unit: Functions of Batch Management

### Topic: Status “Restricted” and its consequences

**3-1** Check the new situation using the stock overview.

*Logistics → Materials Management → Inventory Management  
Environment → Stock → Stock Overview (MMBE)*

**3-1-1** Changing the batch status of material T-350-##, batch T350A1## from “Unrestricted” to “Restricted”:

*Logistics → Central Functions → Batch Management → Batch → Change (MSC2N)*

**Monitoring stocks:**

*Logistics → Materials Management → Inventory Management →  
Environment → Stock → Stock Overview (MMBE)*

	Unrestricted-use	Restricted-use	Quality inspection
<b>Storage location 0001</b>			
<i>T350A1##</i>		<b>100</b>	<b>20</b>
<i>T350A2##</i>	<b>33</b>		
<i>T350A3##</i>	<b>508</b>		
<b>Storage location 0002</b>			
<i>T350A1##</i>		<b>37</b>	
<b>Storage location 0003</b>			
<i>T350A1##</i>		<b>12</b>	



### 3-1-2 The quality inspection stock is released:

*Logistics → Materials Management → Inventory Management → Goods Movement → Transfer Posting (MIGO)*

Field name	Values
Movement Type	321
Plant	1100
Storage location	0001

#### Monitoring stocks:

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

	Unrestricted-use	Restricted-use	Quality inspection
<b>Storage location 0001</b>			
<i>T350A1##</i>		120	
<i>T350A2##</i>	33		
<i>T350A3##</i>	508		
<b>Storage location 0002</b>			
<i>T350A1##</i>		37	
<b>Storage location 0003</b>			
<i>T350A1##</i>		12	

3-1-3 The batch status is changed to "Unrestricted".

*Logistics → Central Functions → Batch Management → Batch → Change (MSC2N)*

*Monitoring stocks:*

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

	Unrestricted-use	Restricted-use	Quality inspection
<b>Storage location 0001</b>			
<i>T350A1##</i>	<b>120</b>		
<i>T350A2##</i>	<b>33</b>		
<i>T350A3##</i>	<b>508</b>		
<b>Storage location 0002</b>			
<i>T350A1##</i>	<b>37</b>		
<b>Storage location 0003</b>			
<i>T350A1##</i>	<b>12</b>		



## Unit: Functions of Batch Management

### Topic: Assigning the Status *Restricted* to a Batch

#### 3-2 Change the batch master record and set the status to *Restricted*

##### 3-2-1 Check the stocks of your material Y-500-## in the Batch Information

Cockpit:

*Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*

Field name or data type	Values
Material	Y-500-##

##### 3-2-2 Change the status of one of your batches to *restricted*.

*Logistics → Central Functions → Batch Management → Batch → Change (MSC2N)*

or

*Logistics → Materials Management → Material Master → Batch → Change (MSC2N)*

or

*Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*

##### 3-2-3 Search for the material document that was created as a result of the change to the batch and make a note of the number:

*Logistics → Materials Management → Inventory Management → Environment → List Displays → Material Documents (MB51)*

### 3-3 Monitoring and tracking *restricted* batches using the Batch Information Cockpit:

#### 3-3-1 *Logistics → Central Functions → Batch Management → BIC*

Field name	Values
Material	Y-500-##

Copy the restricted batch into your personal filter. To do this, select the batch and choose the context menu to copy it into the folder SCM595-##. Alternatively, you can also use Drag&Drop.

#### 3-3-2 *Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*

Select the *restricted* batch in your work folder. You can see the possible follow-up actions in the menu bar of the worklist or in the context menu for the batch.



## Unit: Functions of Batch Management

### Topic: Valuation of Single Batches and Evaluations in the BIC

**3-4** The following materials exist in the system:

Material number	Function:
Y-C-GB##	Subject to batch management and split valuation
Y-CEB##	Valuation of single batches
Y-GB##	Split valuation

**Displaying material master records:**

*Logistics → Materials Management → Material Master → Material → Display → Display Current Status (MM03)*

**3-4-1** Goods movements with and without partial inventory management:

*Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)*

Field name or data type	Values
Plant	1100
Storage location	0001
Movement Type	501 or 561

Item	Material number:	Quantity	Valuation type	Batch
1	Y-C-GB##	150	Foreign	Internal number
2	Y-CEB##	225	Same as batch number	Internal number
3	Y-GB##	700	Domestic	No batch

### 3-4-2 Monitoring using the Batch Information Cockpit:

*Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*

Display the results in the Batch Information Cockpit. Select batch Y-CEB-## and display the details in the batch master record. Open the selection results screen area for stocks, and click on the same batch number. Make sure that the **plant level** is displayed in the batch master record. This is why you can see the valuation type in the basic data in the batch master record. For comparison, select the detail view from the selection results. Make sure that the plant information is no longer visible.

### 3-4-3 New selection

Choose the user group *Batch Management SCM595* and enter the valuation type *Foreign* and the plant 1100 as selection criteria on the *Material* tab page. The system now displays all the batches that were valued with the valuation type *Foreign*.

### 3-4-4 *Logistics → Materials Management → Purchasing → Purchase Orders → Create → Vendor/Supplying Plant Known (ME21N)*

Create an item for the material Y-C-GB## for 100 kg and specify the required batch in the *Material Data* tab page.

### 3-4-5 *Logistics → Materials Management → Inventory Management → Goods Movement → Goods Receipt → For Purchase Order → GR for Purchase Order (MIGO)*

If you post quantities of an existing batch, the valuation type can no longer change. The valuation type characterizes a batch. This means that if the origin is different, you have to create a new batch. When you post the existing batch, the system automatically chooses the valuation type from this batch.

You can see the valuation type on the *Material* and *Batch* tab pages.

### 3-4-6 Can you change the valuation type? Why/why not?

No >> For reasoning, see above (3-4-5)

### 3-4-7 Restart the BIC with user group *Batch Management SCM595*. Enter the material number Y-C-GB## and display the selected batch master record. Click *Detail* to go to the batch where-used list. The purchase order document is listed. You can see the goods receipt document by selecting the rows of the purchase order document and choosing the *Documents* pushbutton.

**3-4-8 *Logistics → Materials Management → Material Master → Material → Display → Display Current (MM03)***

After you have selected the view, you receive a popup where you can choose organizational levels. Select plant 1100 and use the input help to display the existing valuation types. The batch you created also exists as a valuation type, and was created automatically by the system because of the *X* indicator (valuation of a single batch).



## Unit: Batch Determination

### Topic: Batch Determination in the Various Application Components

#### a) Define selection class

*Logistics → Central Functions → Batch Management → Batch Determination → Selection and Sort → Selection Class → Create (BMC1)*

or

Customizing (Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG):

*Logistics - General → Batch Management → Batch Determination and Batch Check → Define Selection Classes → Create Selection Classes (CL01)*

#### b) Define and edit sort rules

*Logistics → Central Functions → Batch Management → Batch Determination → Selection and Sort → Sort Rule → Create (CU72)*

or

Customizing (Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG):

*Logistics - General → Batch Management → Batch Determination and Batch Check → Define Sort Rules → Create Sort Rules (CU70)*



### 3-5-1 Batch determination for goods movements: Customizing

In Customizing, choose *Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG*. Choose *Logistics - General → Batch Management → Batch Determination and Batch Check*

**Call up each of the functions that affect Inventory Management:**

Function: *Condition tables*

Function: *Access sequences*

Function: *Strategy types*

You must not change the strategy type ZMM1 that has been defined for this exercise!

Look at the default values for strategy type ZMM1 and note the access sequence with which it is linked.

Function: *Define Batch Search Procedure*

The search procedure Z00001 contains the strategy type ZMM1.

Function: *Assign Batch Search Procedure and Activate Check*

The search procedure Z00001 is assigned to movement types 201, 311 and 901..



**RECOMMENDATION:** For test purposes, it is best to stick to movement type 201 or 311. If you use these, you do not have to change or extend the material master data and you do not need any additional documents.

### 3-5-2 Batch determination for goods movements

**Create batch search strategy for Inventory Management**

*Logistics → Central Functions → Batch Management → Batch Determination → Batch Search Strategy → For Inventory Management → Create (MBC1)*

In the strategy record, use your selection class as a selection criterion and your sort rule as a sort criterion.

Field name or data type	Values
Strategy type	ZMM1
Key combination	Movement Type/Material
Movement Type	201 or 311
Material	Y-500-##
Selection class	023SE_## Define your target values for the selection characteristics.
Sorting	040SO_##

### Post goods movement with batch determination

Post the goods movement, using the movement type for which you have maintained data.

***Logistics → Materials Management → Inventory Management → Goods Movement → Goods Issue (MIGO) || Movement Type 201 (Goods Issue / Other)***

or

***Logistics → Materials Management → Inventory Management → Goods Movement → Transfer Posting (MIGO) || Movement Type 311***

Enter the material number and quantity.

Use the Inventory Management icon to trigger batch determination.

Choose *Strategy analysis* and *Selection criteria*.

Choose ***Batch Determination → Without Selection Criteria***.

### 3-6-1 Batch determination in Sales and Distribution: Customizing

In Customizing, choose (*Tools → Customizing → IMG → Edit Project. Goto → Display SAP Reference IMG*). Choose *Logistics - General → Batch Management → Batch Determination and Batch Check*

#### Call up each of the functions that affect SD:

Function: *Condition tables*

Function: *Access sequences*

Function: *Strategy types*

**You must not change the strategy type ZSD1 that has been defined for this exercise!**

Look at the default values for strategy type ZSD1 and note the access sequence with which it is linked.

Function: *Define Batch Search Procedure*

The search procedure SD0001 contains the strategy type ZSD1.

Function: *Assign Batch Search Procedure and Activate Check*

The search procedure SD0001 is assigned to sales organization 1020, distribution channel 22, division 00, and sales document type TA, amongst other things.

Function: *Activate Automatic Batch Determination in Sales and Distribution*

This function enables you to activate automatic batch determination for order items or delivery item categories. Current settings: Automatic batch determination is active for delivery item category TAN.

### 3-6-2 Carry out batch determination in Sales and Distribution:

#### Create batch search strategy for SD

*Logistics → Central Functions → Batch Management → Batch Determination → Batch Search Strategy → For Sales and Distribution → Create (VCH1)*

In the strategy record, use your selection class as a selection criterion and your sort rule as a sort criterion.

Field name or data type	Values
Strategy type	ZSD1
Key combination	Customer/material
Sold-to party	7777
Material	Y-500-##
Selection class	023SE_## Define your target values for the selection characteristics.
Sorting	040SO_##



As you may still want to change the batch search strategy, it is advisable to copy the transaction *Change batch search strategy* to your favorites.

For case 1 (sales order):

#### Create a sales order and carry out batch determination

*Logistics → Sales and Distribution → Sales → Order → Create (VA01)*

Field name or data type	Values
Order type	TA
Sales organization	1020
Distribution channel	22
Division	00
Customer	7777
PO number	Any
Material	Y-500-##
Quantity	Any
Plant	1100

Choose

**Edit → Batch determination.**

Choose *Strategy analysis* and *Selection criteria*.

Choose **Batch Determination → Without Selection Criteria**.

For case 2 (delivery):

**Create delivery and carry out batch determination**

**Logistics → Sales and Distribution → Sales → Order → Change (VA02)**

Remove the batch number entered in the item overview.

Choose

**Sales document → Deliver**

If you receive a warning message, click the green arrow.

Enter:

Field name or data type	Values
Shipping point	1100
Selection date	Current date + at least 1 week

In the delivery document, choose

**Goto → Item → Batch Split**

Automatic batch determination was executed.

Pushbutton *New Batch Determination*

You will recognize the selection screen for batch determination.

### 3-7-1 Batch determination in process manufacturing: Customizing

In Customizing, choose *Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG*. Choose *Logistics - General → Batch Management → Batch Determination and Batch Check*

**Call up each of the functions that affect process manufacturing:**

Function: *Condition tables*

Function: *Access sequences*

Function: *Strategy types*

**You must not change the strategy type ZPI1 that has been defined for this exercise!**

Look at the default values for strategy type ZPI1 and note the access sequence with which it is linked.

Function: *Define Batch Search Procedure*

The search procedure CO0001 contains the strategy type ZPI1.

Function: *Assign Batch Search Procedure and Activate Check*

Search procedure CO0001 is assigned to order type PI01 and plant 1100.

### 3-7-2 Carrying out batch determination in the production process:

#### Change BOM

*Logistics → Production → Master Data → Bills of Material → Bill of Material → Material BOM → Change (CS02)*

Use the data below:

Field name or data type	Values
Material	T-HT2##
Plant	1100
Use	1

Add your material Y-500-## to the list of components by choosing *Edit → New entries*.

Field name or data type	Values
Quantity	1 kg
Item category	Stock item

Indicate that the new item is a *fixed quantity*.

Save the BOM.

#### Create batch search strategy for production process

*Logistics → Central Functions → Batch Management → Batch Determination → Batch Search Strategy → For Process Order → Create (COB1)*

Create a strategy record with the following data:

Field name or data type	Values
Strategy type	ZPI1
Order type	PI01
Plant	1100
Material	Y-500-##
Selection class	023SE_## Define your target values for the selection characteristics.
Selection character.	040SO_##

**Create process order and carry out batch determination for components**

***Logistics → Production-Process → Process Order → Process Order → Create → With Material (COR1)***

Field name or data type	Values
Material	T-HT2##
Plant	1100
Order type	PI01
Total qty	100,000 pcs
Start date	Today

The system accepts the master recipe with the modified BOM. Go to the material overview.

Select your components that are subject to batch management and choose

***Material → Batch management → Carry out determination***

Choose *Strategy analysis* and *Selection criteria*.

Choose ***Batch Determination → Without Selection Criteria***.





## Unit: Functions of Batch Management

### Topic: Shelf life expiration date

#### 3-8 Change the shelf life data in the material master

Use the transaction *Change material master* from your favorites, or choose:

**Logistics → Materials Management →**

**Material Master → Material → Change → Immediately (MM02)**

Field name or data type	Values
Material	Z-MHD##
View	General Plant Data / Storage 1
Plant	1100
Remaining shelf life	30 days
Total shelf life	50 days

#### 3-8-1 Including standard characteristic LOBM\_VFDAT in batch class C##:

**Cross-Application Components → Classification System → Master Data → Classes (CL02)**

Field name or data type	Values
Class	C##
Characteristic	LOBM_VFDAT

### 3-9 Post goods receipt for purchase order with entry of shelf life expiration date/production date

#### 3-9-1 Create a purchase order.

Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known (ME21N)*

Field name or data type	Values
Vendor	100
Purchasing organization	1000
Purchasing group	008
Company code	1000
<b>Item 10</b>	
Plant	1100
Material	Z-MHD##
Quantity	100 kg
Price	10 Euros per KG
<b><i>Delivery tab page</i></b>	
Remaining shelf life	30 days (suggested value)
<b>Item 20</b>	
Plant	1100
Material	Y-500-##
Quantity	50 kg
Price	15 Euros per KG
<b><i>Delivery tab page</i></b>	
Remaining shelf life	90 days (manual entry)
<b>PO number</b>	Internal number assignment

### 3-10 Goods receipt posting:

Choose

***Logistics → Materials Management → Inventory Management → Goods Movement → Goods Receipt → For Purchase Order → GR for Purchase Order (MIGO).***

Choose the transaction *Goods Receipt* and the *purchase order* document:

- Enter your purchase order number. Transfer the items by setting the indicator to *OK* at item level. Make sure that the *Where* tab page contains all the required data. In the detail data, display the *Batch* tab page. Add a batch number for both items.
- Check the document by choosing the *Check* pushbutton or F7:

The system requires you to enter the date of production for the batch of material Z-MHD## on the *Batch* tab page.

For the item Y-500-##, the system asks you to enter a shelf life expiration date. As there is no total shelf life for this material, the system cannot calculate the expiration date itself. Choose a date that fulfills your requirements from the purchase order (90 days remaining shelf life).

- Check the document. Save your goods movement.

### 3-11 Verify shelf life expiration date in the batch master record

Call up the batch master record from your favorites or via the menu.

***Logistics → Central Functions → Batch Management → Batch → Change (MSC2N)***

The *expiration date* for the batches was updated. You will find it in the batch master record on the *Basic Data 1* tab page in the *SLED* screen area.

For the batch of material Z-MHD##, the system has automatically calculated the date on the basis of the date of production (which you can also see in the batch master record on the *Basic Data 1* tab page) that you entered in Goods Receipt, by adding the total shelf life of 50 days to it..

The batch master for your material Y-500-## contains an expiration date. Since the total shelf life of this material is not known, the expiration data had to be entered on goods receipt. The system stores this information in the batch master. The date of production could be set as additional information. This entry was not absolutely necessary, however.

In the classification data in the batch master, you can display the expiration date. The standard characteristic LOBM\_VFDAT ensures that this is automatically updated. This means that you can search for batches according to the selection criteria *Expiration Date*.

### 3-12 Evaluations in the Batch Information Cockpit:


Start the Batch Information Cockpit. Choose the SAP standard selection for material Z-MHD##. Go to the *Minimum Shelf Life* tab page and enter 20 days in the *Remaining Shelf Life* field. Select the SLED status *SLED within remaining shelf life*.

Result: The system does not find any batches where the expiration date is in the next 20 days.

Change the selection criteria. Choose the SAP standard selection for material Z-MHD##. Go to the *Minimum Shelf Life* tab page and enter 25 days in the *Remaining Shelf Life* field. Select the SLED status *SLED outside remaining shelf life*. Select the remaining shelf life display *to the day*.

Result: The system finds the batch you posted in exercise 3-10.

### 3-13 Searching using selection classes:

Enter your class C## as the selection class on the *Classification* tab page. Choose the *Create* pushbutton: 

You want to find all batches of your material Y-500-## where the expiration date is before the date you have specified. Enter the expiration date as today's date + 1 year (enter < before the date to tell the system not to search for batches where the expiration date matches this expiration date exactly).

Because you entered an expiration date in the goods receipt (today's date + 1 year), the system finds a batch.

Check whether the system has selected correctly by reducing the selection date range (today's date + 1 day).

In this case, there is no selection result, which means there are no batches that expire today.

### **Contents:**

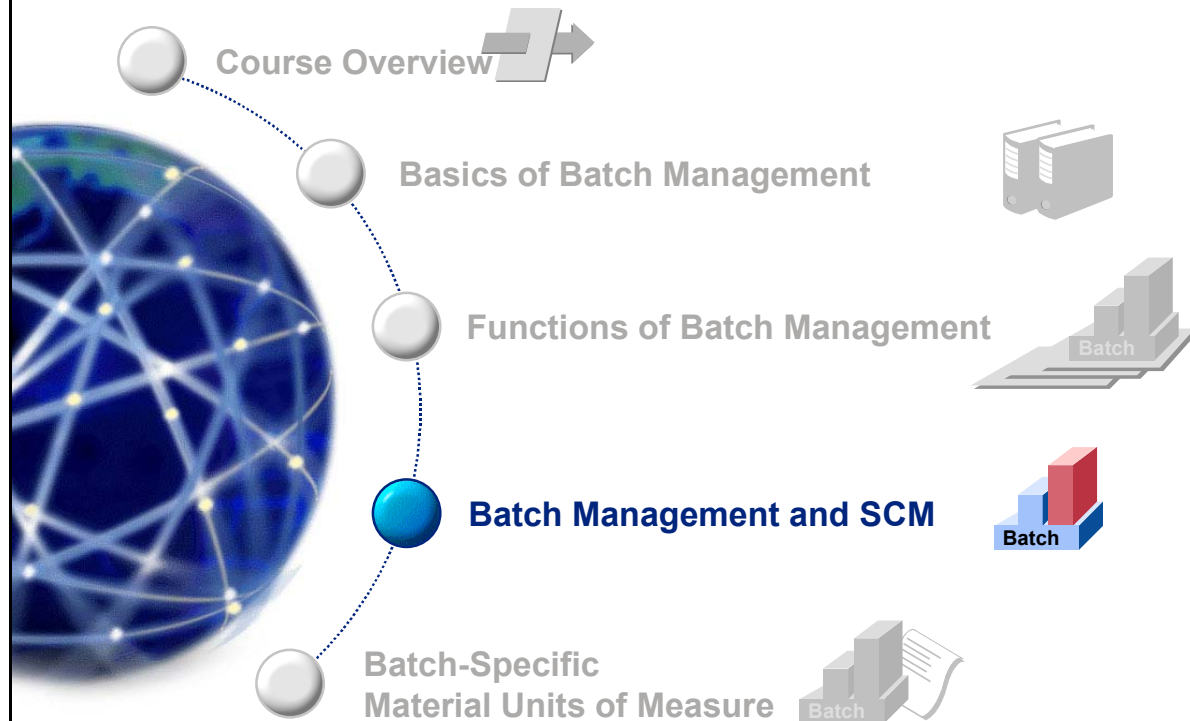
- **Valuation of batch characteristics using quality inspections**
- **Electronic batch records (EBR)**
- **Batch derivation**
- **Batch where-used list with the BIC**

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**At the conclusion of this unit, you will be able to:**

- **Valuate batch characteristics through quality inspections**
- **Use electronic batch records**
- **Use batch derivation functions for various applications along the supply chain**
- **Use the batch where-used list**





- **You are integrating a quality inspection into your procurement process. You want to check the quality of certain materials when posting a goods receipt. The results are to be used to update the characteristics of the corresponding batch master records.**
- **For a specific area in production, you need to check the quality of the products when processing the process orders. These check results should also be used to update the relevant batch master records.**
- **You also want to make sure that the expiration date for your end product is automatically determined from its components.**
- **If you receive customer complaints, you must be able to trace batches.**

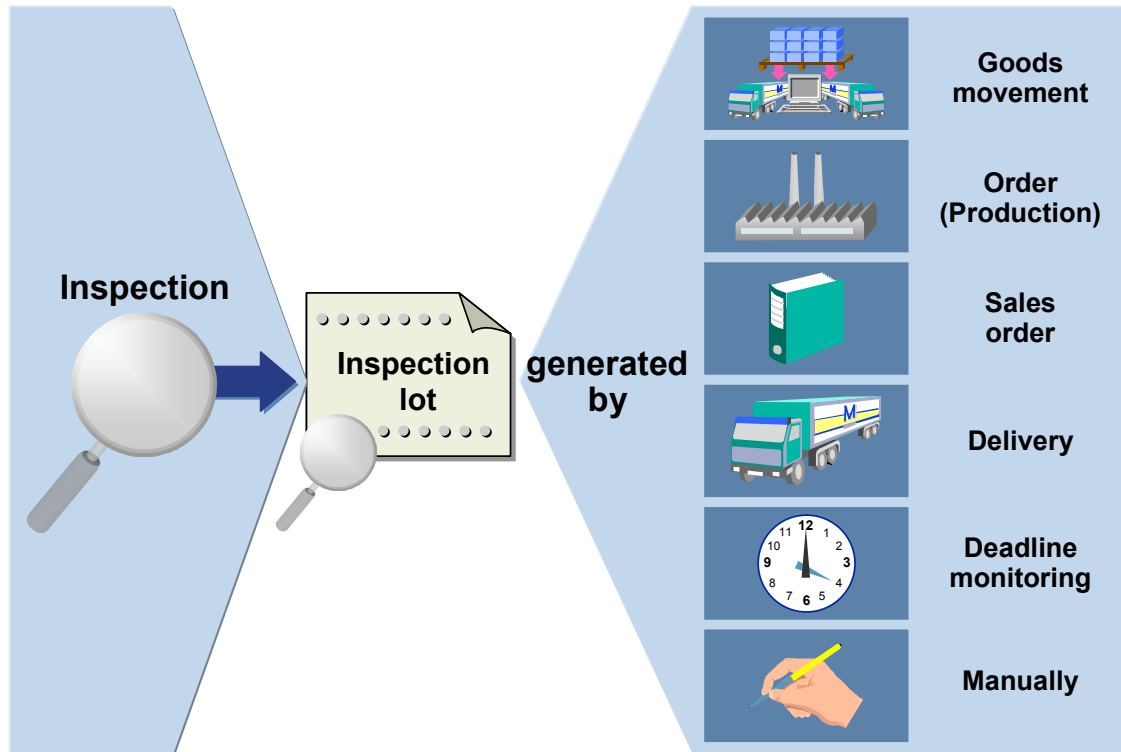
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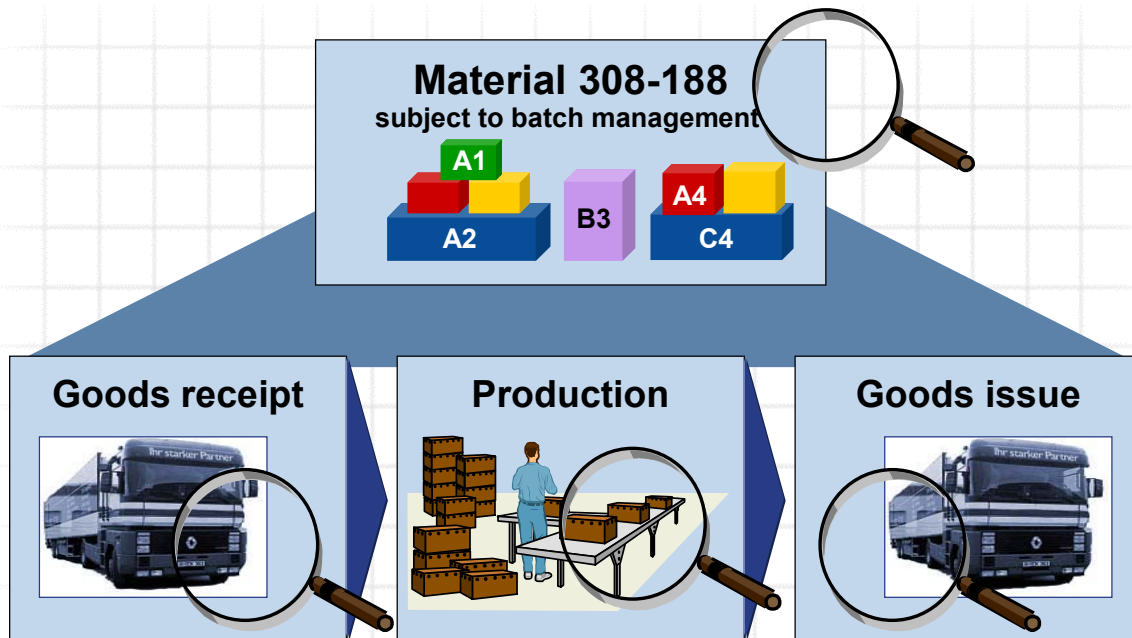
**At the conclusion of this topic, you will be able to:**

- **Maintain information relevant to the quality check in the material master**
- **Link together batch characteristics and master inspection characteristics**
- **Perform a quality inspection with automatic valuation of batch characteristics**
- **Analyze batches with inspection lost in the BIC**
- **Use the repeat inspection function**



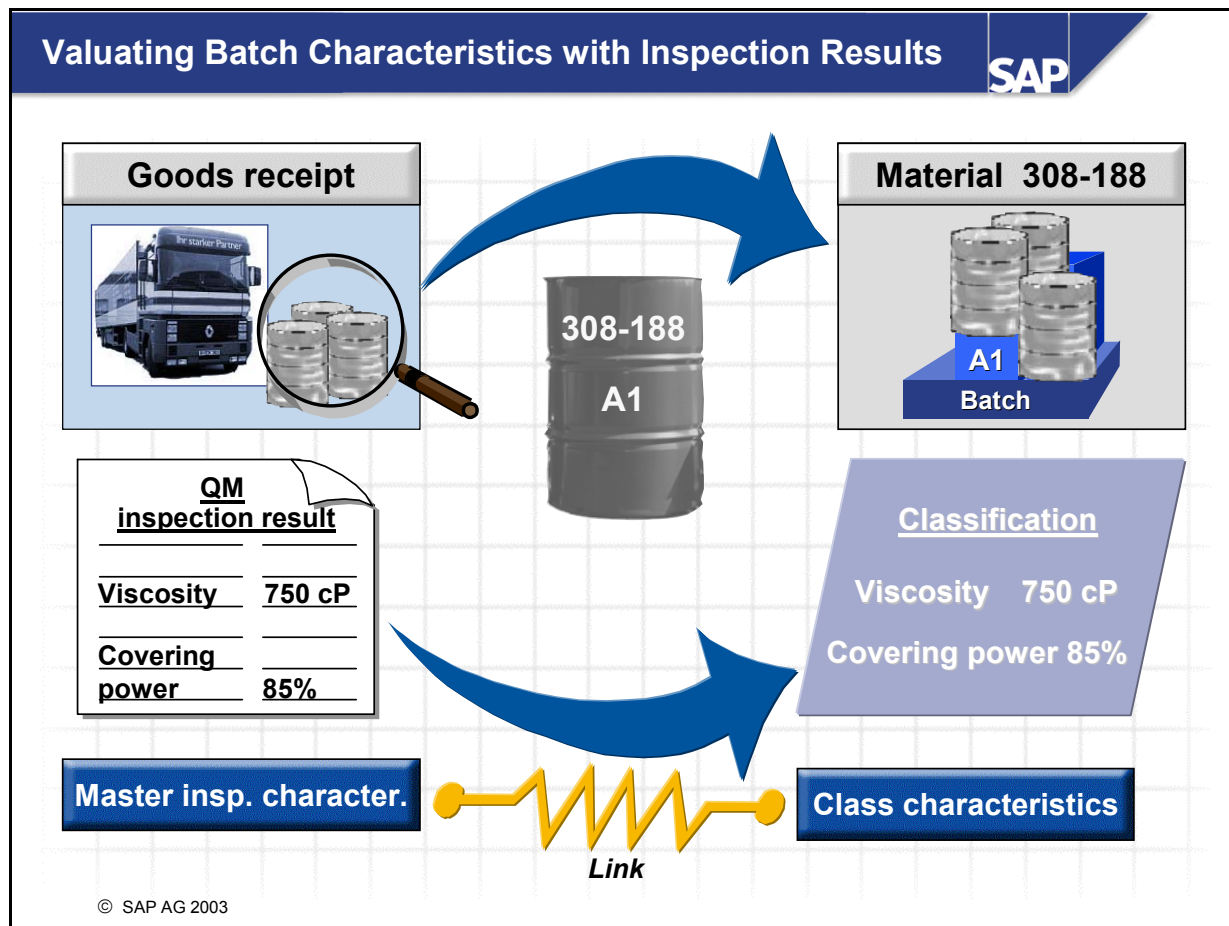
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- To perform a quality inspection in the ECC system, you must first generate an inspection lot. Inspection lots are integrated into the supply chain, for example, for the transactions goods receipt, goods issue, and process order. They document the entire inspection process, from the inspection requests through results recording to the usage decision. Lots are generated for the relevant component either manually or automatically from various sources.
- For an *inspection accompanying the (manufacturing) process*, the inspection lot is created manually before order release, or automatically at order release for the corresponding process order. The inspection requirements are created as inspection characteristics in the operations and/or phases of the underlying master recipe and are copied to the inspection lot.
- For other applications, such as a goods receipt, the relevant inspection lot is created on the basis of an inspection plan stored in ECC Quality Management, for example. Inspection plans are ECC Quality Management master data.

