

Actual Costing/Material Ledger (CO-PC-ACT)



HELP.COPCACT

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Actual Costing/Material Ledger (CO-PC-ACT)

Actual Costing / Material Ledger

Purpose of Actual Costing/Material Ledger

Objectives

The application component *Actual Costing/Material Ledger* fulfills two basic objectives: The ability to carry material prices in multiple currencies/valuations, and actual costing.

Multiple Currencies / Valuations

A fundamental task of the material ledger is carrying inventories in multiple currencies and/or valuations.

Material inventory values are normally carried by the SAP system in one currency. The material ledger component enables the R/3 System to carry inventory values in two additional currencies/valuations. Therefore, all goods movements in the material ledger are performed in up to 3 currencies or valuations. Currency amounts are translated into foreign currencies at historical exchange rates directly at the time of posting. Businesses such as those in high-inflation countries can therefore carry their inventories in a more stable currency (such as US dollars). This reveals inflationary effects on inventory values.



If you use transfer prices to represent value flows in your company in different valuation views, you must use the material ledger. This allows you to carry your inventories in three different valuations (legal valuation, valuation for reporting purposes, and profit center valuation).



Before activating the material ledger, make sure you know which currencies and valuations you want to use, because you cannot go back and change the setting.



Activating the material ledger is a prerequisite for using multiple valuations.

Actual Costing

Actual costing expands upon the functionality of the application components with the purpose of determining actual costs for externally procured materials and materials produced in-house. In addition, actual costing uses actual costs to value material inventories, such as raw materials as well as semifinished and finished products.

Actual costing calculates an actual price (periodic unit price) for each material, into which all actual costs for the particular period flow.

Concept Behind Actual Costing

When you use actual costing, all goods movements within a period are valued preliminarily at the standard price. At the same time, all price and exchange rate differences for the material are collected in the material ledger.

At the end of the period, an actual price is calculated for each material based on the actual costs of the particular period. The actual price that is calculated is called the *periodic unit price* and can be used to revalue the inventory for the period to be closed. In addition, you can use this actual price as the standard price for the next period. (See also: [Price Changes \[Page 96\]](#))

Actual costing determines what portion of the variance is to be debited to the next-highest level using material consumption. With the actual BOM, variances can be rolled up over multiple production levels all the way to the finished product. Additionally, you can choose to have variances from cost centers and business processes also taken into account. (See: [Activate Actual Costing \[Ext.\]](#)).



Note that the portion of the variance that is to be allocated to consumption can only be allocated to the next-highest production level. If material consumption was assigned directly to a cost center or an internal order, that corresponding portion of the variance cannot be debited to the account assignment object (such as the cost center) and therefore remains in the particular price difference account.

Subsequent allocation of the cost variances to the particular cost objects is not possible within the context of *Actual Costing*. This is to ensure consistent cost management within a production area.

Valuating the material inventories at the periodic unit price provides a method of valuation using actual costs while avoiding the problems associated with the moving average price (see: [Price Control with and without the Material Ledger \[Page 20\]](#)). Preliminary valuation of goods movements using the standard price makes consistent and reliable cost management of your production process possible while revealing the variances within production. *Actual Costing* therefore combines the advantages of price control using the standard price with the advantages of using the moving average price. The period dependency of the actual price supports periodic cost management.

Revaluating inventories at the end of the period with the periodic unit price is optional. Therefore, the functions of actual costing can not only be used to run actual costing itself, they can also be used for informational purposes in conjunction with other cost accounting systems. The *Actual Costing/Material Ledger* component therefore does not just collect and calculate actual costs – it also tracks variances from the standard costs.

Due to the ability of actual costing to roll up costs and perform final costing at actual costs, it is particularly interesting for businesses that use a large number of raw materials with production processes that have multiple levels. Businesses that have high inventory levels and are interested in analyzing their inventory and consumption cost variances more closely can also use the functionality of actual costing.

By calculating actual prices for materials, actual costing can aid you in making decisions such as whether to manufacture in-house or outsource. Because data is updated at the level of the [procurement alternatives \[Ext.\]](#) in actual costing, it is possible to compare different sources of supply.

Actual Costing/Material Ledger Is Active

Activation Options

If you just want to use the *Actual Costing/Material Ledger* component to carry material inventory values in multiple currencies/valuations, you must activate the material ledger. In addition, you can choose [transaction-based price determination \[Page 57\]](#) (indicator 'price determination' in material master record = 2). If you do this, you still have the option of deciding between price control *standard price* and *moving average price* for your materials. Note the suggestions from SAP regarding this in [Price Control with and without the Material Ledger \[Page 20\]](#).

If you want the system to calculate a periodic unit price for your materials based on the actual costs incurred in a period, you will need to activate actual costing in addition to activating the material ledger. In addition, you must choose single-level/multilevel price determination for your materials (*price determination* indicator in material master record = 3). In this case, you must use price control *standard price* for all materials that you want to use in actual costing.

See also: [Single-Level Material Price Determination \[Page 52\]](#)

[Multilevel Material Price Determination \[Page 55\]](#)

[Periodic Material Valuation \[Ext.\]](#)

[Multilevel Actual Costing \[Page 59\]](#)

If you want to include variances from cost centers and business processes in addition to the material cost variances in actual costing, you must activate activity consumption update in the quantity structure in addition to activating actual costing (see [Activate Actual Costing \[Ext.\]](#)).

Constraints

If you use the *Actual Costing/Material Ledger* component, you must also use *Logistics invoice verification* because ordinary invoice verification does not support the *Actual Costing/Material Ledger* component.

Furthermore, the *Actual Costing/Material Ledger* application component cannot be used with the SAP Industry Business Solution *SAP Retail*.

Actual Costing/Material Ledger Is Active

The Material Ledger Is Active

If you have activated the material ledger in a plant, you can update valued goods movements in multiple currencies and valuations.

For more information, see [Multiple Currencies and Valuations for Materials \[Page 12\]](#).



When you have activated the material ledger, you can choose between the following:

- [Transaction-based material price determination \[Page 57\]](#)
- Periodic material price determination

If you want to determine material prices **by period**, you can choose between the following:

- Single-level material price determination

Actual Costing/Material Ledger Is Active

- Multilevel material price determination

If you want to use **single-level material price determination**, see the following for more information:

- [Periodic Material Valuation \[Ext.\]](#)
- [Multilevel Actual Costing \[Page 59\]](#)

If you want to use **multilevel material price determination**, see [Multilevel Actual Costing \[Page 59\]](#).

See also: [Price Control and Material Price Determination \[Page 26\]](#)

Prerequisites for Periodic Material Price Determination

If you want to perform **single-level** material price determination for a material, make sure that the following prerequisites are fulfilled:

1. The material ledger is active for the material.
2. The price control indicator in the material's master record is set to **S**.
3. The price determination indicator in the material's master record is set to **3**.

If you want to perform **multilevel** material price determination, make sure that **actual costing** is **active**.

Constraints



The material ledger only supports active ingredient management for transaction-based material price determination.

See [Actual Costing / Material Ledger \[Page 8\]](#) for detailed background information.

Multiple Currencies and Valuations for Materials

Multiple Currencies and Valuations for Materials

Purpose

Using the component *Actual Costing/Material Ledger*, you can manage values for materials in up to three currencies. If you use the parallel valuation functions, the values in each currency can also represent a separate valuation view (such as legal valuation, group valuation, and profit center valuation).

The combination currency/valuation is also called a valuation approach.

Integration

The system enables **historical currency translation** for valuation-relevant transactions. This means that items are translated using the exchange rate that was valid at the time of posting that item.

