



SAP Product Costing Master data

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TABLE OF CONTENTS

| | |
|--|----|
| INTRODUCTION..... | 4 |
| 1. Maintaining Material Master for Product costing | 5 |
| 1.1 Raw and Packing material | 5 |
| 1.2 Finished good..... | 16 |
| 2. Bill of Material (BOM)..... | 26 |
| 3. Activity prices maintained for cost centers | 33 |
| 4. Resource/ Work center | 37 |
| 5. Master Recipe/ Routing | 40 |
| 6. Production versions | 46 |
| 7. Maintain Overhead rates | 55 |

INTRODUCTION

In this ebook we cover the various master data required for the product costing module. Most of the master data is dependent on the Production planning module (PP module).

It is imperative for a Product costing consultant to understand the master data created in the Production planning module and its implications on product costing.

1. Maintaining Material Master for Product costing

1.1 Raw and Packing material

The important views in the material master for the product costing module are the accounting and costing view in raw and packing material.

We will see how to maintain the accounting and costing view for raw material.

The raw material 9100-202 is used in the manufacture of final product 9100-103.

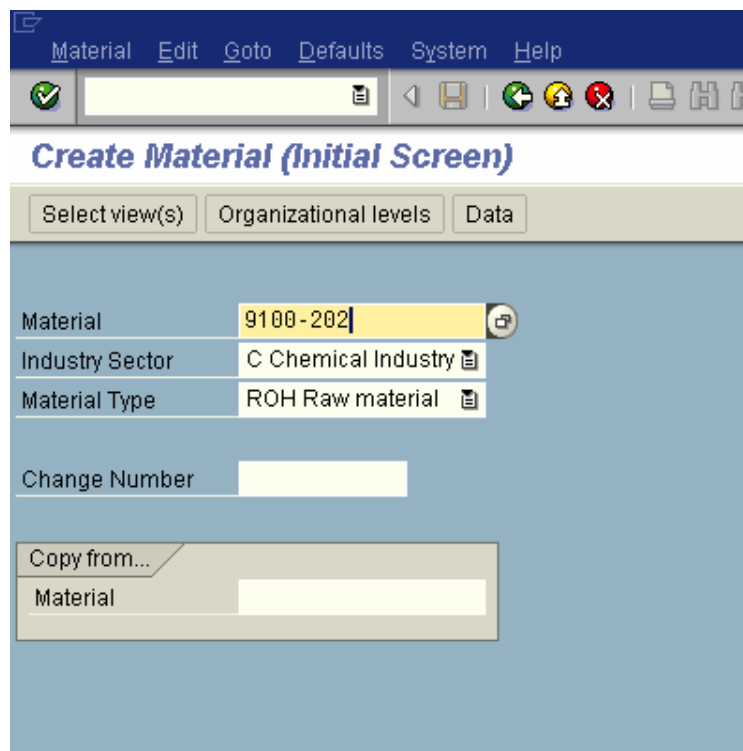
These views are maintained by the Finance and the costing department.

Use transaction code: MM01

Or

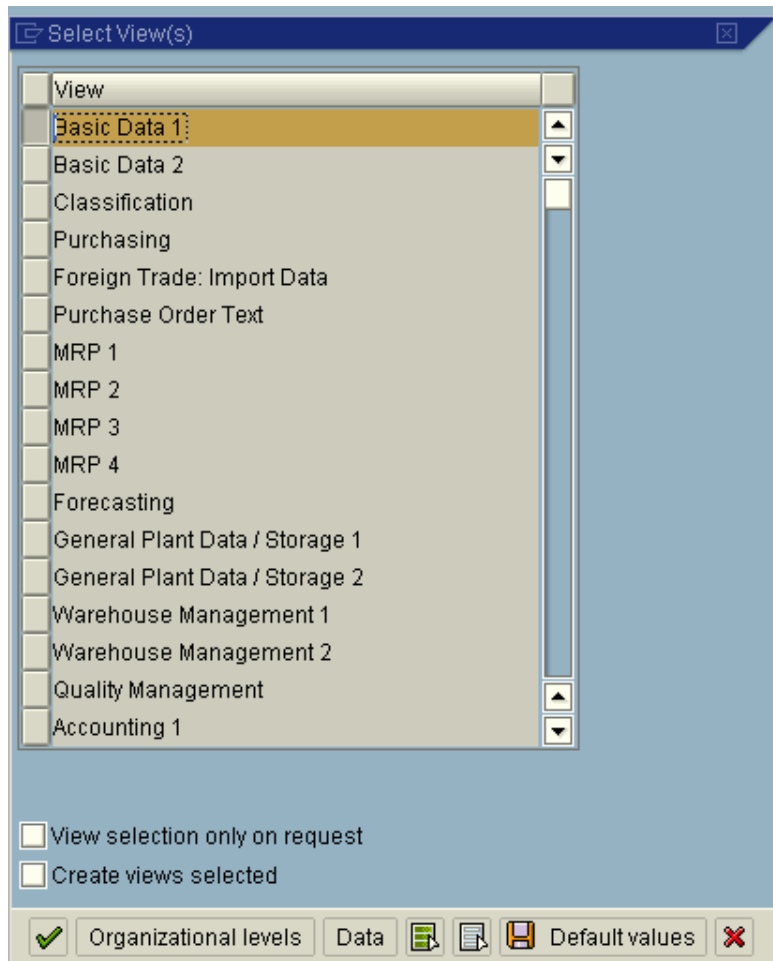
Path:

SAP standard menu → Logistics → Materials Management → Material Master → Material → Create (General) → MM01 - Immediately



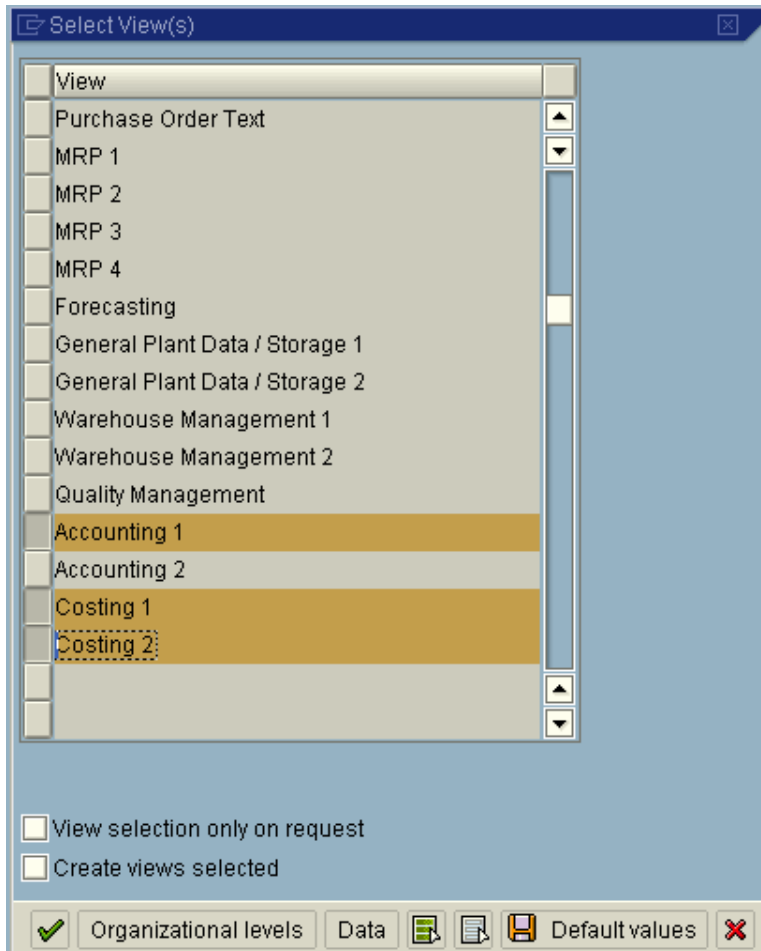
The screenshot shows the SAP 'Create Material (Initial Screen)' dialog box. The window title is 'Material Edit Goto Defaults System Help'. The main title is 'Create Material (Initial Screen)'. Below the title are three tabs: 'Select view(s)', 'Organizational levels', and 'Data'. The 'Data' tab is active. The 'Material' field contains '9100-202'. The 'Industry Sector' field contains 'C Chemical Industry'. The 'Material Type' field contains 'ROH Raw material'. There is a 'Change Number' field which is empty. Below these fields is a 'Copy from...' section with a 'Material' field which is also empty.

Click 

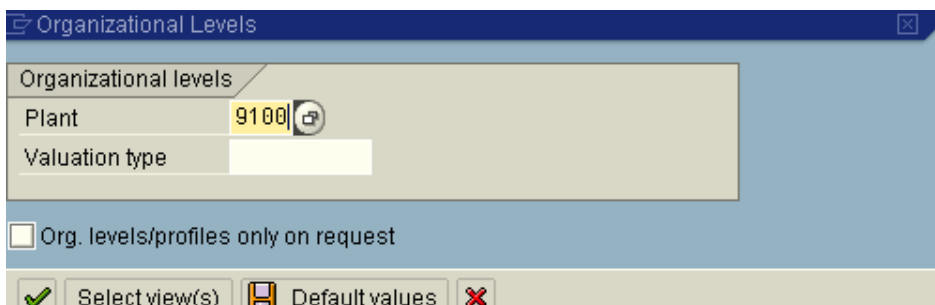


Click 

Select Accounting and costing views



Update the following:-



Update the following:-

The screenshot shows the SAP Material Master 'Create Material 9100-202 (Raw material)' interface. The 'Basic data 1' tab is active, displaying the following data:

| General data | |
|--|--|
| Base Unit of Measure | k6 <input checked="" type="checkbox"/> |
| Material Group | 004 |
| Old material number | |
| Ext. matl group | |
| Division | |
| Lab/Office | |
| Product allocation | |
| X-plant matl status | |
| Valid from | |
| <input type="checkbox"/> Assign effect. vals | |
| GenItemCatGroup | |

| Dimensions/EANs | |
|-----------------|--|
| Gross weight | |
| Weight Unit | |
| Net weight | |
| Volume | |
| Volume unit | |
| Size/dimensions | |
| EAN/UPC | |
| EAN category | |

| Packaging material data | |
|-------------------------|--|
| Matl Grp Pack.Matls | |

| Basic data texts | |
|----------------------|---|
| Languages maintained | 0 |
| Basic data text | |

Click 

Material Edit Goto Environment System Help

Create Material 9100-202 (Raw material)

Additional data Organizational levels Check screen data

Quality management Accounting 1 Accounting 2 Costing 1 C...

Material 9100-202 PVC Granules
 Plant 9100 Pune factory - A Ltd

Period 010.2006 Period 009.2006 Period 012.2005

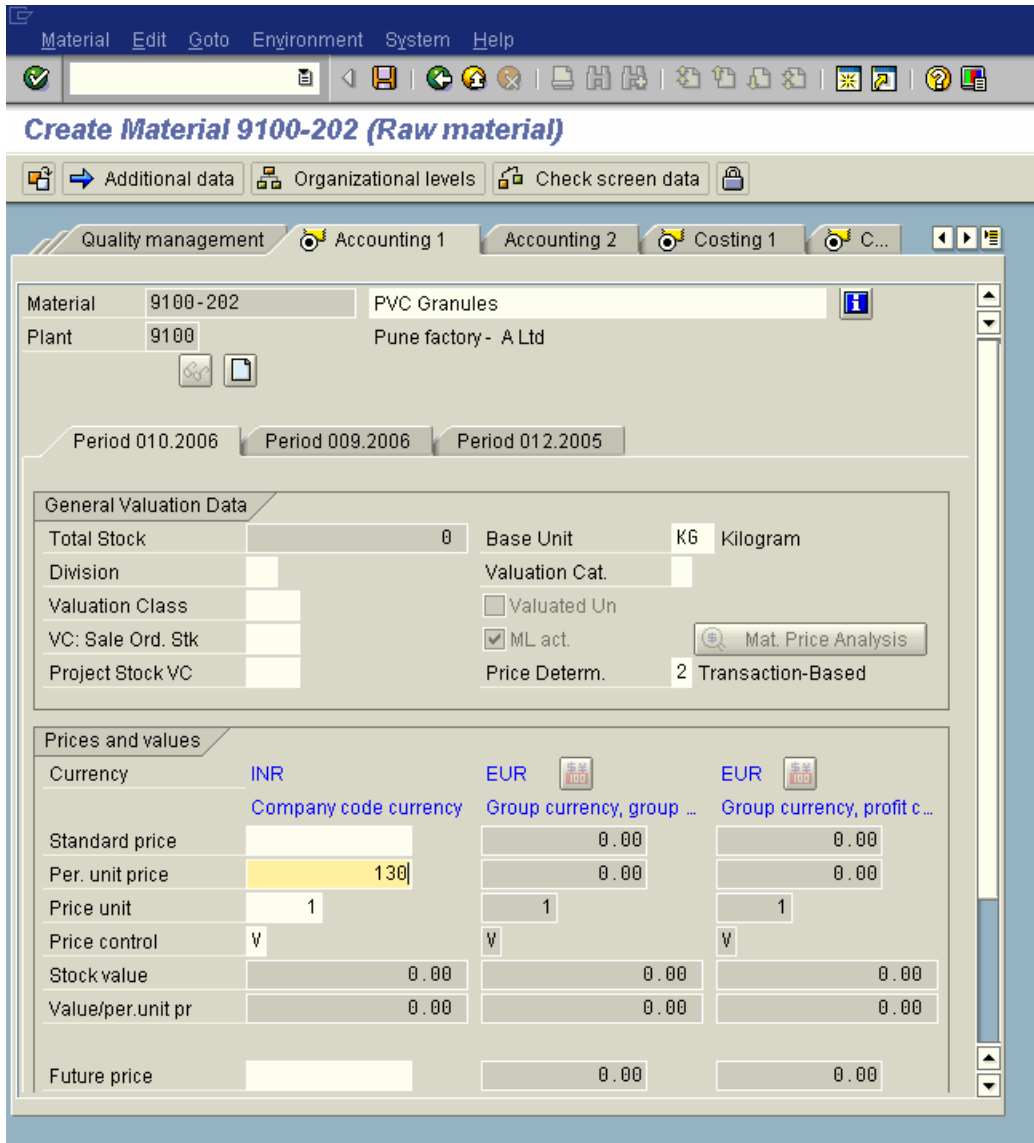
General Valuation Data

| | | | | |
|-------------------|---|---|----|---------------------|
| Total Stock | 0 | Base Unit | K6 | Kilogram |
| Division | | Valuation Cat. | | |
| Valuation Class | | <input type="checkbox"/> Valuated Un | | |
| VC: Sale Ord. Stk | | <input checked="" type="checkbox"/> ML act. | | Mat. Price Analysis |
| Project Stock VC | | Price Determ. | 2 | Transaction-Based |

Prices and values

| | Currency INR Company code currency | EUR Group currency, group ... | EUR Group currency, profit c... |
|-------------------|---------------------------------------|----------------------------------|------------------------------------|
| Standard price | | 0.00 | 0.00 |
| Per. unit price | | 0.00 | 0.00 |
| Price unit | 1 | 1 | 1 |
| Price control | V | V | V |
| Stock value | 0.00 | 0.00 | 0.00 |
| Value/per.unit pr | 0.00 | 0.00 | 0.00 |
| Future price | | 0.00 | 0.00 |

Update the periodic unit price (moving average price). This price is picked up as the price for the raw material (depending upon the setting maintained in the costing variant) when the standard cost estimate is executed for the finished product.