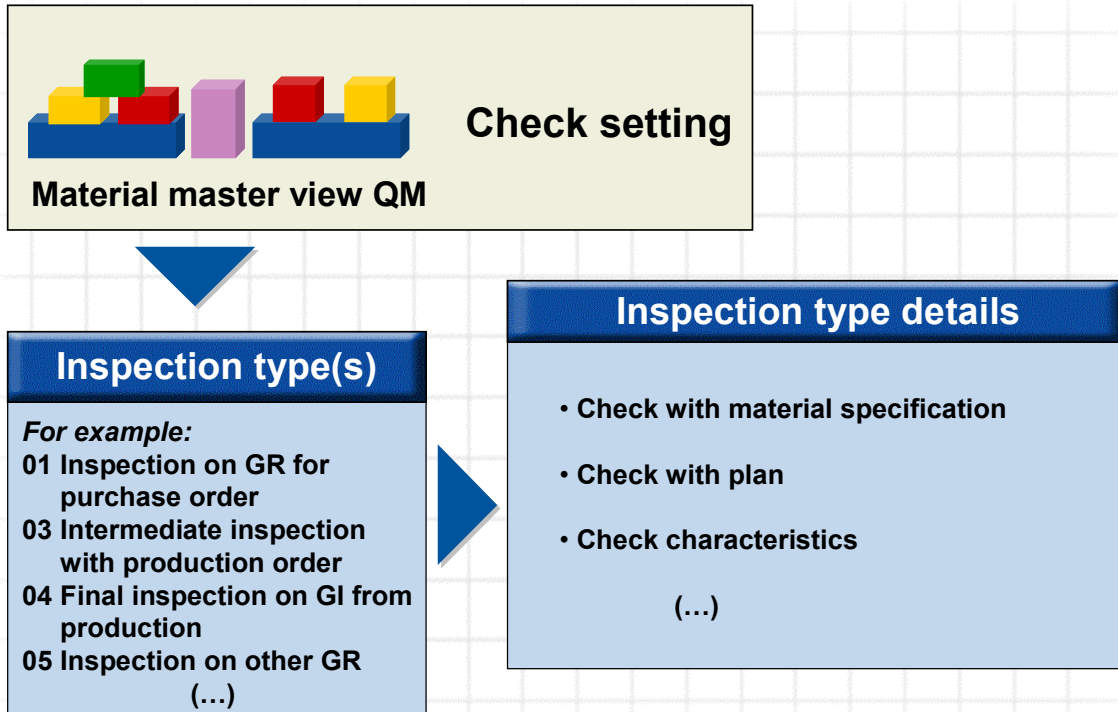


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- Quality inspections can be made in a wide variety of areas in Logistics.  
New batches can be generated every time a material that is subject to batch management is inspected.
- Goods procured externally are inspected for the first time upon receipt.
- For materials produced in-house, the inspection can happen alongside production, or you can use an incoming goods inspection from production.
- If goods are delivered externally, they are inspected before delivery to customers.
- Goods stored in a warehouse can also be subject to regular quality inspections (deadline monitoring).

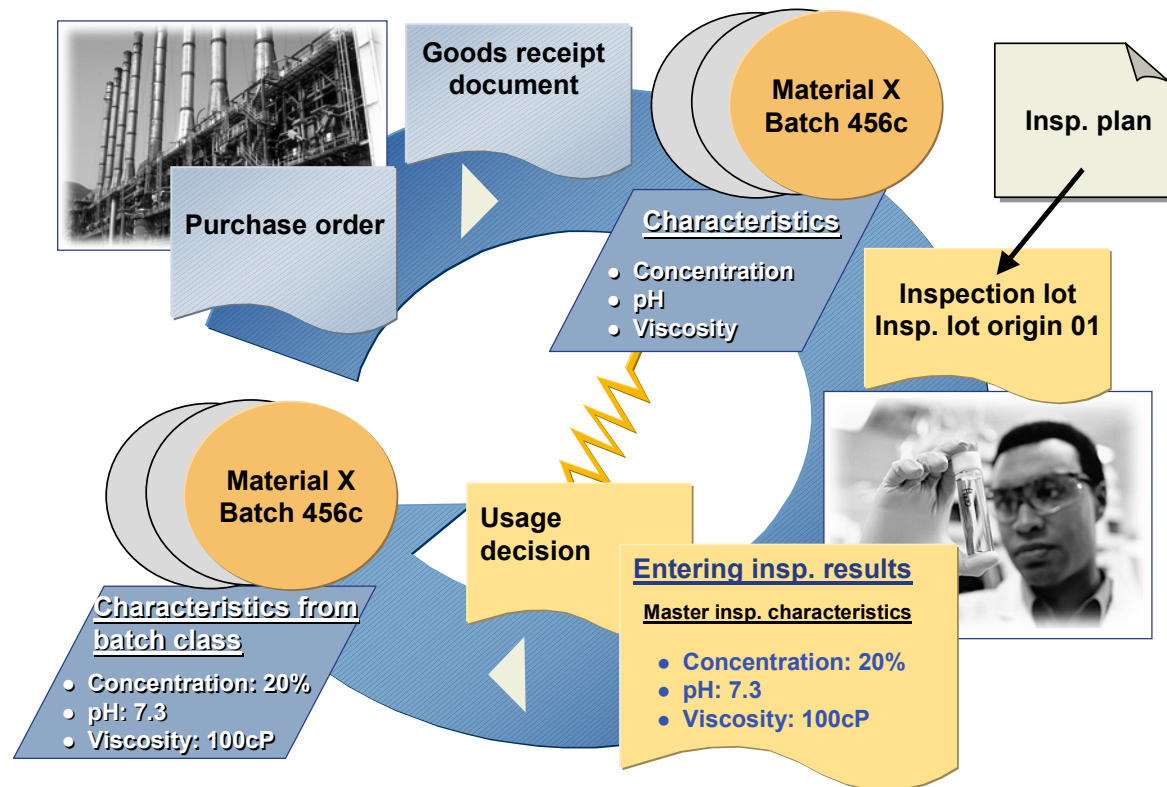


- SAP Quality Management uses (master) inspection characteristics to store inspection results.
- The batch keeps its specification values in the characteristics of the batch class. To distinguish them from master inspection characteristics, they are referred to as *class characteristics*.
- If the master inspection characteristic describes the same attribute as the class characteristic, you should link them to avoid duplicate maintenance. Up to release 4.5, a material specification is required to link the master inspection characteristic and the class characteristic in order to transfer the inspection results to the batch. As of release 4.5, a direct link between the master inspection characteristic and the class characteristic is all that is required to transfer the inspection results to the batch.



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- In the inspection type, set the *Check with Material Specification* and / or *Check with Plan Indicator* to make an inspection on the basis of the plan or the material specification.



- You can create the batch number or batch master record using the purchase order. In other cases, the batch number and the batch master record is created using the goods receipt transaction.
- When the goods receipt is posted for the purchase order, the system prepares the QM inspection for the relevant batch. This means that the QM information is copied to the inspection lot that is automatically created alongside the goods receipt posting.
- You can edit the inspection lot using various QM processing transactions, and record results, in other words valuate the master inspection characteristics in order to make the usage decision for the inspection lot.
- When you save the usage decision, the value assignments for the master inspection characteristics are automatically copied to the relevant batch class characteristics.



**Production**  
Production / Process Order

**Goods receipt**

**Inspection accompanying process**

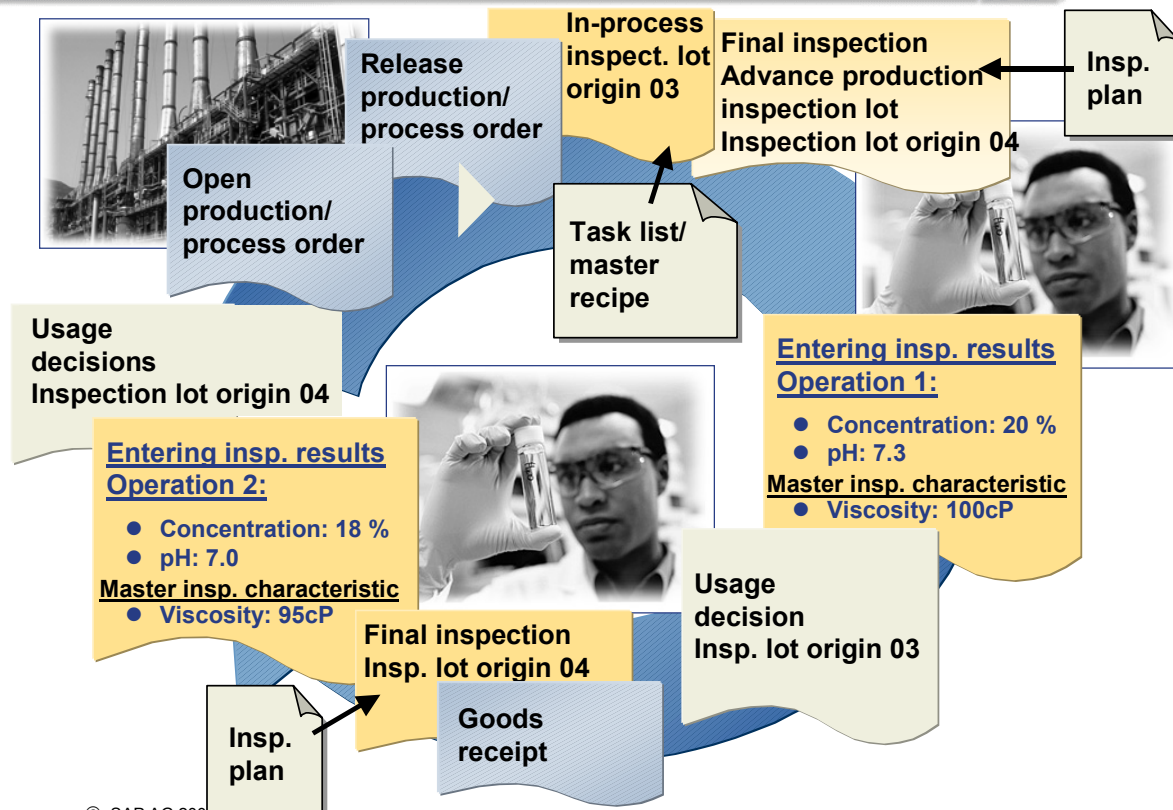
**Inspection for goods receipt from production**

**Inspection type 03  
Inspection type 04  
(advanced)**

**Inspection type 04**

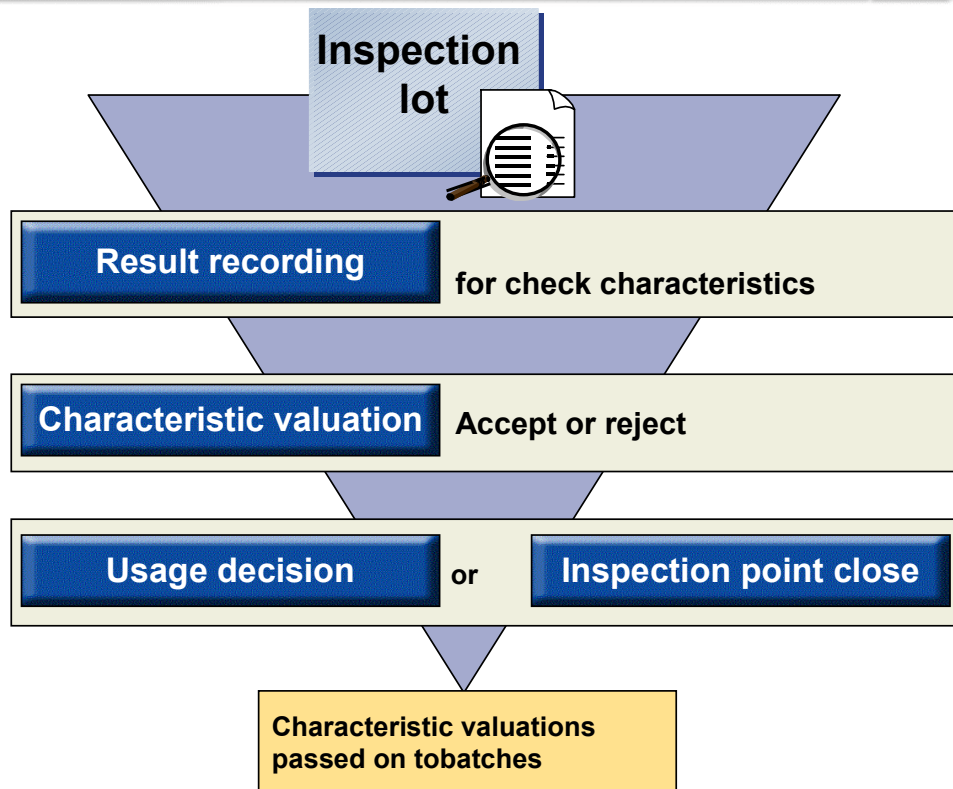
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- In production, you can check the quality of a product at the following times:
  - Accompanying the production process: Inspection type 03
  - Prior to goods receipt and accompanying production after the process order has been released (advanced inspection type 04 inspection lot), or on goods receipt (classic inspection type 04 inspection lot).



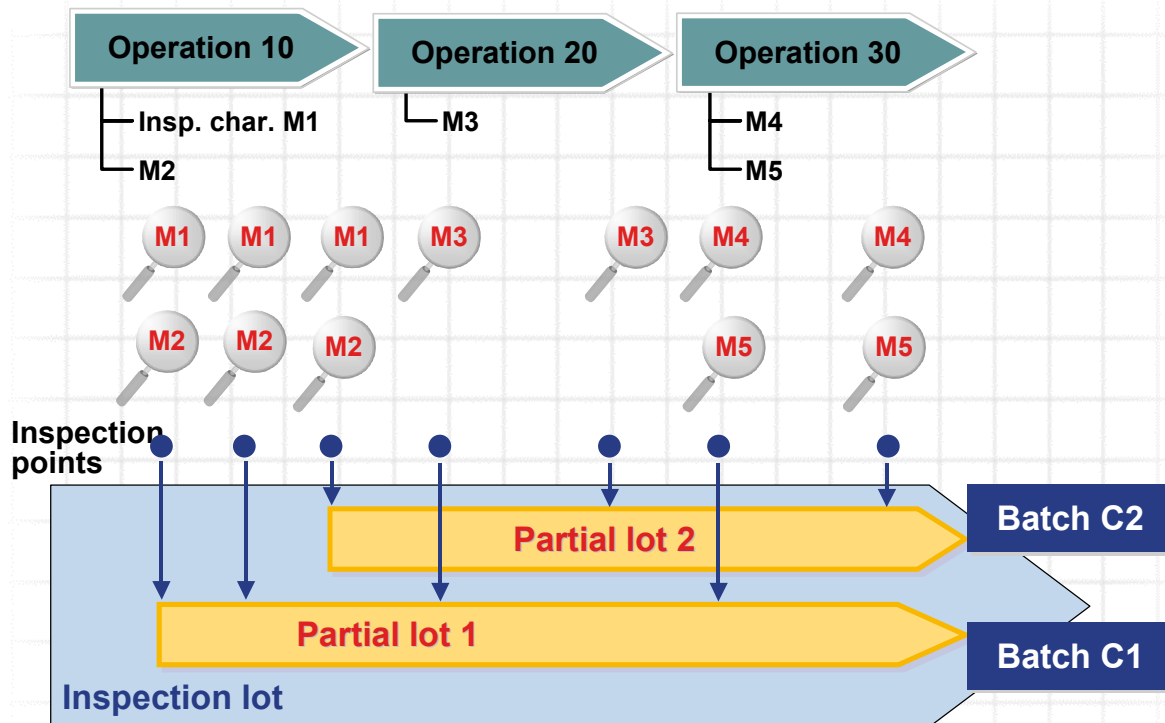
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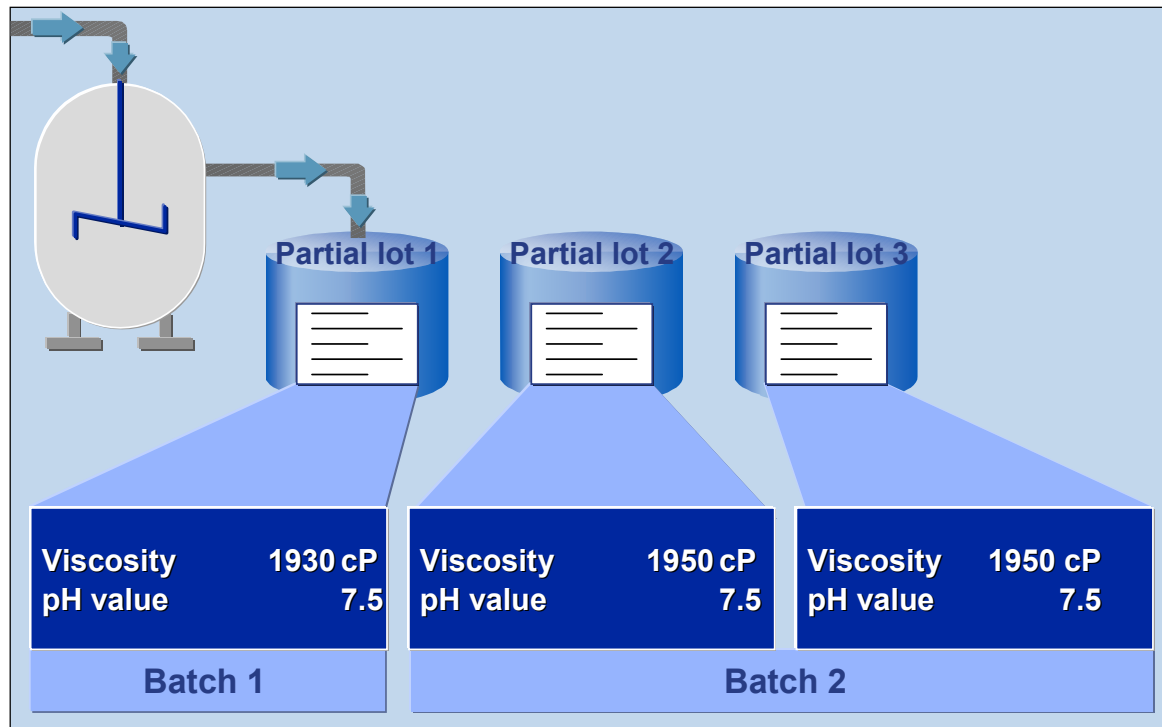
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- You record inspection results by entering the inspection values for the inspection characteristics of the respective inspection lot.
- After recording the results, you have to value the inspection characteristics. The characteristics can be valued manually or automatically. There are various valuation methods available: Depending on the valuation, the characteristics are accepted or rejected.
- The quality inspection is complete when a usage decision has been made for the entire inspection lot.
- With the usage decision, the values are transferred from the master inspection characteristic to the class characteristic assigned to it.
- When checking with inspection points, the value is transferred with the inspection point close.



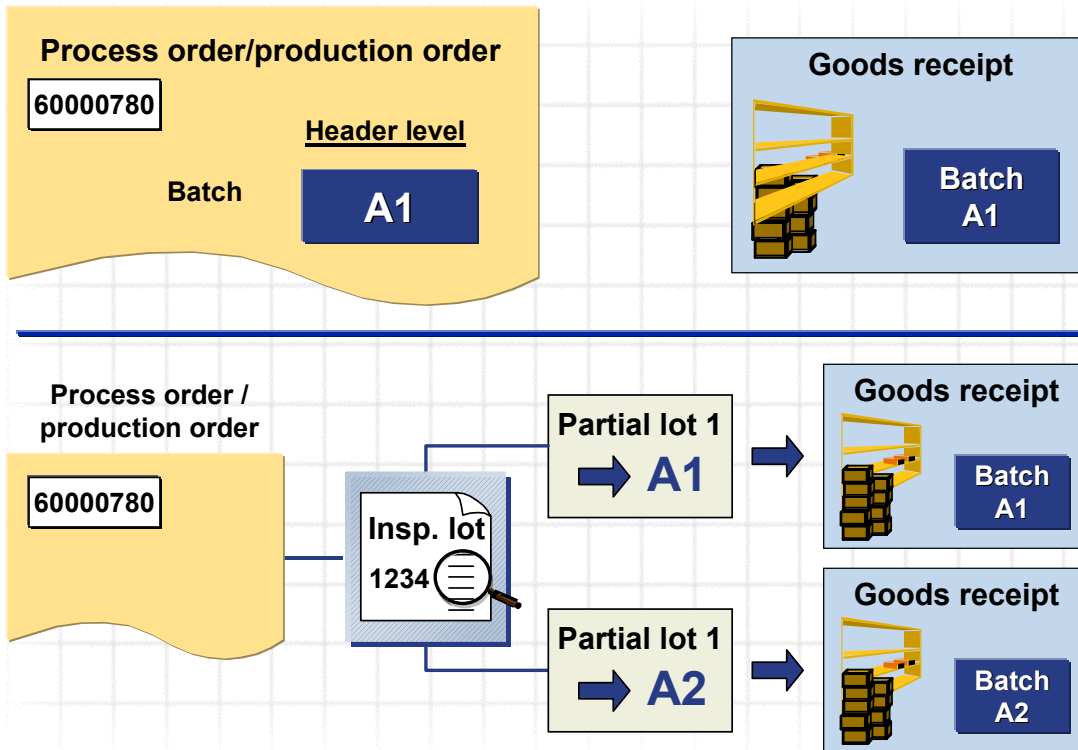
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- The graphic above shows the possible connections between inspection points, partial lots and batches in the inspection during production (production or process orders).
- If *inspection points* are planned in advance in the task list or master recipe, all the inspection result entries that accompany the process relate to these inspection points. In contrast to an inspection without inspection points, this enables you to enter inspection results several times in sequence for the inspection characteristics of the same inspection operation.
- Each inspection results recording is made for the inspection characteristics in the inspection lot, and only one inspection lot can be created for an order. If partial quantities now appear in an order with attributes that may be different, the inspection results for each inspection point can be recorded during the inspection for the corresponding partial lot. More than one partial lot can be created.
- A partial lot identifies a specific production quantity during production. This quantity passes through various operations or phases, where each operation or phase checks different inspection characteristics with reference to inspection points. The results can be assigned to the partial lot. New partial lots are created when the first inspection point is processed for this partial lot. You can also enter partial lot quantities.
- The manufacture of co-products is an example of how partial lots are created. In this kind of production, several materials are produced simultaneously in one process order. Each co-product can be identified with a partial lot.
- If the end product is managed in batches, you can assign the partial lots to individual batches. Selected inspection results for the batch specification can be automatically copied to the batch characteristics for the produced batch.



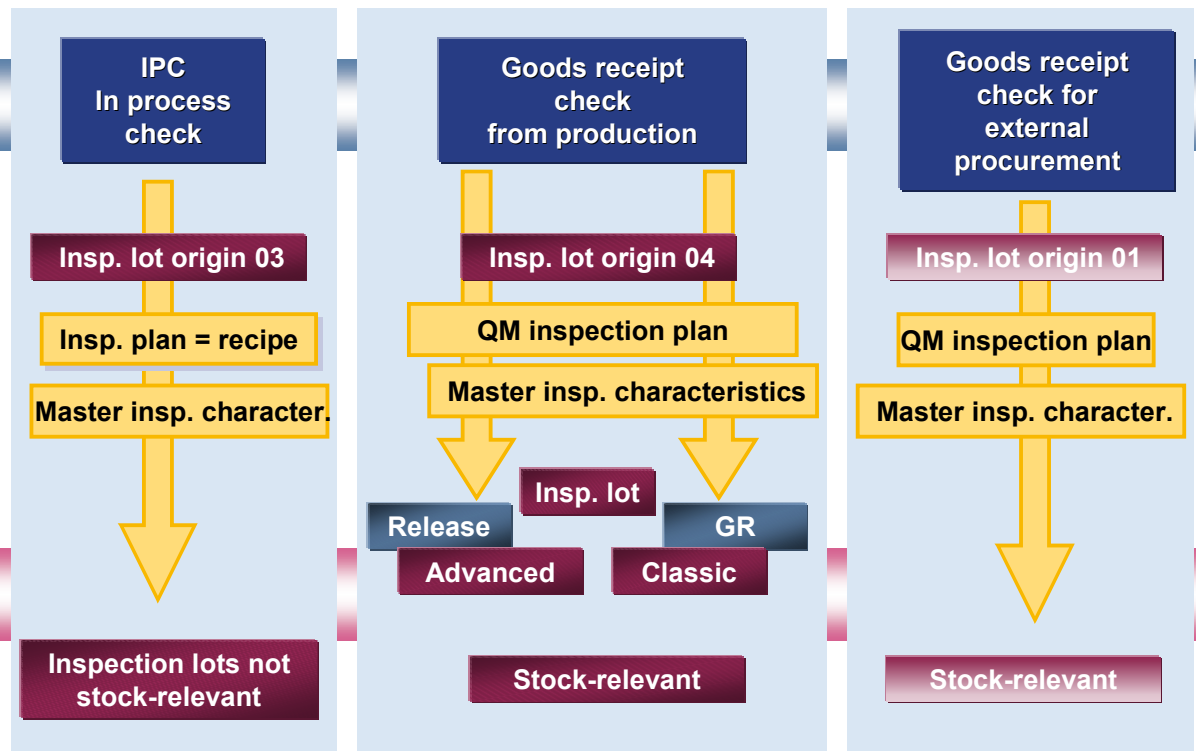
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- If several partial lots are created in a production run, you can assign a separate batch number to each partial lot. This number is referred to when goods are received from Production.
- Additionally, you can group partial lots for a batch when recording inspection results with inspection points.
- The inspection results of the individual partial lots are of key importance here. If values differ between the partial lots, it may be desirable to manage the stocks in separate batches at a later stage.

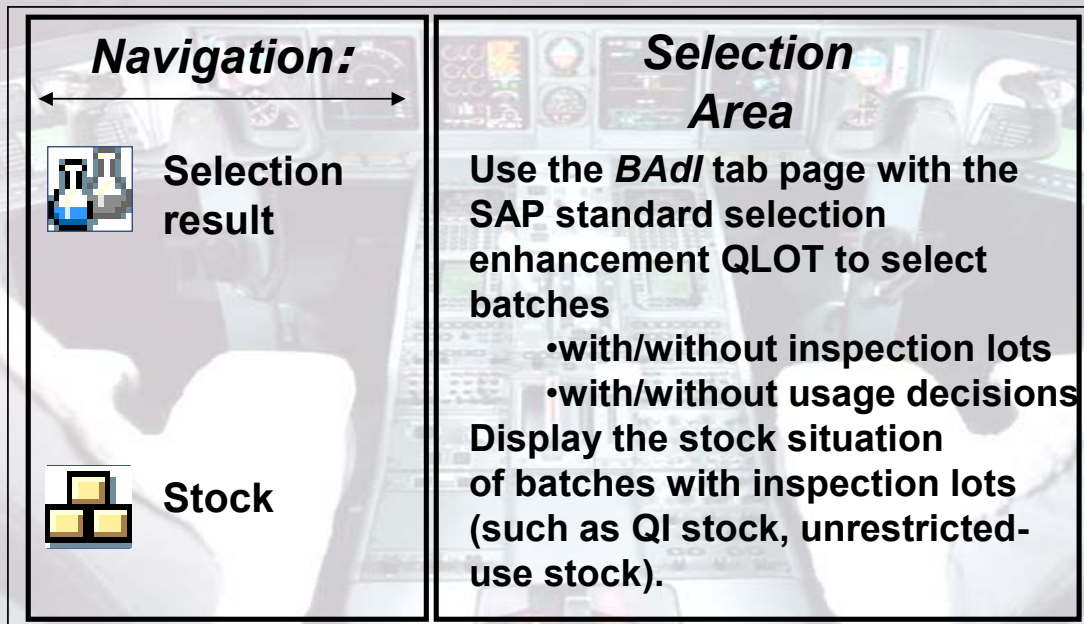
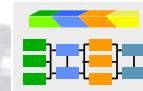


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- You can specify the batch number for the subsequent goods receipt in one of two places:
  - At header level for the process order/production order created if the entire order is confirmed as a single quantity
  - For individual partial lots created for the inspection lot and confirmed as partial quantities. You can enter a batch number for each partial lot when the inspection results are recorded and partial lots are created. You can group several partial lots under the same batch number. The setting at operation/phase level in the master recipe: *Quantity, valuation (production)*.
- If you do not enter batch numbers at header level in the process order, or at partial lot level in QM results recording, you must assign them at the latest at goods receipt for the process order.

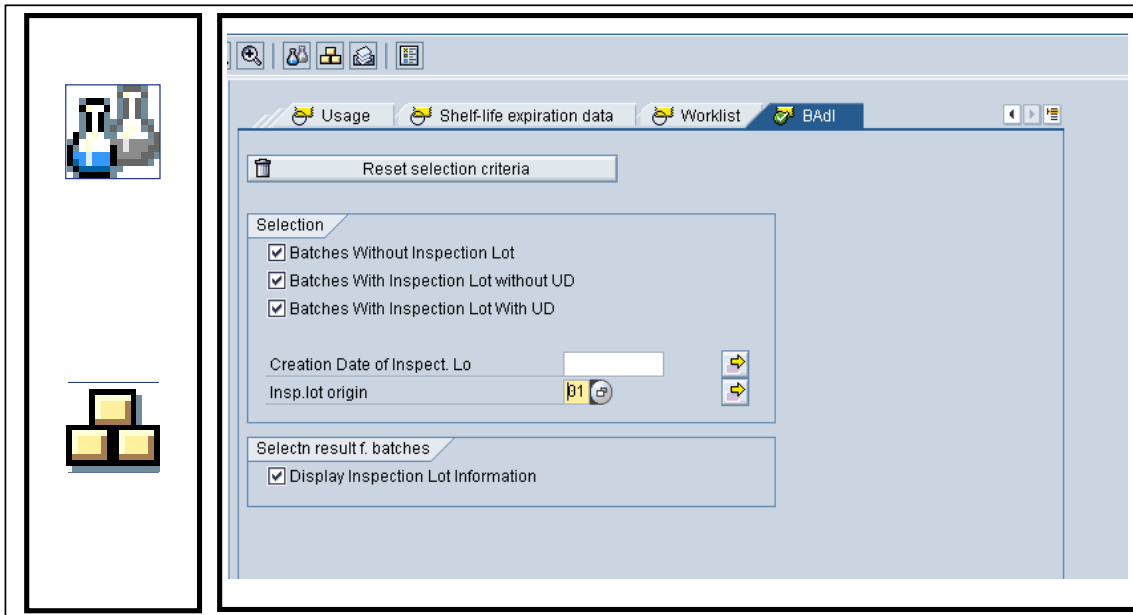


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- The Batch Information Cockpit is a central tool for evaluating batch information. The *BAdI* selection tab page and the *Standard selection enhancement QLOT* allow you to select and/or display inspection lots for your batches.
- You can go directly from the selection results to display the inspection lot.
- In Customizing you need to make the following settings under the *Selection Enhancements* menu option:
  - Define Selection Enhancements: To display inspection lots, SAP delivers a *Standard selection enhancement QLOT*.
  - Assign Selection Enhancement to User Group: Here you assign the selection enhancement to a user group from the Batch Information Cockpit. You set up the user group in the Batch Information Cockpit by choosing the *Define User-Specific Selection* menu option.