Currency amounts that come from stock valuation, invoice verification, material cost estimates and order settlement are translated into the other currencies in the respective areas and updated in the material ledger.



You post an invoice receipt. The system translates the amount into the currencies managed in the material ledger at the current exchange rate.



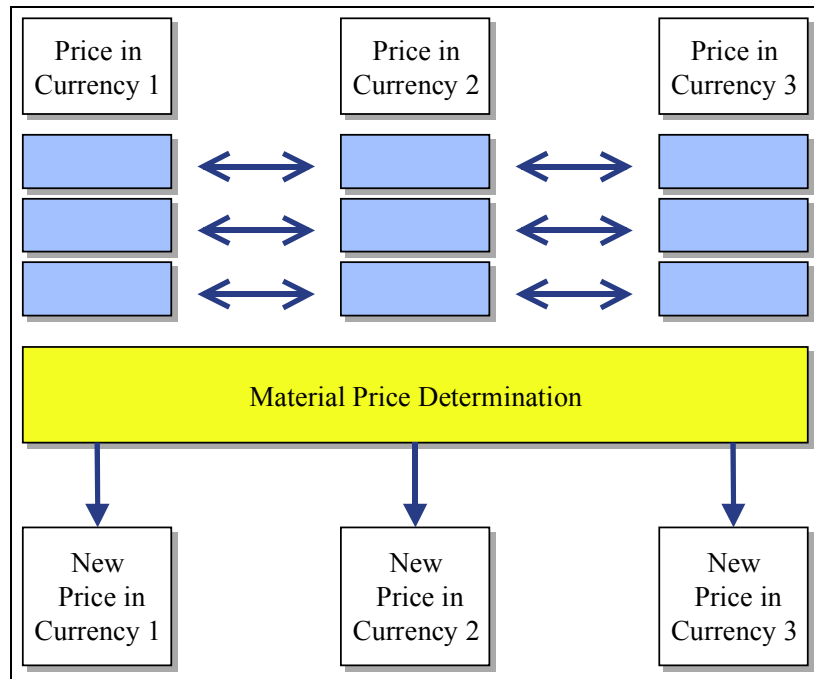
You settle a production order that is managed in two currencies/valuations. The values in the production order correspond to currencies/valuations that are managed in the material ledger. These values are not translated in the material ledger, but rather transferred directly. The amount in the third currency is translated from the company code currency using the average rate.



You mark a standard cost estimate, which has results in two currencies/valuations. The results are not translated in the material ledger, but rather transferred directly. The amount in the third currency is translated using the amount in the company code currency and the exchange rate at the time of marking.

For the actual costing, the system calculates new valuation prices and new inventory values **independently** of each other in the different currencies/valuations.

Multiple Currencies and Valuations for Materials



This procedure also means that over a period of time the price of a material could rise in one currency while falling in another.



In Customizing for Financial Accounting, you can determine whether translations should be made starting from the transaction currency (currency in which an individual document is generated in the system) or from the company code currency. You can also determine which exchange rate type should be used for the translation (for example, the average rate).

Features

In the standard system, exchange rate differences are calculated by comparing the exchange rates at goods receipt and invoice receipt. In Customizing for Invoice Verification, you can specify that exchange rate differences should not be calculated using the exchange rate at goods receipt, but with an assumed exchange rate, which can be valid (for example) for a whole year or a part of a year. Using these Customizing settings, you can also specify that all exchange rate differences are to be regarded as price differences.

See also:

[Multiple Value Flows in Financials \[Ext.\]](#)

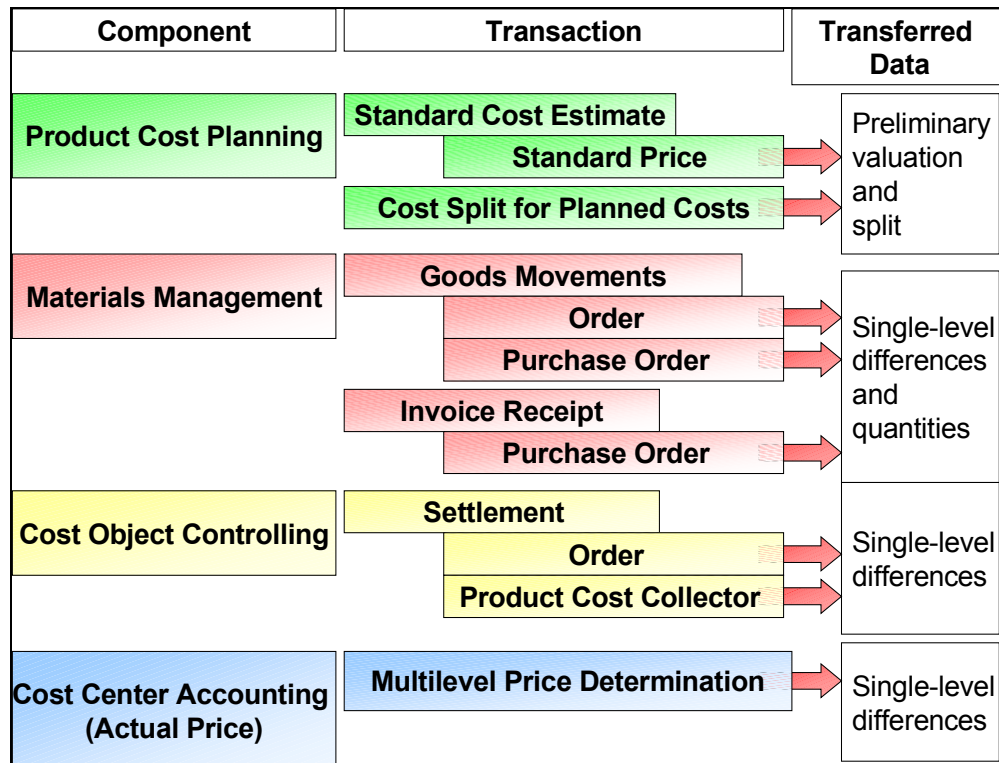
[Multiple Values for Material Inventory with the Material Ledger \[Ext.\]](#)

Value Flow into the Actual Costing/Material Ledger Component

Value Flow into the Actual Costing/Material Ledger Component

This unit describes how quantity-based actual costs are transferred into the *Actual Costing/Material Ledger* component from other SAP components.

The *Actual Costing/Material Ledger* component carries parallel valuations and calculates prices by means of single-level and multilevel actual costing.



Materials Management:

- Goods movements and invoice receipts are created in *Materials Management* and valued in the *Actual Costing/Material Ledger* component on the basis of the selected price control. This process can result in single-level price differences and exchange rate differences on the material. If the material is used in higher manufacturing levels, these differences are allocated to the higher levels as multilevel price differences and exchange rate differences.
- Price changes result in single-level price differences on the material.

Product Cost Planning:

The *Actual Costing/Material Ledger* component can receive the standard price for preliminary valuation from a standard cost estimate. When a cost component split for planned costs is created in *Product Cost Planning*, this data is transferred to *Actual Costing/Material Ledger* as the preliminary valuation of the cost component split.

Cost Object Controlling:

Value Flow into the Actual Costing/Material Ledger Component

The settlement of orders or product cost collectors in the period-end closing process can result in single-level price differences on the material. If the material is used in higher manufacturing levels, these differences are allocated to the higher levels as multilevel price differences.

Cost Center Accounting:

In Customizing for *Actual Costing/Material Ledger*, activity update can be activated so that the consumption of activities can be updated in the quantity structure. If the activity update option *relevant to price determination* has been selected, price differences can arise on the material after actual price determination.

