SAP Material Master For Beginners: Learn MM in 1 Day

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Chapter 1: Overview of SAP MM module

Materials Management module in SAP consists of several components and sub-components. The most prominent and widely used are Master Data, Purchasing and Inventory.

All of these components have their subcomponents that are essential in specific business processes, and all of the processes are executed by using transactions.

Transaction (in SAP) means processing of certain information in order to complete business process requirement. For example, if you have purchased 10 pieces of litter buckets, you can perform particular transaction code (t-code) that will reflect those changes in SAP. Most of the business processes involve multiple SAP transactions to be

accomplished and are spread over one, two or more modules. Let's

briefly talk about the various sub-modules in SAP MM

Master Data

Data stored in SAP R/3 is categorized as

1. Master Data and
2. Transactional Data.

Master data is the core data that is used as a base for any transaction. If you are producing, transferring stock, selling, purchasing, doing a physical inventory, whatever your activity may be, it requires certain master data to be maintained.

Example of Master Data

- Material master data
- Customer master data
- Vendor master data
- Pricing/conditions master data
- Warehouse management master data (storage bin master data)

Learn more about Master Data here

Purchasing

Purchasing is a component of SAP MM module, and its process can be roughly depicted in below diagram.

MRP (material resource planning) creates procurement proposal and later gets converted into Purchase Requisition. Next step is assigning a source to Purchase Requisition, and release of Purchase Requisition.
The PR gets converted to Purchase Order, and upon goods receipt, an invoice receipt can be done to complete the purchasing process. Additionally, payment is processed (in FI module). Learn

more about Purchasing here

Inventory Management

Inventory management is used to manage the inventory of the goods. It is based on several key processes like

- Definition of movement types
- Reservations
- Goods issue
- Goods receipt

There are a number of functions and transactions used in the Inventory management processes.

Learn more about Inventory Management here

Pricing Procedure

Pricing procedure in MM module is a way to determine prices in purchasing documents. It gives us functionality to assign different

calculation types for different needs. Defining a pricing procedure can be done by creating an access sequence, and assigning it to condition types. Access sequence tells the system where to look for the condition values.

Learn more about Pricing Procedure here

Chapter 2: Introduction to Master Data in SAP

What is Master Data?

Data stored in SAP R/3 is categorized as

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2. Transactional Data.

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Example of Master Data

- Material master data
- Customer master data
- Vendor master data
- Pricing/conditions master data
- Warehouse management master data (storage bin master data)

The ones we will focus in MM module are material master and purchase info record.

Material Master: What you should know about material master?

Material in SAP is a logical representation of certain goods or service that is an object of production, sales, purchasing, inventory management etc. It can be a car, a car part, gasoline, transportation service or consulting service, for example.

InInIn All the information for all materials on their potential use and characteristics in SAP are called material master. This is considered to be the most important master data in SAP (there are also customer master data, vendor master data, conditions/pricing master data etc), and all the processing of the materials are influenced by material master. That is why it's crucial to have a precise and well maintained material master.

In order to be confident in your actions you need to understand material master views and its implications on processes in other modules, business transactions and a few more helpful information like tables that store material master data, transactions for mass material maintenance (for changing certain characteristics for a large number of materials at once).

Material types

In SAP ERP, every material has a characteristic called "*material type*" which is used throughout the system for various purposes.

Why is it essential to differentiate between material types and what does that characteristic represent?

1. It can represent a type of origin and usage – like a finished

product (produced goods ready for sale), semifinished product (used as a part of a finished product), trading goods (for resale), raw materials (used for production of semifinished and finished products) etc. These are some of the predefined SAP material types among others like food, beverages, service and many others.