Click

Update the valuation class for raw material

Material Edit Goto Environment System Help

Create Material 9100-202 (Raw material)

Additional data Organizational levels Check screen data

Quality management Accounting 1 Accounting 2 Costing 1 C...

Material 9100-202 PVC Granules
 Plant 9100 Pune factory - A Ltd

Period 010.2006 Period 009.2006 Period 012.2005

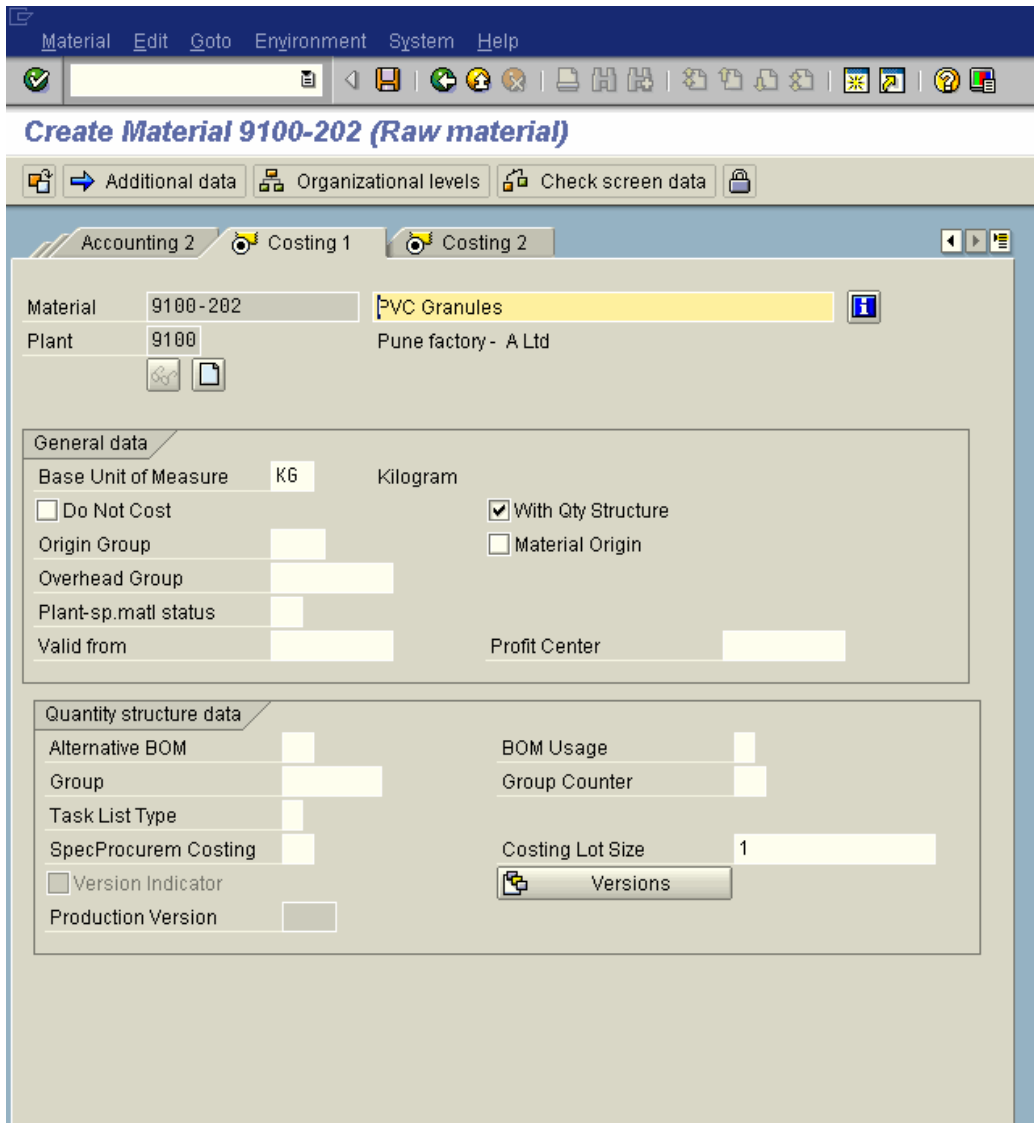
General Valuation Data

| | | | | |
|-------------------|------|---|---------------------|-------------------|
| Total Stock | 0 | Base Unit | K6 | Kilogram |
| Division | | Valuation Cat. | | |
| Valuation Class | 3000 | <input type="checkbox"/> Valuated Un | | |
| VC: Sale Ord. Stk | | <input checked="" type="checkbox"/> ML act. | Mat. Price Analysis | |
| Project Stock VC | | Price Determ. | 2 | Transaction-Based |

Prices and values

| Currency | INR | EUR | EUR |
|--------------------|-----------------------|---------------------------|-----------------------------|
| | Company code currency | Group currency, group ... | Group currency, profit c... |
| Standard price | | | |
| Per. unit price | 130.00 | 2.36 | 2.36 |
| Price unit | 1 | 1 | 1 |
| Price control | V | V | V |
| Stock value | 0.00 | 0.00 | 0.00 |
| Value/per. unit pr | 0.00 | 0.00 | 0.00 |
| Future price | | | |

Click 



You need to select

Do Not Cost

This tick should be selected because system will calculate standard cost estimate for raw material and packing material as well. We do not want system to calculate standards for raw and packaging material hence we select do not cost.

With Qty Structure

We select this since we cost our finished product with a quantity structure.

Material Origin

This indicator must be selected, whereby the material number will be written to the cost element itemization in the controlling module. This enables us to analyze material costs in the information system in more detail.

Update the profit center field.

Where different overhead rate are applicable on different raw material then you need to update the relevant overhead group in the field

Overhead Group | 

Material Edit Goto Environment System Help

Create Material 9100-202 (Raw material)

Additional data Organizational levels Check screen data

Accounting 2 Costing 1 Costing 2

Material 9100-202 PVC Granules

Plant 9100 Pune factory - A Ltd

General data

Base Unit of Measure K6 Kilogram

Do Not Cost With Qty Structure

Origin Group Material Origin

Overhead Group

Plant-sp.matl status

Valid from Profit Center 1100

Quantity structure data

Alternative BOM BOM Usage

Group Group Counter

Task List Type

SpecProcurem Costing Costing Lot Size 1

Version Indicator

Production Version

Click 

Create Material 9100-202 (Raw material)

Material: 9100-202 PVC Granules
 Plant: 9100 Pune factory - A Ltd

Standard Cost Estimate

| Cost Estimate | Future | Current | Previous |
|----------------------|--------|---------|----------|
| Period / Fiscal Year | 0 | 0 | 0 |
| Planned price | | 0.00 | 0.00 |
| Standard Price | | 0.00 | |


Planned prices

| | | | |
|-----------------|--|----------------------|--|
| Planned price 1 | | Planned price date 1 | |
| Planned price 2 | | Planned price date 2 | |
| Planned price 3 | | Planned price date 3 | |

Valuation data

| | | | |
|---------------------|--------|----------------------|---------|
| Valuation Class | 0000 | Valuation Category | |
| VC: Sales order stk | | Proj. stk val. class | |
| Price Control | V | Current period | 10 2006 |
| Price Unit | 1 | Currency | INR |
| Moving Price | 130.00 | Standard Price | |

The raw material prices can also be maintained in the planned price1, 2 or 3 fields and can be picked up as prices during the standard cost estimate calculation of the finished product. This depends on the configuration setting in the costing variant.

Click on  to save the material master

1.2 Finished good

Let us now see the material master creation of Finished good.

Use transaction code: MM01

Or

Path:

SAP standard menu → Logistics → Materials Management → Material Master → Material → Create (General) → MM01 - Immediately

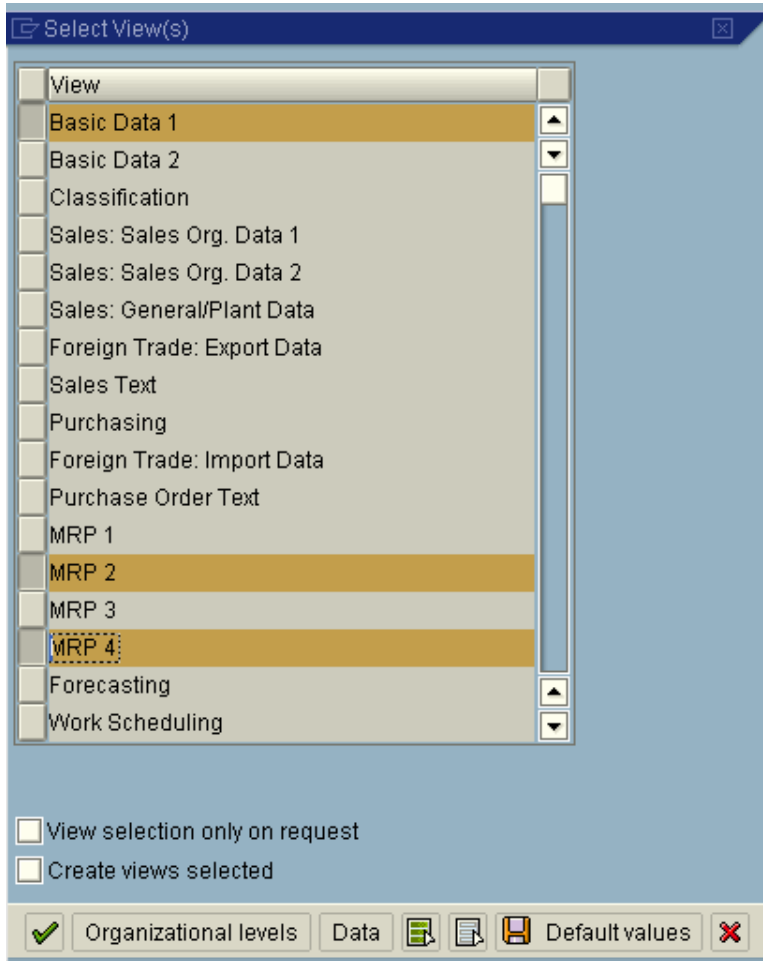
The important views for finished goods are MRP 2, MRP 4, Accounting and costing view.


The MRP views are maintained by the Production planning (PP) guys.

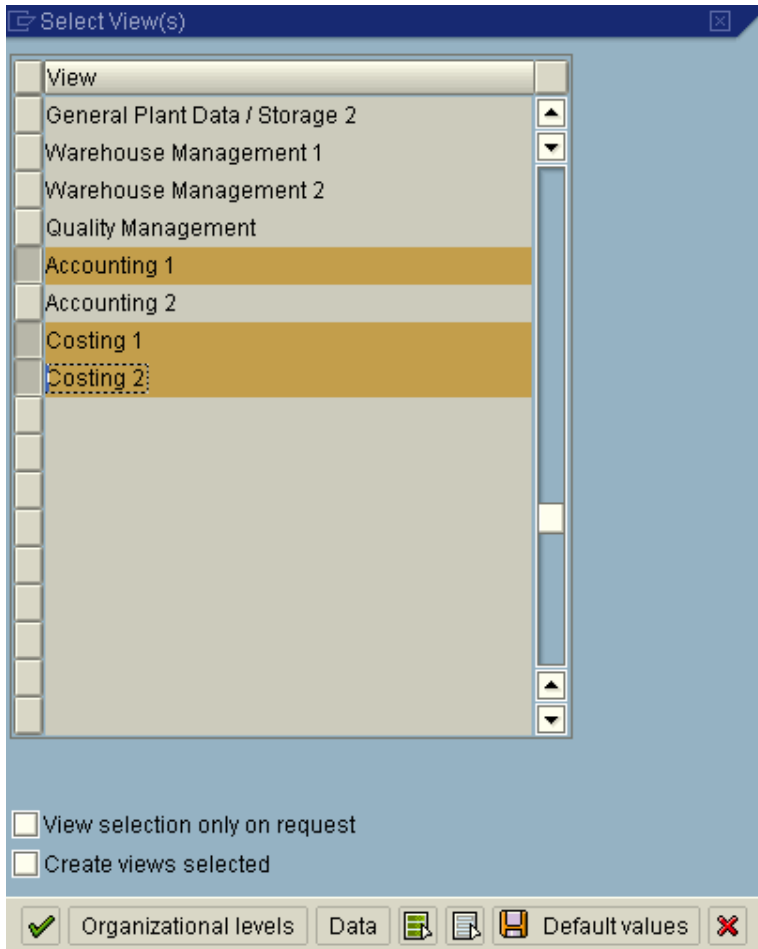
It is imperative for a product costing consultant to know these views.