Value Flow out of the Actual Costing/Material Ledger Component

Value Flow out of the Actual Costing/Material Ledger Component

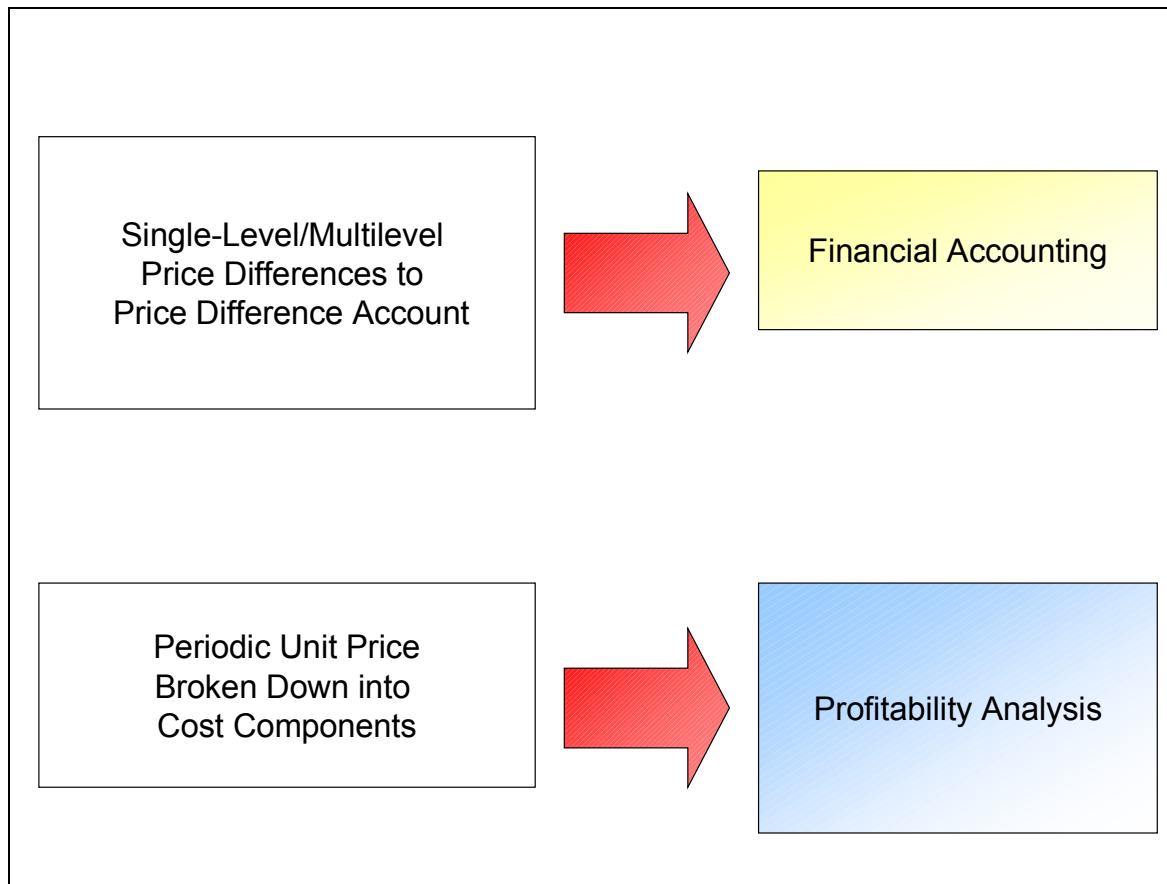
This unit describes how data is transferred from the *Actual Costing/Material Ledger* component to other SAP components.

Financial Accounting:

Price differences and exchange rate differences are updated in *Financial Accounting* in the price difference accounts and exchange rate difference accounts. Single-level material price determination distributes the differences from the price difference account to the material ledger categories *consumption* and *ending inventory*. Only when the closing entry is made in the case of revaluation are differences of the ending inventory posted to the balance sheet account in *Financial Accounting*.

Profitability Analysis:

The *Actual Costing/Material Ledger* component transfers actual prices and data of the actual cost split to *Profitability Analysis*.



Plant, Company Code, and Valuation Area



You have defined the plant or company code as the valuation area in Customizing under *Enterprise Structure* → *Definition* → *Logistics-General* → *Define Valuation Level*. All valuations, updates and displays take place at the level of this valuation area. This setting is valid for all clients.

The following documentation will use the term **plant** instead of valuation area or plant/company code.

Plant, Company Code, and Valuation Area

Price Control

Use

In the SAP System, there are two types of price control:

- Standard price
- Moving average price

These two types of price control differ in how they handle price variances resulting from goods receipts or invoice receipts.

Integration

You determine the price control that should be used for a material when you create the material and enter the accounting data for it. You enter one of the following indicators in the *Price control* field to determine how the price is controlled:

- **S** for standard price control
- **V** for moving average price control

Features

Standard Price

Valuation using a **standard price** has the following features:

- All inventory postings are carried out at the standard price
- Variances are posted to price difference accounts
- Variances are updated
- Price changes can be monitored

If a material is assigned a standard price (S), the value of the material is always calculated at this price. If goods movements or invoice receipts contain a price that differs from the standard price, the differences are posted to a price difference account. The variance is not taken into account in valuation.

For more information, see [Standard Price: Value Calculation \[Ext.\]](#).

Moving Average Price

Valuation using a **moving average price** results in the following:

- Goods receipts are posted at the goods receipt value.
- The price in the material master is adjusted to the delivered price.
- Price differences occur only in exceptional circumstances.
- Manual price changes are usually unnecessary. However, they are possible.

If a material is assigned a moving average price (MAP), the price is automatically adjusted in the material master record when price variances occur. If goods movements or invoice receipts are posted using a price that differs from the moving average price, the differences are posted to the stock account; as a result, the moving average price and the value of the stock change.



The moving average price displayed in the material master record is rounded off. For valuation calculations, the system always uses the exact price (stock value / stock quantity).

For more information, see [Moving Average Price: Value Calculation \[Ext.\]](#).

See also:

[Changing the Type of Price Control \[Page 31\]](#)

Price Control with and Without the Material Ledger

Price Control with and Without the Material Ledger

Use

How materials are valued in the SAP system essentially depends on the price control that was set for the material in the material master. You can choose between a valuation at the standard price (S price) or at the moving average price (V price).

When using the Material Ledger, you have the possibility of combining the advantages of standard price control and moving average price control. For more information, see [Price Control and Material Price Determination \[Page 26\]](#).

Standard Price versus Moving Average Price

With moving average price control, a new material price is calculated after every goods receipt, invoice receipt, and/or order settlement. This material price is an average value calculated from the total inventory value and the total quantity of the material in stock.

With standard price control, goods movements are valued with a price that remains constant for at least one period. The standard price that is assigned to a material is usually the result of a standard cost estimate.

The main difference between the two valuation procedures is that the moving average price represents a current delivered price while the standard price is based on planned values and not actual values. Differences between the planned price and the actual prices are not assigned to the material stock in Financial Accounting, but rather are assigned to a price difference account. When using the moving average price, however, the material stock value in *Financial Accounting* can reflect the prices actually incurred.

The moving average price has its disadvantages, however, in many situations. These situations will be discussed in greater detail in the following text.



Use the component *Actual Costing/Material Ledger* to ensure a method of cost management that uses the most current data to calculate your actual material costs. You can use this component to calculate an average price at the end of the period using the actual costs incurred in that period. You can then use this average price to value the material stock in the period in question. The standard price is used for preliminary material valuation in the *Actual Costing/Material Ledger* component (see also: [Actual Costing / Material Ledger \[Page 8\]](#)).