2. We can define our custom material types if any of standard ones doesn't fulfill our need.

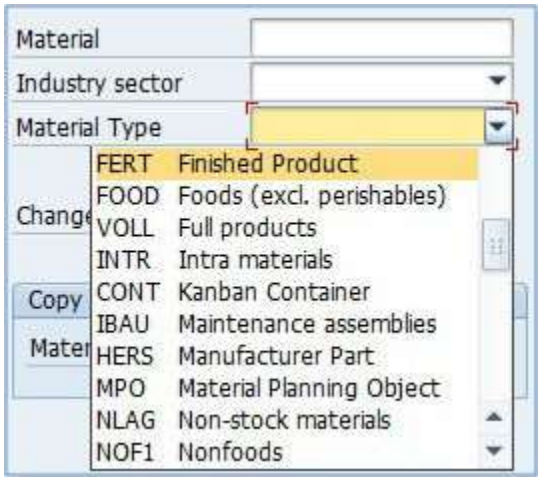
MTyp	Material type description
FERT	Finished Product
HALB	Semifinished Product
HAWA	Trading Goods
ROH	Raw materials

Most used material types in standard SAP installation

What can be configured on material type level (possible differences between types)?

1. Material master views: It defines the views associated with a Material Type. For example, if we have a material type "FERT" assigned to our material Product 1000 – we don't want to have Purchasing based views for that material because we don't need to purchase our own product – it is configured on material type level.
2. Default price control: we can set this control to standard or moving average price (covered later in detail), but this can be changed in material master to override the default settings.
3. Default Item category group: used to determine item category in sales documents. It can be changed in material master to override the default settings.
4. internal/external purchase orders, special material types

indicators, and few more.



Offered material types in MM01 transaction

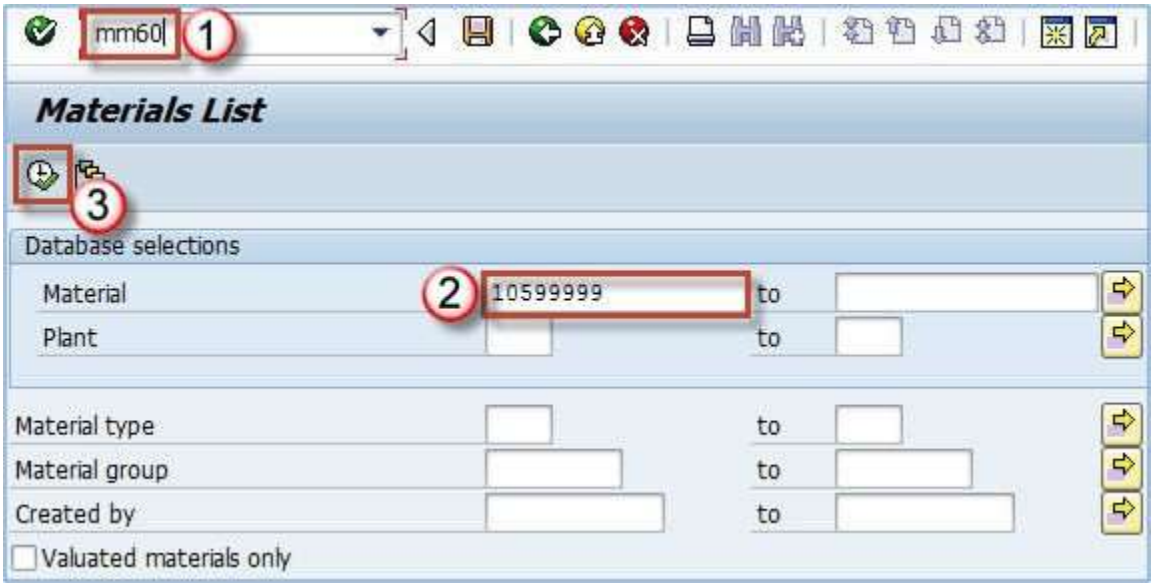
So material type is assigned to materials that have the same basic settings for material master views, price control, item category group and few other. Material Type can be assigned during the creation of the material in t-code MM01 (covered in detail later)

Where can we find a complete list of materials with their respective material type?

There are numerous transactions for this. The raw data itself is stored in MARA table

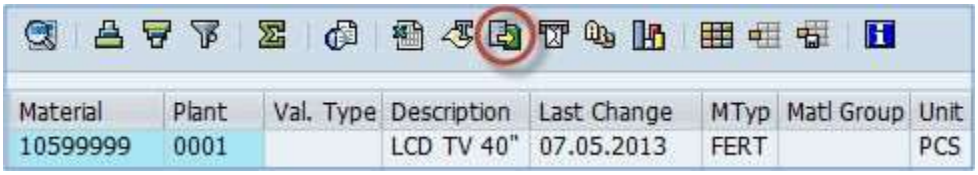
(you can view table contents with t-code SE16 or SE16N – newest version of the transaction), but in some systems these t-codes aren't allowed for a standard user. In such cases, we can easily acquire the list with t-code MM60 (Material list). MM60 is used particularly often as it displays a lot of basic material characteristics.