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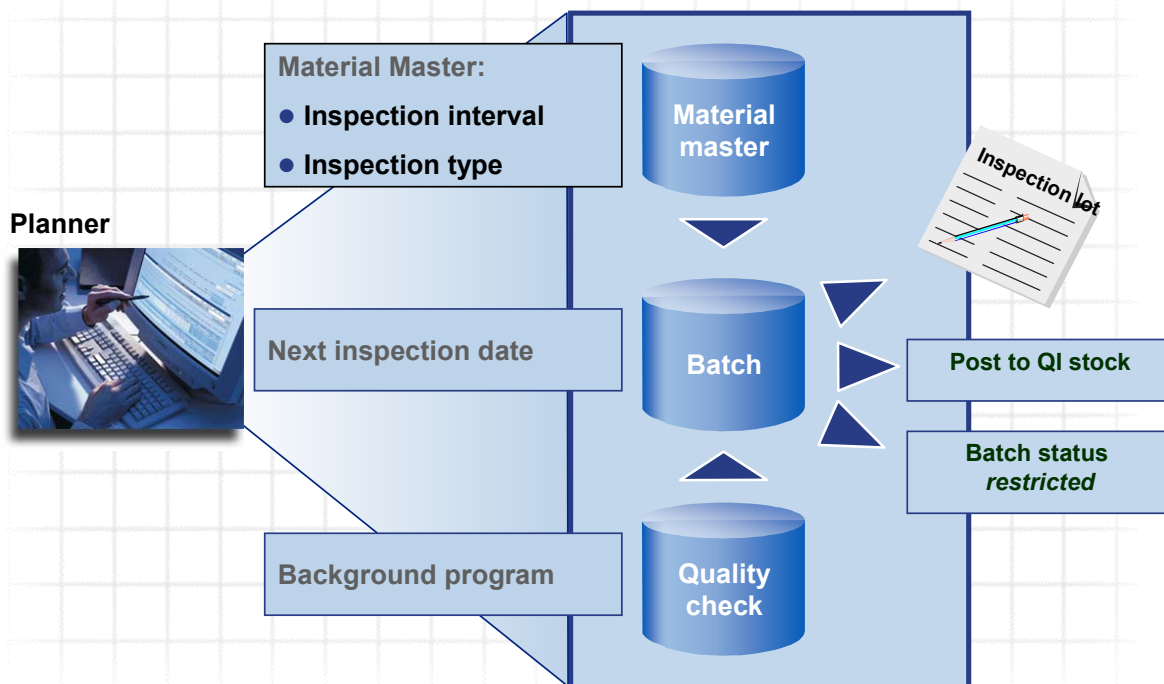
- On the *BAdI* selection tab page, you can use the SAP standard selection enhancement *QLOT* to include or exclude batches without inspection lots in the selection results. You can also select inspection lots with and/or without the corresponding usage decision. You can select all inspection lots with a particular inspection lot origin, for example, inspection lots for inspection origin 01 (goods receipt for purchase order). You can restrict this selection using the dates on which the inspection lots were created.
- The system does not display inspection lots for inspection origin 03 (from inspections accompanying production) that are not relevant for stock.

Selection result for batches						
	Plant	Created on	Insp.lot origin	Base Unit...	Insp.lot qty	Material
33 Batches found (Selection limited)						
C-202						
080819962						
Inspection Lots						
40000000100	3100	08.08.1996	04	PC	85	500032:
1						
2						
Inspection Lots						
205	1100	19.07.1995	10	PC	10	
84	1100	06.06.1995	04	PC	50	500002:
3						
Inspection Lots						
86	1100	06.06.1995	04	PC	50	500002:
Selection result for stock						
	Unit of Measure	Unrestricted	Restricted-use	In qual. insp.	Blo	
33 Stocks found (Selection limited)		100,000		95,000		
C-202	PC			85		
1100	PC					
0001	PC					
1	PC					

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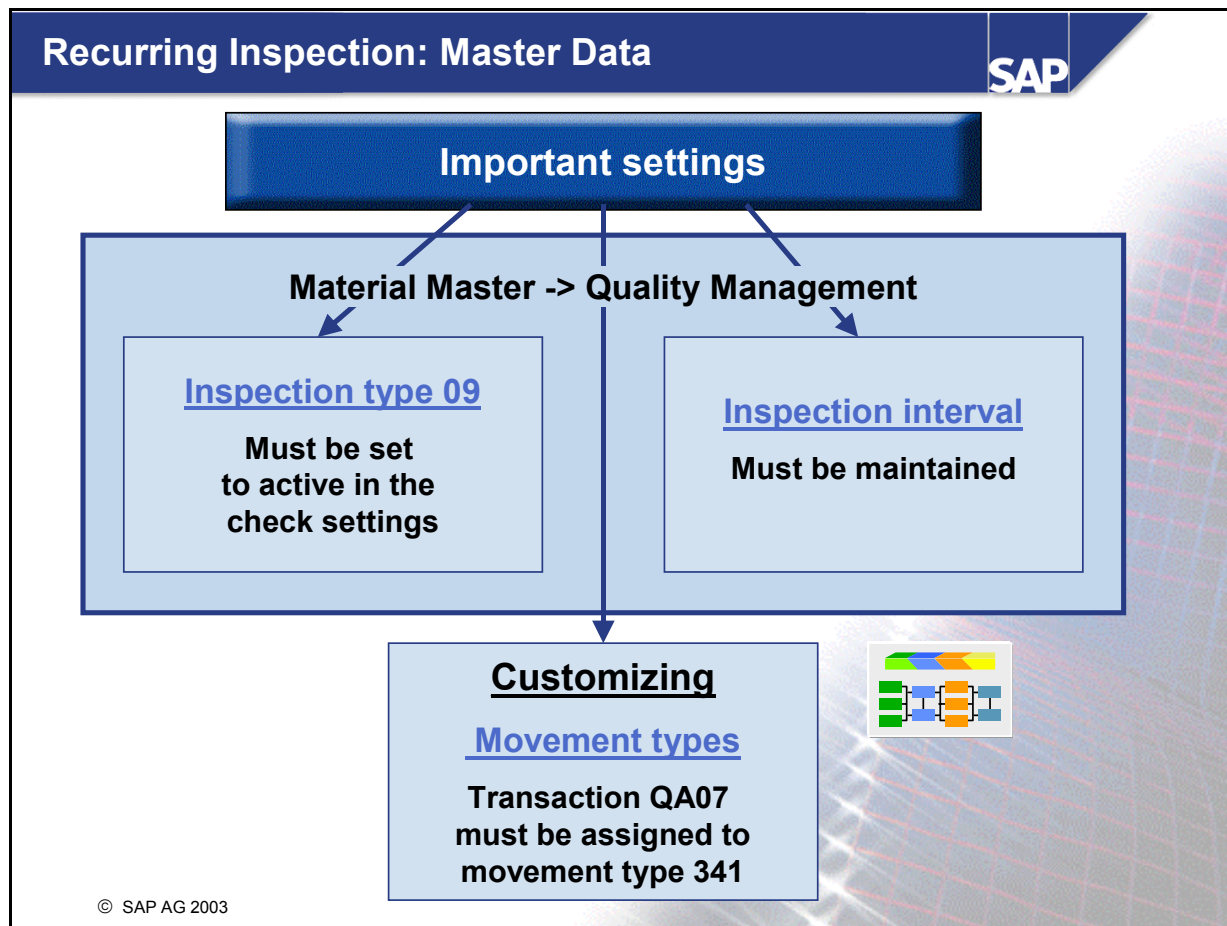
- The Batch Information Cockpit enables you to display the current processing status of the usage decision for batches managed with inspection lots in the selection results. SAP delivers selection enhancement QLOT for this purpose.
- The processing status is shown using a traffic light symbol.
  - *Green traffic light:* The usage decision has been made. The batch/inspection lot has been released from an inspection point.
  - *Yellow traffic light:* The usage decision has not been made.
  - *Red traffic light:* The usage decision has been made. The quality release for the batch/inspection lot has been rejected by an inspection point.
- From the batch selection results, you can go directly to the inspection lot display in order to see more detailed information about the processing status of the inspection lot.
- In the stock overview for the selection result shown above, you can see that the released batch is in the unrestricted-use stock. Batches for which the usage decision has not yet been made are in the quality inspection stock, and the batch for which the usage decision has been made but which was valued with a rejection is in the blocked stock.





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- The recurring inspection allows you to monitor the quality of batches in the warehouse. The system calculates an inspection date (in addition to an expiration date) at goods receipt for a batch. To determine the inspection date, enter a inspection interval when you enter QM data in the material master. By specifying the inspection interval you define the period of time between recurring inspections.
- A report (background job) that runs periodically monitors the batches in the warehouse, and performs the following actions when the inspection date is reached or passed:
  - Generate inspection lots
  - Generate inspection lots and post the batch stock to quality inspection
  - Generate inspection lots and change the batch status to *Restricted*
- If the inspection was successful, the system posts the batch quantity back into unrestricted-use stock or changes the batch status to *Unrestricted*, depending on your selected option, when you make the usage decision . The system calculates the next inspection date for the batch and notes it in the batch master record.



## • Monitoring recurring inspections

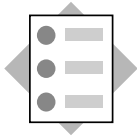
A recurring inspection is triggered when the date for the next inspection is in the opening period. This means: Current date + lead time > date of the next inspection. In this case, an inspection lot is opened for each storage location where a batch stock exists. In addition to generating an inspection lot, a batch can be blocked or the batch stock transfer posted to quality inspection.

Blocking a batch means:

- If batch status management has been **activated** in the plant, the batch status is changed to *restricted*.
- If batch status management has **not been activated** in the plant, the batch stock is posted to the blocked stock.

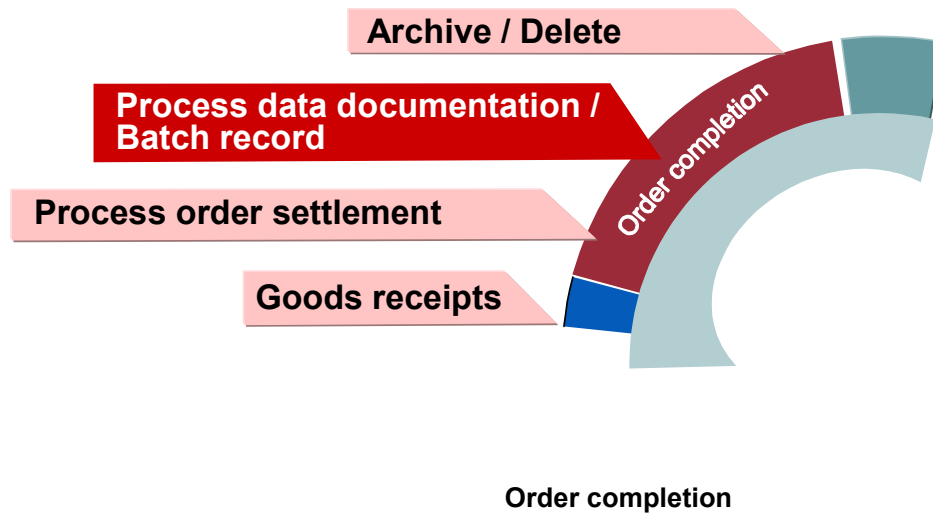
These changes to the stock can take place at the following times:

- As soon as the lot is generated
- Only when the inspection date has been exceeded in the batch. In this case, a delayed transfer posting takes place that leaves the batch stocks in unrestricted-use stock as long as possible. An accompanying inspection can already be made, however.
- **Note:** The periodic program run must be coordinated in line with the lead times, both when monitoring the batch expiration date and monitoring the recurring inspections, otherwise it is not possible to transfer post or block the batches in time. This means that the repeat period for the program run must be shorter than or equal to the minimum lead time for generating the lot or the batch block.



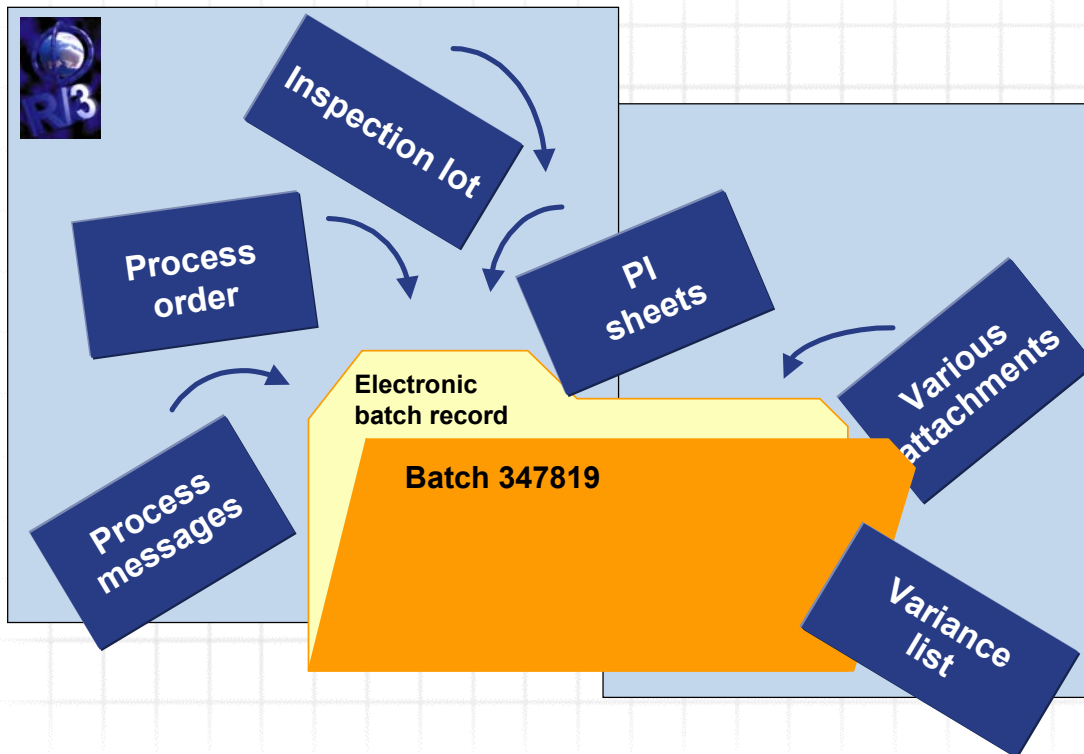
**At the conclusion of this topic, you will be able to:**

- **Describe the structure and process steps for a batch record**
- **Explain the status profile and version management for a batch record**
- **Explain the effects of the batch record on batch status management and the usage decision**



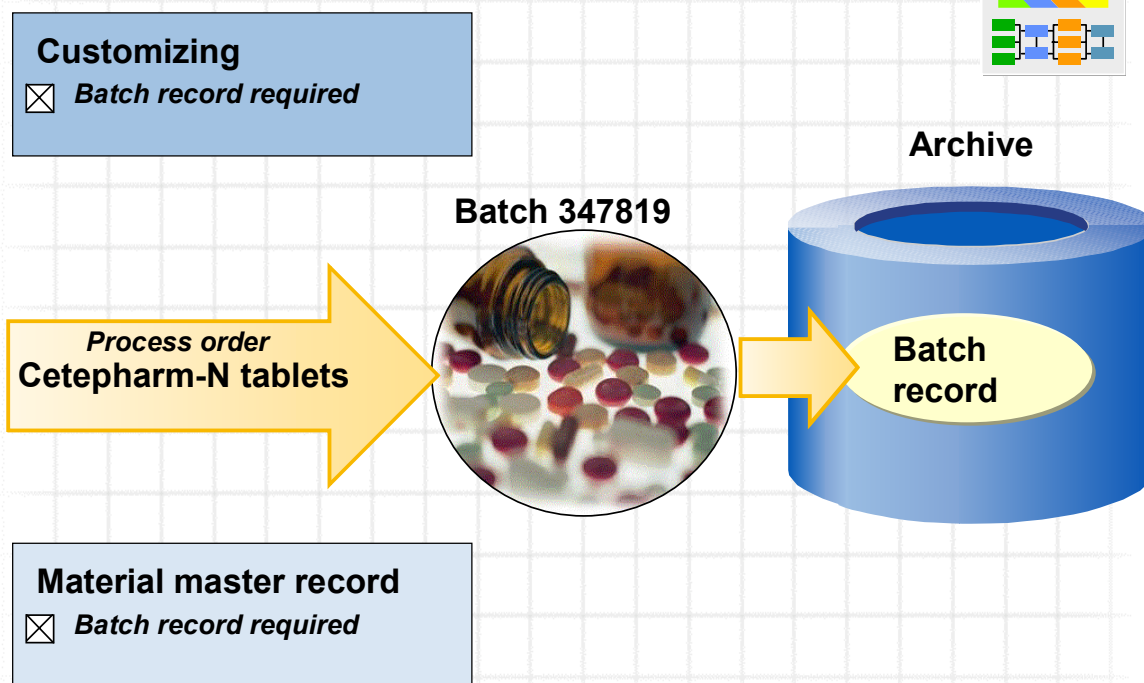
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- When you make settings for production conforming to GMP standards using process orders, you can determine that a batch record is created and approved for each batch produced in-house as a prerequisite to archiving and deleting the process order.



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- The batch record contains all the planned and actual quality data with regard to production and the quality inspection for a batch compiled by means of a process order. It consists of several documents that can contain relevant data from various ECC (or R/3) objects, as well as archive data from external systems. Batch records are stored in optical archives (where they cannot be forged) and must be approved with a digital signature.



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- To create a batch record for a batch, you must set the *Batch record required* indicator in the order types for the relevant process orders.
- In the material master record on the *Work Preparation* (or Sales: Gen./Plant Data, or Gen. Plant Data/Storage 1 view), you can set the *Authorized batch record required* indicator to ensure that specific operations (for example, making the usage decision, converting the batch status from *Restricted* to *Unrestricted*) are only possible after the batch record has been approved.

## ECC (R/3)

### Batch Record

#### Header record *batch 0815*

- Version data
- Status
- Data for approval

#### Table of contents

#### Version data

#### Variations

#### Documents with R/3 data

#### Attachment: Data from external systems

#### Comments

#### Digital signatures for approval

### Archive Link

File

File

File

File

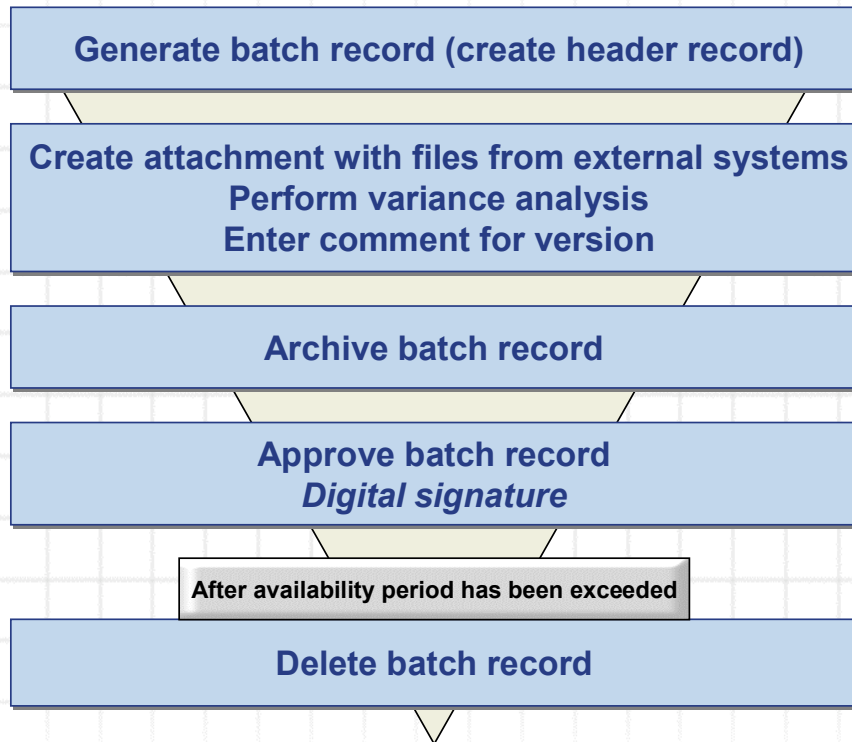
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File

## Archive

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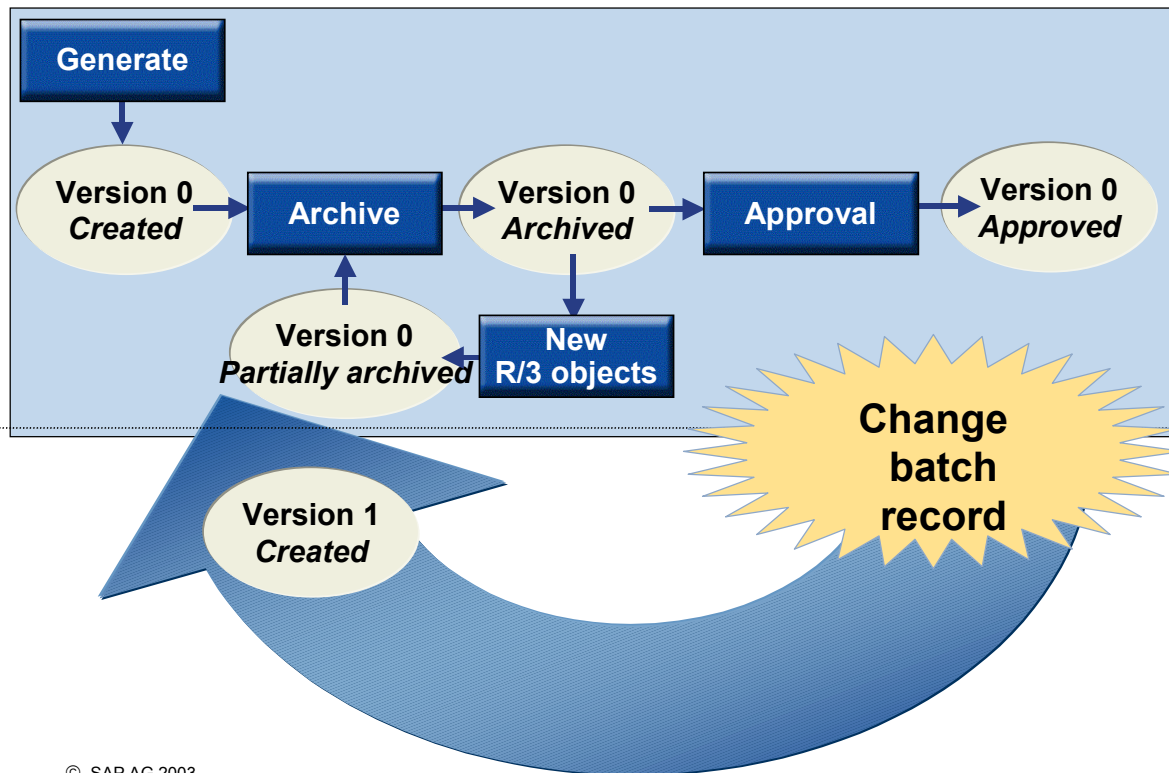
- A batch record consists of a current, valid version and a history. The history documents previous versions that became invalid because information was added to the batch record after the approval. All versions and relevant statuses are managed in the header record of the batch record.
- The maximum version of a batch record contains the following sections:
  - A document for the table of contents and version data of the batch record
  - A document summarizing variances that occurred during processing of the batch
- Documents for the following ECC (R/3) objects:
  - All process orders to which the batch is assigned, the material lists for these process orders, the PI sheets for the process orders, the process messages for the process orders, and all inspection lots for the batch
  - A document for user data that you can use to group other company-specific ECC (R/3) data
  - An attachment with archive files from external systems, raw data from the process control system, or labels.
  - Any comments entered for the version
  - The digital signatures used for the approval
- You determine the scope of the batch record in Customizing.



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- If all the required settings have been made in both Customizing and the material master record, you can generate the header record for the batch record once you have created the batch master record. In the process order or usage decision for materials that require a batch record, the status *CPRE* is set.
- You can also enter comments in the batch record, as well as include files from external systems.
- The processing steps *Archive* and *Approve Batch Record* can be performed as soon as a process order is given the system status *Technically closed (TABG)* or *Closed (ABG)*, and in QM processing the usage decision has the status *Set block for batch record (LOSP)* or *Inspection complete (PAKO)*.

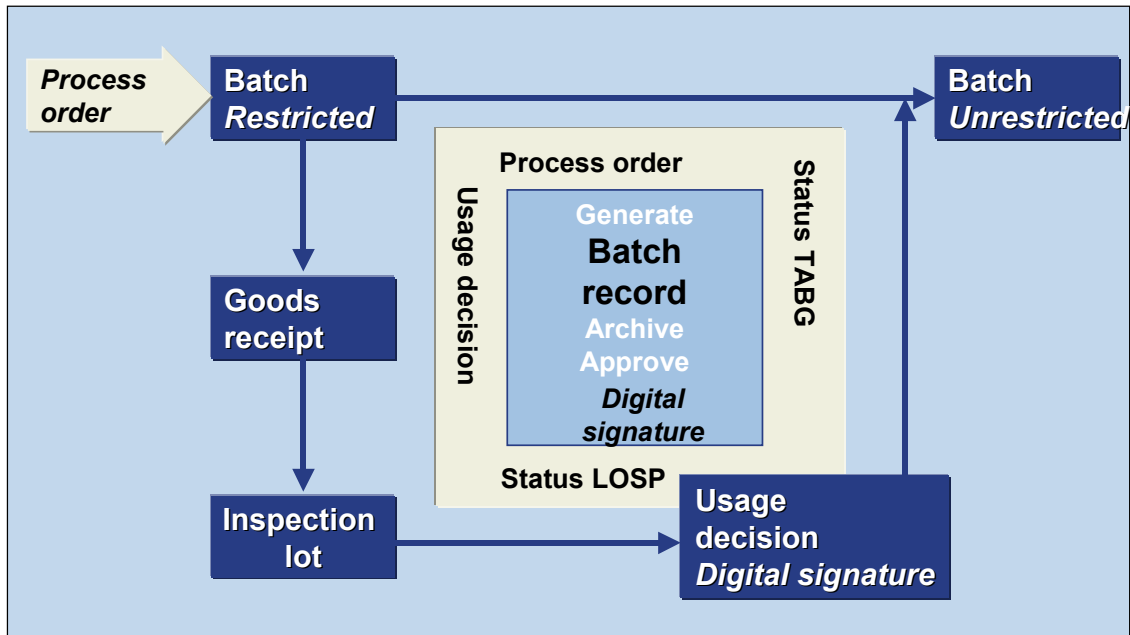




- If you want to add information to the batch record after it has been approved, or if you want to change the current version, the system automatically generates a new version (version 1).
- To approve this new version, you follow the same processing steps for the batch record as for the first version (version 0), for example, archive, partial archive, and approve.

Material master record: ☐ Batch record required

Order type: ☒ Batch record required



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■ If the *Batch record required* indicator is **not set** in the material master (*Work Preparation* view), you can perform the following operations for processing produced batches, **independently** of the approval of the batch record:

- Make the usage decision for the goods receipt inspection lot for the batch (this also applies for IPI inspection lots), as long as the status *LOSP* (block for batch record) was set in the usage decision. The status *PAKO* (inspection complete) is set automatically when the usage decision code is evaluated.
- Change the batch status from *Restricted* to *Unrestricted*, as long as batch status management has been activated.

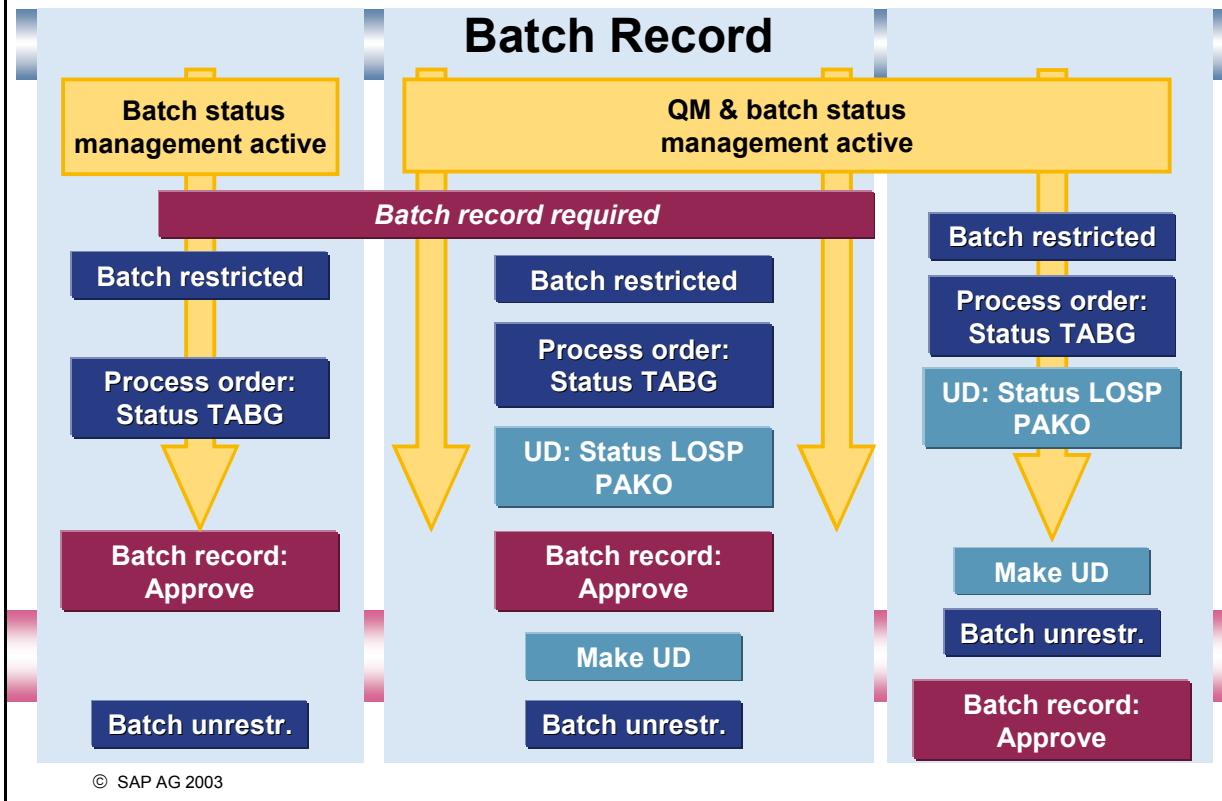
## ■ Scenario:

- When you create or release a process order, the system creates the batch master record for the header batch. This batch has the initial status *Restricted*. The electronic batch record can be generated.
- When you post the goods receipt for production, the batch is posted to quality inspection stock and an inspection lot is created.
- You can enter the results for the inspection lot in Quality Management.
- After you have made the usage decision, the batch is posted from the quality inspection stock to the unrestricted-use stock, and the status is converted from *Restricted* to *Unrestricted*.
- To approve and archive the batch record, you must set the status *TABG* (technically closed) or *ABG* (closed) in the process order.