In the following text, problems that could result from valuating materials with the moving average price are illustrated in conjunction with a comparison of advantages and disadvantages of both methods of price control. You can avoid the problems that arise when using the standard price for material valuation by using the component *Actual Costing/Material Ledger*. In addition, there will be some recommendations from SAP as to which price control to use.

Advantages of the Standard Price

When using the standard price, all goods movements of a material are valued with the same price over at least one period. Therefore, the standard price ensures consistent cost management of the production process and makes variances within production transparent. A periodic price (standard price) is especially useful when working with cost management by period.

Price Control with and Without the Material Ledger

The standard price can also be used as a benchmark by which you can measure different methods of production, or compare the contribution margins of a material in different market segments in Profitability Analysis.

Disadvantages of the Standard Price

Because the standard price is held constant for an entire period, it does not reflect the actual costs incurred during the period. This can lead to inexact valuation prices for materials whose procurement prices change a great deal over a period, or whose method of production changes within a period.

This problem increases in multilevel production with each new production step. This means that the costs for the finished product may not reflect the most recent data.

The material stock value does not reflect the current procurement costs, as variances from the standard price are collected in a price difference account in *Financial Accounting* and do not lead to a correction of the material stock account. The variances collected in the price difference account can no longer be assigned to the individual material.



If you use *split valuation* for materials, please note that you can only release the material price at the header level of a material (not at the level of the valuation type) when calculating a material price in *Product Cost Planning*.

Advantages of the Moving Average Price

The advantage of using the moving average price is that variances occurring both for materials produced in-house as well as materials procured externally cause an update in the material price and the material stock value. Because the material price reflects the average procurement cost of a material, material issues could, in principle, be valued with the current price.

Only in special cases are variances allocated to a price difference account in *Financial Accounting* rather than to the material stock.



The advantages of the moving average price are seen only if: you are looking at the material valuation data at the lowest production level; all variances occur immediately; the material price is not distorted by the sequence of postings by the system.

Disadvantages of the Moving Average Price

The main disadvantage of using the moving average price is that the price used to value a material consumption is almost completely dependent on the time at which the goods issue is posted in the system. If, for example, an invoice receipt is posted in the system **after** a goods issue was entered, that invoice value is not reflected in the value of the material issued. The material is therefore not valued with its actual procurement cost.

The moving average price also does little to guarantee **consistent** cost management of your production process. The effect of changes in the production process, for example, are not recognizable in the finished product, and comparing results from different areas in *Profitability Analysis* is not really meaningful due to lack of a benchmark.

The fact that the moving average price is not dependent on the period can also lead to incorrect material valuation, as goods movements that are posted to a previous period are not valued

Price Control with and Without the Material Ledger

with the price from that period, but rather with the current moving average price. Another problem with the moving average price is that any mistake entering data can cause immediate and unwanted changes in the material price. Any goods issues posted following this error will be valued immediately with this incorrect material price.

In particular, the moving average price can lead to unrealistic material prices in cases of multi-level production or when there are variances that do not appear immediately. Such unrealistic prices occur, for example, when, in the context of stock coverage, a subsequent adjustment to the material stock occurs using an incorrect base quantity. For more information, see [Valuation with the Moving Average Price \[Page 28\]](#).

Price Control with the Material Ledger

When using the application component *Actual Costing/Material Ledger*, you only use the standard price as a preliminary valuation price in the current period. At the end of the period, you can use this component to calculate an average price for the material using the actual costs incurred in that period. You can then use this average price to value the material stock in the period in question. *Actual Costing/Material Ledger*, therefore, combines the advantages of price control using the standard price and the moving average price.



If you use Actual Costing/Material Ledger, you should also use standard price control of raw materials and trading goods to ensure consistent cost management of your production process. Only in this way are variances completely transparent within production!

You can find more information about the goals of *Actual Costing/Material Ledger* under [Actual Costing / Material Ledger \[Page 8\]](#).

Price Control without the Material Ledger

The following example represents postings in *Financial Accounting* resulting from a goods receipt or an invoice receipt, whereby the invoice price varies from the purchase order price for the material. In the first example, the postings occur for a material valued with the standard price; in the second example, the material is valued with the moving average price:

Example 1

Price Control with and Without the Material Ledger

Posting at the Standard Price

	Transaction	Inventory		Tot. Val.	Std Pr.	Mov.Avg.Pr
(1)	Beginning Situation	100		200,00	2,00	2,00
(2)	GR from POs:	100	@ 2,40	400,00	2,00	2,20

Balance Sheet Acct (BSX)		GR/IR Clearing Acct (WRX)	
(1)	200,00		
(2)	200,00		240,00 (2)
Price Difference Acct (PRD)		Vendor/General Ledger	
(2)	40,00		

- ◆ Goods received are valued at the standard price in the material master and updated in the balance sheet account.
- ◆ The GR/IR clearing account is updated at the purchase order price.
- ◆ The difference between the purchase order price and the standard price is posted to the price difference account.

©

Posting at the Standard Price

	Transaction	Inventory		Total Value	Std Pr.	Mov.Avg.Pr.
(1)	Beginning Situation	100		200,00	2,00	2,00
(2)	GR from POs:	100	@ 2,40	400,00	2,00	2,20
(3)	IR from POs:	100	@ 2,20	400,00	2,00	2,10

Balance Sheet Acct (BSX)		GR/IR Clearing Acct (WRX)	
(1)	200,00		
(2)	200,00		(3) 240,00 240,00(2)
Price Difference Acct (PRD)		Vendor/General Ledger	
(2)	40,00	20,00 (3)	
			220,00 (3)

- ◆ The GR/IR clearing account is cleared at the purchase order price.
- ◆ The vendor account is carried at the invoice price.
- ◆ The difference between the purchase order price and the invoice price is posted to the price difference account. The total inventory value is not changed.

Example 2

Price Control with and Without the Material Ledger

Posting at the Moving Average Price

	Transaction	Inventory		Total Value	Mvg.Avg.Pr.
(1)	Beginning Situation	100		200,00	2,00
(2)	GR for PO:	100	@ 2,40	440,00	2,20

Balance Sheet Acct (BSX)		GR/IR Clearing Acct (WRX)		Vendor/General Ledger	
(1)	200,00				
(2)	240,00		240,00 (2)		

- ◆ Inventory value, the balance sheet account and GR/IR clearing account are carried at the purchase order price.
- ◆ The moving average price is recalculated based on the new stock value.
- ◆ There are no postings to the price difference account.

©

Posting at the Moving Average Price

	Transaction	Inventory		Total Value	Mov.Avg.Pr
(1)	Beginning Situation	100		200,00	2,00
(2)	GR from POs:	100	@ 2,40	440,00	2,20
(3)	IR from POs:	100	@ 2,20	420,00	2,10

Balance Sheet Acct (BSX)		GR/IR Clearing Acct (WRX)		Vendor/General Ledger	
(1)	200,00	20,00 (3)			
(2)	240,00	(3) 240,00	240,00(2)		220,00 (3)

- ◆ The GR/IR clearing account is cleared at the purchase order price. The vendor account is updated at the invoice price. The difference between the purchase order price and the invoice price is posted to the balance sheet account. The inventory value is recalculated based on the invoice price.
- ◆ The moving average price is recalculated based on the new inventory value.
- ◆ If the inventory quantity is smaller than the invoice quantity, a portion of the difference is posted to the account "Revenue/expense from price differences" instead of to the balance sheet account..

Price Control with and Without the Material Ledger

In these examples, it is clear that material stock value and material price reflect the procurement costs of a material with a valuation at moving average price, whereas these actual costs are not reflected in a valuation at standard price. A valuation at standard price does not account for price changes or changes in production methods during the period. Variances between the standard price and the actual procurement/manufacturing costs are collected in a price difference account in Financial Accounting and cannot be allocated to the individual materials any longer.