Selection screen – you can enter only the material number:



Selection screen for MM60 transaction

We can see that material 10410446 in plant AR01 is of type FERT (finished product).



MM60 report results with the export button highlighted

Using the toolbar button highlighted on screen, we can export the list of materials we have selected on screen.

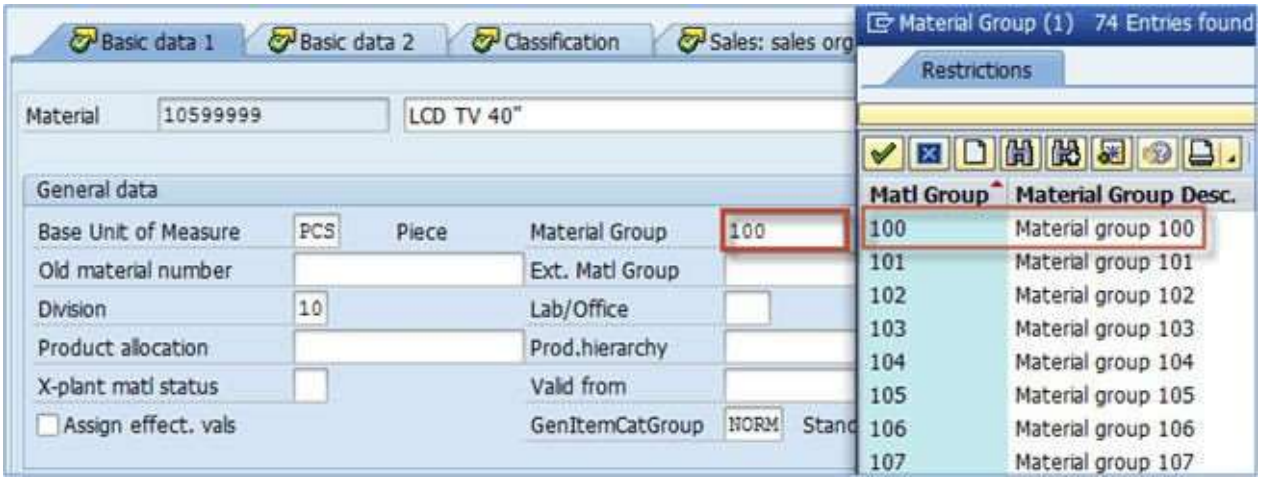
Material group

Another characteristic SAP material is assigned during it's creation is "*material group",* which can represent a group or subgroup of

materials based on certain criteria.

Which criteria can be used to create material groups?

Any criteria that suit your needs for reporting purposes is right for your system. You may group materials by the type of raw material used to produce it (different kinds of plastics used in the production process), or you can divide all services into consulting services (with different materials for SAP consulting, IT consulting, financial consulting etc), transportation services (internal transport, international transport), you can also group by production technique (materials created by welding, materials created by extrusion, materials created by injection etc). Grouping depends mainly on the approach your management chooses as appropriate, and it's mainly done during the implementation, rarely changes in a productive environment.



Assigned material group in material master

In addition, there is a material hierarchy (used mostly in sales &

distribution) that can also be used for grouping, but it's defined almost always according to sales needs as it is used for defining sales conditions (standard discounts for customers, additional discounts, special offers).

On the other hand, material group is mainly used in PP and MM module.

If you need to display material groups for multiple materials, you can use already mentioned t-code MM60. You just need to select more materials in selection criteria.

Material	Plant	Val. Type	Description	Last Change	MTyp	Matl Group	Unit
10599999	0001		LCD TV 40"	08.05.2013	FERT	100	PCS

Material group in report MM60

Material group is easily subject to mass maintenance via transaction MM17. More on that in the material master editing section.