**Order type:** ☒ *Batch record required*



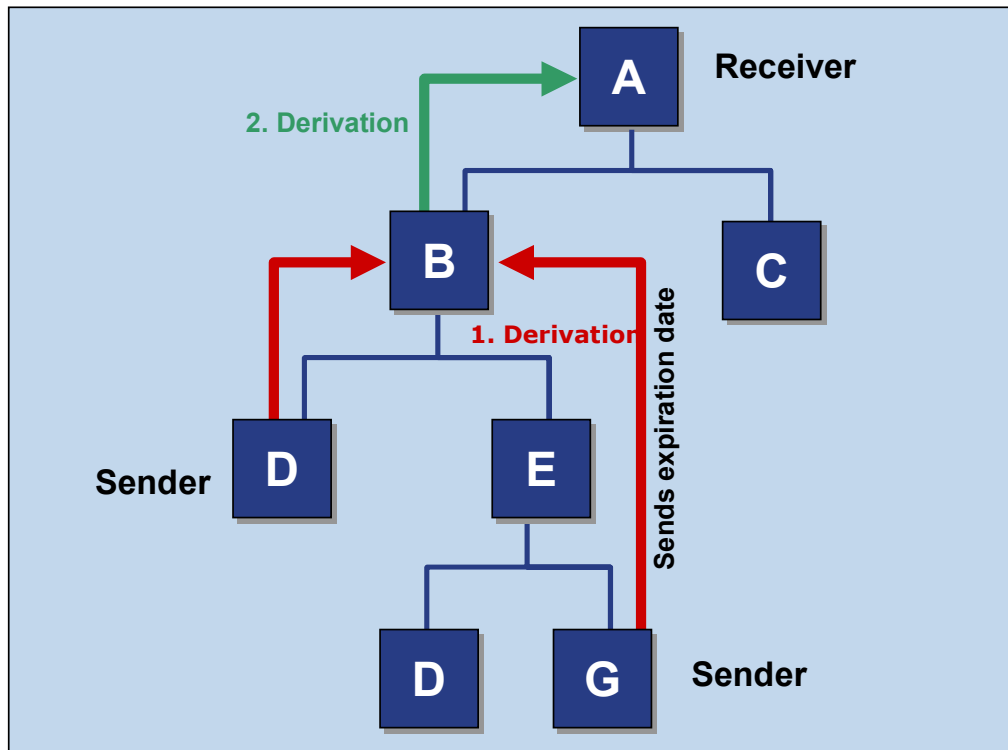
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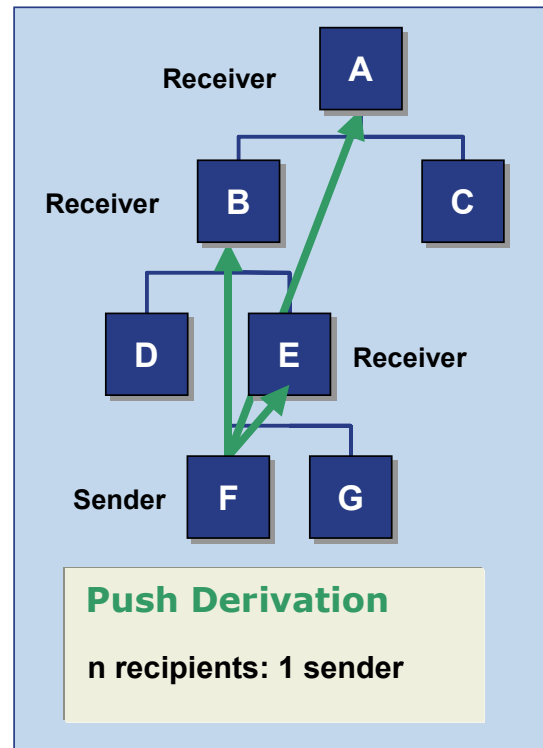
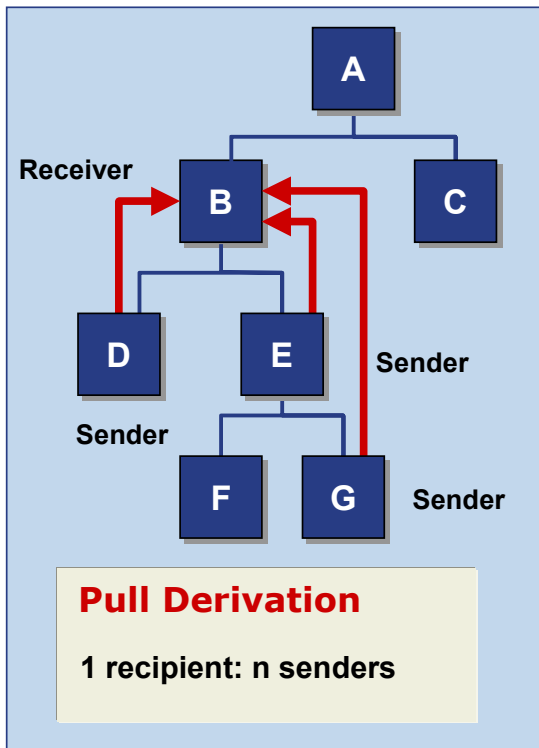
**At the conclusion of this topic, you will be able to:**

- **Use batch derivation to copy batch attribute values along the batch where-used list, from component batches to batches for the production levels that follow**
- **Explain the required Customizing and application settings**



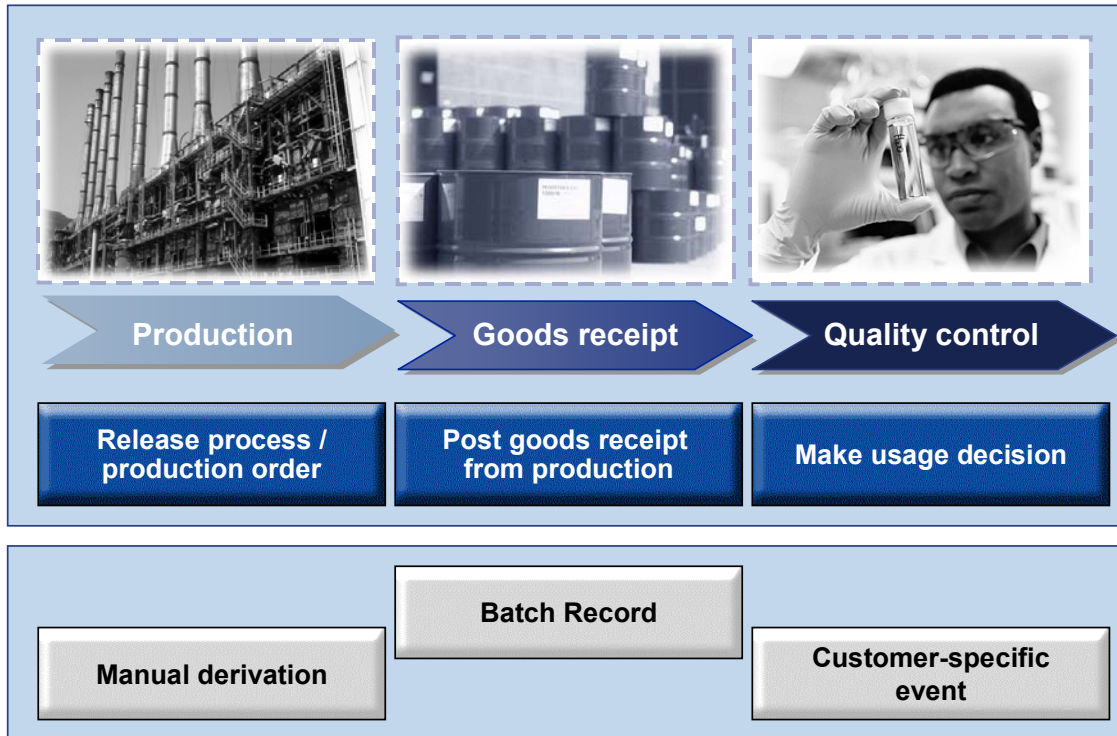
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- You can use batch derivation to transfer, offer for selection, or display the batch master and classification data for the components used to produce in-house production batches. The following applies:
  - Component batches can be senders of data (component B, D, G).
  - Produced batches can be receivers of data (component B, A).
  - A component can be a sender and a receiver (component B).
- To be able to derive batch data, you must have set up the batch where-used list. The *Post CHVW synchronously* indicator must be set in Customizing for the batch where-used list. Derivation works along the batch where-used list. In other words, only those component batches are included that have been used in the produced batch. When evaluating the batch where-used list, the system takes existing and planned goods movements into account.
- Batch derivation is performed using condition technique. You maintain the receiver-sender relationships in the strategy records for the *batch derivation* application, or in the bill of material for the selection BOM items.
- Constraints:
  - You cannot transfer a produced batch to a component batch.
  - In the standard system, you cannot perform derivation in connection with order networks, because the batch where-used list cannot evaluate the links.



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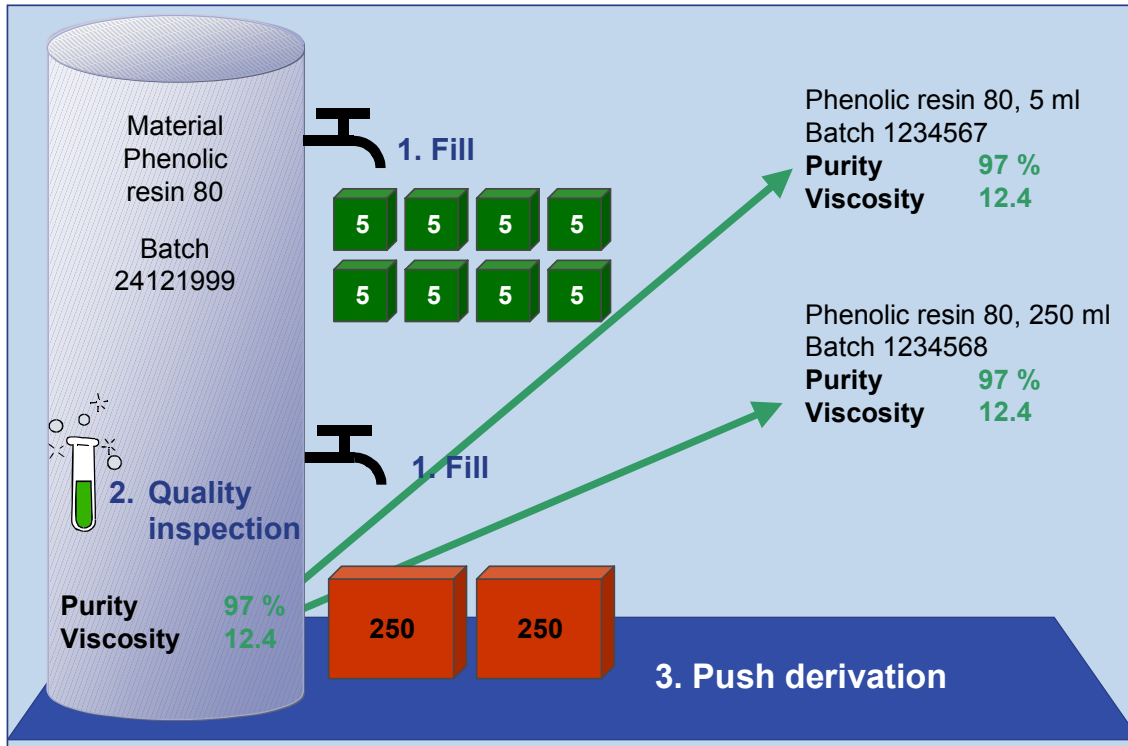
- Derivation direction: Depending on the actual usage, it may be advisable to start derivation of batch data from the component or product. However, the values are transferred from the component to the product, in other words, in the same direction as the quantity flow:
  - Pull derivation (1 receiver, n senders)
  - Push derivation (n receivers, 1 sender)



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- The batch derivation function exists as of release 4.70 in the standard system, and is available as of release 4.6C.
- You can call and use batch derivation in all areas of Logistics at specified events.
  - When you post goods receipts for production orders
  - When you release process and production orders
  - When you make the usage decision.
- In addition, you can perform derivation before you archive and approve the batch record.
- We recommend you perform batch derivation as late as possible.
- As well as the derivation events along the supply chain, you can specify that derivations can be performed manually, independently of a fixed event. You can also define customer-specific events for derivations. For sender determination you can use a user exit (EXIT\_SAPLDRVN\_00) or the BAdI DERIVATION.
- You start manual derivation using a transaction (DVMAN) in the SAP standard menu for Batch Management (as of the Enterprise release).

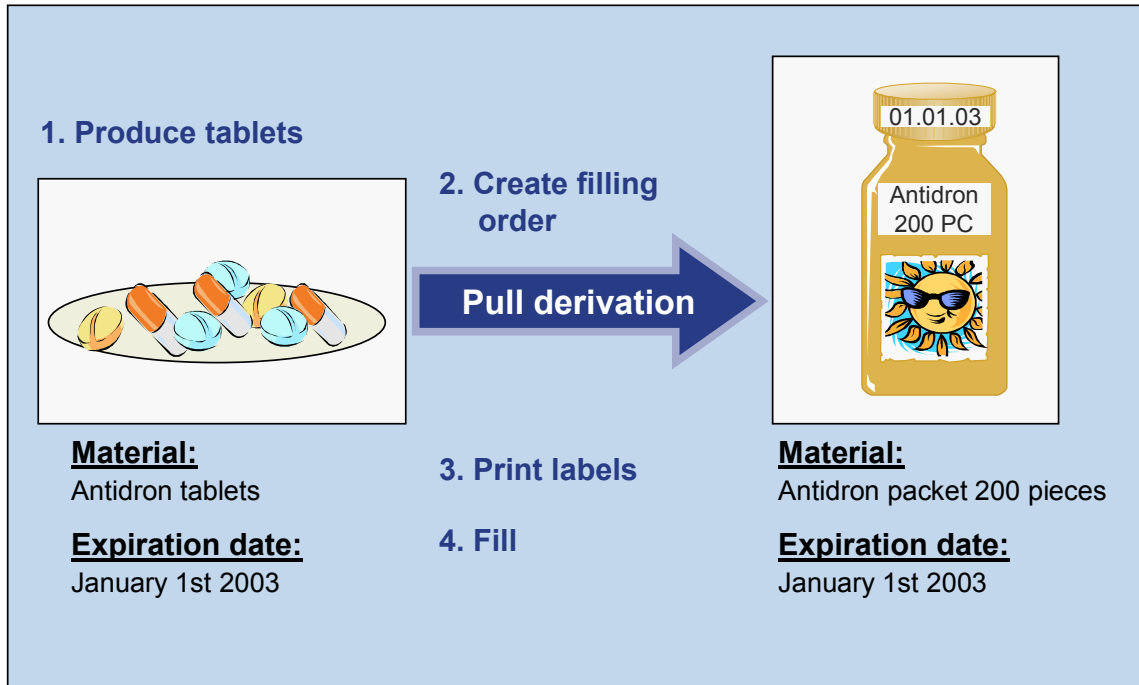




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Derivation of batch data can be implemented in the following scenarios:

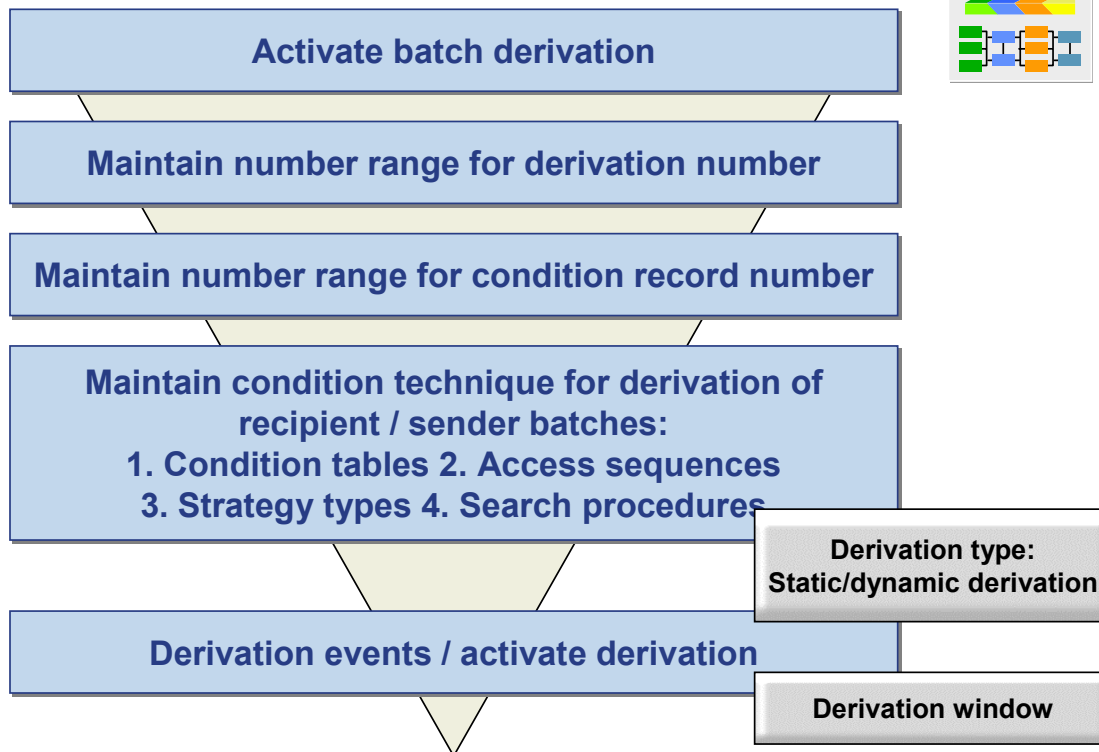
- **Filling:** A batch of a material is produced, and is used to fill various containers before the results are available for the quality inspection. If you have specified the bulk batch, these results should be copied to the container batches.
- You can map this requirement using a push derivation. Here, the specifications from a batch are copied to several receiver batches.



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Derivation of batch data can be implemented in the following scenarios:

- *Pick and Pack*: The expiration date of the unpacked material should be copied to the packed material. Labels are usually printed for the end product packaging before the expiration date can be determined using the goods receipt from production. The derivation can be used to determine the expiration date before the goods receipt from production, which can then be printed on the packaging label.
- You can also use derivation to check whether the expiration date on the packaging is not greater than the expiration date of the included components.



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- To use the *derivations* component, you must make the following Customizing settings sequentially:
  - Activate the derivation. Alternatively, in releases lower than 4.70, you can start a report to activate batch derivation.
  - Maintain the number ranges for derivation numbers and condition record numbers for the number range objects DRVNO (derivation number) and KONR (condition record number).
  - Use condition technique maintenance to define the criteria the system should use to generate condition records for the batch derivations.
  - Specify derivation events and activate derivation.
    - *Dynamic derivation* for simulation: In a dynamic derivation, attributes are not transferred to the receiver batch(es). The derivation is simulated, to check the batch attributes, for example. The results of the derivation and/or the values are merely displayed. The derivation is saved, but the receiver batch(es) are not automatically changed.
    - *Static derivation*: During a static derivation, the system transfers the receiver-sender relationships and derivation rules from sender batches to receiver batches. During static derivation, the attributes determined for the sender batch(es) are transferred to the receiver batch(es).
    - Control for derivation window: You use this field to control whether the results of the derivation are shown in a separate window. This window tells you that a derivation has taken place, and whether errors or warnings appeared. From this window, you can go to the detailed display for the derivation. This window also enables you to cancel the transaction that triggered the derivation (for example, *Save*, *Release*).

**Strategy type BDR1**

**Receiver material** 1

Receiver material	Description
BM_2100	
BM_2200	

**Attribute** 2

Attribute Field)/Character.	FIELD	Character.	Desc.
VFDAT	<input checked="" type="radio"/>	<input type="radio"/>	
LOBM_UDCODE	<input type="radio"/>	<input checked="" type="radio"/>	
ZBM_LAND			

**Logging**

☒ Save message

**Rules** 3

**Rules for controlling derivation**

Sender field empty: ☐

Overwrite recipient: ☐

**Rules for value selection for several senders**

Comparative ☒ Minimum ☐ Average ☐ Maximum

Boolean ☐

Multiple-value characteristics ☐

**BWUL levels** 2

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- You can maintain the condition records for receivers and senders in the application for the derivations, or using condition record maintenance for bills of material.
- You maintain the condition records for the receiver and sender materials separately.
- To maintain receiver condition records in the application for the derivations (transaction DVR1), select the condition type defined in Customizing or the relevant key combination. Save derivation rules for each condition record and assigned field or batch characteristic.
  - *Sender field empty*: You can use this setting to control whether or not the system issues a warning or error message if the attribute to be transferred does not contain a value.
  - *Overwrite receiver*: You use this setting to specify whether or not the system issues a warning or error message before you overwrite attribute values.
  - *Levels of batch where-used list*: You use this entry to restrict the number of levels that can be exploded in the batch where-used list with a top-down analysis during batch derivation. Orders and purchase orders do not count.
  - To log the messages, set the *Save Messages* indicator.

**Strategy type BDS1**

**Sender material** 1

Receiver material	Description
BM_2110	
BM_2120	

2 **Active sender** ☒ **Push derivation**

**Attribute (fields/characteristics) to be sent**

Attribute (Field)/Character	FIELD	Characteristic	Desc.
VFDAT	<input checked="" type="radio"/>	<input type="radio"/>	
LOBM_UDCODE	<input type="radio"/>	<input checked="" type="radio"/>	
ZBM_LAND			

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- To maintain sender condition records (transaction DVS1), select the condition type defined in Customizing or a suitable key combination, such as the material number, material type or receiver and sender material, or material type of the sender. In the first case, enter the material number for the material that should function as receiver. In the detail maintenance, save all fields (batch master record) or batch characteristics that should be automatically transferred from the sender to the receiver. For example, you can select the expiration date (field: VFDAT or LOBM\_VFDAT), the production date (HSDAT or an object characteristic defined as a batch characteristic ZLOBM\_HSDAT), the usage decision code (LOBM\_UDCODE), or a freely-definable characteristic (such as ZBM\_LAND).
- To delete condition records, set the deletion indicator.
- Set the *Push Derivation* indicator if you want the system to perform a push derivation. You can only set this indicator for condition records where the sender is not the same as the receiver.

**Maintaining conditions for receiver/sender BOMs for each derivation event**

**Selection area:**

**Receiver**

BM-2100

Country 2

**Sender**

BM-2110

BM-2120

Country

**Attribute worklist:** 1

Drag&Drop	Attribute	FIELD	Characteristic
	Country	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Detail area:** 3

**Country**

Comparative

☒ Minimum

☐ Average

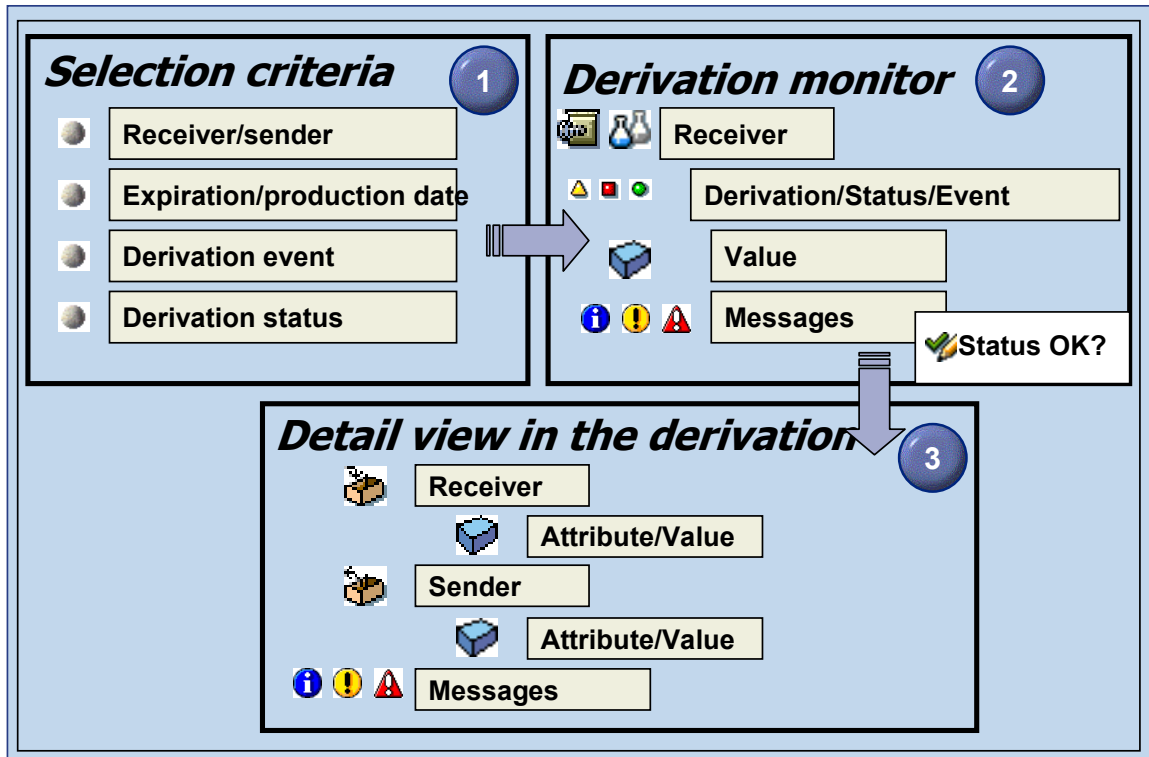
☐ Maximum

Boolean

Multiple-value characteristics

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- Use *Condition Record Maintenance for BOMs* (transaction DVCO) to maintain the receiver and sender condition records simultaneously.
- The prerequisite for this is that both a sender and a receiver search procedure is assigned to the derivation event in Customizing.
- Condition record maintenance for BOMs enables you to differentiate the attributes to be transferred when you use a material in various production BOMs. On the one hand, it might be necessary to transfer various attributes for the same sender with reference to a BOM during production of a header material. On the other hand, you generally want to exclude an attribute for this BOM item from being transferred within the BOM.
- Steps for condition maintenance using BOMs:
  - For a derivation event and the header material, choose the appropriate BOM alternative and usage. For the derivation events *Release process/production order* and *Goods receipt for process/manufacturing order*, you can differentiate by-products or co-products.
  - In the selection area, the system displays the header material for the BOM as well as all components with their relevant characteristics.
  - To create receiver and sender relationships, choose the corresponding attributes in the attribute worklist. This refers to fields and characteristics you want to assign to the receiver and sender(s). You can transfer the attributes to the receiver and sender from the attribute area by Drag&Drop.
  - From the tree structure of the selection area, you can double-click on the receiver material in the detail area to display the rules according to which the derivation was performed.



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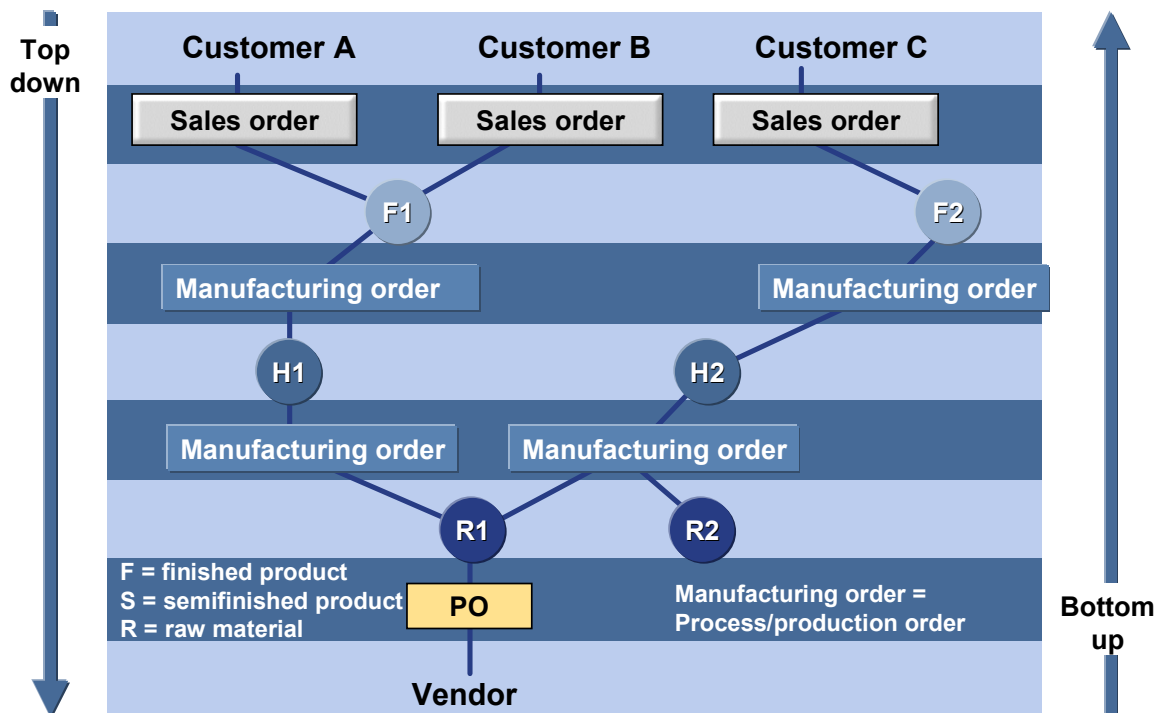
- Initial screen of the derivation monitor (1): You can use the derivation monitor to evaluate derivations with various criteria.
  - You can access the screen using the receiver material or its batches, or sender materials or their batches. You can select derivations for batches according to their expiration or production dates.
  - You can restrict the selection by choosing the derivation event, the creation date, or by entering the derivation number(s).
  - You can use the derivation status to search for all derivations where the system issued warning or error messages.
  - You can save the criteria you use for selections as a variant.
- Selection result in the derivation monitor (2):
  - In the selection result, you can see the header information for the derivation, in other words, the receiver material, the derivation number with derivation event, the status of the derivation, the derived attributes, and information, warning and error messages.
- When you perform a derivation for the first time, it can have one of the following three statuses:
  - Derivation OK; The derivation was performed without errors; Performed with warning
- You cannot manually confirm a non-validated derivation in the derivation monitor. The status then changes: OK, data change, confirmed manually; Warning (data change) confirmed manually; Error (data change) confirmed manually.