The moving average price, therefore, is more useful if you want your material stock values and material prices to reflect the most up-to-date data.

The moving average price appears advantageous in the above example primarily, because the material is externally procured and the example stuck to a single-level perspective.

When dealing with materials produced in-house and when looking at valuation data on a multilevel basis, the moving average price shows its limitations in that it can lead to unrealistic prices for semifinished and finished goods. In the case of multilevel production, the finished product cannot be valued with the most current actual prices, as the actual price for the semifinished product is first calculated at period end after settling the manufacturing order. Thus, any valuation errors grow as the production process gets longer.

Result

The problems described above show that the moving average price, despite its advantages can lead to problems. In particular, the moving average price can cause unrealistic valuations of material inventory when materials are produced in-house or when variances do not appear immediately.

On the other hand, the standard price does not take any actual procurement costs into account, which can be a problem, for example, with externally procured materials with highly variable prices.

For these reasons, SAP recommends using the moving average price only for raw materials and trading goods. The standard price should be used for semifinished and finished products.

See also:

[Price Control and Material Price Determination \[Page 26\]](#).

Price Control and Price Determination

Price Control and Price Determination

Use

The price control of a material determines whether the material is valued at the standard price, the periodic unit price, or the moving average price.

The *Price determination* indicator in the material master determines whether price determination is:

- Transaction-based
- Single-level / multilevel

These control parameters are in the *Accounting 1* view of the material's master record.

Default Values in Customizing

You can specify the default price control that is used when a material is created in Customizing under *Logistics - General* → *Material Master* → *Basic Settings* → *Material Types* → *Define Attributes of Material Types*.

Under *Actual Costing/Material Ledger* → *Activate Valuation Areas for the Material Ledger*, you can specify for each [plant \[Page 17\]](#) which price determination is used as a default when a material is created.

Features

If the material ledger is **not active**, two methods of price control are available:

- Standard price (price control indicator S)
- Moving average price (price control indicator V)

For more information about material valuation without the material ledger see *MM - Material Valuation* under [Material Valuation in the SAP System \[Ext.\]](#).

If the material ledger is **active**, the relevance of the price control of a material depends on its price determination indicator in the material master.

Combinations of Price Control and Price Determination

Price Determination	Price Control Indicator S	Price Control Indicator V
3 single-/multilevel	Standard price (with the moving average price for information)	Not an option as the valuation price of the current posting period If you reevaluate the material inventories at the time of the closing entry, the periodic unit price is stored as the valuation price for the closed posting period under price control indicator V.
2 transaction-based	Standard price (with the moving average price for information purposes)	Moving average price

For additional background information, see the following:

[Single-Level Material Price Determination \[Page 52\]](#)

[Multilevel Material Price Determination \[Page 55\]](#)

[Transaction-Based Material Price Determination \[Page 57\]](#)

For additional process flow information, see the following:

[Periodic Material Valuation \[Ext.\]](#)

[Multilevel Actual Costing \[Page 59\]](#)

Valuation with the Moving Average Price

Valuation with the Moving Average Price

In the following example, inventory is valued with the moving average price. The system analyses how stock coverage and stock shortage affect prices.

For more information on the standard price and moving average price, see [Price Control with and without the Material Ledger \[Page 20\]](#)

Problems with Stock Coverage

Example 1: Stock Coverage at Goods Receipt

1. In the current period, there are a number of goods receipts for a material that is valued with the moving average price:

Goods receipt 1: 100 pieces at \$1/pc.

Goods receipt 2: 100 pieces at \$1/pc.

Goods receipt 3: 100 pieces at \$1/pc.

Valuation data for the material:

<i>Inventory quantity: 300 pieces price: \$1</i>	<i>Inventory value: 300</i>	<i>Moving average</i>
--	-----------------------------	-----------------------

2. A goods issue occurs for 180 pieces of this material.

Valuation data for the material:

<i>Inventory quantity: 120 pieces price: \$1</i>	<i>Inventory value: 120</i>	<i>Moving average</i>
--	-----------------------------	-----------------------

3. In the invoice receipts for the goods receipts above, the invoice price varies from the purchase order price in all three cases:

Invoice receipt 1: 100 pieces at \$1.20/pc.

Invoice receipt 2: 100 pieces at \$1.20/pc.

Invoice receipt 3: 100 pieces at \$1.20/pc.

Because in all three cases there was adequate stock coverage at the time of the invoice receipt (inventory quantity is at least as large as the invoice quantity), the price variances from all three invoices are completely debited to inventory. In total, the remaining inventory quantity is debited with a variance of \$60. The individual orders do not check whether the remaining inventory quantity is also debited by other orders

Valuation data for the material:

<i>Inventory quantity: 120 pieces price: \$1.50</i>	<i>Inventory value: \$180</i>	<i>Moving average</i>
---	-------------------------------	-----------------------

The result is an excessively high valuation price for the material stock and subsequent material consumption, as all price variances from the various goods receipts flowed into the price.

Example 2: Stock Coverage at Order Settlement

During the settlement of variances on manufacturing orders, the system checks whether a corresponding stock coverage exists for the respective material. If multiple manufacturing orders were completed during a period and the material stock at the end of the period is smaller than the sum of the receipts from production orders, variances from all production orders are allocated to the material stock, assuming adequate stock coverage.

The individual orders do not check whether the period ending inventory was already debited with variances from another order!

1. One piece of material FERT is produced per day for 10 days in one period and delivered to stock at a price of \$100.

Valuation data for the material:

<i>Inventory quantity: 10 pieces</i>	<i>Inventory value: 100 USD</i>	<i>Moving</i>
<i>average price: 10 USD</i>		

2. There is only 1 piece left in material stock at period end. A variance of \$10 is calculated for each production order. Each individual production order checks stock coverage and determines that the variances can be posted completely to stock.

Valuation data for the material at period end:

<i>Inventory quantity: 1 piece</i>	<i>Inventory value: 200 USD</i>	<i>Moving</i>
<i>average price: 200 USD</i>		

The ending inventory of 1 piece is debited by \$100 and the moving average price for material FERT becomes \$200.

Thus, the remaining material inventory is charged with variances that it didn't even cause, resulting in an unrealistic price. Subsequent consumption is also valued using this inflated price. The material stock value no longer reflects the actual cost of goods manufactured.

The system reacts differently if it discovers a stock shortage.

Problems with Stock Shortage

Example 3: Stock Shortage at Invoice Receipt

If the invoiced amount of an externally procured material is less than the amount with which the goods receipt is valued, the invoice receipt should correct the material price by reducing the value of the material stock. If, however, there is a stock shortage at the time of the invoice receipt, the stock value is only reduced proportionally; the remaining amount is posted to the price difference account in *Financial Accounting*.

Example 4: Stock Shortage at Order Settlement

Goods Receipt for the Order:

1. One piece of material FERT is produced per day for 10 days in one period and delivered to stock at a price of \$100.

Valuation data for the material:

Valuation with the Moving Average Price

Inventory quantity: 10 pieces *Inventory value: 100 USD* *Moving average price: 10 USD*

2. There is 1 piece left in material stock at period end. A variance of \$10 is calculated for each production order.

The variances of a manufacturing order, 100 USD, should be settled with a lot size of 10 pieces. There is only 1 piece of the material left in stock.

Thus, the material stock is only partially debited (with 10 USD).

Valuation data for the material:

Inventory quantity: 1 piece *Inventory value: 20 USD* *Moving average price: 20DM* *Price difference account: 90 USD*

No Goods Receipt for the Order:

If variances were calculated for a manufacturing order in one period even though there were no goods receipts for that order in that period (such as with follow-up costs) the entirety of these variances are posted to the price difference account. Here, it cannot be guaranteed the material stock value reflects the actual position.