Chapter 3: How to Create Material Master Data MM01 in SAP

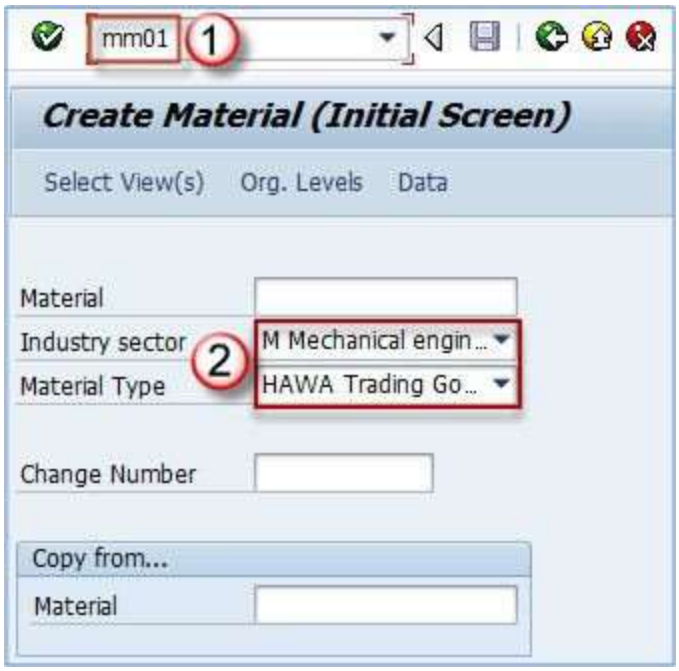
When we want to use a new material in SAP, we have to define it's characteristics, in order to control it's behaviour in all of the transactions. Every material is created in the either of these two ways:

1. By calling transaction MM01 (mostly used in a productive environment)
2. Mass creation (mainly used only once on transition of materials from the previous system into SAP ERP)

We will focus now on transaction **MM01**, and leave the mass creation for later since it is an advanced tool. We will discuss it after you have enough knowledge about material master views and organizational levels.

Step 1) Transaction that is used for the creation of material master record, as stated above is **MM01**. The execution of the transaction brings us to the initial screen, which consists of few fields that contain the basic information on our material.

1. Enter Industry sector (mostly used: M-Mechanical engineering)
2. Enter Material type, (it can be FERT, ROH, HALB, HAWA - the appropriate material type for current material)



Note: Material number (alphanumerical key uniquly identifying material in SAP system) can be generated automatically or assigned manually – it depends on material type. For material type HAWA for example, you can have manual number assignment, while for FERT you can have automatic number assignment. These settings are supposed to be done by MM consultant in customizing during the implementation.

Step 2) We can choose which master data to create.

1. We can click on **Select View(s)** to choose which views we need to create for the material.
2. Select Basic Data 1
3. Select Sales Org Data 1. You can always extend the material master data later if you forgot to choose all needed views.
4. Select the Check Mark. You can see an option button marked in blue on the screen below for selecting all views (rarely used in a productive environment).

Note: *Selection of views that can be maintained for material depends on material type. In most of the systems some views are disabled for certain material types (for example MRP views might be disabled for trading goods).*

Step 3) In the next screen

1. Enter Organizational levels for the views we selected in the previous step.For example, those could be Plant, Storage Location, Sales Organization and Distribution Channel etc.
2. Click the Check Button

Below you can find a complete reference of organizational levels needed for creating material master views.

Material Master View	**Organizational Levels**
Basic data (1 & 2)	None
Classification	None
Sales organization data (1 & 2)	Plant, Sales Organization, Distribution Channel
Sales General	Plant
Foreign Trade – Export data	Plant
Purchasing	Plant
MRP Views	Plant, Storage Location, MRP Profile
Forecasting	Plant, Forecasting Profile
Work Scheduling	Plant
General Plant Data (Storage 1 & 2)	Plant, Storage Location
Warehouse Management 1	Plant, Warehouse Number
Warehouse Management 2	Plant, Warehouse Number, Storage Type
Quality Management	Plant
Accounting (1 & 2)	Plant
Costing (1 & 2)	Plant

Table of material master views connection to organizational levels

IMPORTANT: You need to maintain materials in all of your organizational levels in which they are going to be used. If you have

more than one plant than you have to repeat MM01 transaction in order to extend your materials for both plants. If you have more than one combination of Sales organization/Distribution channel you also have to repeat the process in MM01 for all of the combinations.

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