**At the conclusion of this topic, you will be able to:**

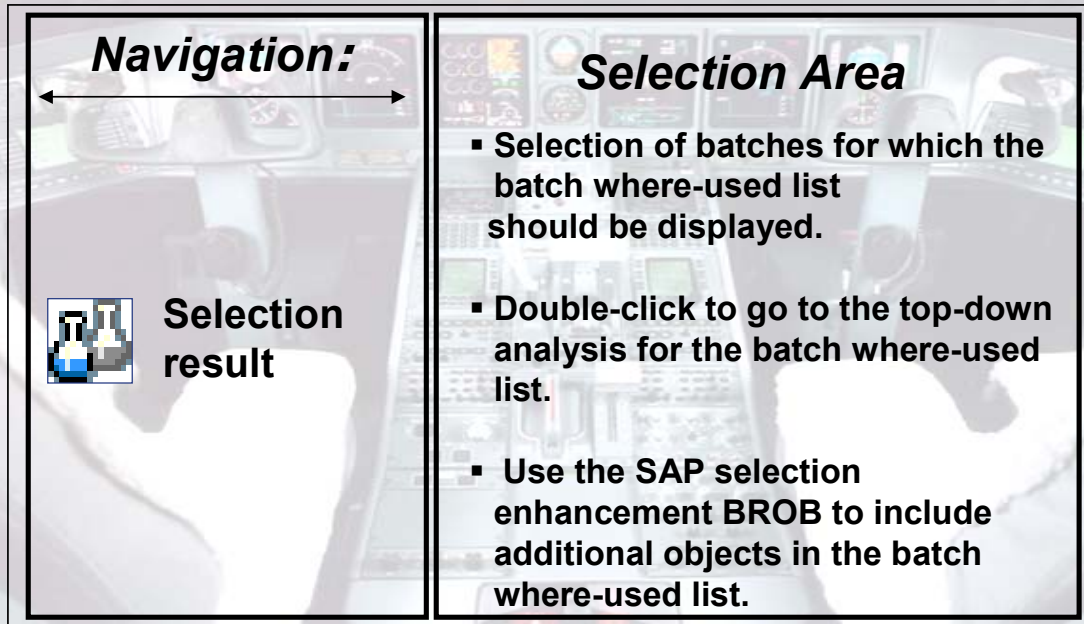
- **Use the Batch Information Cockpit to display the batch where-used list as a top-down or bottom-up analysis**
- **Use the *Batch-Related Objects* selection enhancement to extend the display of documents in the where-used list**






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- The batch where-used list documents the progress of a batch through an enterprise. The batch where-used list is mainly used in the context of product liability. This report enables you to find batches that have to be recalled for quality reasons, for example.
- You can use a *top-down* analysis to determine the batches from which a batch was created. You use a *bottom-up* analysis to find out which batches were included in a particular batch.
- The batch where-used list is structured on the basis of material movement data for materials subject to batch management. The system takes account of transfer postings from batch to batch, stock transfers in two-step procedures, and purchase orders (including subcontracting orders).
- You can start the batch where-used list from the area menu for Batch Management, or from the Batch Information Cockpit. If you want to use the batch where-used list to evaluate information from Sales or Warehouse Management, for example, you can either use the pick-up list in the *Batch Management* area menu or the selection enhancement for *batch-related objects* in the Batch Information Cockpit. To access the batch where-used list using the pick-up list, you use various SD documents.
- Display options:
  - Tree structure: Hierarchy structure
  - ALV list: You can use SAP enhancement *SAPLCHVW* to include additional fields in the list.



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- To be able to use the batch where-used list in the Batch Information Cockpit, you have to make the following Customizing settings:
  - The batch where-used list must be activated for the relevant plant. Set the *Post synchronously* indicator.
  - You must have assigned the *user group* used in the Batch Information Cockpit in Customizing on the *Usage* tab page. If you want to add other objects to the results of the batch where-used list, assign the *BAdI* tab page.
- In the user settings for the Batch Information Cockpit, you can define either the batch where-used list or the batch master record as the standard detail function for each user group. You can also specify whether the where-used list (or batch master record) is displayed in a separate window.




Reset selection criteria

Type of Expansion

☒ Top-Down Analysis  
☐ Bottom-Up Analysis

Settings

Expansion level: 4

Valid Plants: 1100 

☒ Expand Transfer Postings  
☐ Check assignment of insp. lot  
☒ Expand even when quantity = 0  
☐ Display Current Batch Status  
☐ Display Vendor Batch

Settings for Extended Display

☐ Planned Goods Movements  
☐ Archived Usages

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- To display the batch where-used list, you must enter at least the material for selecting the batches.
- Use the *Usage* tab page to enter additional criteria for the scope of the where-used list:
  - Enter a bottom-up instead of a top-down analysis
  - Restrict the number of levels for the selection
  - Execute the batch where-used list across plants
  - Explode transfer postings
  - Use the *Planned Goods Movements* indicator to take account of stock postings that are planned for batch derivations and repetitive manufacturing.
- Choose the *Details* pushbutton above the selection area to switch between the batch where-used list and the batch master record after the selection.

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- On the *BAdI* tab page you can use the SAP standard selection enhancement BROB (*Batch-Related Objects*) to select objects from a batch that are not evaluated in the batch where-used list. These can be inspection lots, sales orders, deliveries, batch records, reservations, or handling units, for example. You can perform the selection for a single batch or for batches in a work folder.
- You make Customizing settings for the selection enhancement *Batch-Related Objects* in the Batch Information Cockpit.
  - Enhance the user-specific selection for a user group by adding the *BAdI* tab page.
  - In the Customizing step *Selection Enhancements*, you define the SAP standard selection enhancement BROB (program: RVBBINCO, screen 310).
  - Under *Assign Selection Enhancements to User Groups* you assign this selection enhancement to the user group. For each user group, you can only assign one selection enhancement for the *BAdI* tab page.
  - The Customizing activity *Display Selection Tables for Batch-Related Objects* under *Batch-Related Objects* contains all tables (AFPO, EQUI, LIPS, LQUA, MCHP, QALS, RESB, VBAP, VEPO) that can be included in the selection of objects.
  - You can use the Customizing activity *Define User-Group-Specific Batch-Related Objects and Fields* to assign tables and their fields to which the selection should refer, to a user group in the Batch Information Cockpit.

Selection Result Batches	Top-Down/Bottom-Up	Sales Document	Delivery	Item	Batch Log	Version	Countries
1 batch found							
N-2100							
00000000240							IT
Batch Logs							
29					000000000000029	1	
Inspection Lots							
40000000412							
Deliveries							
80012518 / 10				80012518	10		
Sales Orders							
8921 / 10							
							8921

- The selection result shows additional objects such as deliveries, sales orders, batch records, and inspection lots.
- Click to go directly to the object.
- In the "Top Down/Bottom Up" column you can see which batch was the starting point for the selection.

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- These additional objects are displayed in the *Selection results for batches*. You can click on the objects to navigate to objects such as sales orders, deliveries, inspections lots, and batch records.
- You can start the batch where-used list from the selection results. The system offers different pushbuttons depending on whether you are looking at a top-down or bottom-up analysis.

Selection Result in Folder Restart Selection Variants Detail

Detail (Usage)

Top-Down
Bottom-Up
Docs
Insp. Lots
Back (6)

Top-Down Analysis	Material	Material Short Text	Plant	Batch	Qty	U	Unit
0000000240	N-2100	Cetepharm-N Tablets	1100	0000000240			
70000258	N-2100	Cetepharm-N Tablets	1100	0000000240	6		ST
1747F9	N-2140	Aspartam	1100	1747F9	0,048		G
4500004694	N-2140	Aspartam	1100	1747F9	51.189		G
71740D	N-2130	Cellulose Powder	1100	71740D	0,009		KG
4500004694	N-2130	Cellulose Powder	1100	71740D	463		KG
83051	N-2120	Cornstarch	1100	83051	0,009		KG
4500004694	N-2120	Cornstarch	1100	83051	563		KG
0000000214	N-2110	Acetysalicylic Acid	1100	0000000214	6		G
70000241	N-2110	Acetysalicylic Acid	1100	0000000214	1.000		G
41D389	N-2112	Salicylic Acid	1100	41D389	0,500		KG
4500004694	N-2112	Salicylic Acid	1100	41D389	503		KG
B183614	N-2111	Acetic Anhydride	1100	B183614	0,500		L
4500004694	N-2111	Acetic Anhydride	1100	B183614	285		L

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- The top-down analysis displays all batches that were included in the production of a header batch in the context of a production or process order, and that, under certain circumstances, can come from sublevels in production orders.
- Starting from a component batch, you can choose the *Bottom-Up* pushbutton to determine the other batches in which this component batch was included.



Selection   Result in Folder   Restart   Selection Variants   Detail

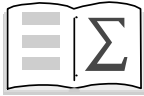
Detail (Usage)

Top-Down   Bottom-Up   Docs   Insp. Lots   Back (9)

Bottom-Up Analysis	Material	Material Short Text	Plant	Batch	Qty	U	Unit
41D389	N-2112	Salicylic Acid	1100	41D389			
70000241	N-2112	Salicylic Acid	1100	41D389	0,500		KG
0000000214	N-2110	Acetylsalicylic Acid	1100	0000000214	1,000		G
70000252	N-2110	Acetylsalicylic Acid	1100	0000000214	500		G
70000258	N-2110	Acetylsalicylic Acid	1100	0000000214	6		G
0000000241	N-2100	Cetepharm-N Tablets	1100	0000000241	6		ST
0000000240	N-2100	Cetepharm-N Tablets	1100	0000000240	6		ST
70000257	N-2110	Acetylsalicylic Acid	1100	0000000214	6		G
70000255	N-2110	Acetylsalicylic Acid	1100	0000000214	5,500		G
70000256	N-2110	Acetylsalicylic Acid	1100	0000000214	5,500		G
70000253	N-2110	Acetylsalicylic Acid	1100	0000000214	5		G
70000254	N-2110		1100	0000000214	5		G
70000242	N-2110		1100	0000000214	5		G
70000251	N-2110		1100	0000000214	5		G

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- The result of a bottom-up analysis for a component shows you that the component was included in a process order with two header batches.
- You can use the *Multibatch per Order* function to determine the component batches, as well as split batches and quantities, that were included in a header batch.



### **You are now able to:**

- **Use the automatic valuation of batch characteristics through Quality Management inspection results**
- **Create product batches for production and process orders in the context of check point processing**
- **Generate an electronic batch record to document batches produced with process orders**
- **Set up and use batch derivation**
- **Structure and evaluate batch where-used lists in the Batch Information Cockpit**





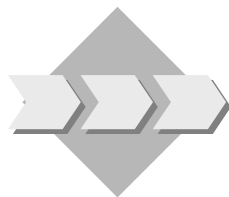
**Unit: Batch Specification and SCM**

**Topic: Linking Master Inspection Characteristics with a Material's Class Characteristics**



At the conclusion this exercise, you will be able to:

- Create a master inspection characteristic in QM and link it with a material's class characteristics
- Perform a goods receipt with inspection lot generation
- Enter the inspection results and enter a usage decision
- Check that the inspection result is transferred to the class characteristics of the batch concerned



You intend to include the inspection results in the valuation of your batch managed materials that are subject to inspection, provided that the inspection characteristic is consistent with the class characteristic.

You have to prepare the system so that the automatic transfer runs smoothly.

To be on the safe side, test your settings using a concrete example.

## 4-1 Preparations

### Maintain QM data in material master

Use the transaction *Change material master* from your favorites.

Change the *Quality Management* view in the material master of material Y-500-##, plant 1100 and define an inspection procedure for the material:

Click *Inspection settings*.

Choose *Create inspection types*.

Enter inspection type 05 (=inspection for 'other' goods receipt) and activate this inspection type by selecting the *Act.* Field. Choose *Check*.

Set the indicator for  
remove the indicator for

- ☒ *Inspection with material specification and*  
☐ *Inspect with plan.*

**Save the changes in the material master.**

## 4-2 Link master inspection characteristic and class characteristic

### 4-2-1 Edit material specification

Check whether material Y-500-## and its class characteristic *covering property* (M4-##) are linked to QM.

### 4-2-2 Create master inspection characteristic

Create a master inspection characteristic and link it to the class characteristic M4-##.

Give the master inspection characteristic the number 4-4##.

Use the data below:

Plant	1100
Master insp. characteristic	4-4##
Valid from	Current date
Class characteristic	M4-##

Status = released, Save.

### 4-2-3 Edit material specification

Display the link you have created between the master inspection characteristic 4-4## and the class characteristic M4-## by editing the material specification once again.

Save the material specification.

## 4-3 Goods receipt with generation of inspection lot

### Create a batch and an inspection lot.

Using movement type 501, post an 'other' goods receipt of 500 KG for material Y-500-## to storage location 0001, plant 1100. Assign your own batch number.

Assign values to all characteristics, apart from the characteristic covering property. (If you assign a value to this characteristic at this point, quality inspection will overwrite the value).

Use the transaction from your favorites or call it up from the menu.

## 4-4 Enter the inspection result

Search for the inspection lots for your material Y-500-##. When you save the goods receipt, the system will find the inspection lot you created.

In the *Result* field, enter the value 92.

#### 4-5 Enter the usage decision.

Double-click the line with inspection number 5000...in the left frame.

##### **On the entry screen:**

In the *UD code* field, use F4 help to enter an acceptance without further action (UD code *A*) and save the usage decision.

A dialog box then appears, prompting you to post the quantity concerned (500 KG) to the appropriate stock type: Enter 500 in the line *To unrestricted* and confirm your entry.

##### 4-5-1 Check the batch classification

Display the stock overview for material Y-500-##:

Double-click the relevant batch line and call up the classification data: The value 92% is entered as the characteristic value for covering property.

##### 4-5-2 Evaluations in the BIC

Start the BIC using material Y-500-## as the selection criterion. Check the values of the characteristic that has been passed on from results recording (QM) to the corresponding batch characteristic.

From the batch detail view, go to the batch where-used list. Display the inspection lot for your batch.



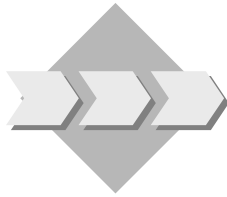
## Unit: Batch Management and SCM

### Topic: Batch Derivation



At the conclusion this exercise, you will be able to:

- Make the settings necessary to execute a batch derivation
- Perform manual derivation and evaluate the derivation



After your material has been produced, you want to make sure that the shelf life expiration date of the header material batch is not greater than that of one or more batches of the BOM components. You use BOM maintenance for manual batch derivation to specify which BOM components should pass on their expiration dates to the header material. For your header material, you enter the derivation rule that at least the expiration date for all components should be transferred.

#### 4-6 Derivation:

To maintain manual batch derivation, start the transaction *Condition Record Maintenance for Bills of Material*. Select the derivation event: *Manual Derivation*. Enter the header material AI-1200-0##, plant 1100, and the relevant data for selecting bills of material. You can find the information required for the BOM, for example, in the material master record for the header material, in the *Work Preparation* view in the detail data for the production version. In the attribute worklist, specify that the derivation should be performed for the *Expiration Date* field. In the selection area, use Drag&Drop to assign the attribute to the header material and your BOM components. Choose *Material Number* as the key field for the condition type for the header material and *Sender Material Number* for the BOM components. After you double-click on the attribute, the selection area displays the input fields for the manual derivation rules. Specify the rules for controlling derivation as follows:

- 4-6-1 If the batch master record for a BOM component does not contain an expiration date, the system should issue a *warning message* in the derivation log after performing a derivation.
- 4-6-2 If the batch master for the header material already contains an expiration date, then this date should be issued in the derivation log as a *warning*.
- 4-6-3 The derivation should make sure that the expiration date in the batch master of the header material is never greater than one of its BOM components that was defined as a sender.
- 4-6-4 Enter the required number of levels that should be included in the batch where-used list to derive the expiration date.

Save your settings.

#### 4-7 Create process order

Manually create a process order for material AI-1200-0## and plant 1100 using order type PI06 and order quantity 10 kg. Once you release the process order, batch determination is performed automatically and the header batch number is assigned automatically. The classification for the header batch is created in the background.

Field name or data type	Values
Material	AI-1200-0##
Plant	1100
Order type	PI06

Field name or data type	Values
Total qty	10 KG

Note the header batch number: \_\_\_\_\_

Save the process order and make a note of the number.

\_\_\_\_\_

#### 4-8 BIC

Use the Batch Information Cockpit to select the component batches and the header batch.

Transaction	User group
/nBMBC	Batch Management SCM595

Field name or data type	Values
Material	AI-1200-0##, AI-1201-0##, AI-1202-0##

Note the components' expiration date stored in the batch master record.

\_\_\_\_\_

Does an expiration date already exist for the header material in the batch master record?

#### 4-9 Carry out manual batch derivation

Select the batch data to perform manual batch derivation by entering the following values:

Field name or data type	Values
Material	AI-1200-0##
Batch	Header batch from process order
Plant	1100

Display the batch master record by choosing the batch in the selection result. Is there already a shelf life expiration date?

Perform the derivation. Display the detailed data for the manual derivation. What derivation result do you receive?

---

---

Note the shelf life expiration date that was copied to the header material batch

---

Which material or batch passed its shelf life expiration date on to the header batch?

---

#### 4-10 Display evaluations for batch derivations with the derivation monitor

Choose suitable criteria for the selection of the derivation you have performed.

Field name or data type	Values
Material	AI-1200-0##
Batch	Header batch from process order
Expiration date	See batch master record
<b>And/or</b>	
Derivation event	Manual derivation



**Unit: Batch Management and SCM**

**Topic: Linking Master Inspection Characteristics  
with a Material's Class Characteristics**

## 4-1 Preparations

**Maintain QM data in material master**

*Logistics → Central Functions → Batch Management → Environment → Material  
Master → Material → Change → Immediately (MM02)*

*or*

*Logistics → Materials Management →  
Material Master → Material → Change → Immediately (MM02)*

Field name or data type	Values
Material	Y-500-##
View	Quality Management
Organizational Level	
Plant	1100
Inspection type	05

Pay attention to the instructions for inspection type 05 in the exercise text.

**Save the changes in the material master.**

## 4-2 Link master inspection characteristic and class characteristic

### 4-2-1 Edit material specification

*Logistics → Central Functions → Batch Management → Environment → Quality Planning for Material → Inspection Planning → Material Specification → Edit (QS61)*

Field name or data type	Values
Material	Y-500-##

The class characteristic **M4-##** does not have an equivalent in QM.

### 4-2-2 Create master inspection characteristic

*Logistics → Central Functions → Batch Management → Environment → Quality Planning for Material → Basic Data → Inspection Characteristic → Create (QS21)*

Field name or data type	Values
Plant	1100
Master insp. characteristic	4-4##
Valid from	Current date
Class characteristic	M4-##
Status	Released

### 4-2-3 Edit material specification

*Logistics → Central Functions → Batch Management → Environment → Quality Planning for Material → Inspection Planning → Material Specification → Edit (QS61)*

Field name or data type	Values
Material	Y-500-##

The class characteristic **M4-##** is assigned to master inspection characteristic **4-4##**.

Save the material specification.



#### 4-3 Goods receipt with generation of inspection lot

Create a batch and an inspection lot.

*Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)*

Initial screen

Field name	Values
Movement Type	501
Plant	1100
Storage location	0001
Material	Y-500-##
Quantity	500 KG
Batch number	Any, internal or external
Characteristic valuation	Any or within the allowed values No characteristic value assignment for the characteristic <i>covering property</i> .

Due to the configuration of QM in the material master (inspection type 05), the system creates an inspection lot when you save this goods receipt.

#### 4-4 Enter the inspection result

*Logistics → Central Functions → Batch Management → Environment → Quality Inspection → Worklist → Results Recording (QE51N)*

Field name	Values
Material	Y-500-##

Make the selection, enter the measured value 92 in the *Result* field in the data entry section and press enter to confirm. Confirm the popup that follows and save your data.

#### 4-5 Enter the usage decision.

*Logistics → Central Functions → Batch Management → Environment → Quality Inspection → Worklist → Results Recording (QE51N)*

Field name	Values
Material	Y-500-##
Inspection lot	5000....
UD code	A (acceptance without further action)

##### 4-5-1 Check the batch classification

Display the stock overview for material Y-500-##:

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

Field name	Values
Material	Y-500-##
Plant	1100

Double-click on the batch you created in exercise 4-3 and choose the *Batch Classification* pushbutton to display the classification data.

Field name	Values
Characteristic Description	Covering power
Value	92.0 %

##### 4-5-2 Evaluations in the BIC

*Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*



## Unit: Batch Management and SCM

### Topic: Batch Derivation

#### 4-6 Create condition record maintenance for batch derivation using the bill of material (BOM)

**SAP Menu** → **Logistics** → **Central Functions** → **Batch Management** → **Batch Derivation** → **Condition Record Maintenance for Bill of Material (DVCO)**

Field name or data type	Values
Derivation event	Manual derivation
Material	AI-1200-0##
Plant	1100
Use	1
Alternative	1

Choose *Execute*. In the selection area, you can see the bill of material for material AI-1200-0## with components AI-1202-0## and AI-1202-0##.

Define the *Expiration Date* field as an attribute for the derivation.

Field name or data type	Values
Field	VFDAT

In the selection area, use Drag&Drop to assign the attribute to the header material AI-1200-0## and the bill of material components AI-1202-0## and AI-1202-##. In the popup for the condition type for header material AI-1200-0## choose the key combination *Material Number*, and for the components AI-1201-0## and AI-1202-0## the key combination *Sender Material Number*.

#### 4-6-1 to 4-6-4

Double-click on the attribute for header material AI-1200-0## in the selection area to define the rules for manual derivation.

Area	Field	Values
Rules for controlling derivation	Sender field empty	Warning
	Overwrite recommended	Warning
	Batch where-used list levels	1
Rules for value selection for several senders	Comparative	Minimum

Save your settings.

#### 4-7 Create a process order

***Logistics → Production-Process → Process Order → Process Order → Create → With Material (COR1)***

Field name or data type	Values
Material	AI-1200-0##
Plant	1100
Order type	PI06

Field name or data type	Values
Total qty	10 KG

Release the process order using the pushbutton with the green flag or choose ***Process Order → Functions → Release***.

The component batches are assigned automatically at release. The header batch number (Goods Receipt tab page) is generated automatically.

Save the process order and make a note of the number. \_\_\_\_\_

.

#### 4-8 Selection using the Batch Information Cockpit

Use the Batch Information Cockpit to select the component batches and header batch.  
Note the components' expiration dates stored in the batch master record.

***SAP Menu → Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)***

Field name or data type	Values
Material	AI-1200-0##, AI-1201-0##, AI-1202-0##

Note the components' expiration date stored in the batch master record.

Does an expiration date already exist for the header material in the batch master record? -> No.

#### 4-9 Perform manual derivation

***Logistics → Central Functions → Batch Management → Batch Derivation → Manual Derivation (DVMAN)***

Display the batch master record. Is there already a shelf life expiration date?

Field name or data type	Values
Material	AI-1200-0##
Batch	Header batch from process order
Plant	1100

Perform the derivation. The pushbutton for performing the derivation becomes active as soon as the batch master record for your header batch is displayed from the selection results.

The derivation result is shown first in a separate popup. Display the detailed data for the manual derivation. In the popup for the derivation result, choose *Details* to display the detailed data for the derivation.

What derivation result do you receive?

***The result of a successful batch derivation shows you that at least all expiration dates for the BOM components have been transferred to the header batch.***

Note the shelf life expiration date that was copied to the header material batch

\_\_\_\_\_.

***The expiration date of the header batch is at least all the expiration dates for the BOM components.***

#### 4-10 Evaluations for batch derivations using the derivation monitor.

***Logistics → Central Functions → Batch Management → Batch Derivation → Derivation Monitor (DVMO)***

### **Contents:**

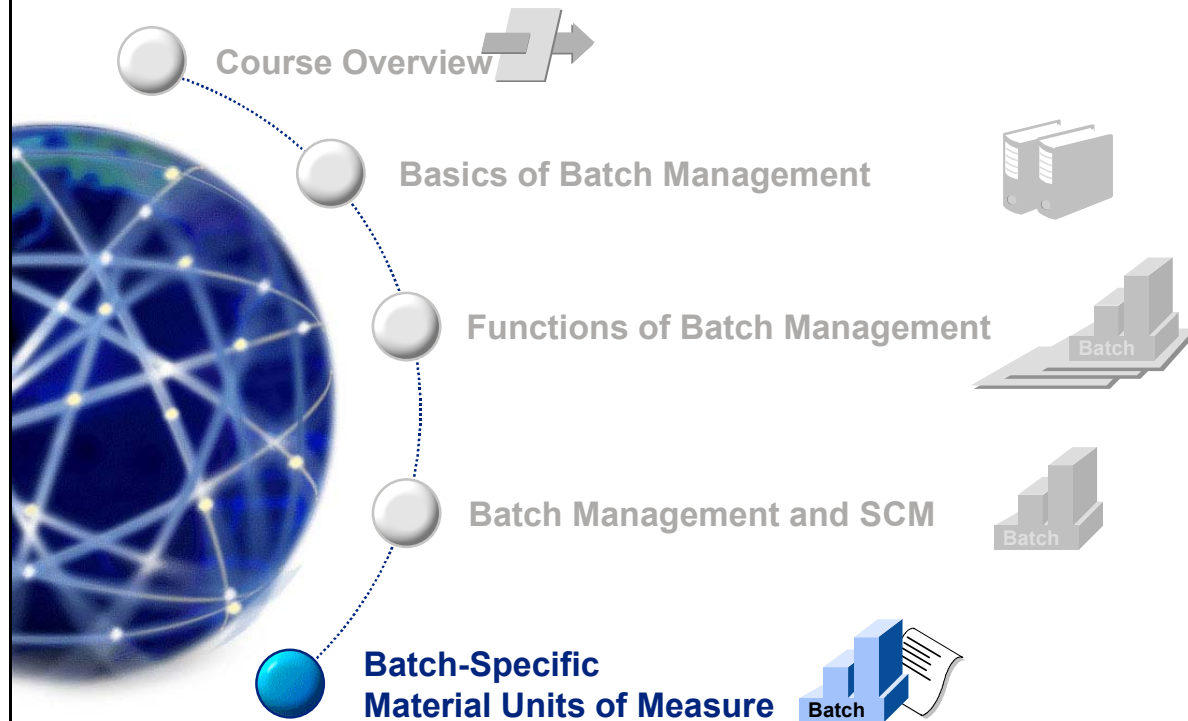
- **Basics of batch-specific units of measure**
- **Data concept in proportion and product quantity management**
- **Batch valuation based on proportion and product units**
- **Batch Information Cockpit: Evaluations with alternative units of measure**

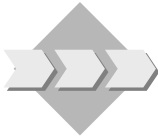


**At the conclusion of this topic, you will be able to:**

- **Make the necessary settings to enable you to use batch-specific material units of measure**







- **For many materials managed in batches in your company, the physical quantity is made up of several portions (active ingredients). You want to use batch-specific proportion units to represent these proportions in the various business applications. The conversion ratio for proportion units to base units of measure is determined for each batch dependent on the proportion amounts (quantities of active ingredients) that exist.**
- **For some of your products that are managed in batches, you have to use batch-specific product units to represent the total quantities dependent on special batch characteristics.**

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### Batch-Specific Material UoM:

**Alternative unit of measure for a material for which you can define the conversion ratio specific to the batch in the base unit of measure.**

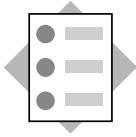
**Batch-specific material units of measure are:**

- **Proportion unit**
- **Product unit of measure**

**Proportion units and product units of measure for materials that must be managed in batches can be used in all processes along the logistics chain.**

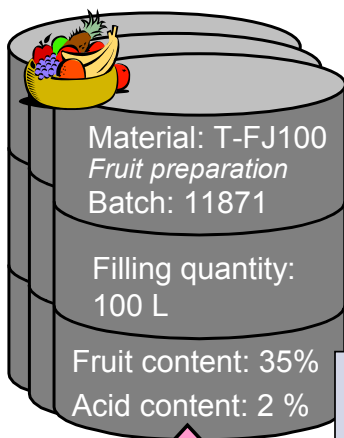
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- You use batch-specific units of measure when the ratio for conversion from the unit of measure into the base unit of measure can differ from batch to batch.
- **Proportional unit**  
Unit of measure in which you can enter proportional amounts of a material. The total or physical quantity can consist of several proportions.
- **Product unit of measure**  
Unit of measure that describes the total quantity of a material as an alternative to the base unit of measure.
- Whereas the conversion ratio for alternative units of measure that are not specific to the batch is fixed in the base unit of measure in the material, for proportional units and product units of measure; you define the planned conversion ratio in the material- the actual conversion ratio on the batch
- As long as the batch is unknown, the system uses the conversion ratio from the material when converting to the base unit. As soon as the batch is known, the system uses the actual conversion ratio from the batch.



**At the conclusion of this topic, you will be able to:**

- **Explain the data concept for proportion and product quantity management**
- **Make the Customizing and application settings to enable you to use proportion and product quantity management**



Classification

Class type: 023 Batch  
Class: Fruit juices  
View: S Subst.

Character.	View
Fruit content	S
Acid content	S

L	Litre	Base unit of measure
LF	Litre fruit	Proportion units
LA	Litre acid	
Fruit content	Class characteristics (active ingredient characteristics (view S))	Unit of measure for active ingredient characteristic
Acid content		
%	Percent	

Conversion is defined using unit of measure for active ingredient characteristic !