The screenshot shows the SAP 'Create Material (Initial Screen)' dialog box. The window title is 'Material' and the menu bar includes 'Material', 'Edit', 'Goto', 'Defaults', 'System', and 'Help'. The toolbar contains various icons for navigation and actions. The main area has three tabs: 'Select view(s)', 'Organizational levels', and 'Data'. The 'Data' tab is active, showing fields for 'Material' (9100-103), 'Industry Sector' (C Chemical Industry), and 'Material Type' (FERT Finished prod). There is also a 'Change Number' field and a 'Copy from...' section with a 'Material' field.

Click

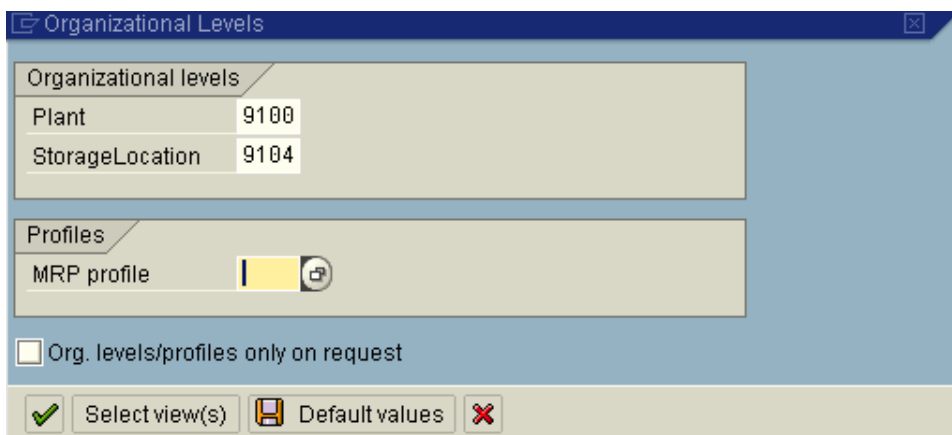


Click  and also select



Click

Update the following:-



Click

Update the following:-

Material 9100-103 Light Liquid PE

General data

| | | | | |
|--|----|-------------------------------------|-----------------|--------------------|
| Base Unit of Measure | KG | <input checked="" type="checkbox"/> | Material Group | 004 |
| Old material number | | | Ext. matl group | 155 |
| Division | | | Lab/Office | |
| Product allocation | | | Prod.hierarchy | |
| X-plant matl status | | | Valid from | |
| <input type="checkbox"/> Assign effect. vals | | | GenItemCatGroup | NORM Standard item |

Dimensions/EANs

| | | | |
|-----------------|--|--------------|--|
| Gross weight | | Weight Unit | |
| Net weight | | | |
| Volume | | Volume unit | |
| Size/dimensions | | | |
| EAN/UPC | | EAN category | |

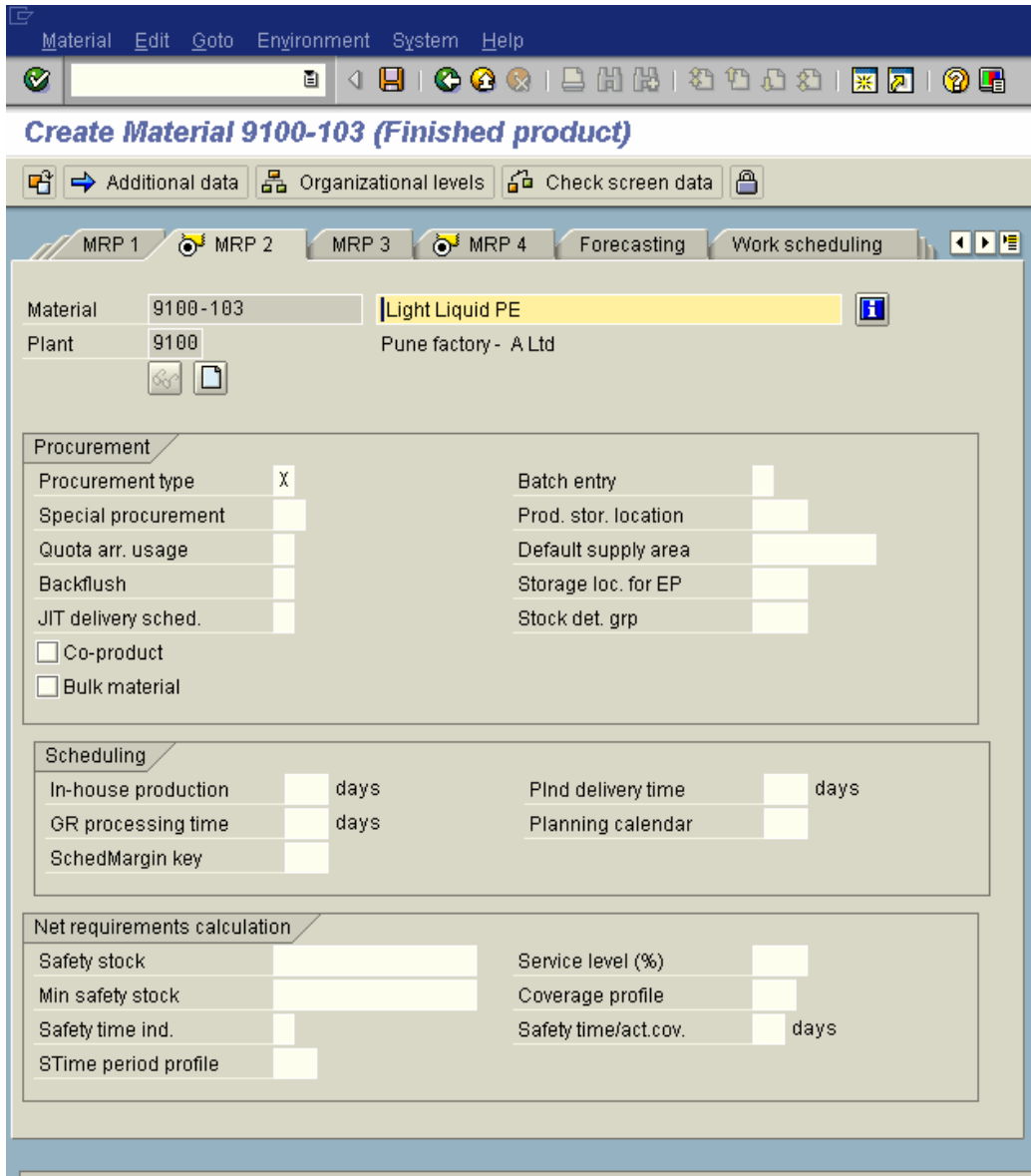
Packaging material data

| | |
|---------------------|--|
| Matl Grp Pack.Matts | |
|---------------------|--|

Basic data texts

| | | | |
|----------------------|---|-----------------|--|
| Languages maintained | 0 | Basic data text | |
|----------------------|---|-----------------|--|

Click



Select the Procurement type as

In case of manufactured E should be updated.

The field is very important in case the finished goods are stock transferred to another plant which is a depot or a selling plant.

Let us take an example:-

Finished goods 9100-103 is manufactured in plant 9100. The Bill of Material and Master recipe are maintained in plant 9100. Therefore the standard cost estimate is calculated in plant 9100.

This product is stock transferred to another plant 9101 which is a sales depot. There exists no BOM and master recipe in plant 9101.
How to do you calculate the standard cost estimate in plant 9101?

Here special procurement key is of prime importance. The special procurement key is configured in material requirement planning. It basically tells the system that plant 9101 will receive material from plant 9100.

Thus when you execute standard cost estimate for the product 9100-103 in plant 9101, if a special procurement key has been maintained in the material master in plant 9101, then the standard cost estimate is transferred from plant 9100 in plant 9101.

Material Edit Goto Environment System Help

Create Material 9100-103 (Finished product)

Additional data Organizational levels Check screen data

MRP 1 MRP 2 MRP 3 MRP 4 Forecasting Work scheduling

Material 9100-103 Light Liquid PE

Plant 9100 Pune factory - A Ltd

Procurement

| | | | |
|--|---|----------------------|--|
| Procurement type | E | Batch entry | |
| Special procurement | | Prod. stor. location | |
| Quota arr. usage | | Default supply area | |
| Backflush | | Storage loc. for EP | |
| JIT delivery sched. | | Stock det. grp | |
| <input type="checkbox"/> Co-product | | | |
| <input type="checkbox"/> Bulk material | | | |

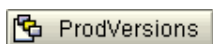
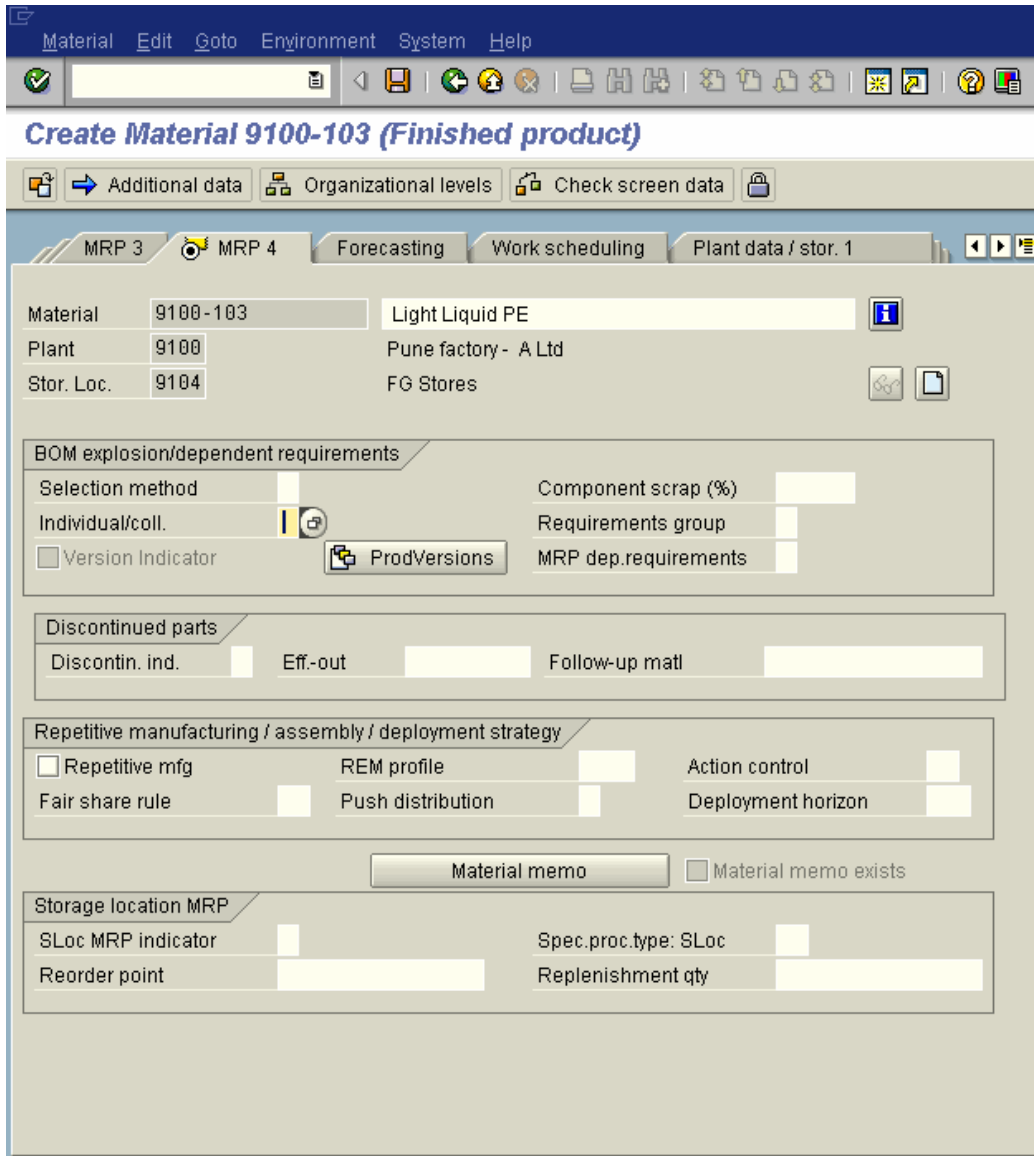
Scheduling

| | | | | | |
|---------------------|--|------|--------------------|--|------|
| In-house production | | days | PInd delivery time | | days |
| GR processing time | | days | Planning calendar | | |
| SchedMargin key | | | | | |

Net requirements calculation

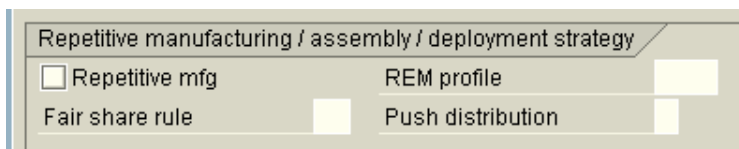
| | | | |
|----------------------|--|----------------------|--|
| Safety stock | | Service level (%) | |
| Min safety stock | | Coverage profile | |
| Safety time ind. | | Safety time/act.cov. | |
| STime period profile | | | |