Changing the Type of Price Control

Under certain conditions, you can change the type of price control:

- **From standard price to moving average price**

You can make this change at any time. The moving average price (which until now has been updated for informational purposes only) replaces the standard price and is used for valuation from now on.

- **From moving average price to standard price**

You cannot make this change in the following two cases:

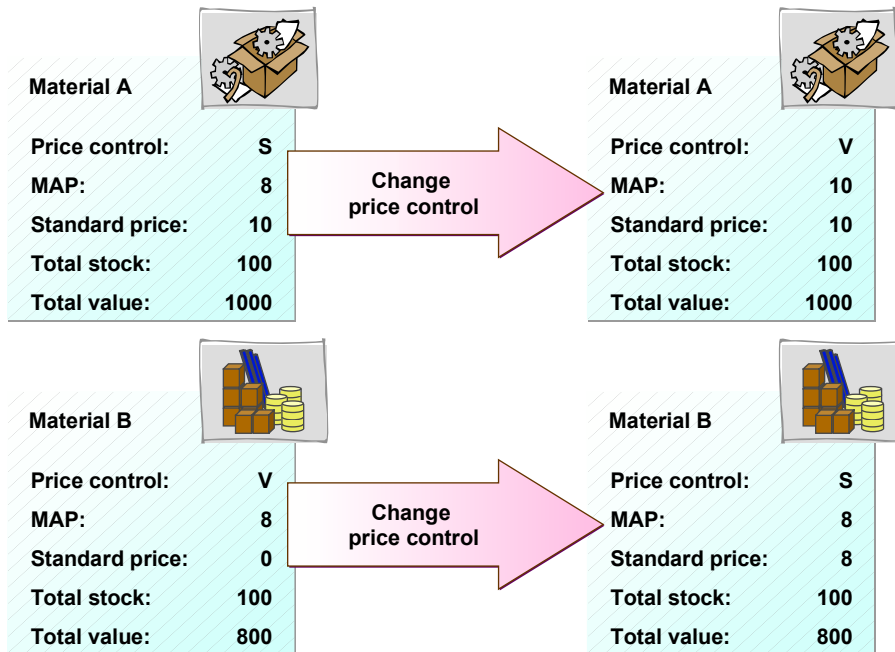
- If the material master record is set up as a valuation header record for a material subject to split valuation For more information, see [Split Valuation \[Ext.\]](#).
- If the standard price comes from costing and is not equal to the moving average price

If the change is possible, the moving average price becomes the standard price, which is then used for valuation.

You change the type of price control by overwriting the price control indicator in the material master record with the new indicator.

Changing the type of price control for a material does not change the value of the material stock, since in both cases the current price becomes the new price. This is shown in the following graphic:

Changing the Type of Price Control



Changing the Type of Price Control

Material Ledger Data

Definition

Material ledger data is valuation and control data for a material (with a particular valuation type, if applicable) in a [plant \[Page 17\]](#) for a particular posting period. Material ledger data also contains data for movements that are relevant to the valuation of the material. This data is collected in the material ledger as it is entered in the system.

Use

Material ledger data forms the **basis of actual costing** and is used to manage valuation prices in multiple currencies and valuations. Consequently, material ledger data supplements the material master record. In addition, material ledger data can refer to materials that are part of **sales order stock** and **project stock**.

Structure

The most important information in material ledger data is:

- Valuation price, inventory quantity, and inventory value in up to three currencies and/or valuations
- Indicator for price determination (as in the material master record)
- Control of the valuation prices (as in the material master record)
- [Period status \[Page 47\]](#) of the material

Integration

Using material ledger data, the system collects information on material movements (such as goods receipts and invoice receipts) in each period at historical exchange rates. This data is used during material price determination to calculate new valuation prices for the material. Then, the material stock account is reconciled in multiple currencies with the accounts in Financial Accounting.

If the material ledger is active for a particular plant (and consequently for all materials in that plant), material ledger data is **automatically** created upon the creation of the material master record or upon production startup. You can see whether the material ledger is active by looking in the accounting view of the material master record.

For more information, see [Checking the Material Master for the Material Ledger \[Page 34\]](#).

Checking the Material Master for the Material Ledger

Checking the Material Master for the Material Ledger

Prerequisites

Certain prerequisites in Customizing must be met in order to value a material using the material ledger:

- The material ledger must be active for the material.
- The material must be assigned to a valuation class.
- The material type must allow the material's valuation to be updated.

Procedure

1. Check the following indicators and fields in the material master record (of the material) in the *Accounting 1* view:
 - a. *ML act.* (material ledger active)
 - b. *Price determination*
 - c. *Price control*
 - d. *Valuation class*
2. Check the following fields in the material master record:
 - a. in the *Accounting 1* view, check the *Future price* field in connection with the *Valid from* field
 - b. in the *Costing 2* view, check the future planned price.

These fields can contain prices that you can activate upon price determination.

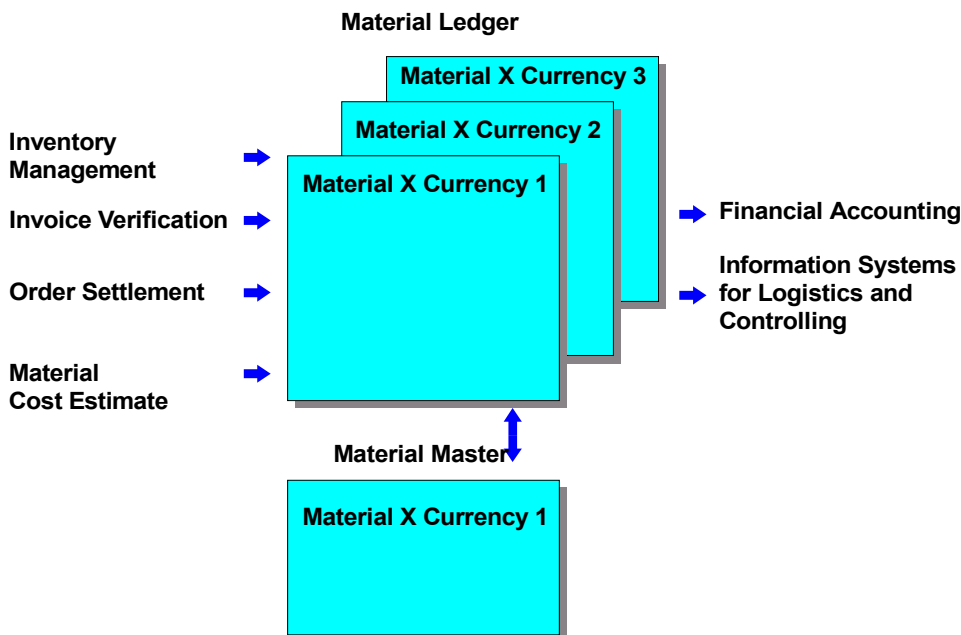
3. Check the detail display of the view *Material Types* in Customizing under *Logistics - General* → *Material Master* → *Basic Settings* → *Material Types* → *Define Attributes of Material Types*.
 - In the view *Quantity/Value Updating*, select the fields *Quantity Update* and *Value Update* for each valuation view and material type.

Collecting Actual Data for the Material Ledger

Purpose

When the material ledger is active, the system automatically collects specific information on valuation-relevant transactions and account postings from inventory management, invoice verification and order settlement, and uses this data during material price determination.

This automatic collection of data from accounts and the subsequent transfer of the data to the material ledger is called the material ledger update. The data is collected in the material ledger in up to three currencies and valuation views.