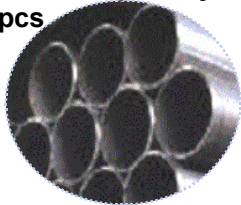
35% → 35 LF (Litre fruit)  
2 % → 2 LA (Litre acid)

Proportion quantities  
(Active ingredient quantities)

**V2A steel pipes**

**Batch 5669567**

**Product quantity: 1000  
pcs**



**Weight per piece:  
99 KPP**

*Classification*

**Class type: 023 Batch**  
**Class: Steel pipes**  
**View: S Subst.**

Character.	View
<b>Weight p.piece:</b>	<b>S</b>

**KG Kilogram**

**Base unit of measure**

**Pc Piece**

**Batch-specific  
product unit of measure**

**Weight per piece**

**Class characteristic (view S)**

**KPP KG per piece**

**Characteristic unit of measure**

*Conversion is defined using unit of measure for characteristic !*

99 KPP → 99 000 KG

**Ratio: KPP = KG / PC**

## Customizing

### General settings

Define (batch-specific mat.) unit of measure (no dimensions)  
(e.g. LF *litre fruit*; LA *litre acid*; PC *piece*)

### Logistics Gen. / Batch Management

Activate use of batch-specific  
units of measure

Assignment of batch-specific units of measure to  
reference units of measure  
(e.g. LF <-> L; LA <-> L; PC <-> PC)

Define conversion between batch-specific units of  
measure and base units of measure

=

Definition of unit of measure for batch characteristic:

- Percentage:  $\% = 1 / 100$
- Proportion qty from base qty: e.g.  $LFL = LF / L$
- Base quantity from proportion quantity
- Product quantity from base quantity
- Base quantity from product quantity e.g.  $KPP = KG / PC$

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## Master Data Maintenance

### Classification System

Create batch characteristics for calculating the proportion or product quantity:  
View *S Subst.* and suitable units of measure (see above)

Create *batch* class type View *S Subst.*

Assign characteristics to class

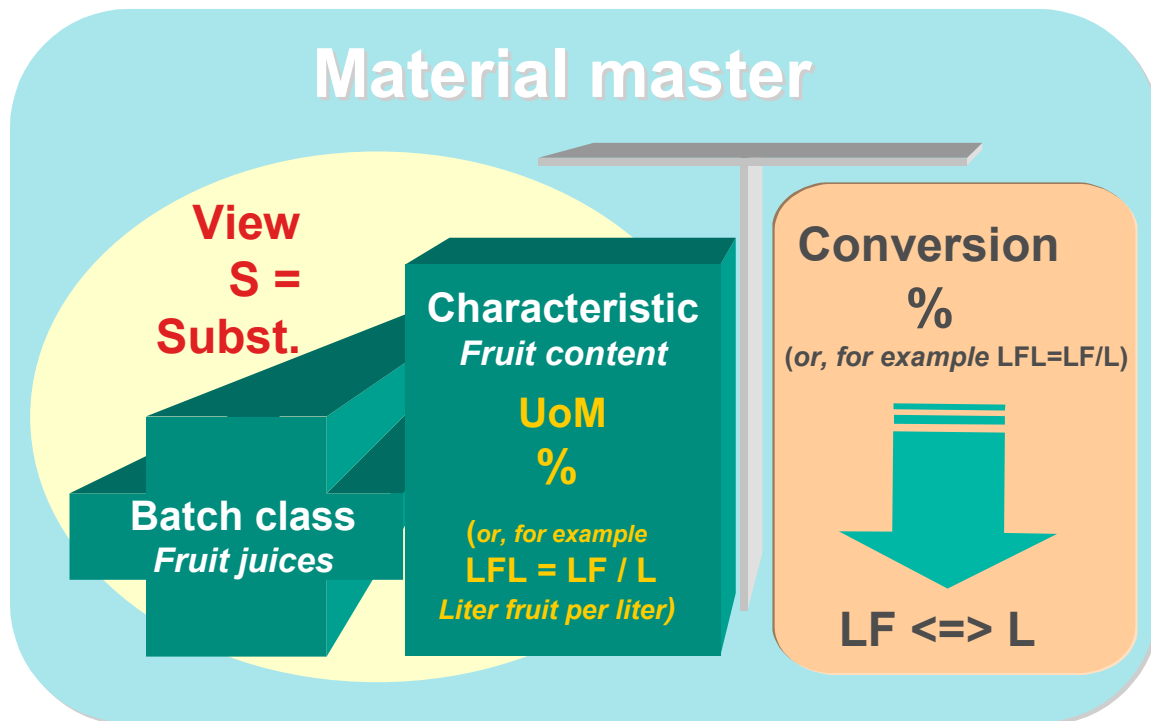
### Material master

Classify material  
-> Possible characteristics for calculating the proportion or product quantity known through view *S*

View *Proportion/Product UoM*:

- Determine the batch-specific units of measure and characteristics to be used
- Define the planned values for converting between batch-specific units of measure and base units of measure





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- Batch characteristics for calculating proportion or product units are assigned the special view 'S' within the batch class.
- Characteristics with this view are recognized during material master maintenance. The information for conversion between batch-specific and base units of measure is adopted in the material master.

## View: Proportion/product unit of measure



Character.	Pl. value	UoM	Prop. unit
Fruit content	75 (0.75)	% (LFL)	LF

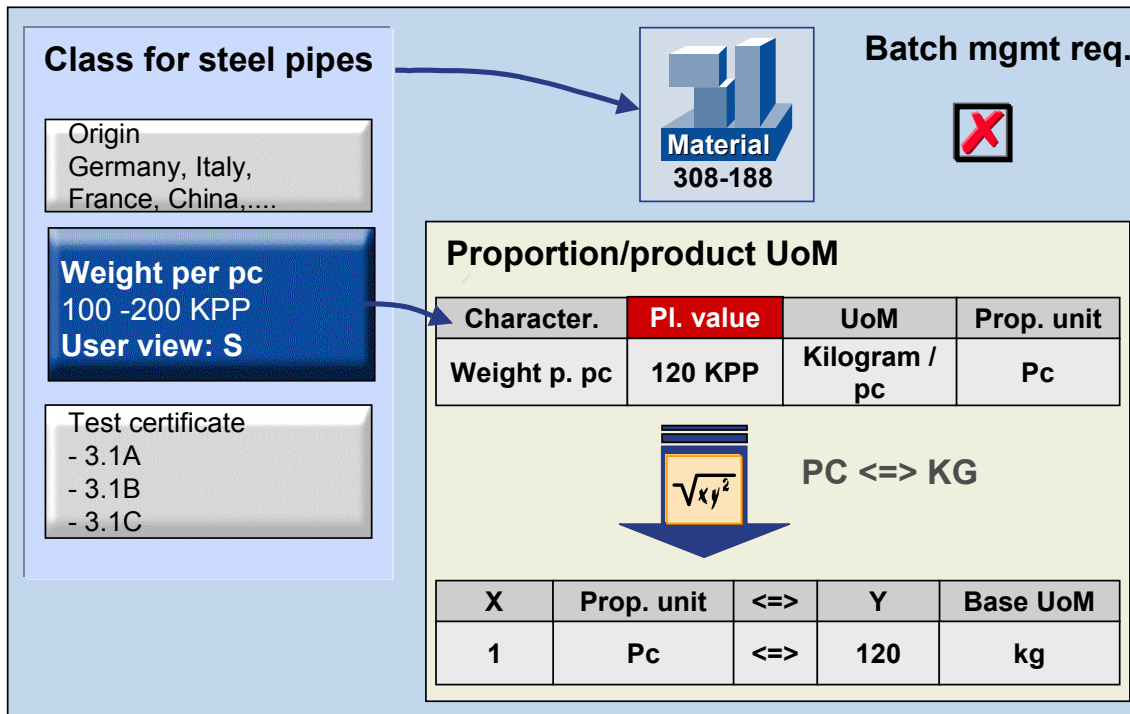
$$\sqrt{x y^2}$$

## View: Units of Measure

X	Alt. UoM	<=>	Y	Base UoM
75	LF	<=>	100	Liter

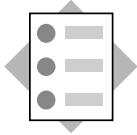
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- After the classification view has been maintained the system may recognize characteristics for calculating the proportion or product units. You can then select these in the proportion/product unit view if required, and assign them to a suitable batch-specific unit of measure.
- You must then complete the information in the *Proportion/Product Unit* view: A planned value is expected for the conversion.
- The planned value specifies the assumed ratio between the batch-specific and base quantity in the characteristic unit of measurement.
  - If the actual characteristic value of a batch is not known for a business transaction, the system uses the planned value from the material master.
  - The planned value for the conversion between the batch-specific and base quantity is automatically transferred to the units of measure table.




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- The conversion factor between the product unit of measure and the base unit of measure can fluctuate.
- Stocks of a material with varying product units of measure or conversion factors between the alternative unit and the base unit of measure have to be managed separately. You can manage these stocks separately in terms of both quantity and value.
- This goal is easily achieved through the use of Batch Management.
- For this reason, active ingredient proportions or product units of measure can only be reproduced in the ECC system for materials that are subject to a batch management requirement. The use of Batch Management is an essential prerequisite for the use of Active Ingredient Management and Product Quantity Management.
- The batch class with the product unit characteristic must be assigned on the *Classification* view in the material master record.
- You can only maintain product units of measure under *Additional Data* in the material master record if the user view S (active ingredient view) is assigned to the batch class and the product unit characteristic(s).
- You maintain the conversion factor as a planned value in *Proportion /Product Units* for the material master record. The system then calculates the conversion ratio between the product unit and the base unit of measure.



**At the conclusion of this topic, you will be able to:**

- **Determine a batch-specific price dependent on the proportion quantity and the batch-specific product quantity**



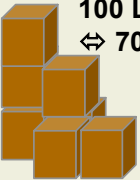
**Material**  
308-188

**Batch mgmt req.**

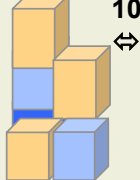
X

e.g. *Active ingredient*  
characteristic

**Storage location 0001**



**Batch A**  
Act. ingred. 70%

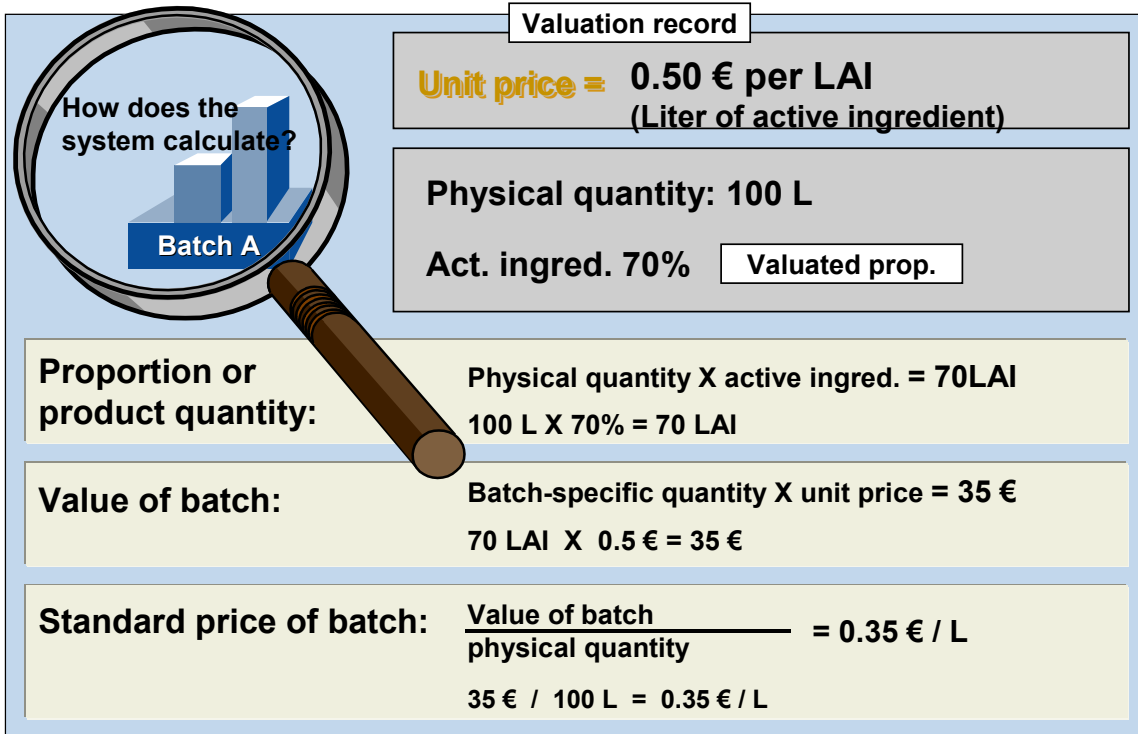


**Batch B**  
Act. ingred. 60%



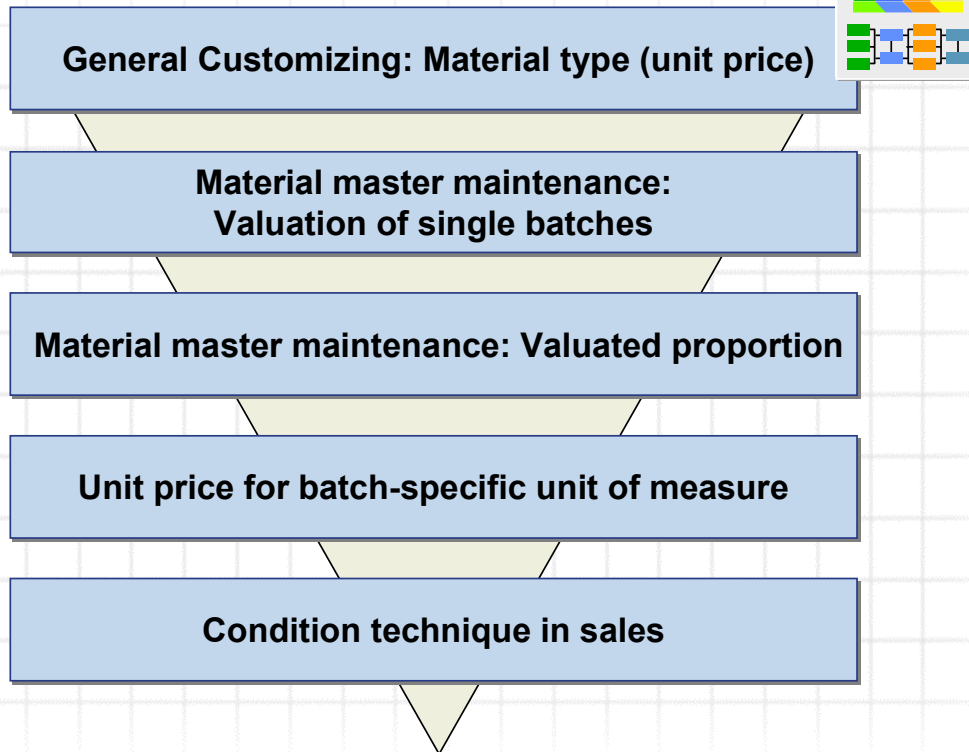
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- The value of a batch can fluctuate, depending on the proportion unit or the batch-specific product unit.
- You can store a valuation price for each batch-specific unit of measure in a valuation record. This price is always a standard price.



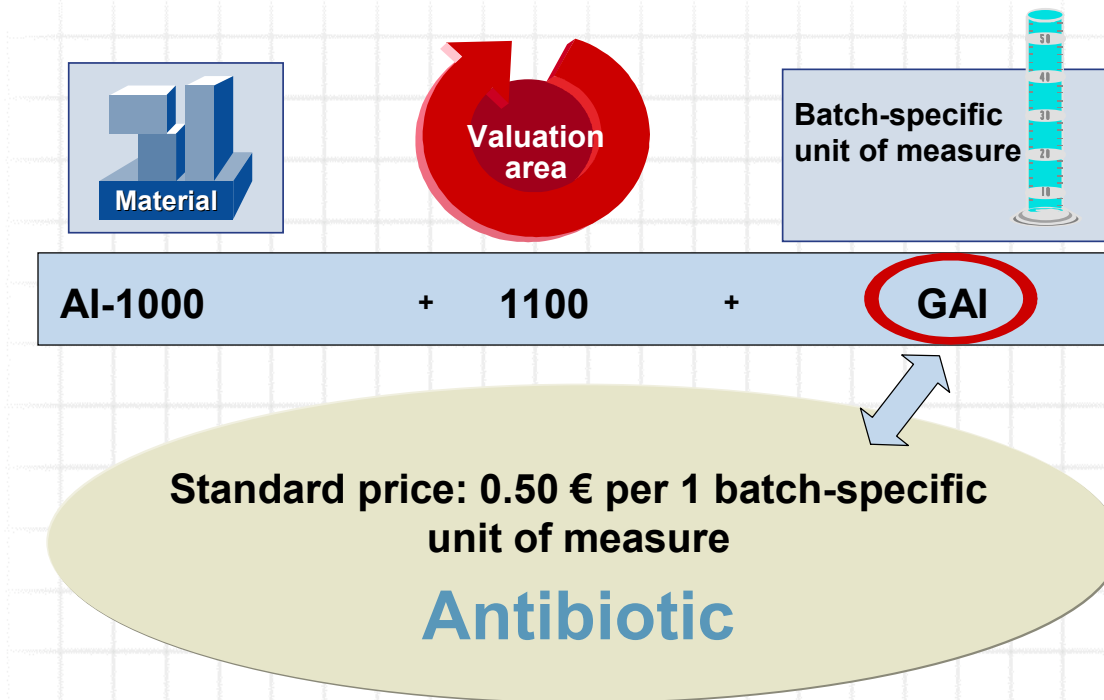
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- Valuation for a single batch is a prerequisite if you wish to calculate a valuation price based on a batch-specific unit of measure.
- The price of the batch-specific unit of measure is known from the valuation record. It is a standard price.
- A specific price is determined for each batch on the basis of the specific proportion quantities and batch-specific product quantities.
- Prerequisite: You have to ensure that unit price has been defined as the proposed price control in the material type in question.



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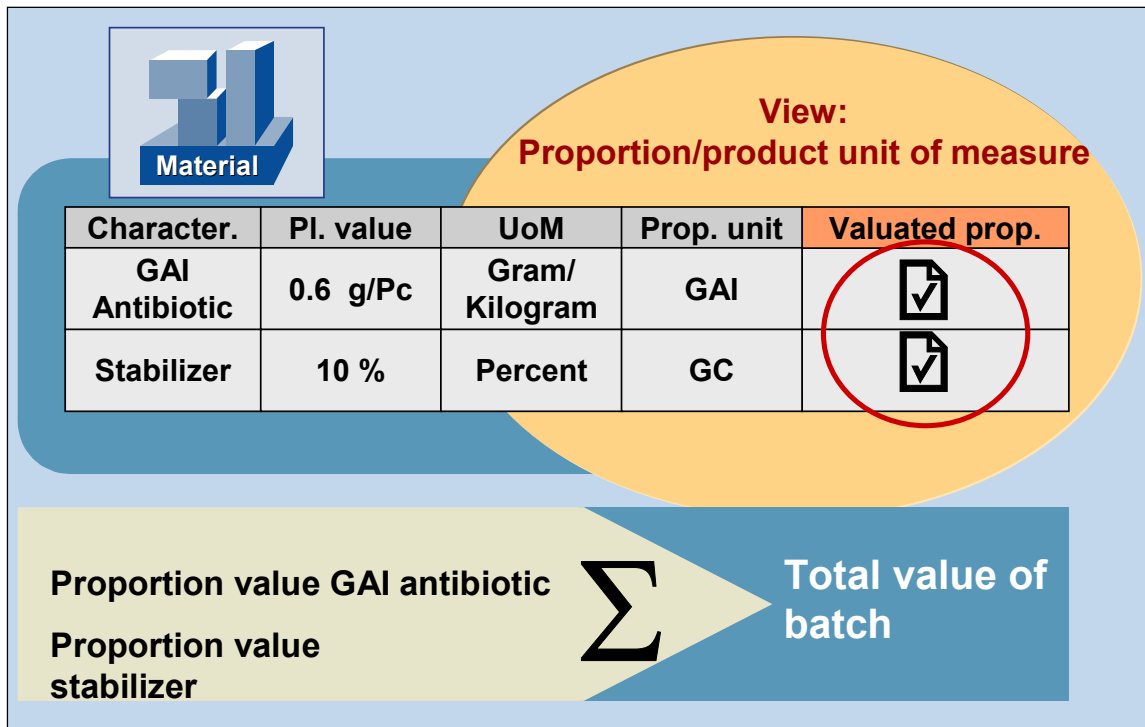
- To use active ingredient prices (such as product quantity-specific prices in product quantity management) in active ingredient management, make the following Customizing and application settings in the specified sequence. In Customizing, check which price control is defined for each material type. Active ingredient prices are always standard prices. In the material master, activate *Single Batch Valuation* in the accounting view and set the *Valuated Proportion* indicator in *Additional Data* on the *Proportion/Product UoM* tab page for each active ingredient characteristic that is to be included in the valuation. Then maintain a unit price for each proportion unit, material and valuation area (for example, plant). If you want to define a sales price for each batch too, make the corresponding settings in the condition technique for price determination in Sales and Distribution.



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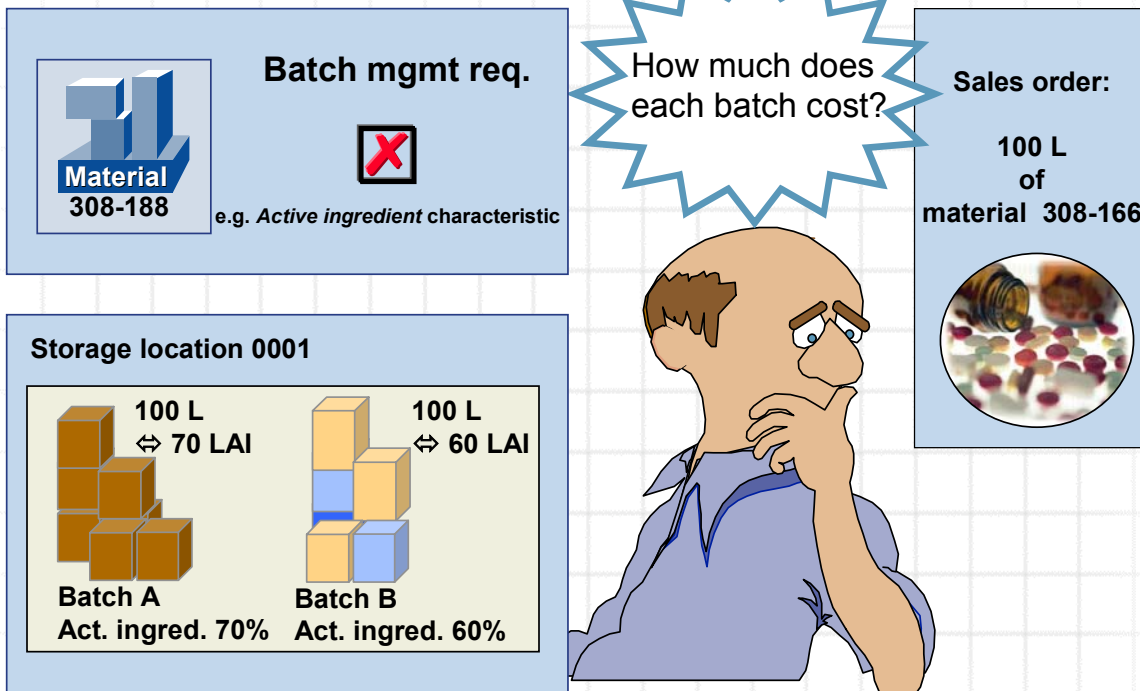
- You can store a valuation price for a batch-specific unit of measure in a valuation record.
- The price is always a standard price. It refers to the combination of material number for the material, valuation area (such as plant 1100) and batch-specific unit of measure.





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- For each proportion/active ingredient that is to be given a proportion/active ingredient price, you have to set the *Valuated Proportion* indicator in the material master record on the *Proportion/Product UoM* view under *Additional Data*.
- You can flag several proportion/active ingredients in a material as a *Valuated Proportion*. The sum of all the individual proportion/active ingredient values then constitute the total batch value.



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- The sales price can fluctuate depending on the proportion quantities or the batch-specific product quantities in a batch.



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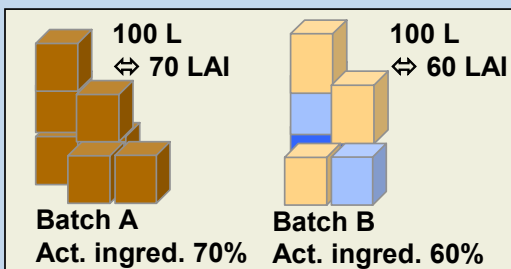
- You can define the condition record for the sales price with reference to the batch-specific unit of measure. This means that you can change the basis for the sales price from the physical quantity to the proportion or batch-specific product quantity.
- The batch-specific sales price is calculated as follows:
  - The actual proportion or batch-specific product quantity is calculated for each split item in the delivery.
  - The proportion or batch-specific product quantities are added
  - The sales price is determined for the cumulated quantity
- In the case of proportion quantity calculation, the sales price is composed of the individual prices for several different proportions/active ingredients.

## Sales order

Company: Pharma Müller

Item	Material	Quantity	Unit of measure	Batch	Price
20	308-166	10	L	A	7 €
30	308-166	10	L	B	6 €

## Storage location 0001



## Master Data: Prices and Conditions

Cond.	Material	Amount	Per
PR00	308-166	1 €	LAI

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- You can use price determination dependent on batch-specific units of measure if you choose a batch-specific unit of measure in the condition record for Sales and Distribution (SD) as the unit of measure. The underlying transaction can be entered both in the base unit of measure and in the batch-specific unit of measure.
- You can create delivery-related bills as follows:
  - On the main item
  - If you have assigned the condition formula 50 to the condition type, the system cumulates the quantities in the batch split items. The total for all the batch-specific quantities from the batch split items is used as the base quantity for the condition record.
  - On the batch split items
- If the quantities do not exist in batch-specific units of measure, the system converts the quantities to batch-specific quantities. To do this, the system uses the batch-specific unit of measure from the condition record and the actual conversion factor from the batch.
- Prerequisites:
  - You have to choose the condition formula 50 in the Basis Formula field (condition formula for condition basis) in the calculation procedure for the condition types that use batch-specific units of measure. You make these settings in Customizing for Sales and Distribution under *Basic Functions -> Pricing -> Pricing Control -> Define and Assign Pricing Procedures*.
  - You have to choose batch-specific units of measure in the *UoM* field in the condition record.

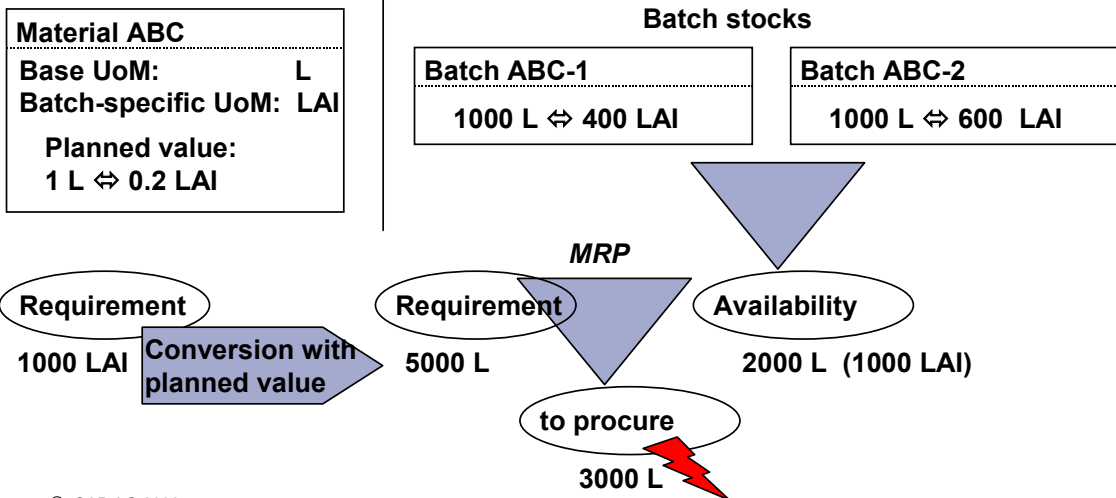


**At the conclusion of this topic, you will be able to:**

- **Outline the purpose and effect of the inventory correction factor**
- **Explain the importance of planned and actual values when using batch-specific units of measure**

**MRP and availability check  
are performed only in the base unit of measure,  
independent of batch-specific quantities**

**Example:**



- The material requirements planning and availability check are only performed in the base unit of measure.
- Requirements in proportion units are converted to requirements in the base unit of measure using the planned value defined in the Proportion/Product Units view in the material master.
- The planned value for a proportion can differ slightly from the average actual value of all the batches of a material.
- In MRP and the availability check, more or less quantity can be shown to be available in the base unit of measure than is actually required in the proportion unit.

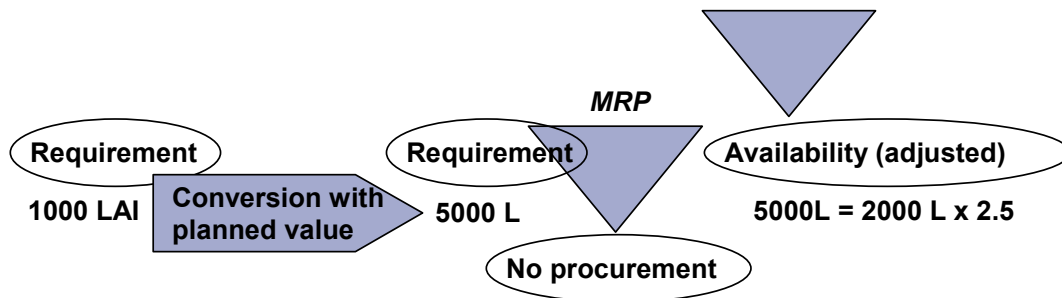
## Example:

<b>Material ABC</b>	
Base UoM	L
Batch-specific UoM:	LAI
Planned value:	
1 L	⇔ 0.2 LAI

## Batch stocks

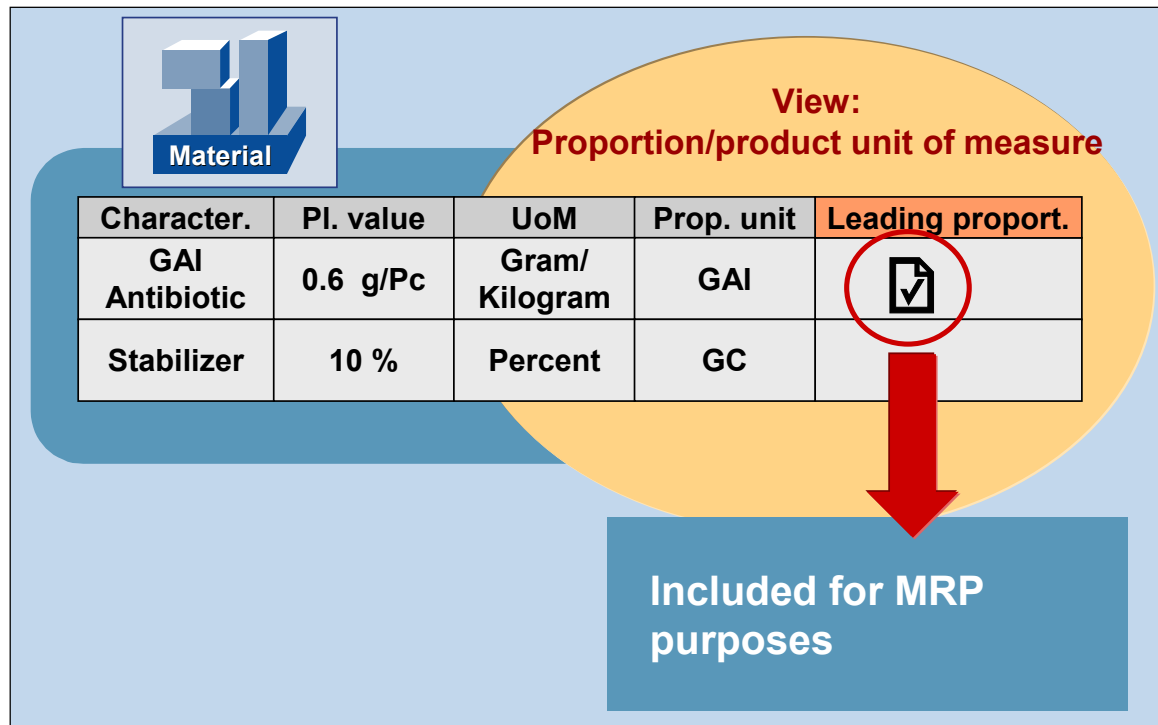
<b>Batch ABC-1</b>	<b>Batch ABC-2</b>
1000 L ⇔ 400 LAI	1000 L ⇔ 600 LAI

Quantity from planned value:  $2000 \text{ L} \times 0.2 \text{ LAI/L} = 400 \text{ LAI}$   
 Actual quantity: 1000 LAI  
 => Inventory correction factor:  $1000 / 400 = 2.5$



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- You can include the available batch-specific quantities in stock in material requirements planning and the availability calculation using the inventory correction factor.
- The calculation of the available quantity in the base unit of measure can be adjusted using this inventory correction factor. The available stock is temporarily adjusted before it is included in the available quantity calculation. The inventory correction factor does not have any influence on the total stock and does not trigger an inventory posting. The stock overview remains unchanged.
- You can find the function for calculating the inventory correction factor in the Batch Management menu under *Batch-specific Units of Measure* (report RVBWSCOR, transaction MWBK).