Click 

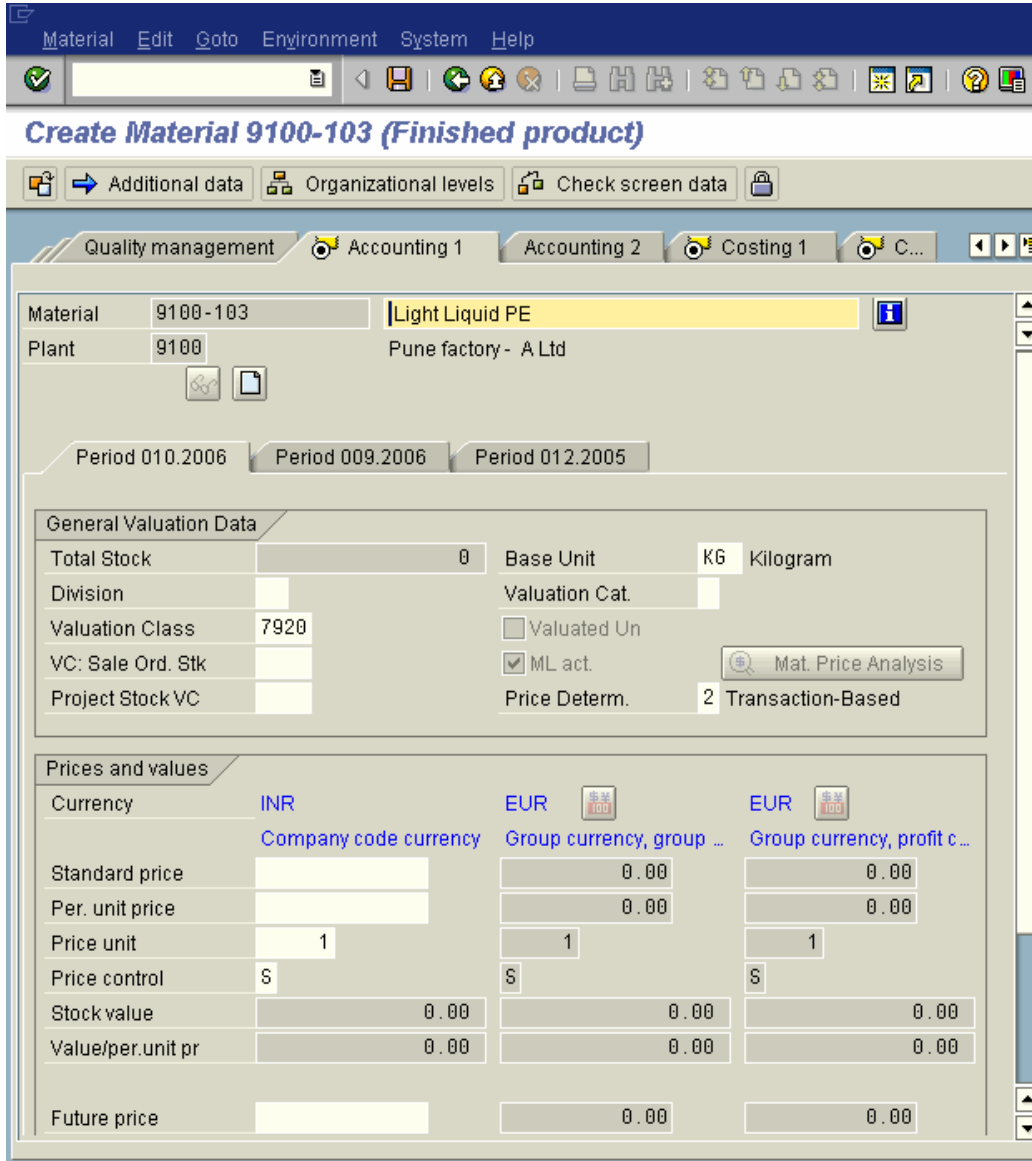


Production versions are maintained in this view. Production version is basically a combination of a Bill of Material and Master recipe. Finished goods can have various production versions. But when a standard cost estimate is executed the product cost planning component by default picks up only the first production version.

In case a product is manufactured using repetitive manufacturing then the following fields are updated.



Click 



The screenshot shows the SAP Material Master configuration for material 9100-103, 'Light Liquid PE', at plant 9100. The 'General Valuation Data' tab is active, showing a total stock of 0 and a base unit of 'K6 Kilogram'. The 'Prices and values' tab is also visible, showing a price unit of '1' and a price control of 'S' for the company code currency (INR). The 'Price Determination' is set to '2 Transaction-Based'.

| General Valuation Data | | | |
|------------------------|------|---|---------------------|
| Total Stock | 0 | Base Unit | K6 Kilogram |
| Division | | Valuation Cat. | |
| Valuation Class | 7920 | <input type="checkbox"/> Valuated Un | |
| VC: Sale Ord. Stk | | <input checked="" type="checkbox"/> ML act. | Mat. Price Analysis |
| Project Stock VC | | Price Determin. | 2 Transaction-Based |

| Prices and values | | | |
|-------------------|-----------------------|---------------------------|-----------------------------|
| Currency | INR | EUR | EUR |
| | Company code currency | Group currency, group ... | Group currency, profit c... |
| Standard price | | 0.00 | 0.00 |
| Per. unit price | | 0.00 | 0.00 |
| Price unit | 1 | 1 | 1 |
| Price control | S | S | S |
| Stock value | 0.00 | 0.00 | 0.00 |
| Value/per.unit pr | 0.00 | 0.00 | 0.00 |
| Future price | | 0.00 | 0.00 |

Update the **valuation class** and the price control **S** for the finished goods.

No price needs to be maintained here, since the product costing module will calculate the price for the finished good.

Click 

Select With Qty Structure

Also ensure that the variance key is in place. Normally this is defaulted based on the configuration settings maintained in **OKVW**.

Update the relevant profit center.

Also update the costing lot size: Lot size in which the product is costed.

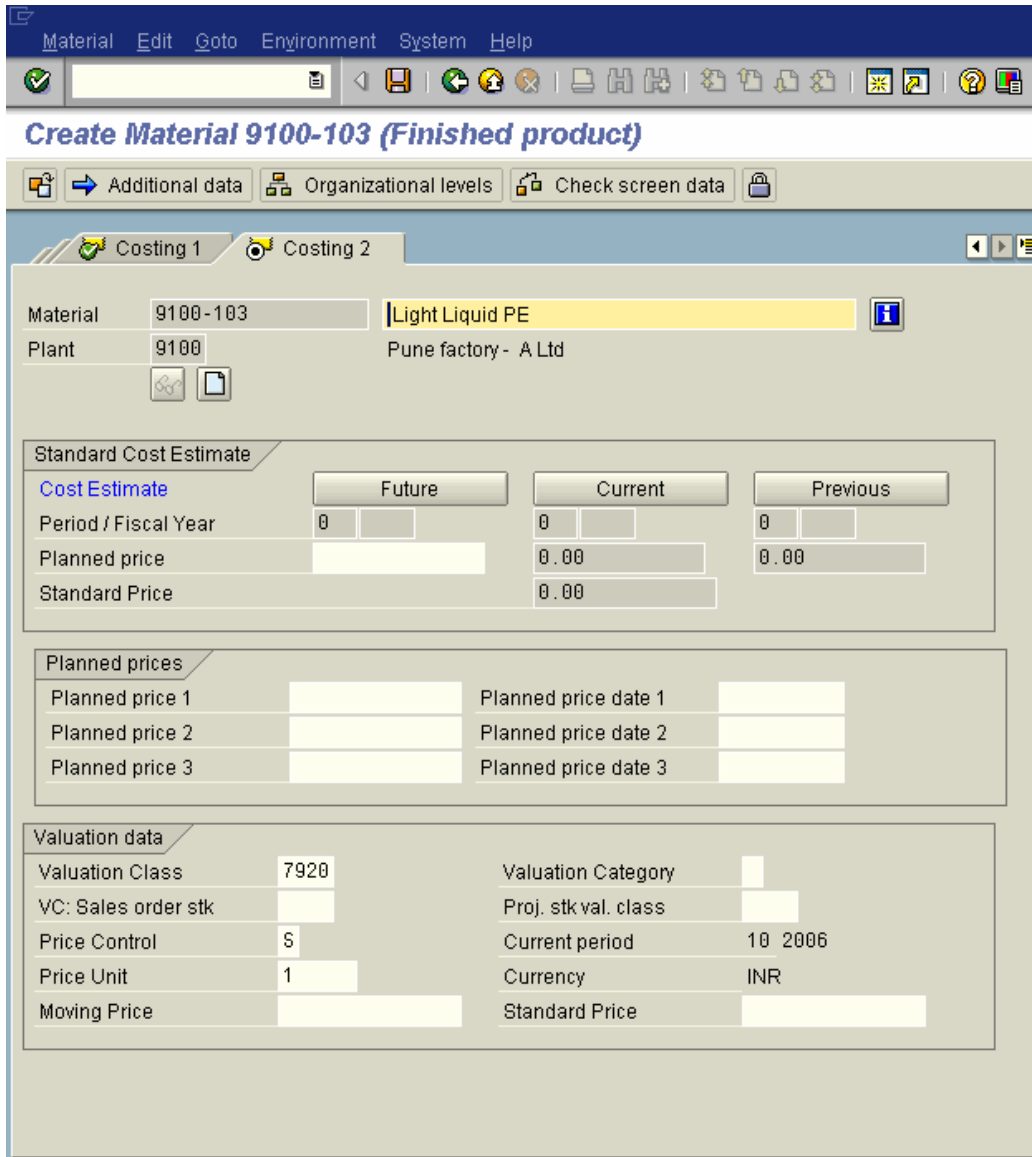
The screenshot displays the SAP Material Master configuration for Material 9100-103, 'Light Liquid PE', at Plant 9100 (Pune factory - A Ltd). The 'General data' tab is selected, showing the following settings:

- Material: 9100-103
- Plant: 9100
- Base Unit of Measure: KG (Kilogram)
- Do Not Cost
- With Qty Structure
- Origin Group: [Blank]
- Material Origin
- Overhead Group: [Blank]
- Variance Key: 000001
- Plant-sp.matl status: [Blank]
- Valid from: [Blank]
- Profit Center: 100

The 'Quantity structure data' tab is also visible, showing the following settings:

- Alternative BOM: [Blank]
- Group: [Blank]
- Task List Type: [Blank]
- SpecProcurem Costing: [Blank]
- Co-product
- Fxd Price
- Version Indicator
- Production Version: [Blank]
- BOM Usage: [Blank]
- Group Counter: [Blank]
- Costing Lot Size: 1
- Buttons: Versions

Click 



Create Material 9100-103 (Finished product)

Material: 9100-103 | Light Liquid PE
 Plant: 9100 | Pune factory - A Ltd

Standard Cost Estimate

| Cost Estimate | Future | Current | Previous |
|----------------------|--------|---------|----------|
| Period / Fiscal Year | 0 | 0 | 0 |
| Planned price | | 0.00 | 0.00 |
| Standard Price | | 0.00 | |

Planned prices

| | | | |
|-----------------|--|----------------------|--|
| Planned price 1 | | Planned price date 1 | |
| Planned price 2 | | Planned price date 2 | |
| Planned price 3 | | Planned price date 3 | |

Valuation data

| | | | |
|---------------------|------|----------------------|---------|
| Valuation Class | 7920 | Valuation Category | |
| VC: Sales order stk | | Proj. stk val. class | |
| Price Control | S | Current period | 10 2006 |
| Price Unit | 1 | Currency | INR |
| Moving Price | | Standard Price | |

Click on 

2. Bill of Material (BOM)

A finished product is manufactured using various components i.e. raw and packaging material.

This list of component that makes the final product is called the Bill of Material. It contains the object number of each component with quantity and unit of measure. The components are known as BOM items.

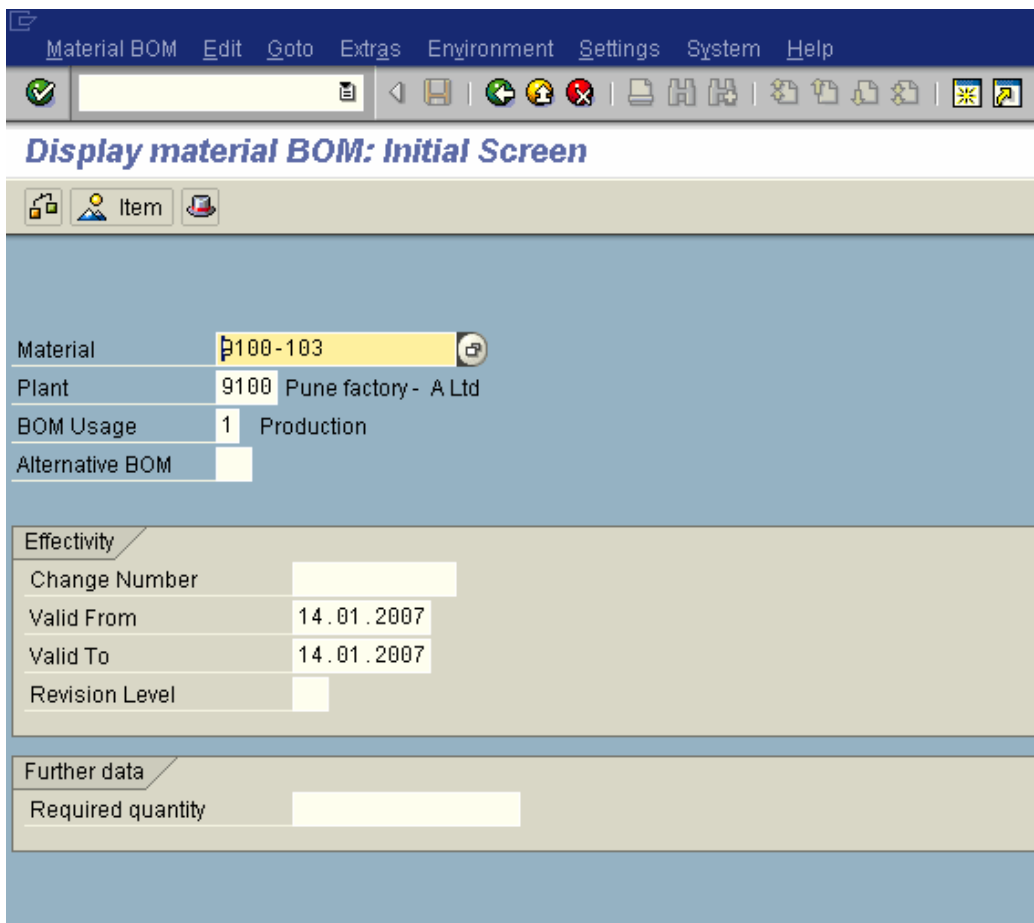
We will display a BOM which is created by the Production planning department.