The differences are posted as follows:

- Price differences
Inventory (transaction key BSX) against price differences (transaction key PRY)
- Exchange rate differences
Inventory (transaction key BSX) against exchange rate differences (transaction key KDM)
- Differences from revaluations
Inventory (transaction key BSX) against revaluations (transaction key UMB)

Consumption (withdrawal for a production order or a cost center, for example) is always posted at the current valuation price and collected in the material ledger. No differences occur in this case. You can see this consumption under *Other inward/outward movements* in the material ledger data display.

Collecting Actual Data for the Material Ledger

Prerequisites

Data is collected in the material ledger for all materials for which the material ledger is active, independent of the material's price determination.

Materials with Price Determination Control 3 (single-/multi-level)

1. Valuation-relevant transactions are posted in the system.
2. The system collects the data in the material ledger.
3. You perform material price determination **once every posting period**.

The system uses the method of the weighted average price to calculate the **periodic unit price** in all currencies and/or valuations for the closed posting period. This does not change the valuation price (standard price) of the current posting period.

With single-level price determination, you can influence how the periodic unit price is calculated by determining how the data is collected. You can specify this through a material update structure in Customizing of *Actual Costing/Material Ledger*.

In Customizing under *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Update* you carry out the following steps:

- Define the movement type groups of the material ledger
- Assign the movement type groups of the material ledger
- Define the update structure

In this step, you assign the movement type groups to one of the following categories.

- Receipts
- Other inward/outward movements
- Consumption

By defining which transactions flow into which categories, you can separate withdrawals that you want to have an effect on the periodic unit price from other withdrawals that should not, for example.

Materials with Price Determination Control 2 (transaction-based)

1. A valuation-relevant transaction is posted in the system.
2. The system collects the data in the material ledger.
3. The system **automatically** performs price determination for the material after that posting.

The system calculates the **moving average price** in all the appropriate currencies and/or valuations. If the price control is set to V, this price is used for valuation. If the price control is set to S, the moving average price is only updated in the material master for statistical purposes.

Result:

The posting logic of transaction-based price determination corresponds to that of the system without the material ledger.

For more information about the posting logic without the material ledger, see *MM - Material Valuation* under [Material Valuation in the SAP System \[Ext.\]](#).

See also:

[Single-Level Material Price Determination \[Page 52\]](#)

[Multilevel Material Price Determination \[Page 55\]](#)

[Transaction-Based Material Price Determination \[Page 57\]](#)

[Example: Single-Level Material Price Determination \[Page 119\]](#)

[Example: Multilevel Material Price Determination \[Page 121\]](#)

Updating the Actual Quantity Structure

Updating the Actual Quantity Structure

Use

This internal function is the preliminary step for periodic actual costing. To determine the [quantity structure \[Ext.\]](#), the system collects actual data from movements and transactions from all areas of Logistics (Materials Management, Production Planning, for example). It does this in the background.

Prerequisites

You must activate actual costing for the relevant plants in Customizing for *Actual Costing/Material Ledger*. As soon as you activate the actual costing the system updates the actual quantity structure.

Features

Creating the quantity structure involves:

Collecting actual data in Logistics (such as goods movements, production orders, sales orders and invoice receipts)

For more information, see [Collecting Actual Data for the Material Ledger \[Page 35\]](#).

Internally, the system creates [procurement alternatives \[Page 146\]](#), [consumption alternatives \[Page 161\]](#), and [procurement processes \[Page 135\]](#). The level of detail in which procurement alternatives and procurement processes are created depends on the [controlling level \[Page 130\]](#). This controls the update of movements and transactions for actual costing.

Preparing this actual data for purposes such as determining the internal costing sequence for mixed costing or periodic actual costing. This takes place during actual costing. The actual data is prepared during the step [Determining the Costing Sequence \[Page 66\]](#).

See also:

[Relationship Between Procurement Alternatives, Procurement Process, and Production Process \[Page 159\]](#)

Material Price Analysis

Use

Material price analysis shows the valuated transactions and the results of material price determination with price and exchange-rate differences for a given material in a plant in a period within a *price determination structure*. Data is displayed according to [process categories \[Page 137\]](#) and [procurement alternatives \[Page 146\]](#). The line items can be found under the procurement alternatives.

Features

With *price determination control 3*, the material ledger data is divided into the following categories:

- Beginning inventory
- Receipts
- Cumulated inventory
- Consumption
- Ending inventory

The transactions controlled through the movement types in Customizing are displayed in the category *Other inward/outward movements*.

With *price determination control 2*, valuation-relevant transactions are listed in the *price history*. If these transactions are displayed in the price determination structure, then the category *Price changes* also appears in the display.

Material Price Analysis

Material Price Analysis

Material
Plant
Period/Year **Period status**
Prices and Inventory Values:
Inventory quantity
Inventory value
Indicator for material price determination
Control of the valuation price

Categories:

Beginning inventory
 Receipts
 Other receipts/consumption
 Cumulative inventory
 Consumption
 Ending inventory

Integration

From *material price analysis*, you can branch to a multilevel procurement or multilevel consumption in the *actual BOM*. From the *actual BOM*, you can branch to the *activity price display*. In the *activity price display*, you can compare the plan prices with the actual prices in the currencies carried by the material ledger. The actual price **before** multilevel price determination corresponds to the preliminary valuation. The actual activity prices are only displayed **after** multilevel price determination if the indicator *Activity update relevant to price determination* is set in Customizing for *Actual Costing/Material Ledger*.

Cost Components

The *Cost Components* report shows the data of *material price analysis* broken down into cost components. The data is displayed in accordance with the period status in all set currencies and valuations.

Prerequisites

The *actual cost component split* is active.

For more information, see [Actual Cost Component Split \[Page 89\]](#).

 **Plan/Actual Comparison****Use**

This report analyzes variances of materials in mixed costing. In the pane *Variances of Alternatives*, you can analyze the price variances that arose at the level of procurement alternatives. In the *Mix Variances* pane, you analyze the mix variances caused by the changed mixing ratios.

The display shows cost components in accordance with the period status in all selected valuations.

Prerequisites

- You have activated the *material ledger* and the *actual cost component split*.
- The material costed in mixed costing has a released standard cost estimate.
- For the display to be meaningful, each procurement alternative in mixed costing must have been costed.

Features

You can call up the *Plan/Actual Comparison* view for the following purposes:

- As an explanation report for:
- The variances of procurement alternatives
- The mix variances
- To see the cost components of:
- The variances of procurement alternatives
- Mix variances

The report that explains the **variances of procurement alternatives** contains sufficient data to calculate these variances.

Variances = Actual value – Target value

The field *Diff.%* shows the variance as a percentage of the target value.

The report that explains the **mix variances** prepares the data for calculation. The mix variances for the procurement alternatives that were costed in mixed costing are calculated with the following formula:

Mix variance = (Actual quantity – Target quantity) x (Planned price – Standard price)

If one or more procurement alternatives were not costed in mixed costing, but the goods movements for the alternative were entered, the following formula is used for the mix variances:

Mix variance = (Actual quantity – Target quantity) x (Actual price – Standard price)

These formulas are valid only at the level of procurement alternatives. You cannot use these formulas for summarized data at the level of processes and categories. In the case of summarization, the variances are the sum of the variances per procurement alternative. Mean values are calculated for the prices.

The variances shown in the price determination structure are the sum of the mix variances and the variances for each procurement alternative.

Plan/Actual Comparison

The reports for the **split variances for each procurement alternative** and for **split mix variances** show the variances by cost components.

For more information, see [Actual Cost Component Split \[Page 89\]](#).