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## Leading batch-specific unit of measure

- If a batch-specific quantity is to be included from an MRP point of view, the *Leading Proportion* indicator must be set for the corresponding characteristic in the material master record. There can only be one leading active ingredient.

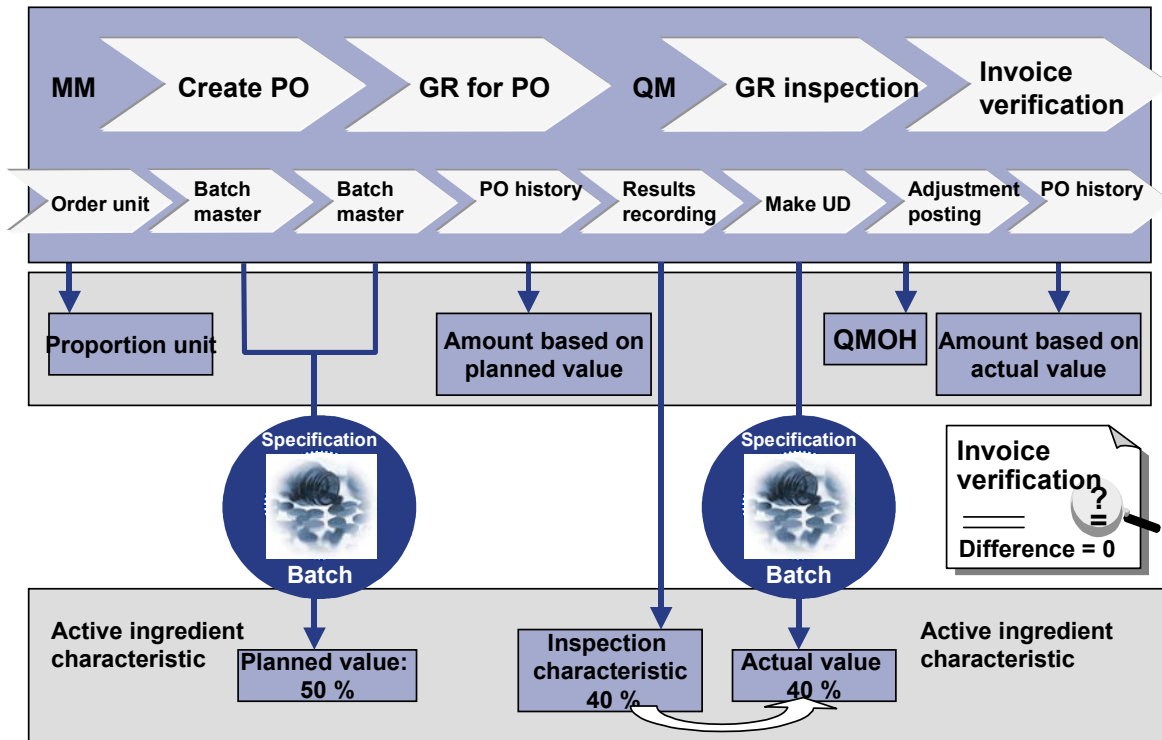
## With proportion units:

- Erlaubt das Kennzeichen, dass für einen Wirkstoff bei der Bedarfsplanung und der Verfügbarkeitsprüfung die Abweichung des durchschnittlichen tatsächlichen Wirkstoffanteils der Bestände vom geplanten Wirkstoffanteil berücksichtigt werden kann.
- You use the inventory correction factor for this function.

## With product units of measure:

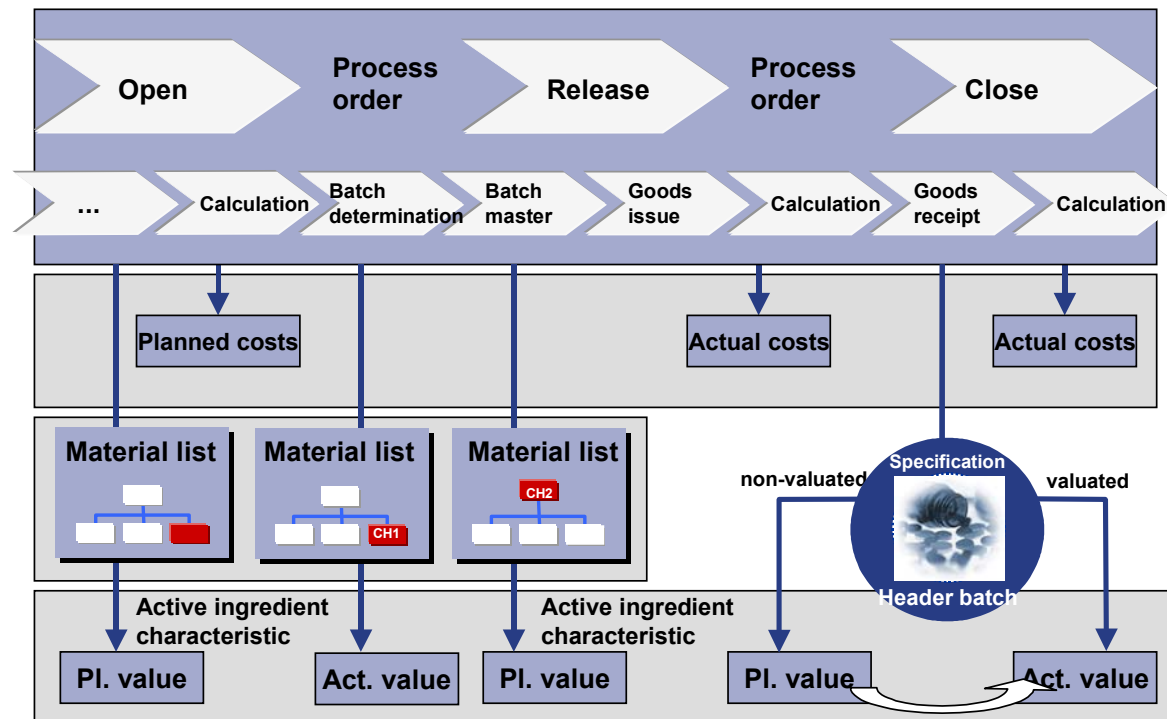
- The indicator controls the calculation of the conversion factor on goods receipt.
- Indicator is set: You can enter two quantities. The system uses them to calculate the conversion factor and values the characteristic in the batch master record.
- Indicator is not set: You either enter the conversion factor in the characteristic for the batch master record manually, or calculate the conversion factor using object dependencies.





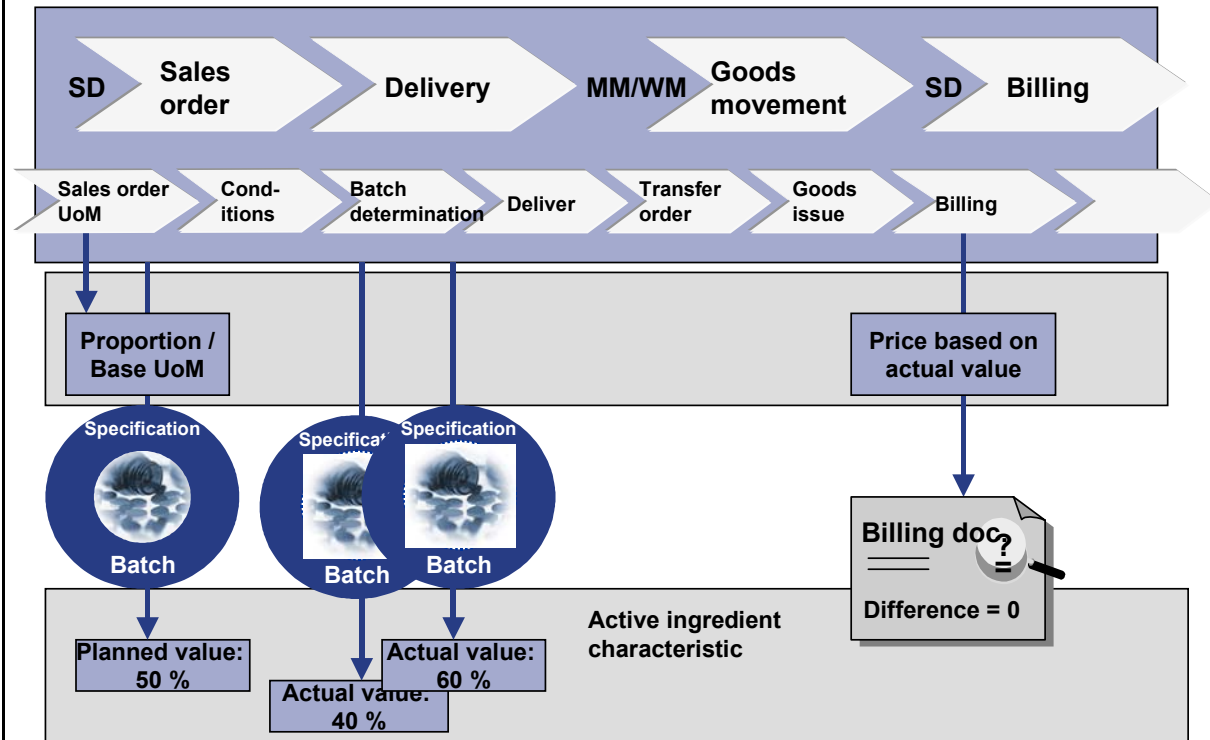
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- You can enter the order quantity either as the base unit of measure or as an alternative unit. This could also be the batch-specific unit of measure.
- It is useful to maintain the *Overdelivery* indicator in the purchase order if you expect the proportion of the active ingredient to differ from the planned value.
- With purchase orders that were created in a batch-specific unit of measure, both the order quantity and the physical quantity are updated accordingly in the purchase order history.
- If the actual value for the batch is not known at the time the goods are received, the goods receipt uses the planned value. If the actual value is known from the usage decision in QM, the batch is valued. This can lead to differing values when the goods receipt is posted. Since a value is expected in the invoice verification that is based on the actual value, the purchase order history can be adjusted. In this way you avoid differences that do not actually represent genuine variances.
- The system points this out to you when you create the usage decision. Post the subsequent adjustment with reference to the inspection lot (transaction MWBQ) or with reference to the purchase order (transaction MWBE).



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- **Planned orders:** In the planned order, the conversion to the physical quantity is made according to the planned conversion factor when the BOM is exploded for the header quantity. If the header and component quantities have been maintained in the batch-specific units of measure, the header quantity is stored and displayed in base units of measure in the planned order, and the component quantities in batch-specific alternative units of measure.
- **Production:** In the order you can enter the header and component quantities in batch-specific units or in base units of measure. Production or process orders still are processed in physical quantities. When the system generates a production or process order, the batch-specific header quantity is converted to the base quantity using the planned value. If the unit of entry is a product unit of measure, the system can determine a conversion factor for the order material that deviates from the planned conversion factor. The system calculates the conversion factor from the base quantity and batch-specific quantity entries. When the goods are received for the order this conversion factor is assigned to the batch using the corresponding characteristic valuation.
- **Batch determination:** Batch determination can be carried out using batch-specific quantities. The prerequisites are: The underlying transaction was created in batch-specific quantities. You have set the *Display UoM* indicator to *Display in Unit of Entry* in the strategy record you are using.
- **Order calculation:** If the batch is still unknown, the system calculates the quantities for cost determination on the basis of the planned conversion factor. If the batch is known, the system calculates the actual quantity using the actual conversion factor. The physical quantities are taken for the actual calculation.



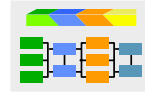
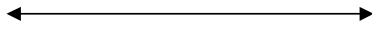
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- **Sale/Shipping/Billing:** You can create the request for a quotation, offer, sales order and delivery both as a batch-specific quantity and a physical quantity.
- The requirement is managed as a physical quantity. If the order was created in a batch-specific quantity, the system calculates the physical quantity from the batch-specific quantity and the planned conversion factor, if the batch is unknown. If the batch is known, the system uses the actual conversion factor from the batch.
- If the sales unit is a batch-specific unit of measure, the billing document also uses the batch-specific unit of measure. The quantity on the billing document results from the cumulated batch quantity using the respective actual conversion factors for the batch.
- The document flow is always updated in a batch-specific quantity and a physical quantity.
- The batch-specific quantity and batch-specific unit of measure are transferred from the order to the delivery, and shown as a sales quantity and a sales unit. With partial deliveries, the physical quantity is calculated using the actual conversion factor (the batch is known at this point in time).
- In price determination you can calculate prices based on the batch-specific quantity and unit.



**At the conclusion of this topic, you will be able to:**

- **Use the Batch Information Cockpit to display the batch stocks in various alternative units of measure**
- **Display the current characteristic valuation for the batch using a selection class that contains the characteristic for mapping the batch-specific unit of measure**

**Navigation:****Selection  
result****Stock****Selection Area**

- You can display the actual value using a selection class that contains a batch characteristic.
- Using the SAP standard tab page *ATP/Alternative Units of Measure* you can select and display batch stocks in alternative units of measure
  - proportion units
  - product units of measure

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- You can use the SAP standard tab page *ATP/Alternative Units of Measure* to show batch stocks in the *Stock Selection Result* not only in base units of measure, but also in alternative units of measure such as proportion units /product units and other units of measure.
- The ATP/Alternative Units of Measure tab page must be assigned to the user group in Customizing.
- To display the valuation of the active ingredient or product quantity characteristics in the *Selection Result: Batches* or *Selection Result: Stock*, you define an appropriate selection class on the *Classification* tab page. You can also choose the batch class as the selection class.

Shelf-life expiration data Worklist ATP/Display Units of Measure

Reset selection criteria

ATP quantity

Checking Rule

Requirements Date 18.10.2005

Display units of measure for stock/ATP

☐ Display Base Unit of Measure Only

☒ Also Display Alternative Units of Measure

Alternative Units of Measure

☒ Display Proportion Units

Selection of Proportion Un **LF**

☐ Display Product Units of Measure

Selection of Product UoM

☐ Display Other Alternative Units of Measure

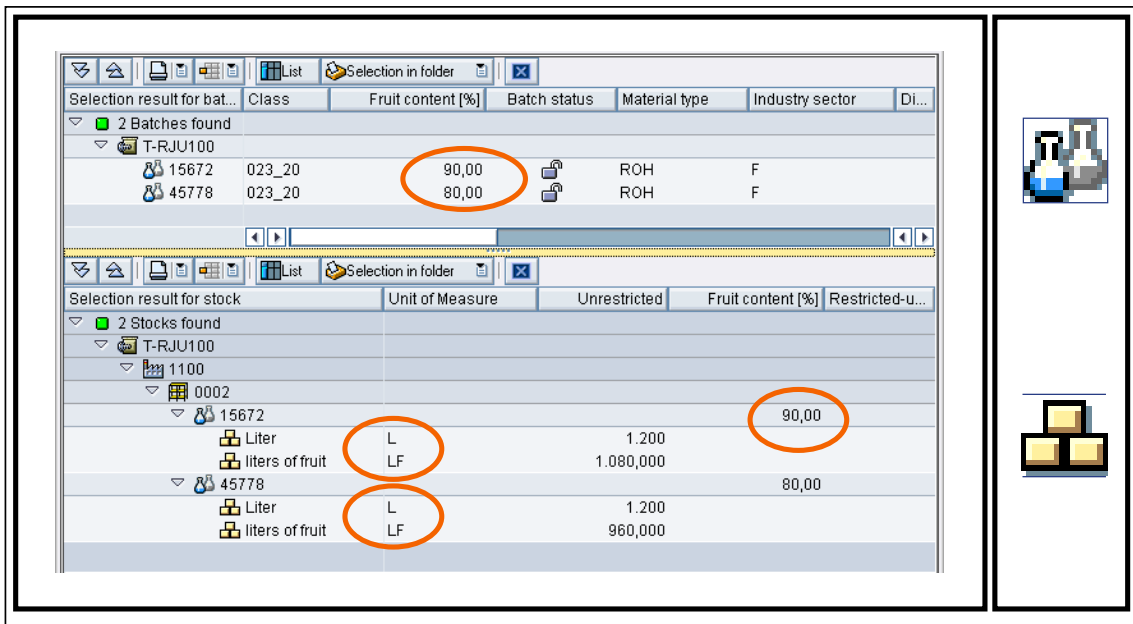
Selection of Alternative U

☐ Do Not Display Stock/ATP in Base Unit of Measure

Totals Display in Stock Hierarchy

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- The *ATP/Alternative Units of Measure* selection tab page enables you to display the selection result for the batch, as well as the base unit of measure, in alternative units of measure.
- To do this, choose the *Display Alternative Units of Measure too* radio button and store the units of measure to be displayed in the respective alternative unit of measure.
- You can prevent the base unit of measure from being displayed.
- Stocks can be displayed at various levels using the totals display.



The screenshot displays two SAP tables. The top table, 'Selection result for bat...', shows batch data for material T-RJU100. The bottom table, 'Selection result for stock', shows stock data for the same material, including alternative units of measure (L and LF) and their corresponding fruit content percentages (90,00 and 80,00).

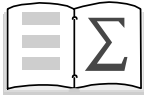
Selection result for bat...	Class	Fruit content [%]	Batch status	Material type	Industry sector	Di...
2 Batches found						
T-RJU100						
15672	023_20	90,00	ROH	ROH	F	
45778	023_20	80,00	ROH	ROH	F	

Selection result for stock	Unit of Measure	Unrestricted	Fruit content [%]	Restricted-u...
2 Stocks found				
T-RJU100				
1100				
0002				
15672			90,00	
Liter	L	1.200		
liters of fruit	LF	1.080,000		
45778			80,00	
Liter	L	1.200		
liters of fruit	LF	960,000		

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- In the *Stock Selection Results* the batch stocks are output with the corresponding alternative units of measure, such as the proportion unit, for example.
- In addition, the selection criteria on the *Classification* tab page with a selection class that contains the corresponding batch characteristics determine that the system displays the current valuation (actual value) for the batch characteristic.



**You are now able to:**

- **Describe the basics of batch specific units of measure in relation to proportion and product quantity management**
- **Carry out the necessary steps to maintain data in proportion and product quantity management**
- **Understand the integration of proportion and product quantity management along the logistics chain, as well as the effect of actual and planned values**
- **Work with prices based on proportion and batch-specific product quantities for internal valuation as well as for the sales process**
- **Use the Batch Information Cockpit to evaluate batch stocks in batch-specific units of measure and with batch characteristics**

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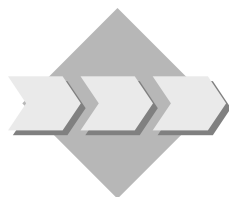
## **Unit: Batch-specific Material Units of Measure**

### **Topic: Creating Proportion Units and Conversion Ratios**



At the conclusion this exercise, you will be able to:

- Create your own units of measurement and define them as proportion units and conversion ratios



You have a material that contains a key active ingredient. You want to change the logistical processing of the material. You want to be able to use both the material quantity and also the quantity of active ingredient that the material contains. You want to achieve this objective using Active Ingredient Management and proportion quantity calculation. You need a separate unit of measure for the active ingredient and a ratio unit of measure with which you specify the ratio between active ingredient quantity and physical quantity. You begin by maintaining Customizing.

#### **5-1 Create a unit of measurement for the active ingredient**

Create a separate unit of measurement for your active ingredient that is to serve as a proportion unit. Remember that this unit must be nondimensional. If you define your own entry, enter a key ending with your group number (for example, **A##**). The entry must not be longer than three characters. The entry of an ISO code on the *Details* screen for the unit of measurement is **not** mandatory.

#### **5-2 Create a unit of measure for the characteristic or the ratio of active ingredient to base unit of measure**

Create another unit of measure (nondimensional) for the ratio between physical quantity and active ingredient quantity. Enter a key ending with your group number (for example, **V##**). The entry must not be longer than three characters. The entry of an ISO code on the *Details* screen for the unit of measurement is **not** mandatory.

#### **5-3 Define proportion unit**

Assign the unit of measurement from **5-1 [A##]** the role of the proportion unit. Enter the unit of measurement in the table of batch-specific material units of measure and choose a suitable reference unit for the dimension *mass*.

#### **5-4 Define ratio unit (calculation of proportion quantity from base quantity)**

Define the ratio between the active ingredient quantity (proportion quantity) and the physical quantity for the unit of measure from **5-2 [V##]**. Use the proportion unit and the base unit of measure KG that you defined in 5-1.



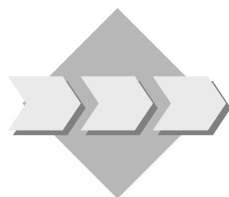
## Unit: Batch-specific Material Units of Measure

### Topic: Creating Master Data in the Classification System



At the conclusion this exercise, you will be able to:

- Maintain active ingredient characteristics in batch classes



You want to show the actual active ingredient content for batches with certain materials in the system. To do this, you must first maintain master data for the active ingredient in the classification system.

#### 5-5 Create active ingredient characteristic

In the classification system, create a characteristic that satisfies the following requirements:

- The key should end with your group number (for example, WS##).
- The active ingredient should be clearly designated in the characteristic description (for example, dye group ##).
- The status should be released.
- The data type should be numerical.
- The characteristic value assignment should consist of a single value.
- The characteristic should have a total of 5 digits, of which 2 are decimal places.
- In the previous exercise, you defined a unit of measurement for a **conversion ratio** between physical quantity and active ingredient quantity.  
Use this unit of measure V## as the unit for your characteristic.
- Enter all other format data as desired.
- Define a value interval for the characteristic (for example, 1-100).

#### 5-6 Assign active ingredient characteristic to class

Data has already been prepared for your group.

Assign your characteristic to your class AICL00010## for the view S.



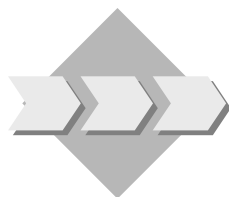
## **Unit: Batch-specific Material Units of Measure**

### **Topic: Material Master Maintenance from the Active Ingredient Management Viewpoint**



At the conclusion this exercise, you will be able to:

- Maintain data for a proportion quantity calculation



You maintain data for a proportion quantity calculation in the material.

#### **5-7 Maintain active ingredient data for a material**

Choose the material AI-1202-0## and change the material in the following way:

5-7-1 Maintain the additional data view *Proportion/Product Unit*.

- Choose the usage *A Proportion unit*
- You want to use the characteristic *WS##* to define a conversion of the base UoM *KG* to the proportion unit *A##* with a planned value in the permitted area.

5-7-2 Check the conversion ratio in the unit of measure table in the material master.



#### Notes

- Active Ingredient Management is activated in the training system.
- In your batch class, the application view *S* is set in the basis data.
- Batch management requirement and individual batch valuation have been specified for your material master record AI-1202-0##.



## Unit: Batch-specific Material Units of Measure \*

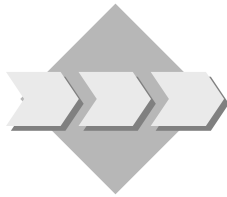
### Topic: Defining and Using Product Units

\* This exercise is optional



At the conclusion this exercise, you will be able to:

- Create a unit of measure to use in product quantity management
- Create characteristics to describe a product quantity
- Maintain the usage of a product unit of measure in the material master
- Track warehouse stocks and available quantities in the product unit and base unit of measure in the system



A material *Steel beam*, managed in the base unit *kilogram*, consists of individual pieces that vary in length. Each beam (piece) is roughly 2 meters long and weighs 20 kilograms. Slight variations in the length of the pieces mean that the weight per piece also varies. In Inventory Management, approximate information in the form of a fixed conversion ratio at material level is not enough. Each batch requires an exact, individual conversion ratio. You want to achieve this objective with the aid of Product Quantity Management.

#### 5-8 Create unit of measurement for the characteristic describing the ratio of the product quantity to the base unit

Create your own unit of measurement. It should then be used to carry out conversions between the physical quantity and the product unit of measure. You will use this unit to measure the ratio *kilogram/piece*. The new unit of measurement should be nondimensional.

Enter a key ending with your group number (for example, U##). The business and technical text for the unit of measurement is kg/pc. The new entry should be set to 3 decimals and rounded to three decimal places. The entry of an ISO code on the *Details* screen for the unit of measurement is not mandatory.

#### 5-9 Define product unit

Verify whether the unit of measure Pc *piece* can be used as a batch-specific unit of measure.

#### 5-10 Define ratio unit (calculate base quantity from product quantity)

Define the ratio between physical quantity and product quantity for the unit of measurement from 5-8 [U##]. Set the unit of measure Pc as the product quantity and KG as the base unit of measure in the ratio.

### 5-11 Create characteristic

In the classification system, create a characteristic that satisfies the following requirements:

- The key should end with your group number (for example, KS##).
- The conversion ratio between piece and kilogram should be clearly defined in the characteristic description (for example, kg per Pc group ##).
- The status should be released.
- The data type should be numerical.
- The characteristic value assignment should consist of a single value.
- In the previous exercise, you defined a unit of measurement for a **conversion ratio** between physical quantity and product quantity.  
Use this unit of measurement as the unit for your characteristic.
- The characteristic should have three places before and three after the decimal point.
- Define a value interval for the characteristic (1 piece weighs roughly 20 KG, for example 17-25 U##).
- Allow the characteristic for class types 023 and 022.

### 5-12 Assign the characteristic to a class

Create a new class PM## for steel beams. Remember that the substance view must be available at the header level.

Assign your new characteristic to the class and remember the substance view at characteristic level too.

### 5-13 Create a new material

Create a new material in the plant 1100. You can use the copying facility.

The reference material is Y-351.

Create a new finished product PM-1000-0## for plant 1100 in the *mechanical engineering* industry. Adopt the views *Basic Data 1*, *Classification*, *Purchasing* and *Accounting 1* from the reference material.

Make the following changes:

The short text is *2 meter steel beam*.

Delete the assignment to a batch class.

Edit all the views you have chosen and then save.

### 5-14 Maintain product unit of measure for a material

Change your material PM-1000-0##. Choose the *Basic Data 1* and *Classification* views.

5-14-1 Assign your new class PM## in the classification.

5-14-2 From the Basic Data screen, go to the *additional data* and choose the *proportion/product unit* view.  
Choose the usage B *Product Unit of Measure*.  
Using the characteristic KS##, define a conversion of the base UoM KG to the product unit of measure pc with a planned value of 20 U## (kg/pc).

**5-15 Post goods receipt**

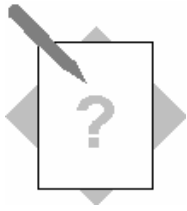
Enter an other goods receipt (movement type 501) for a quantity of 100 pieces in a new batch. The weight per piece differs from the planned value.

**5-16 Display material document**

Display the material document. Call up the item details. To display the relation between piece and kilogram in the batch, choose ***Goto → More Functions → Quantity Conversion***.

**5-17 Display current requirements/stock list**

Call up the current requirements/stock list for material PM-1000-0## in plant 1100.  
Choose the product unit of measure pc for the available quantity display too.



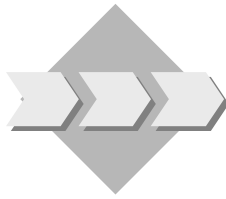
## Unit: Active Ingredient Prices

### Topic: Valuation Price and Sales Price for an Active Ingredient



At the conclusion this exercise, you will be able to:

- Allow characteristic value assignment for an active ingredient in the material master
- Create a valuation record for an active ingredient
- Create a price condition record for an active ingredient



You want to value a single batch of a material. This valuation only takes one active ingredient into account. You must maintain the material master and also specify a standard price for the active ingredient in the system. You also want to store a sales price for the active ingredient and therefore base a price condition on this active ingredient.

#### 6-1 Flag active ingredient as valuated proportion

Change your material AI-1202-0##.

Go to the *Proportion/Product UoM* view

Flag your active ingredient as a valuated proportion.

#### 6-2 Create valuation record

Create a valuation record for the active ingredient. Do this for material AI-1202-0## and the proportion unit A## you have created. The plant is 1100.

Enter a measured standard price (for example, 0.01) for your active ingredient. Note how the system recalculates the standard price for the material.

#### 6-3 Post other goods receipt

In the plant 1100, storage location 0001, post an other goods receipt of 1000 KG to two new batches for the material AI-1202-0##. In one of the batches, do not assign characteristic values. In the other batch, enter a value that is different from the planned value of the active ingredient.

#### 6-4 Display stock overview

Call the stock overview for the material AI-1202-0##. Call it up once with the display in base units of measure kg and once with the display in proportion units (A##).

What do you find?

#### 6-5 Base sales price on active ingredient proportion

For the finished material AI-1000-0##, you need a sales price that is based on the active ingredient proportion.

Create a price condition for the finished material. The price condition is based on the active ingredient component. To do this, choose the active ingredient unit as a condition unit. Use the sales organization 1020 and the distribution channel 22.

**6-6 Post other goods receipt**

For the plant 1100, storage location 0001, post an other goods receipt of 1000 L to a new batch for the material AI-1000-0##. For the active ingredient characteristic, enter a value that is different from the planned value of the active ingredient.

**6-7 Create a standard order**

Create a standard order of 100 liters for the material AI-1000-0##. Use the data below: Sales organization 1020, distribution channel 22, division 00, customer 7777.

6-7-1 Go to the price conditions for the item. On what is the sales price based? On what sold quantity is the sales price based?

6-7-2 For your sales order item, enter the batch number created in 6-6.

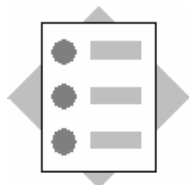
6-7-3 Go again to the price conditions for the item. On what sold quantity is the sales price now based?