Transaction code: CS03

Or

SAP menu → Logistics → Production → Master Data → Bills of Material → Bill of Material → Material BOM → CS03 – Display

Update the following:-



The screenshot shows the SAP 'Material BOM: Initial Screen' interface. The title bar includes 'Material BOM', 'Edit', 'Goto', 'Extras', 'Environment', 'Settings', 'System', and 'Help'. Below the title bar is a toolbar with various icons. The main content area is divided into several sections:

- Item:** Material: P100-103, Plant: 9100 Pune factory - A Ltd, BOM Usage: 1 Production, Alternative BOM: [empty]
- Effectivity:** Change Number: [empty], Valid From: 14.01.2007, Valid To: 14.01.2007, Revision Level: [empty]
- Further data:** Required quantity: [empty]

Click 

Material BOM Edit Goto Extras Environment Settings System Help

Display material BOM: General Item Overview


Sub-items New entries Header Effectivity

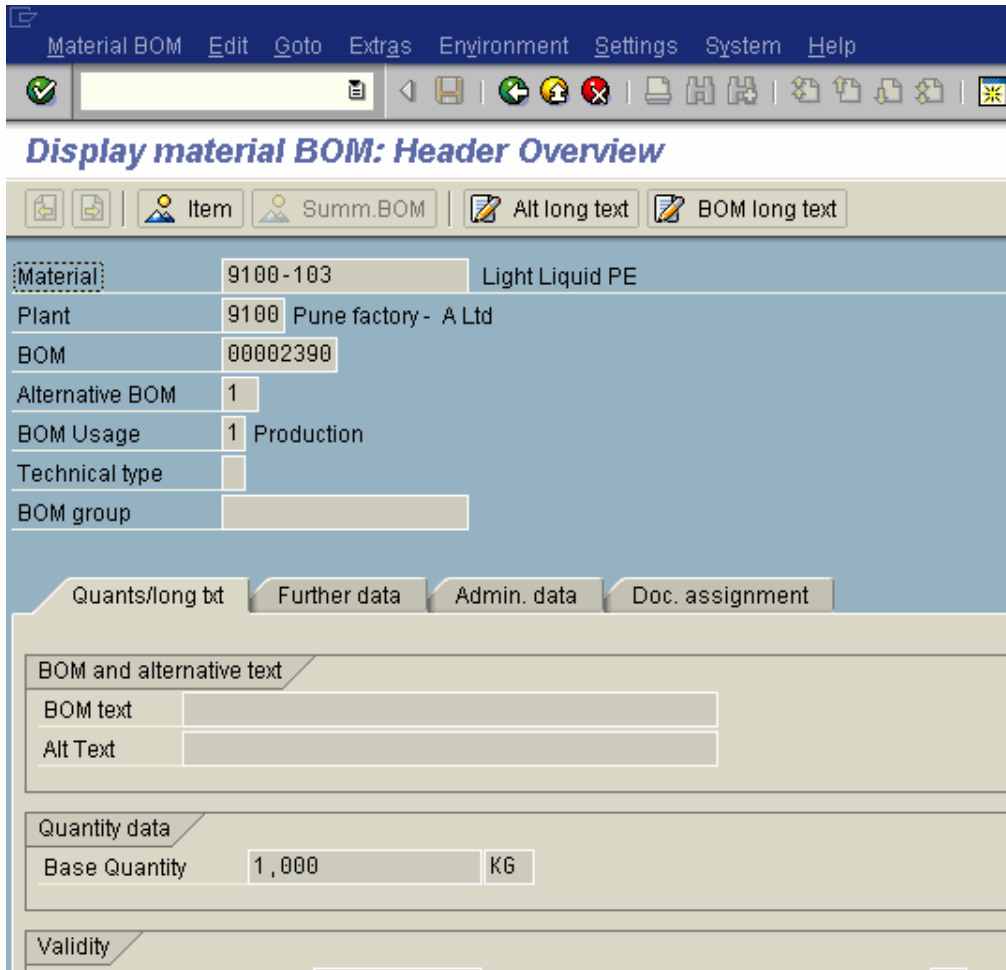
Material: 9100-103 Light Liquid PE
 Plant: 9100 Pune factory - A Ltd
 Alternative BOM: 1

Material Document General

| Item | ICt | Component | Component description | Quantity | Un | A... | Sls | Valid From | Valid To | Change No. |
|------|-----|-----------|-----------------------|----------|----|--------------------------|--------------------------|------------|------------|------------|
| 0010 | L | 9100-202 | PVC Granules | 1,300 | K6 | <input type="checkbox"/> | <input type="checkbox"/> | 14.01.2007 | 31.12.9999 | |

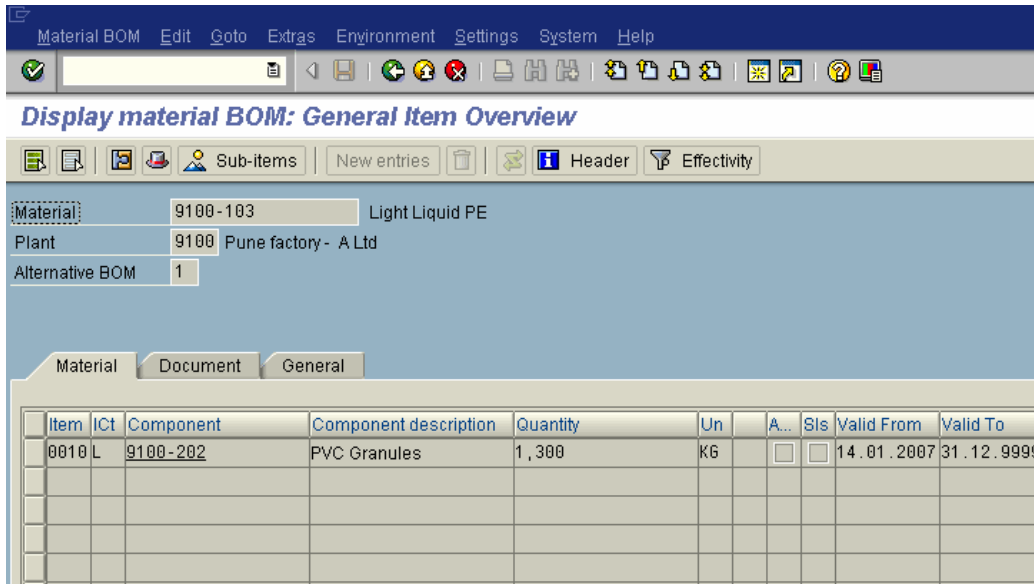
Position... Initial Entry 1 / 1

Click  to see the header of the BOM



In header the Base Quantity of the finished good is mentioned. This should be in sync with the costing lot size. The base quantity is 1000 above whereas in the material master it is 1, therefore we should change the costing lot size in the material master to 1000.

Click  to the item details

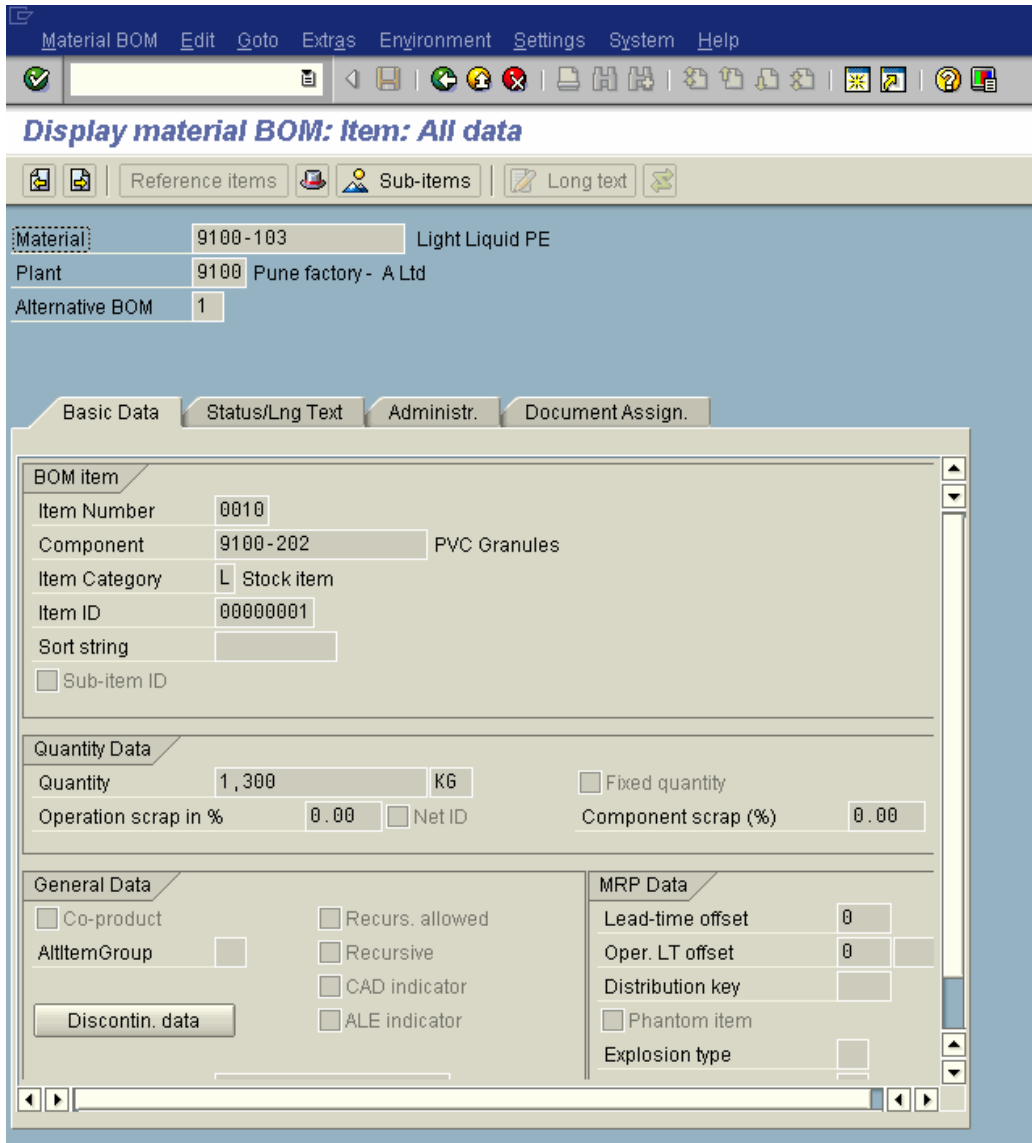


There is only one component 9100-202 used in the manufacture of 9100-103

Double click

| Item | ICt | Component |
|------|-----|-----------|
| 0010 | L | 9100-202 |

 on the component



Click **Status/Lng Text**

Material BOM Edit Goto Extras Environment Settings System Help

Display material BOM: Item: All data

Reference items Sub-items Long text

Material: 9100-103 Light Liquid PE
 Plant: 9100 Pune factory - A Ltd
 Alternative BOM: 1

Basic Data Status/Lng Text Administr. Document Assign.

BOM item

Item Number: 0010
 Component: 9100-202 PVC Granules
 Item Category: L Stock item
 Item ID: 00000001

Item text

Item text

Item status

Engineering/design
 Production relevant
 Plant maintenance
 Spare part indicator
 Relevant to sales
 CostingRelevncy: X

Further data

Mat. provision ind.
 Bulk material
 Bulk Mat.Ind.Mat.Mst
 Prod. stor. location
 Supply Area

The Costing relevancy selection is important. This selection controls whether the component is relevant for product cost estimate or not.

3. Activity prices maintained for cost centers

The activities typically carried on a product could be as follows:-

- Machine activity
- Labour activity
- Quality checking activity

Activity prices are maintained for each of the above activity. These activities are carried out by various production cost centers.

The activity costs are absorbed into the product as follows:-

Activity Qty (mentioned in the recipe or routing) X activity price (maintained for activity type and cost center combination)

Before we maintain let us see a cost center report for cost center 9101012 using transaction code **S_ALR_87013611** - Plan/Actual Comparisons

Cost centers: actual/plan/variance

Date: 20.01.2007 Page: 2 / 3

Cost Center/Group: 9101012 Labour Column: 1 / 2
 Person responsible: Sam
 Reporting period: 1 to 12 2007

| Cost elements | Act. costs | Plan costs | Abs. var. | Var. (%) |
|-------------------------|------------|------------|-------------|----------|
| 420003 Salaries & Wages | | 500,000.00 | 500,000.00- | 100.00- |
| 420006 Incentive Pay | | 100,000.00 | 100,000.00- | 100.00- |
| 420211 Bonus | | 240,000.00 | 240,000.00- | 100.00- |
| * Debit | | 840,000.00 | 840,000.00- | 100.00- |
| 943202 Labour hours | | | | |
| * Credit | | | | |
| ** Over/underabsorption | | 840,000.00 | 840,000.00- | 100.00- |

Cost centers: actual/plan/variance Date: 20.01.2007 Page: 3 / 3

Cost Center/Group: 9101012 Labour Column: 1 / 2
 Person responsible: Sam
 Reporting period: 1 to 12 2007

| Activity types | Act. acty | PlnActvty | Abs. var. | Var. (%) |
|---------------------|-----------|-----------|-----------|----------|
| LABOUR Labour hours | | | | |

The total cost planned on the cost center is 840, 000.

This cost needs to be absorbed into the product.

Now let us proceed for updating the activity price

Let us see the how the activity prices are maintained in the cost center accounting module:

Transaction code: KP26

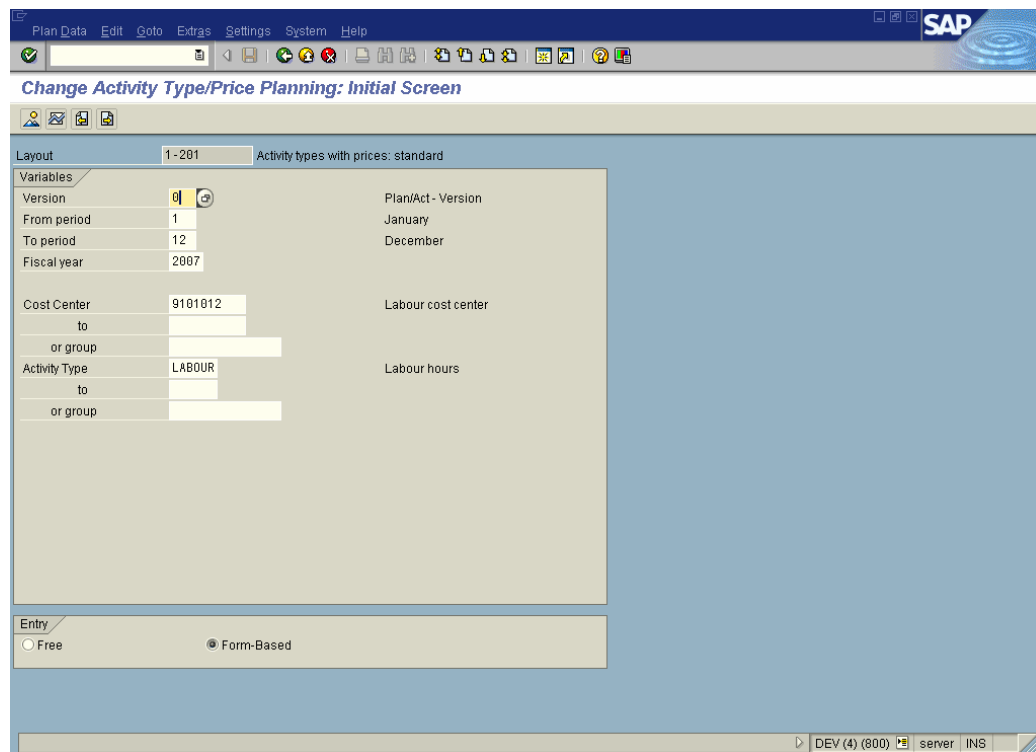
Or

Menu Path:

SAP Menu → Accounting → Controlling → Cost Center Accounting → Planning → Activity Output/Prices → KP26 – Change

We will maintain plan activity price for activity labour and the labour cost center for the year 2007.

Update the following:-



The screenshot shows the SAP 'Change Activity Type/Price Planning: Initial Screen'. The window title is 'Change Activity Type/Price Planning: Initial Screen'. The layout is '1-201' and the activity types are 'standard'. The 'Variables' section includes: Version (01), From period (1), To period (12), Fiscal year (2007), Plan/Act - Version (January), and December. The 'Cost Center' is 9101012, labeled as 'Labour cost center'. The 'Activity Type' is LABOUR, labeled as 'Labour hours'. The 'Entry' section has 'Form-Based' selected. The status bar at the bottom right shows 'DEV (4) (800) server INS'.

Click 

Update the following:-

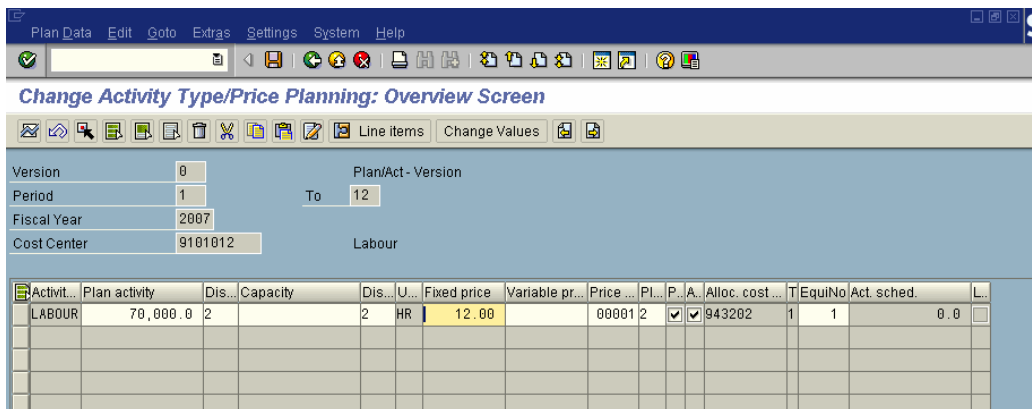
The planned labour hours (activity) for the year 2007 is 70,000 hours.

The activity price calculated works out to 12/- which is as follows:-

Activity price = Total cost on Labour cost center

$$\frac{\text{-----}}{\text{Planned activity}}$$
$$= \frac{840,000}{70,000}$$
$$= 12/-$$

Let us update that as below



Click on 

Let us now again see the cost center report using transaction code **S_ALR_87013611** - Plan/Actual Comparisons

Cost centers: actual/plan/variance Date: 20.01.2007 Page: 2 / 3

Cost Center/Group 9101012 Labour Column: 1 / 2
 Person responsible: Sam
 Reporting period: 1 to 12 2007

| Cost elements | Act. costs | Plan costs | Abs. var. | Var. (%) |
|-------------------------|------------|-------------|-------------|----------|
| 420003 Salaries & Wages | | 500,000.00 | 500,000.00- | 100.00- |
| 420006 Incentive Pay | | 100,000.00 | 100,000.00- | 100.00- |
| 420211 Bonus | | 240,000.00 | 240,000.00- | 100.00- |
| * Debit | | 840,000.00 | 840,000.00- | 100.00- |
| 943202 Labour hours | | 840,000.04- | 840,000.04 | 100.00- |
| * Credit | | 840,000.04- | 840,000.04 | 100.00- |
| ** Over/underabsorption | | 0.04- | 0.04 | 100.00- |

Cost centers: actual/plan/variance Date: 20.01.2007 Page: 3 / 3

Cost Center/Group 9101012 Labour Column: 1 / 2
 Person responsible: Sam
 Reporting period: 1 to 12 2007

| Activity types | Act. acty | PlnActvty | Abs. var. | Var. (%) |
|---------------------|-----------|-------------|--------------|----------|
| LABOUR Labour hours | | 70,000.0 HR | 70,000.0- HR | 100.00- |

The cost of 840,000/- is now absorbed, showing 0.04- balance.

The plan activity of 70,000 hr is also updated on the cost center.

The above method is manually updating activity prices in the cost center planning.

Another option is to have system calculate activity price through system. You only maintain the activity output 70,000 hrs through the transaction KP26.

The activity price calculation is executed through transaction code **KSPI** - Price Calculation.

System will automatically calculate price as follows:-

Activity price = Total cost planned on the cost center 9101012

$$\begin{array}{r}
 \text{-----} \\
 \text{Activity output} \\
 = 840,000 \\
 \text{-----} \\
 70,000 \\
 = 12/- \text{ per hour}
 \end{array}$$

4. Resource/ Work center

A Resource is an organizational unit that defines where and when an operation should be carried out. It has an available capacity. The activity performed here is valued by charge rates which are determined by cost centers and activity types.

A **Resource** is a master data defined when process orders are used. Process orders are used for process industry.

The same master data is defined as **Work center** when production orders are used.

A Resource/Work center is linked to a cost center.

This master data is maintained by the PP guys.

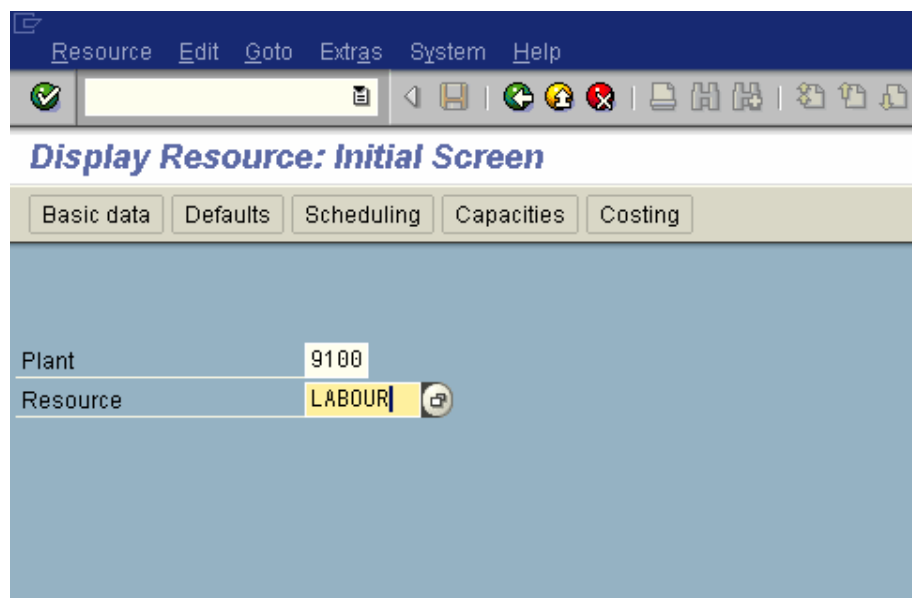
The PP and CO teams have to jointly work to define and link the resource and cost center.

Let us display a resource.

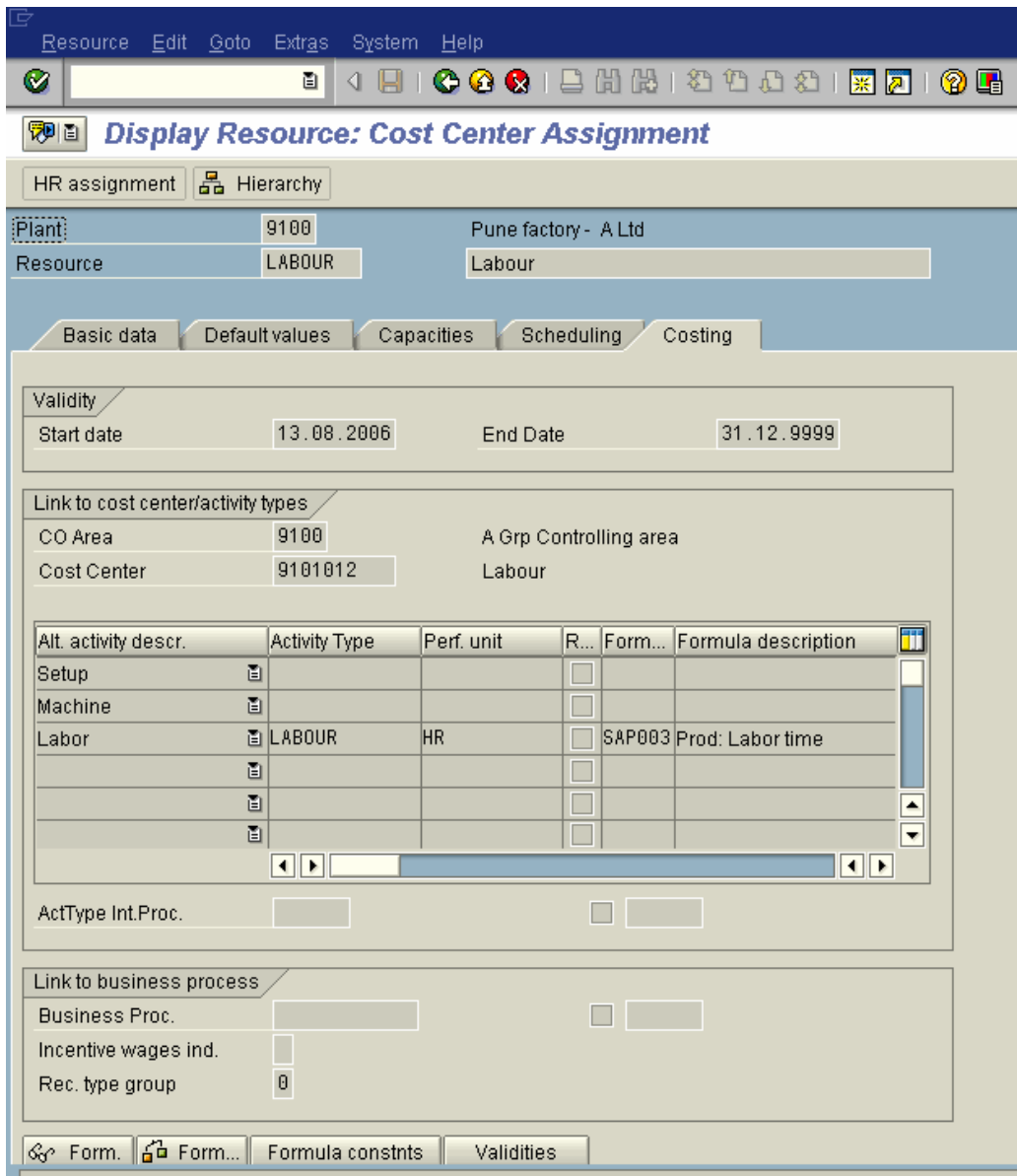
Transaction code: CRC3

SAP menu → Logistics → Production – Process → Master Data → Resources → Resource → CRC3 – Display

Update the following:-




Click 

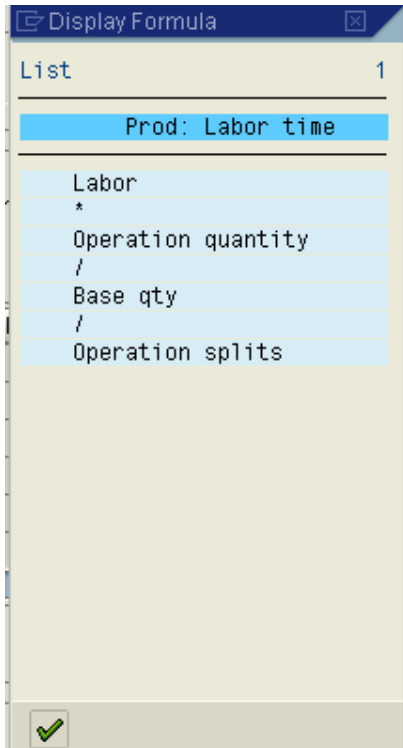


The resource **LABOUR** is linked to cost center **9101012** and activity type **LABOUR**

It is only possible to maintain the cost center and activity here, if it is maintained in the earlier step KP26.

Position the cursor on 

Click 



A formula maintained above helps in proportionately calculating the number of hours required.

E.g. The number of hours required for a base quantity of 1000 kgs is 10 hours.

If the manufacturing batch size is 5000 kgs then as per the above formula the number of labour hours is calculated as follows:-

$$= 10 \text{ hrs} \times \frac{5000 \text{ kgs}}{1000 \text{ kgs}}$$

= 50 hrs

It is essential to verify that formula is correctly defined.