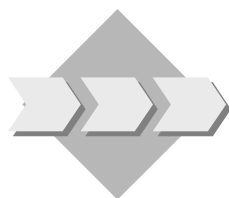
## Unit: Batch-specific Material Units of Measure

### Topic: Actual and planned values for active ingredient proportions/external procurement of an active ingredient



At the conclusion this exercise, you will be able to:

- Create a purchase order for an active ingredient
- Post the goods receipt in physical quantities
- Determine the potency of active ingredient in quality inspection
- Post the invoice verification document for the active ingredient quantity actually received



You want to buy an active ingredient. You can only store a certain potency of active ingredient in the goods receipt. You will not find out how much active ingredient the goods receipt contains until quality inspection. You want to pay the invoice only for the quantity of active ingredient you have received.

#### 7-1 Create master inspection characteristic

Create a master inspection characteristic with the following data:

Plant	1100
Characteristic	WS##
Class characteristic	AIC010##
Status	Release

Copy the default data from the class characteristic and save your data

#### 7-2 Creating a Material Specification

Create a material specification with the following data:

Material	AI-1201-0##
Plant	1100
Master inspection characteristic	WS##
Version	1
Class characteristic	AIC010##

The data appears by default. Save your material specification.

### 7-3 Create purchase order

The material AI-1201-0## contains an active ingredient that is measured in the proportion unit KW1. It is your job to purchase the material.

7-3-1 Create a new order for vendor 100, purchasing organization 1000, purchasing group 008, company code 1000, plant 1100, storage location 0001. Order your material AI-1201-0##.

Order 40 units of the active ingredient for next week. Enter the purchase order price of your choice.

7-3-2 On the item detail screen, choose *Delivery*. Remember that the quantity of active ingredient that is actually delivered may slightly differ from the quantity ordered. You should therefore maintain the tolerances accordingly.

### 7-4 Goods receipt of the material containing active ingredients

7-4-1 The base unit of measure for material AI-1201-0## is KG. Only the physical quantity can be determined in goods receipt. 100 KG are delivered. Which active ingredient proportion do you choose?

7-4-2 Post the goods receipt for the purchase order in base unit of measure. Enter a batch number of your choice or accept a number assigned manually. Do not value the characteristic *active ingredient*.

### 7-5 Display purchase order history

Display the purchase order history.

### 7-6 Display valuation price

The active ingredient of material AI-1201-0## has its own valuation price. Display the valuation record for this active ingredient. Make a note of the standard price of the active ingredient and the material.

### 7-7 Display material master

The material is to be valued in a single batch. Display the Financial Accounting screen for material AI-1201-0## at batch level (valuation number = batch number) and make a note of the moving average price, the standard price, and the total stock. Which price control does the valuation type have (= batch)?

### 7-8 Perform quality inspection

The goods receipt for material AI-1201-0## has been passed to quality inspection.

7-8-1 Call up results recording for the incoming inspection lot. You should have just measured the potency of active ingredient. Enter a value that is within the tolerances. Make sure that you enter a value that does not correspond with the planned value from the material master. Close the characteristic.

7-8-2 Record the usage decision. Choose the inspection lot. The whole goods receipt is to be posted into unrestricted stock. The batch is released.

Caution: The message *Correct purchase order history for inspection lot with transaction MWBQ* appears

### 7-9 Display batch master record

The batch classification has been valued from QM. Check the result. Display the batch classification.

## 7-10

### **Perform adjustment posting for goods receipt**

Quality inspection has found that the potency of the active ingredient does not correspond with the planned value.

An adjustment posting is required for the goods receipt to get the correct billing price.

7-10-1 Trigger a posting using transaction MWBQ that is based on the goods entry inspection lot for the purchase order.

The message *Material document for adjusting the purchase order history for inspection lot was posted* then appears.

7-10-2 Check the purchase order history once again. What do you find?

## 7-11 **Display batch**

You want to know the actual value of the batch.

Display the Financial Accounting screen for material AI-1202-0## at batch level and compare the values with the results obtained in 7-5.

## 7-12 **Create invoice**

In invoice Verification, you create the invoice using the quantities that were actually delivered to you.

7-12-1 Create the invoice document for the order and preview the document before you save it.

7-12-2 Check the result in the purchase order history.



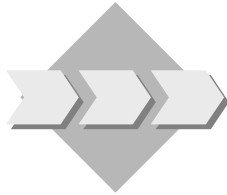
## Unit: Batch-specific Material Units of Measure

### Topic: Actual and planned values for active ingredient proportions/process order and order calculation



At the conclusion this exercise, you will be able to:

- Create a process order and evaluate the cost report



You want to produce a semi-finished product and determine the costs for this order. The costs are to be calculated for particular components on the basis of the active ingredient quantity. However, for other components, the cost is to be based on the physical quantity.

#### 8-1 Create process order

You produce the semi-finished product AI-1200.

Create a process order for the semi-finished product AI-1200.

Enter the quantity to be produced in units of active ingredient. You want to produce 80 units of KW1.

#### 8-2 Supplement the material list

Call the material list and enter the material AI-1201-0## as a third component.

You need 10 KG. The component is kept in stock and is processed in operation 10 in the production process.

#### 8-3 Determine and display costs

Determine the costs for the process order.

Display the cost itemization. Make a note of the costs displayed.

#### 8-4 Assign batch

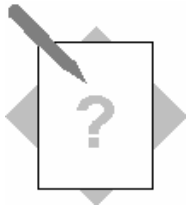
Call the material list.

Assign a batch to material AI-1201-0##. Choose a batch that has an active ingredient proportion that differs from the planned value (batch from the previous topic 'External Procurement of an Active Ingredient').

#### 8-5 Determine and display costs

Determine the costs for the process order again.

Display the cost itemization. Compare the costs with those costs that were first determined. What do you find, and how do you explain the result?



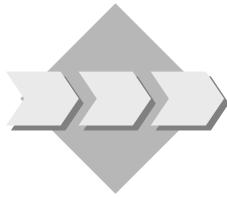
## **Unit: Batch-specific Material Units of Measure**

### **Topic: Actual and Planned Values of Active Ingredient Proportions/Inventory Correction Factor**



At the conclusion this exercise, you will be able to:

- Carry out an inventory correction when the actual active ingredient proportion is different from the planned value



You want to plan certain materials managed in batches on the basis of their active ingredient content. If the average active ingredient contents for your stocks differ from the planned values, you should use the inventory correction function, since MRP only takes the physical quantities into account. This function adjusts the calculation of the available quantities in the MRP in accordance with the active ingredient contents.

#### **9-1 Goods receipt**

The finished material AI-1000-0## is managed in the base unit of measure liters.

- 9-1-1 Set the active ingredient characteristic as the leading proportion for material AI-1000-0##. Find out the planned value.

Planned value: \_\_\_\_\_

- 9-1-2 Post an 'other' goods receipt for 100 L with movement type 521 to any new batch (or several new batches). The planned active ingredient proportion has not quite been attained. Assign characteristic values to the batch(es) accordingly.

## 9-2 Correct inventory from MRP perspective

The available quantity for the finished product AI-1000-0## is still displayed with the planned value.

For planning purposes, you must make corrections to the stock.

9-2-1 Call the current stock/requirements list for the finished product.

Switch on the display of the available quantity in proportion units.

Make a note of the available quantity.

- In base unit of measure: \_\_\_\_\_
- In proportion unit: \_\_\_\_\_

9-2-2 Create a second session. Here, you carry out an inventory correction for the product.

Carry out the inventory correction in processing mode. Output a list that also contains the batches.

9-2-3 Then update the current stock/requirements list.

How has the available quantity changed

- In base unit of measure: \_\_\_\_\_
- In proportion unit: \_\_\_\_\_

and why has it changed?

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9-2-4 Call up the stock overview and check that the warehouse stocks are displayed correctly in every unit of measure that has been defined.



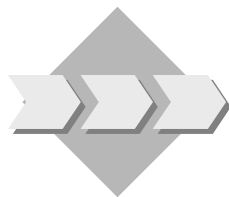
## Unit: Batch-specific Material Units of Measure

### Topic: Batch Information Cockpit



At the conclusion this exercise, you will be able to:

- Use the Batch Information Cockpit for evaluations, taking into account batch-specific units of measure
- In this way, the *Selection Result: Stock* can also be seen in the proportion unit and product unit of measure.



You use the batch-specific material units of measure function. This also requires an evaluation in the alternative unit of measure in the BIC.

#### 10-1 Batch Information Cockpit

You want information on the material AI-1201-0##. Start the **Batch Information Cockpit** as the SAP standard selection. Display all the batches for your material AI-1201-0## in the plant 1100. How can you ensure that you see not only the stocks in base unit of measure but also in proportion unit?

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#### 10-2 Display including valuation

You also need the information for the valuation of the active ingredient characteristic. How can you supplement the selection result with this information?

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**Unit: Batch-specific Material Units of Measure**

**Topic: Creating Proportion Units and Conversion Ratios**

**5-1 Create a unit of measurement for the active ingredient**

*Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG*

*SAP NetWeaver → Genral Settings → Check Units of Measurement*

Units of measure pushbutton (*dimensionless*)

Create pushbutton

Field name or data type	Values
Internal unit of measurement	A##
Commercial format	A##
Technical format	A##
Unit of measurement text, commercial	For example, active ingredient
Unit of measurement text, technical	For example, AI

**5-2 Create a unit of measure or the characteristic or the ratio of active ingredient to base unit of measure**

*Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG*

*SAP NetWeaver → Genral Settings → Check Units of Measurement*

Units of measure pushbutton (*dimensionless*)

Create pushbutton

Field name or data type	Values
Internal unit of measurement	V##
Commercial format	V##
Technical format	V##
Unit of measurement text, commercial	For example, active ingredient proportion
Unit of measurement text, technical	For example, AIP



### 5-3 Define proportion unit

**Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG**

**Logistics - General → Batch Management → Batch-Specific Material Units of Measure → Edit Batch-Specific Material Units of Measure**

Make a new entry for the unit of measure A##. It should be capable of being used as a batch-specific unit of measure. You can enter KG as the reference unit for the dimension *mass*.

*New Entries* pushbutton

Field name or data type	Values
Batch-specific unit of measure	A##
Reference unit	KG

### 5-4 Define ratio unit (calculation of proportion quantity from base quantity)

**Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG**

**Logistics - General → Batch Management → Batch-Specific Material Unit of Measure → Calculate Proportional Factors → Define Calculation of Proportional Quantity from Base Quantity**

*New Entries* pushbutton

Field name or data type	Values
Unit of measurement of characteristic	V##
Batch-specific UoM	A##
Base unit of measure	KG



## Unit: Batch-specific Material Units of Measure

### Topic: Creating Master Data in the Classification System

#### 5-5 Create active ingredient characteristic

*Logistics → Central Functions → Batch Management → Environment → Classification System → Master Data → Characteristics (CT04)*

**or**

*Cross-Application Components → Classification System → Master Data → Characteristics (CT04)*

Note the instructions in the exercise text.

Field name or data type	Values
Character.	AI##
Description	Dye group ##
Data type	NUM
No. of digits	5
Decimal places	2
UoM	V##
Valuation	Single value
Characteristic value	0 - 100

#### 5-6 Assign active ingredient characteristic to class

*Logistics → Central Functions → Batch Management → Environment → Classification System → Master Data → Classes (CL02)*

**or**

*Cross-Application Components → Classification System → Master Data → Classes (CL02)*

*Class → Change*

Field name or data type	Values
Class	AICL0001##
Class type	023
Character.	AI##
Application view	S



## Unit: Batch-specific Material Units of Measure

### Topic: Material Master Maintenance from the Active Ingredient Management Viewpoint

#### 5-7 Maintain active ingredient data for a material

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Change → Immediately (MM02)*

or

*Logistics → Materials Management → Material Master → Material → Change → Immediately (MM02)*

5-7-1 In the *Basic Data* view, under *Additional data*, choose the *Proportion/Product Unit* view. Enter *A* in the *Units meas. use* field. Enter the required data.

Field name or data type	Values
Character.	AI##
Pl. value	Any, but must be within the allowed range for the characteristic
Proportion/product unit	A## (new proportion unit in which the active ingredient is measured)



- Active Ingredient Management is activated in the training system.

***Tools → Customizing → IMG → Edit Project (SPRO)  
→ Goto → Display SAP Reference IMG***

***Logistics - General → Batch Management → Batch-Specific Material Units of Measure → Activate Batch-Specific Material Unit of Measure***

- In your batch class, the application view *S* is set in the basis data.

***Logistics → Central Functions → Batch Management  
→ Environment → Classification System → Master Data → Classes (CL02)***

- Batch management requirement and individual batch valuation have been specified for your material master record AI-1202-0##.

***Logistics → Central Functions → Batch Management  
→ Environment → Material Master → Material → Display → Display Current (MM03)***

*Purchasing view (Batch mgmt reqmt indicator)*

*Accounting 1 view (Valuation category indicator = X)*



**Unit: Batch-specific Material Units of Measure**

**Topic: Defining and Using Product Units**

## 5-8 Create unit of measurement for the characteristic describing the ratio of the product quantity to the base unit

*Tools → Customizing → IMG → Edit Project (SPRO) → Goto → Display SAP Reference IMG*

*SAP NetWeaver → General Settings → Check Units of Measurement*

*Units of measure pushbutton (dimensionless)*

*Create pushbutton*

Field name or data type	Values
Internal unit of measurement	U##
Commercial format	U##
Technical format	U##
Unit of measurement text, commercial	Kg/Pc
Unit of measurement text, technical	Kg/Pc
Decimal places	3
Rounding to decimal places	3

## 5-9 Define product unit

*Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG*

*Logistics - General → Batch Management → Batch-Specific Material Units of Measure → Edit Batch-Specific Material Units of Measure*

The unit of measure piece is listed. It can thus be used as a proportion unit or product unit.

## 5-10 Define ratio unit (calculate base quantity from product quantity)

*Tools → Customizing → IMG → Edit Project (SPRO). Goto → Display SAP Reference IMG*

*Logistics - General → Batch Management → Batch-Specific Material Unit of Measure → Product Quantity Conversion → Define Calculation of Base Quantity from Product Quantity*

*New Entries* pushbutton

Field name or data type	Values
Unit of measurement of characteristic	U##
Base unit of measure	KG
Batch-specific UoM	PC

## 5-11 Create characteristic

*Logistics → Central Functions → Batch Management → Environment → Classification System → Master Data → Characteristics (CT04)*

or

*Cross-Application Components → Classification System → Master Data → Characteristics (CT04)*

Note the instructions in the exercise text, in particular:

Field name or data type	Values
Character.	KP##
Description	kg per pc group ##
Data type	NUM
No. of digits	6
Decimal places	3
Unit of measurement of characteristic	U##
Values	17 - 25 U##
Class type	022, 023

## 5-12 Assign the characteristic to a class

*Logistics → Central Functions → Batch Management → Environment → Classification System → Master Data → Classes (CL02)*

or

*Cross-Application Components → Classification System → Master Data → Classes (CL02)*

*Class → Create*

Field name or data type	Values
Class	PM##
Description	Class for steel beams
Application view	S
Character.	KP##
Application view	S

## 5-13 Create new material

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Create – General → Immediately (MM01)*

or

*Logistics → Materials Management → Material Master → Material → Create - General → Immediately (MM01)*

Field name or data type	Values
Material	PM-1000-0##
Industry	Mechanical engineering
Material type	Finished product
Template	Y-351

Views	Values
Views	Basic data 1 Classification Purchasing Accounting 1

Organizational levels	Values (new material <u>and</u> template)
-----------------------	-------------------------------------------

Plant	1100
<b>Field name or data type</b>	<b>Values</b>
Material short text	2 meter steel beam
Class assignment	Delete

Edit all the views you have chosen and then save.

#### 5-14 Maintain product unit of measure for a material

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Change → Immediately (MM02)*

or

*Logistics → Materials Management → Material Master → Material → Change → Immediately (MM02)*

<b>Field name or data type</b>	<b>Values</b>
Material	PM-1000-0##
Views	Basic data 1 Classification

**5-14-1** Assign the class PM## in the *Classification* view.

**5-14-2** In the *Basic Data* view, under *Additional data*, choose the *Proportion/Product Unit* view. Enter *B* in the *Units meas. use* field. Enter the required data.

<b>Field name or data type</b>	<b>Values</b>
Character.	KP##
Pl. value	20 U## (= KG/PC)
Proportion/product unit	PC



### 5-15 Goods receipt without purchase order

*Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)*

Field name or data type	Values
Material	PM-1000-0##
Quantity	100 pieces
Movement type	501
Plant	1100
Storage location	0001
Batch number	Any
Active ingredient proportion	Not 20 U## For example, 19 or 22 U##

### 5-16 Display material document

*Logistics → Materials Management → Inventory Management → Material Document → Display (MB03)*

Call up the item details.

*Goto → Additional Functions → Quantity Conversion*

The conversion ratio shows that the batch contains 100 pc steel beams, with an average weight of 19 KG/PC.

### 5-17 Display Current Stock/Requirements List

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock/Requirements List (MD04)*

Field name or data type	Values
Material	PM-1000-0##
Plant	1100

Enter kg (= base unit of measure) in the first field for units, and pc (= product unit) in the second.

Press enter to get the system to generate the additional column for displaying the available quantity in the product unit.

The available quantities are shown correctly in both units of measure.



## Unit: Active Ingredient Prices

### Topic: Valuation Price and Sales Price for an Active Ingredient

#### 6-1 Flag the active ingredient as a valuated proportion

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Change → Immediately (MM02)*

or

*Logistics → Materials Management → Material Master → Material → Change → Immediately (MM02)*

Field name or data type	Values
Material	AI-1202-0##
View	Basic data 1

Complete the *Proportion/Product Unit* view under *Additional data*. Activate the *Valuated proportion* field.

#### 6-2 Create valuation record

*Logistics → Central Functions → Batch Management → Batch-Specific Units of Measure → Standard Price → Create (MWB1)*

Field name or data type	Values
Material	AI-1202-0##
Plant	1100
Unit of measure	A##
Standard price	0,01

### 6-3 'Other' goods receipt

*Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)*

Field name or data type	Values
Material	AI-1202-0##
Plant	1100
Storage location	0001
<u>Item 1:</u> Quantity Batch number Active ingredient proportion	1000 KG Any Do not valueate
<u>Item 2:</u> Quantity Batch number Active ingredient proportion	1000 KG Any Enter a value that differs from the planned value

### 6-4 Stock overview

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

Field name or data type	Values
Material	AI-1202-0##
Plant	1100
Unit of measure	KG or A##

The display in KG shows that both batches have the same quantity.

The display in A## shows the appropriate active ingredient proportion for the valued batch. The system displays the non-valuated batch with the planned value in the stock overview.

## 6-5 Base sales price on active ingredient proportion

### Change material

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Change → Immediately (MM02)*

or

*Logistics → Materials Management →  
Material Master → Material → Change → Immediately (MM02)*

Field name or data type	Values
Material	AI-1000-0##
View	Sales and distribution: SalesOrgData 1
Organizational levels	Values
Plant	1100
Sales organization	1020
Distribution channel	22

Choose *Conditions* and enter a sales price that is based on the proportion unit LW1 of the active ingredient the material contains.

## 6-6 ‘Other’ goods receipt

*Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO)*

Field name or data type	Values
Material	AI-1000-0##
Quantity	1000 L
Plant	1100
Storage location	0001
Batch number	Any
Active ingredient proportion	Enter a value that differs from the planned value

## 6-7 Create standard order

*Logistics → Sales and Distribution → Sales → Order → Create (VA01)*

Field name or data type	Values
Order type	TA
Sales organization	1020
Distribution channel	22
Division	00
Customer	7777
PO number	Any
Material	AI-1000-0##
Quantity	100 liters

### 6-7-1 Check price conditions

*Goto → Item → Conditions*

The sale price is based on the condition you maintained previously in the material with reference to the proportion unit for the active ingredient LW1. The calculation is currently based on the planned value, as no batch is yet known.

### 6-7-2 Enter batch number

*Item detail:* Enter the batch whose characteristic value differs from the planned value

### 6-7-3 Check price conditions

*Goto → Item → Conditions*

The sales price is based on the proportion unit of the active ingredient in the batch entered for the item. The active ingredient proportion is different from the planned value. The sales price for the 100 liters of AI-1000-0## is now more expensive or less expensive than before.



**Unit: Batch-Specific  
Material Units of Measure**

**Topic: Actual and planned values for active  
ingredient proportions/external procurement of an  
active ingredient**

## 7-1 Create master inspection characteristic

*Logistics → Quality Management → Quality Planning → Basic Data → Inspection  
Characteristic → Create (QS21) or*

*Logistics → Central Functions → Batch Management → Environment → Quality  
Planning for Material → Basic Data → Inspection Characteristic → Create (QS21)*

Field name or data type	Values
Plant	1100
Character.	AI##
Class characteristic	AIC010##
Status	Released

Copy the default data from the class characteristic and save your data

## 7-2 Creating a Material Specification

*Logistics → Quality Management → Quality Planning → Inspection Planning →  
Material Specification → Create (QS61) or*

*Logistics → Central Functions → Batch Management → Environment → Quality  
Planning for Material → Inspection Planning → Material Specification → Create  
(QS61)*

Field name or data type	Values
Material	AI-1201-0##
Plant	1100
Master insp. characteristic	AI##
Version	1
Class characteristic	AIC010##

The data appears by default. Save your material specification.

### 7-3 Create purchase order

The material AI-1201-0## contains an active ingredient that is measured in the proportion unit KW1. It is your job to purchase the material.

#### 7-3-1 Create PO

***Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known (ME21N)***

Field name or data type	Values
Vendor	100
Purchasing organization	1000
Purchasing group	008
Company code	1000
Material	AI-1201-0##
Quantity	40 KW1
Delivery date	Next week
Price	Any
Plant	1100
Storage location	0001

7-3-2 On the item detail screen, choose *Delivery*. Maintain the tolerances for overdelivery as a percentage, or choose the *Unlimited* indicator.

### 7-4 Goods receipt of the material containing active ingredients

7-4-1 The planned value is used first to calculate the active ingredient content when a goods receipt posting is made in the base unit KG.  
For our scenario, the planned value in the material master for the proportion unit KW1 is 40%.  
The system therefore first assumes a delivery of 40 KW1 was made.

7-4-2 Post the goods receipt

***Logistics → Materials Management → Inventory Management → Goods Movement → Goods Receipt → For Purchase Order → PO Number Known.***

Field name or data type	Values
PO number	See exercise 7-3
Quantity	100 KG
Batch	Any
Active ingredient	Do not valueate

7-5 **Display PO history**

***Logistics → Materials Management → Purchasing → Purchase Order → Display(ME23N) → Item Details Screen /tab page PO history***

The system displays the goods receipt. The system first assumes that the ordered quantity was delivered (40KW1).

7-6 **Display valuation price**

***Logistics → Central Functions → Batch Management → Batch-Specific Units of Measure → Standard Price → Display (MWB3)***

Field name or data type	Values
Material	AI-1201-0##
Plant	1100
Proportion/product unit	KW1



#### 7-7 **Display material master**

Display the accounting view of the material AI-1201-0## at batch level

***Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Display Current (MM03)***

**or**

***Logistics → Materials Management → Material Master → Material → Display Current (MM03)***

Field name or data type	Values
Material	AI-1201-0##
View	Accounting view 1
Organizational levels	Values
Plant	1100
Batch = valuation type	See exercise 7-4-2

The system displays the price per base unit of measure. This price is currently based on the assumption that the base unit of measure contains the same active ingredient proportion as specified in the planned value.

#### 7-8 Perform quality inspection

The goods receipt for material AI-1201-0## has been passed to quality inspection.

7-8-1 Enter inspection result:

***Logistics → Central Functions → Batch Management → Environment → Quality Inspection → Worklist → Results Recording (QE51N)***

Search for the inspection lots for your material. The system will find one inspection lot exactly and display it in the frame on the left-hand side.

Field name	Values
Plant	1100
Material	AI-1201-0##

Make the selection, enter any value that is different to the planned value in the *Result* field in the data entry section and press enter to confirm. Save your data.

### 7-8-2 Enter usage reason

***Logistics → Central Functions → Batch Management → Environment → Quality Inspection → Worklist → Results Recording (QE51N)***

Double-click the line with your inspection lot in the left frame.

In the *UD code* field, use F4 help to enter an acceptance without further action (code *A*) and save the usage decision.

A dialog box then appears, prompting you to post the quantity concerned (100 kg) to the appropriate stock type: Enter 254.00 cm the line *To unrestricted* and confirm your entry.

Caution: The message *Correct purchase order history for inspection lot with transaction MWBQ* appears

### 7-9 Display batch

***Logistics → Central Functions → Batch Management → Batch → Display (MSC3N), tab page Classification***

**or**

***Logistics → Materials Management → Material Master → Batch → Display (MSC3N), tab page Classification***

The result from QM has been transferred. The batch has a value that differs from the planned value for the active ingredient characteristic.

### 7-10 Perform adjustment posting for goods receipt

7-10-1 Subsequent adjustment with reference to inspection lot

***Logistics → Central Functions → Batch Management → Batch-specific Units of Measure → Subsequent Adjustment f. Goods Receipt → Enter with Ref. to Insp. Lot (MWBQ)***

7-10-2 Display PO history

***Logistics → Materials Management → Purchasing → Purchase Order → Display (ME23N)***

***Item details screen → tab page Purchase Order History***

The system displays two goods receipts. As a result of the subsequent adjustment, the system created a second goods receipt, which reflects the difference between the measured actual value and the planned value of the active ingredient.

7-11 **Display the material AI-1201-0## at batch level**

*Logistics → Central Functions → Batch Management → Environment → Material Master → Material → Display Current (MM03)*

**or**

*Logistics → Materials Management → Material Master → Material → Display Current (MM03)*

Field name or data type	Values
Material	AI-1201-0##
View	Accounting view 1
Organizational levels	Values
Plant	1100
Batch = valuation type	See exercise 7-4-2

Due to the other active ingredient content that was entered in QM, the batch is now valued differently from before, when the valuation was performed using the planned value.

7-12 **Effects in Invoice Verification**

7-12-1 Enter invoice

*Logistics → Materials Management → Logistics Invoice Verification → Document Entry → Enter Invoice (MIRO)*

Field name or data type	Values
Document date	Today
Reference to	PO/scheduling agreement
PO number	45.... See exercise 7-3

The system accepts the invoice, even though the amount specified is higher than planned. This is because of the overdelivery that was posted for the purchase order. The overdelivery was possible because a tolerance was entered for the PO item.



**Unit:** Batch-specific Material Units of Measure  
**Topic:** Actual and planned values for active ingredient proportions/process order and order calculation

## 8-1 Create a process order

*Logistics → Production Process → Process Order → Process Order → Create → With Material (COR1)*

Field name or data type	Values
Material	AI-1200
Plant	1100
Order type	PI01
Total qty	80 KW1
Start date	Today's date

## 8-2 Extend material list

*Goto → Material list*

Include the third item:

Field name or data type	Values
Material	AI-1201-0##
Requirement qty	10 KG
Item category	L
Storage location	0001
Plant	1100
Operation 10	10

## 8-3 Determine and display costs

*Process Order → Functions → Determine costs*

*Goto → Costs → Itemization*

The costs are displayed with the current valuation of the stocks at the moving average price at plant level, not at the planned value.

**8-4 Assign batch for material AI-1201-0##**

It is advisable to choose a batch containing an active ingredient proportion that differs from the planned value for the active ingredient.

**8-5 Determine and display costs**

*Process order → Functions → Determine costs*

*Goto → Costs → Itemization*

The system displays the costs for material AI-1201-0## using the stocks' current valuation at batch level.



**Unit:** Batch-Specific  
Material Units of Measure

**Topic:** Actual and Planned Values of Active  
Ingredient Proportions/Inventory  
Correction

## 9-1 Goods receipt

### 9-1-1 Leading proportion of an active ingredient in material

*Logistics → Central Functions → Batch Management → Environment →  
Material Master → Material → Change → Immediately (MM02)*

or

*Logistics → Materials Management →  
Material Master → Material → Change → Immediately (MM02)*

Field name or data type	Values
Material	AI-1000-0##
View	Basic data 1

*Additional Data → Proportion/Product Unit view*

Set the active ingredient characteristic AIC020## as the leading proportion.  
The planned value is 0.10000 LSL (LSL = LW1 per liter)

### 9-1-2 ‘Other’ goods receipt without reference to production order

*Logistics → Materials Management → Inventory Management → Goods  
Movement → Goods Receipt → Other (MIGO)*

Field name or data type	Values
Material	AI-1000-0##
Quantity	100 liters
Movement type	521
Plant	1100
Storage location	0001
Batch number	Any
Fruit mass (active ingredient characteristic)	Not 0.1000 LSL for example, 0.3000 LSL or 0.02 LSL

## 9-2 Correct stock with regard to Materials Planning

### 9-2-1 Display current stock/requirements list

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock/Requirements List (MD04)*

Field name or data type	Values
Material	AI-1000-0##
Plant	1100

In the first field for units, enter liter (= base unit of measure) and in the second field, enter LW1 (=proportion unit).

Press enter so that the system can create the additional column for displaying the available quantity in proportion units.

The available quantities are shown correctly in both units of measure. The quantity is displayed in proportion units for the actual value counted in the batches. Only non-valuated batches are included at the planned value in this total.

### 9-2-2 Perform inventory correction for material

*Logistics → Central Functions → Batch Management → Batch-specific Units of Measure → Determine Inventory Correction Factors (MWBK)*

Field name or data type	Values
Material	AI-1000-0##
Plant	1100
Online processing	Set to <i>Process</i>
With list output	Set indicator
List output	Set at <i>Display batch</i>

This report shows the inventory correction factor in total and the inventory correction factor for each batch.

### 9-2-3 Display current stock/requirements list

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock/Requirements List (MD04)*

Field name or data type	Values
Material	AI-1000-0##
Plant	1100

Materials planning is only carried out with the physical quantity in the base unit of measure.

For MRP purposes, the system multiplied the available quantity in the base unit of measure with the inventory correction factor (total) in order to plan materials on the basis of the active ingredient.

The available quantity in proportion units remains unchanged by the inventory correction.

### 9-2-4 Display stock overview

*Logistics → Materials Management → Inventory Management → Environment → Stock → Stock Overview (MMBE)*

The warehouse stocks are not affected by the inventory correction. The stock overview shows the actual stock levels in all units of measure that have been defined.





## Unit: Batch-Specific Material Units of Measure

### Topic: Batch Information Cockpit

#### 10-1 Batch Information Cockpit

*Logistics → Central Functions → Batch Management → Batch Information Cockpit (BMBC)*

Make sure that you select the radio button to display the alternative unit of measure on the *ATP/Display Quantities* tab page. On the *Material* tab page, enter your material AI-1201-0## and the plant 1100.

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#### 10-2 Batch Information Cockpit

To acquire the information on the valuation of the active ingredient characteristic too, you have to enter the valuation class for your material as a **selection class** on the *Classification* tab page and create the available characteristics using the relevant icon. The selection result now gives you the class, the status of the classification (traffic light function) and the characteristics with their valuation.

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