5. Master Recipe/ Routing

A Master Recipe is a description of a specific process in the process industry that does not relate to a specific process order. It is used for producing materials.

The same master data is called as Routing when production orders are used. Of course the maintenance of the 2 master data is through different transaction codes. Master data to be maintained in both the cases are more or less same.

The master recipe is maintained by the PP team.

Let us display the master recipe maintained for the finished product.

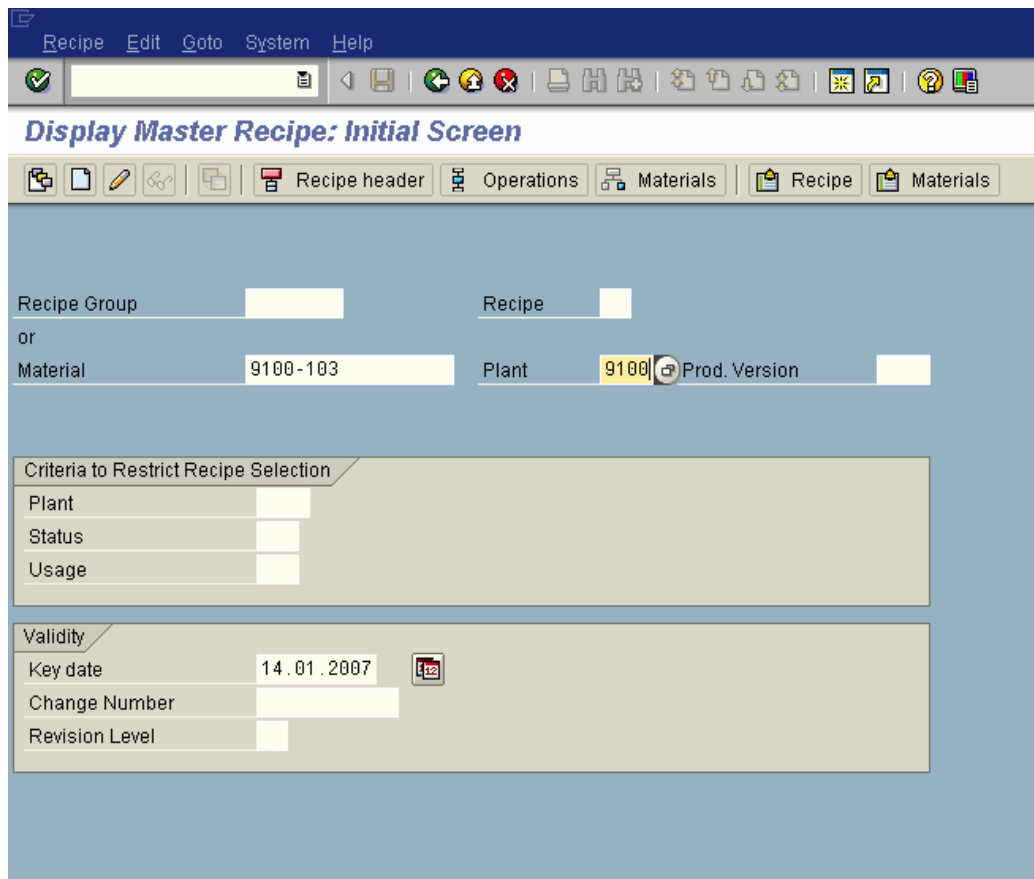
Transaction code: C203

Or

Menu Path:

SAP menu → Logistics → Production – Process → Master Data → Master Recipes → Recipe and Material List → C203 – Display

Update the following:-



The screenshot shows the SAP 'Display Master Recipe: Initial Screen' interface. At the top, there is a menu bar with 'Recipe', 'Edit', 'Goto', 'System', and 'Help'. Below the menu is a toolbar with various icons. The main area contains several input fields and sections:

- Recipe Group**: []
- Recipe**: []
- or**
- Material**: 9100-103
- Plant**: 9100
- Prod. Version**: []

Below these fields are two sections with expandable headers:

- Criteria to Restrict Recipe Selection**:
 - Plant**: []
 - Status**: []
 - Usage**: []
- Validity**:
 - Key date**: 14.01.2007
 - Change Number**: []
 - Revision Level**: []

Click 

Recipe Edit Goto Extras System Help

Display Master Recipe: Recipe

Recipe group 50000042 Deletion flag Long text exists
 Recipe 1 Light Liquid PE
 Plant 9100 Pune factory - A Ltd

Recipe header Operations Materials Administrative data

| Oper... | P... | Sup... | De... | Resource | Co... | Standa... | Description | La... | Rel... | Cl... | Obj... | Base Qty | Ops... | 1st Std Value |
|---------|------|--------|-------|----------|-------|-----------|-------------------|-------|--------|-------|--------|----------|--------|---------------|
| 0010 | | | | MACHINE | P101 | | Machine operation | | | | | 1,000KG | | |
| 0020 | | 0010 | 01 | MACHINE | P101 | | Machine hours | X | | | | 1,000KG | 0.000 | |
| 0030 | | | | LABOUR | P101 | | Labour Operation | | | | | 1,000KG | | |
| 0040 | | 0030 | 01 | LABOUR | P101 | | LABOUR HOURS | X | | | | 1,000KG | 0.000 | |

1 / 4

Click on the **Recipe header**

Recipe Edit Goto Extras System Help

Display Master Recipe: Recipe

Recipe group: 50000042 Deletion flag Long text exists

Recipe: 1 Light Liquid PE

Plant: 9100 Pune factory - A Ltd

Recipe header Operations Materials Administrative data

Assignment

Status: 4 Released (general)

Usage: 1 Production

Planner group:

Resource netwrk:

Network Plant:

Classification Quality Management Material Assignments

Charge Quantity Range

From: 0 to: 99,999,999 Un KG

Default Values for Operations, Phases, and Secondary Resources

Base Quantity: 1,000.000 Un

Charge Quantity: 1 Equal to Operation Qty: 1

Change Parameters

Change rule: No

Change Type: 0

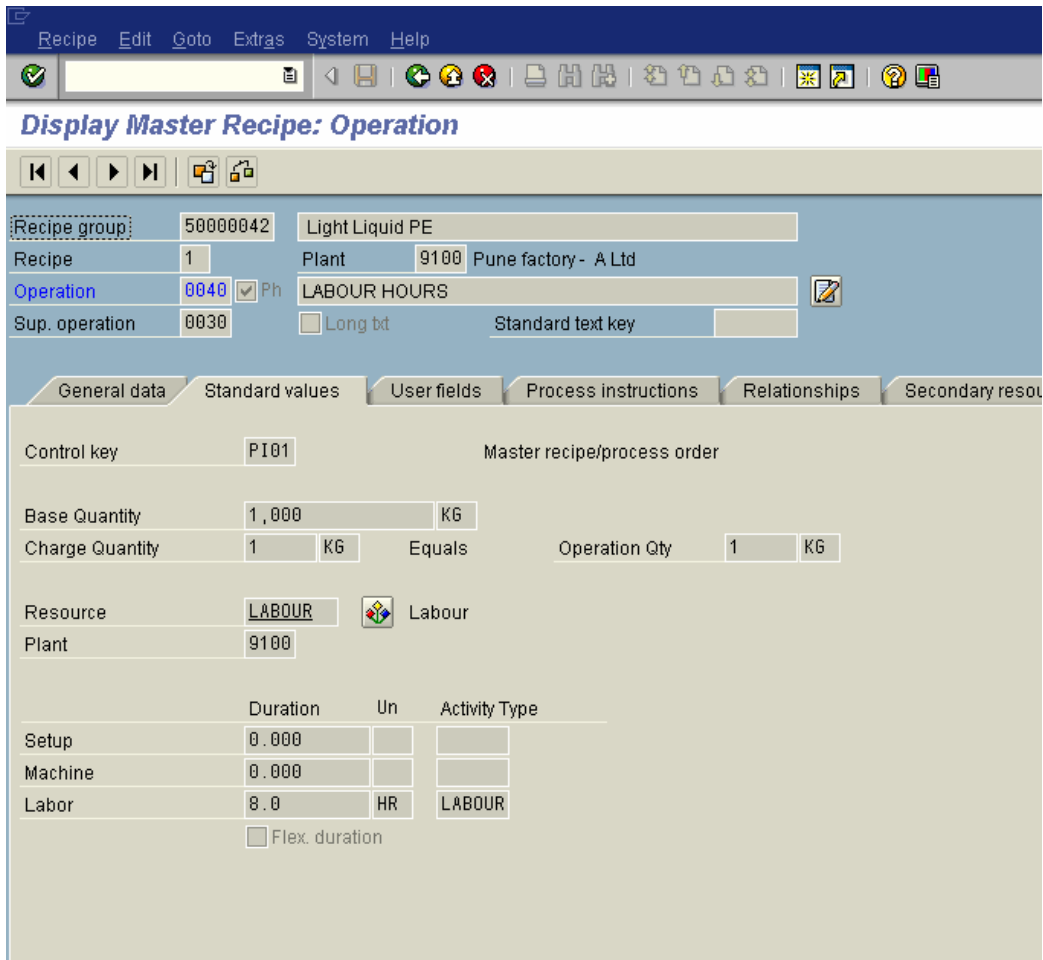
The **status** of the master recipe must be **4** and **usage 1**.

Also check the Base quantity of the master recipe.

You find the activity type 1PDH01 is defaulted automatically from the resource **MACHINE**. The number of machine hours required for base quantity of 1000 KG - 5 hrs is maintained here.

Click 

Double click 

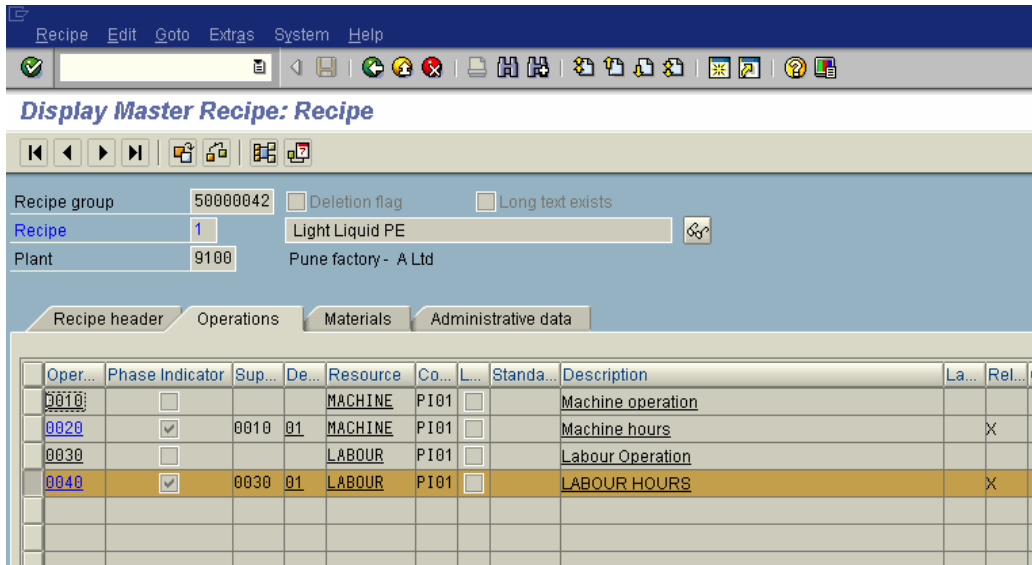


The screenshot shows the SAP 'Display Master Recipe: Operation' screen. The 'Operation' field is highlighted in blue and contains the value '0040'. Below the main data fields, there are tabs for 'General data', 'Standard values', 'User fields', 'Process instructions', 'Relationships', and 'Secondary resources'. The 'Standard values' tab is active, showing a table with columns for 'Duration', 'Un', and 'Activity Type'. The 'Labor' row shows a duration of 8.0 HR and an activity type of LABOUR.

| | Duration | Un | Activity Type |
|---------|----------|----|---------------|
| Setup | 0.000 | | |
| Machine | 0.000 | | |
| Labor | 8.0 | HR | LABOUR |

You find the activity type LABOUR is defaulted automatically from the resource **LABOUR**. The number of Labour hours required for base quantity of 1000 KG - 8 hrs is maintained here.

Click 



Also note the costing Relevancy indicator in the master recipe above



This determines that the operations are relevant for costing.

6. Production versions

A production version is a production technique that can be used to produce a material.

It is a combination of a BOM and Recipe/Routing.

Let us take an example of what can be the difference between 2 production versions to manufacture the same product-

1) Production version 1

BOM - 1

Master recipe – 1

Master recipe 1 uses fully automated machines with latest technology. They are high speed machines where the processing time is less i.e. 2 hours

Production version 1 uses BOM 1 and Master recipe 1 to manufacture the product.

2) Production version 2

BOM -1

Master recipe – 2

Master recipe - 2 uses machine with old technology which requires more processing time and also is not automated therefore some labour operation is also required.

The production version 2 uses BOM 1 and master recipe 2 to manufacture the product.

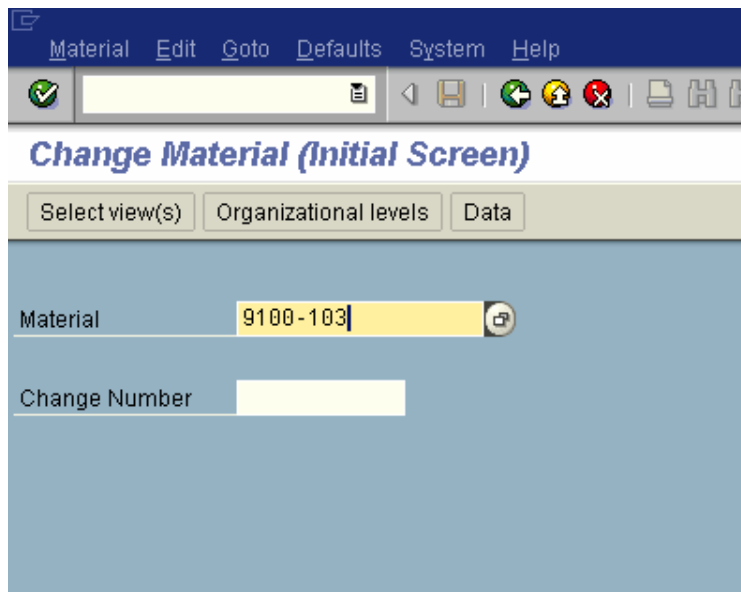
You will have a question in mind why do we require the second production version? Why not manufacture all the products using production version 1?

The answer to this question is there is limited capacity available on production version 1. Therefore production version 2 needs to be used due to capacity constraints in production version 1.

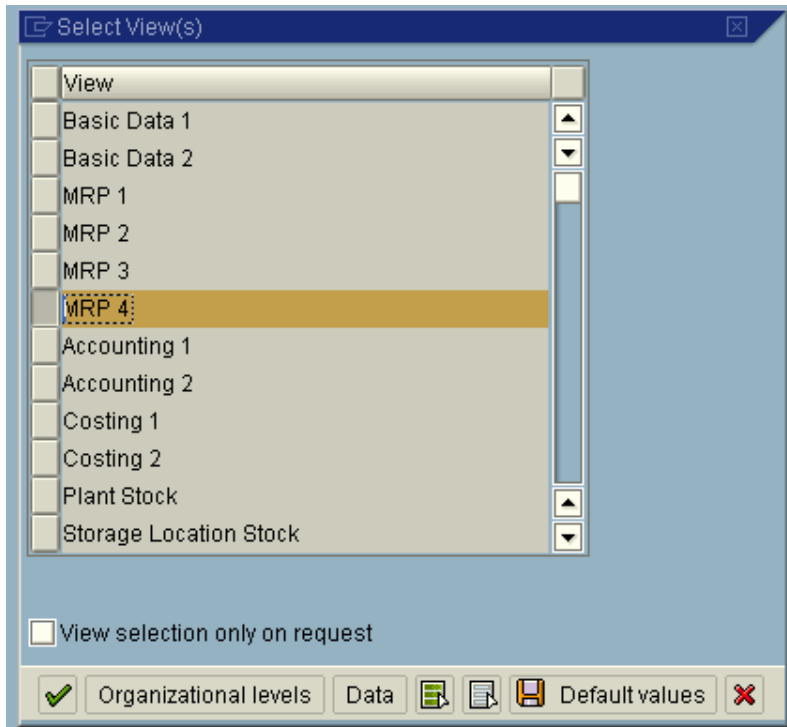
Production versions are maintained by the PP guys.

Let us see the creation of a production version.

Transaction code: MM02

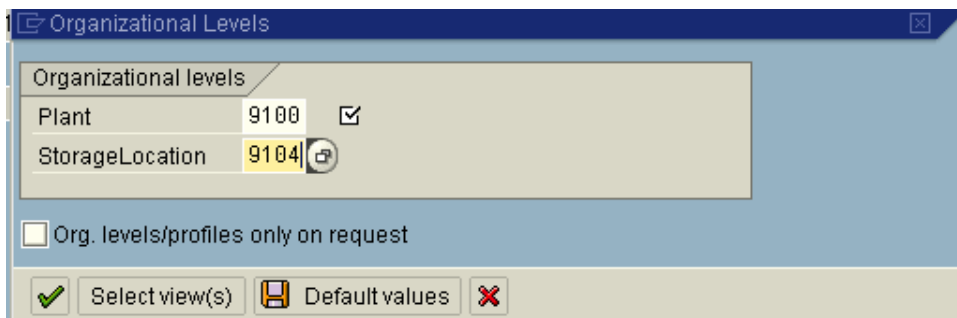


Click



Click

Update the following:-



Click

Material Edit Goto Environment System Help

Change Material 9100-103 (Finished product)

Additional data Organizational levels Check screen data

MRP 3 MRP 4 Accounting 1 Accounting 2 Costing 1 Costing 2

Material 9100-103 Light Liquid PE

Plant 9100 Pune factory - A Ltd

Stor. Loc. 9104 FG Stores

BOM explosion/dependent requirements

Selection method Component scrap (%)

Individual/coll. Requirements group

Version Indicator MRP dep.requirements

Discontinued parts

Discontin. ind. Eff.-out Follow-up matl

Repetitive manufacturing / assembly / deployment strategy

Repetitive mfg REM profile Action control

Fair share rule Push distribution Deployment horizon

Material memo exists

Storage location MRP

SLoc MRP indicator Spec.proc.type: SLoc

Reorder point Replenishment qty

Click

Click **Details**

Production Version Details

Production Version:

Basic data

Prod.vers.locked:

From lot size: To lot size:

Valid from: Valid to:

Planning data

| | Task List Type | Group | Group Counter | Check stat |
|---------------------|---|----------------------|----------------------|------------|
| Detailed planning | <input type="text"/> <input type="button" value="📄"/> | <input type="text"/> | <input type="text"/> | |
| Rate-based planning | <input type="text"/> <input type="button" value="📄"/> | <input type="text"/> | <input type="text"/> | |
| Rough-cut planning | <input type="text"/> <input type="button" value="📄"/> | <input type="text"/> | <input type="text"/> | |

Bill of material

Alternative BOM: BOM Usage:

Apportnmnt Structure:

Repetitive manufacturing

REM allowed Production line: Planning ID:

Other data

Other header mat.: Issue stor. location:

Distribution Key: Receiv. location:

OB Reference Materl: Default supply area:

Update the following:-

Production Version Details

Production Version: V01 Production version 1 Check

Basic data

Prod.vers.locked: Not locked

From lot size: To lot size:

Valid from: 14.01.2007 Valid to: 31.12.9999

Planning data

| | Task List Type | Group | Group Counter | Check stat |
|---------------------|-----------------|----------|---------------|------------|
| Detailed planning | | | | |
| Rate-based planning | 2 Master Recipe | 50000042 | 1 | |
| Rough-cut planning | | | | |

Bill of material

Alternative BOM: 1 BOM Usage: 1

Apportnmnt Structure:

Repetitive manufacturing

REM allowed Production line: Planning ID:

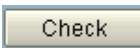
Other data

Other header mat.: Issue stor. location:

Distribution Key: Receiv. location:

OB Reference Materl: Default supply area:

Continue Previous Version Next Version Cancel

Click 

Production Version Details

Version 14.01.2007/05:05:04

Material 9100-103 Plant 9100 Pune factory - A Ltd




Production version V01 Lock Not locked
 Valid from 14.01.2007 Valid to 31.12.9999
 Frm lot size 0 To lot size 9999,999,999.999
 Base UoM KG

Rate-based plng Task LstType 2 Task LstGrp 50000042 Alternative 1

| From period Frm lot size | To period To lot size | E W Error/warning description |
|-----------------------------|-----------------------------|-------------------------------|
| 14.01.2007 | 31.12.9999 99,999,999 KG | Task list exists |

BOM Alternative 1 Application 1

| From period Frm lot size | To period To lot size | E W Error/warning description |
|-----------------------------|---------------------------------|-------------------------------|
| 14.01.2007 | 31.12.9999 9999999999.999 KG | BOM exists |

Click 

Production Version Details

Production Version: V01 | Production version 1 | Check | 14.01.2007

Basic data

Prod.vers.locked: Not locked

From lot size: | To lot size: |

Valid from: 14.01.2007 | Valid to: 31.12.9999

Planning data

| | Task List Type | Group | Group Counter | Check stat |
|---------------------|-----------------|----------|---------------|------------|
| Detailed planning | | | | |
| Rate-based planning | 2 Master Recipe | 50000042 | 1 | ○○○● |
| Rough-cut planning | | | | |

Bill of material

Alternative BOM: 1 | BOM Usage: 1 | ○○○●

Apporntmnt Structure: |

Repetitive manufacturing

REM allowed | Production line: | Planning ID: |

Other data

Other header mat: | Issue stor. location: |

Distribution Key: | Receiv. location: |

OB Reference Materl: | Default supply area: |

Continue Previous Version Next Version Cancel

Click

Click

Click on 

The first production version 1 is by default picked up while executing standard cost estimate.

In case you want to have a Standard costestimate taking the average of both the production version you need to configure mixed costing.

Mixed Cost estimate configuration and master data maintenance is covered in our SAP FICO configuration CD set.

7. Maintain Overhead rates

In case overheads have been configured then you need to maintain the overhead rates as a part of master data.

Overheads can be calculated as a % of Material costs or as a % of wages. It can also be calculated based on quantity of raw material.

The overheads configured in our scenario are production overhead which is 4% of wages.

This is maintained by the costing department every year.

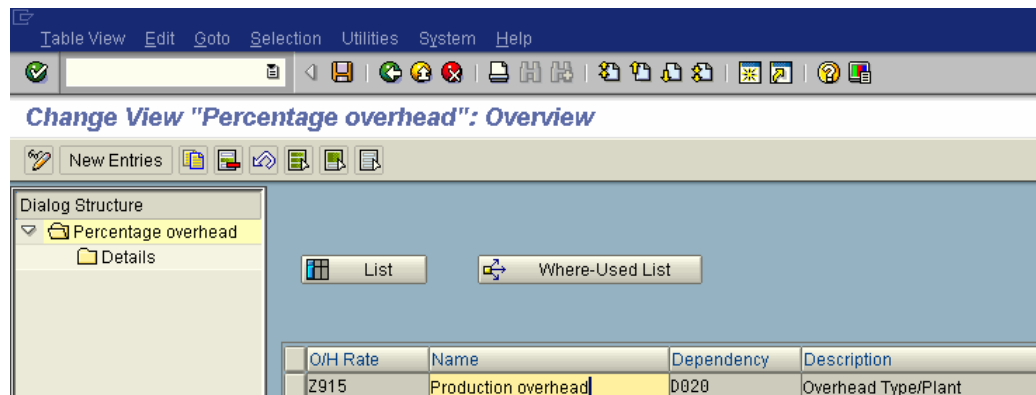
A costing sheet must have been configured for this to work. **The configuration of the costing sheet has been covered in detailed in the Product costing CD of the SAP FICO configuration CD set.**

Transaction code: S_ALR_87008275

Or

Path:

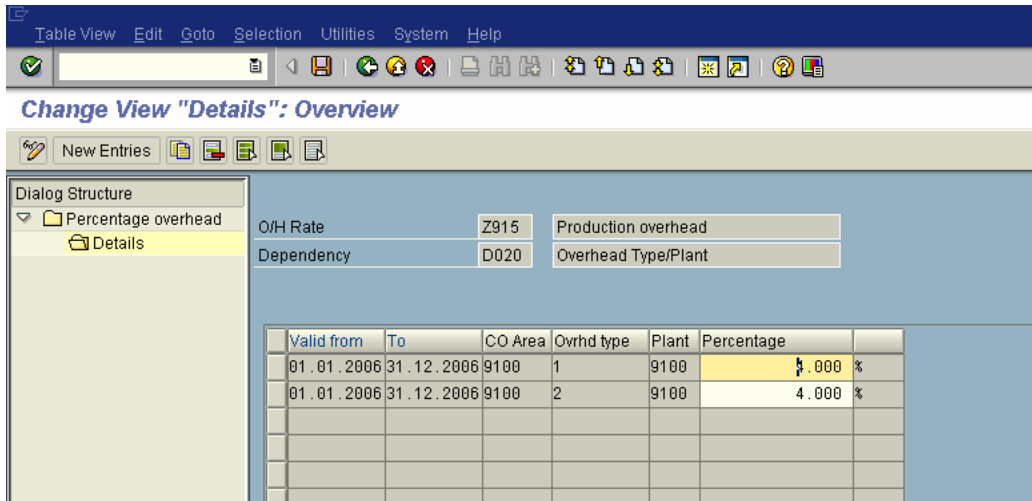
SAP menu → Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Current Settings → S_ALR_87008275 - Define Percentage Overhead Rate



Select

| O/H Rate | Name | Dependency | Description |
|----------|---------------------|------------|---------------------|
| 2915 | Production overhead | D020 | Overhead Type/Plant |

Click  Details

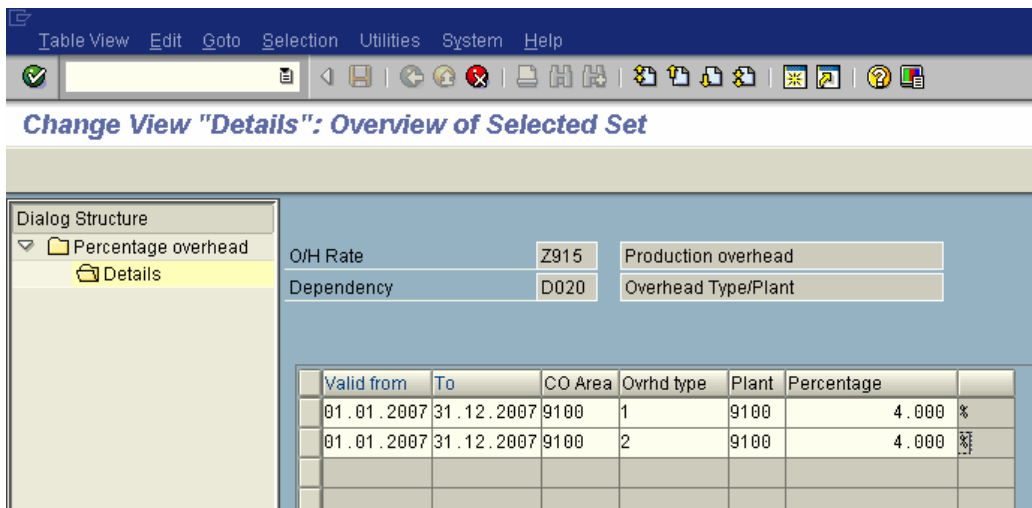


Select

| Valid from | To | CO Area | Ovrhd type | Plant | Percentage |
|------------|------------|---------|------------|-------|------------|
| 01.01.2006 | 31.12.2006 | 9100 | 1 | 9100 | 4.000 % |
| 01.01.2006 | 31.12.2006 | 9100 | 2 | 9100 | 4.000 % |

Click

Update for the year 2007



Click

Click on

You are now ready to run the standard cost estimate, provided all the product costing configuration is in place.