→ Special Cases



You use transaction-based material price determination and change a price in the previous period. In *material price analysis*, the ending inventory is shown at the changed price. However, since the price had not yet been changed at the beginning of the current period, the initial inventory of the current period still shows the valuation at the original price. But the current period does show the price change of the previous period.



If, based on a stock coverage check, not all cumulated differences can be distributed to consumption or final inventory with *price determination control 3*, these are displayed in the category *Not distributed*.



Price differences are assigned to consumption through single-level material price determination. If these differences are not included in multilevel price determination, or if multilevel price determination has not yet taken place, they appear in the data display under *Not allocated*.

Note



If you change the price control, such as from **2 to 3** or from **3 to 2 and back to 3**, this can cause the following inconsistencies in *material price analysis*:

- The beginning inventory of the current period differs from the ending inventory of the previous period.
- Quantities and values at higher levels of the hierarchy (such as *receipts*) do not correspond to the assigned documents at the lower levels.

From the subsequent period onward, the display structure of *material price analysis* again corresponds to the documents.



You should only change the price determination setting when it is absolutely necessary.

Displaying Material Price Analysis

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Display Material Price Analysis*.
2. Enter data as required.
3. Choose *Enter*

Result

You see material ledger data for a material or for valuated sales order stock. The following functions are also available:



Some of these functions are relevant only for materials with single-/multi-level price determination (3), while others are also valid for materials with transaction-based price determination (2).

To display the following...	Choose	Price determination
Data in other periods	The periods in the field <i>Period/year</i>	2 and 3
Data in other currencies	The currency in the field <i>Crcy type/val.</i>	2 and 3
Columns with the differences from both single-level and multilevel price determination	The symbol <i>Choose Display Variants</i>	only 3

To display the following data in the hierarchy...	Choose	Price determination
Lines associated with a particular category (process categories, for example)	The symbol <i>Expand subtree</i>	2 and 3
Procurement alternatives and processes associated with the different process categories	The symbol <i>Expand subtree</i> For procurement alternative <i>Rest</i> , you see the data directly under the process category. If there are other procurement alternatives in addition to procurement alternative <i>Rest</i> , you will see all procurement alternatives associated with the process category.	only 3

Displaying Material Price Analysis

Documents associated with the procurement alternatives or procurement processes	The symbol <i>Expand subtree</i>	only 3
Details on procurement alternatives or procurement processes	The symbol <i>Choose detail</i>	only 3
Details for the line items	The symbol <i>Choose detail</i> You can call up the document item from here with a double-click	2 and 3

To display the following...	Choose	Price determination
Data in the material master record	<i>Goto → Material Master</i>	2 and 3
Data for the standard cost estimate	<i>Extras → Standard Cost Estimate...</i>	2 and 3
Other data for the material: e.g. prices, values, price control, price determination	The symbol <i>Additional data</i>	2 and 3
Actual BOM	The symbol <i>Display actual BOM</i>	only 3
Source of an error, if there is a red light in the header data	The radio button <i>Display Error Document</i>	only 3
Warning message, if there is a yellow light in the header data	The radio button <i>Display Error Document</i>	
Closing document for the period displayed	The radio button <i>Closing Document...</i>	only 3
Closing document for the previous period	The document line in the hierarchy under the category <i>Beginning Inventory</i>	only 3
Sales document item	The selection fields for the sales document item no. and the item no. under <i>Sales Order Stock/Project Stock</i>	2 and 3
WBS element	The selection field for the WBS element under <i>Sales Order Stock/Project Stock</i>	2 and 3
Price history/price determination structure	The radio button <i>Price history/price determination structure</i>	2 and 3

You can select the following display variants:

Display variants	Price determination
-------------------------	----------------------------

Displaying Material Price Analysis

SAP: Price history (standard)	2
Actual value	3
Single-level and multilevel differences	3
Preliminary valuation, price and exchange rate differences	3

The field *Price unit* is not contained in any of these display variants. You can display this through *Change display variant*.

Displaying Material Ledger Documents

Displaying Material Ledger Documents

Procedure When Document Number is Known

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Information System* → *More Reports* → *Material Ledger Document*.
2. Enter the document number and the year and choose *Header*.

Procedure When Document Number is Unknown

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Information System* → *More Reports* → *Material Ledger Document*.
2. Choose the possible entries in the field *Document number*.
A screen appears where you can search for documents.
3. Enter the selection criteria and choose *Execute*.
A list of documents that meet the selection criteria appears.
4. Select the document number of the desired report.
The system takes the document number and the year.
5. Choose *Enter*.

Result

An overview of the items in the document appears.

Further functions are available:

To do the following	Choose
Display further information about the items	An item, then choose <i>Detail</i> From here, you can display further information using <i>Currency/Valuation...</i> , <i>Period</i> or <i>Additional data</i>
Display header data for a document	<i>Goto</i> → <i>Header</i>

Status Management of Material Ledger Data

Use

The system automatically assigns a period status to material ledger data. The period status indicates which functions have been performed for the material, and also controls which functions are allowed.

Integration

The material ledger recognizes scenarios such as whether valuation-relevant transactions were performed for materials or whether the program for period closing was carried out.

Features

The following table contains the most important transactions for each period status, and indicates whether these transactions are allowed or disallowed. You can see the period status in material price analysis.

Period Status of the Material Ledger

Status Means	Allows	Disallows
<p><i>New objects</i> The material is new.</p>	<ul style="list-style-type: none"> • Entry of valuation-relevant transactions • Price determination • Price changes 	
<p><i>Period opened</i> Material ledger master data was created for the posting period by the period-closing program</p>	<ul style="list-style-type: none"> • Entry of valuation-relevant transactions • Price determination • Price changes 	
<p><i>Price change completed</i> The valuation price of the material was changed.</p>	<ul style="list-style-type: none"> • Entry of valuation-relevant transactions • Price determination • Price changes 	
<p><i>Values entered</i> Valuation-relevant transactions were posted.</p>	<ul style="list-style-type: none"> • Entry of further valuation-relevant transactions • Price determination • Price changes 	<ul style="list-style-type: none"> • Price changes • Closing entries • Cancellation of closing entries

Status Management of Material Ledger Data

<p><i>Quantities and values entered</i> Valuation-relevant transactions were posted.</p>	<ul style="list-style-type: none"> • Entry of further valuation-relevant transactions • Price determination 	<ul style="list-style-type: none"> • Price changes • Closing entries • Cancellation of closing entries
<p><i>Price determined single-level</i> Single-level material price determination has been performed.</p>	<ul style="list-style-type: none"> • Entry of further valuation-relevant transactions • Repeat of price determination • Multilevel price determination • Closing entries of the previous period 	<ul style="list-style-type: none"> • Price changes • Reversal of closing entries
<p><i>Price determined multilevel</i> Multilevel material price determination has been performed.</p>	<ul style="list-style-type: none"> • Entry of further valuation-relevant transactions • Repeat of price determination • Closing entries of the previous period 	<ul style="list-style-type: none"> • Price changes • Reversal of closing entries
<p><i>Closing entry performed</i> Single-level price determination has been performed and the accompanying postings made.</p>	<ul style="list-style-type: none"> • Reversal of the closing entries for the closed posting period 	<ul style="list-style-type: none"> • Price changes • Entry of valuation-relevant values for the closed posting period • Repeated price determination for the closed posting period • Repeated closing entry for the closed posting period
<p><i>Closing entry reversed</i> Single-level price determination has been performed and the accompanying postings made. The postings, however, were reversed.</p>	<ul style="list-style-type: none"> • Entry of further valuation-relevant transactions • Repeat of price determination • Closing entries of the previous period 	<ul style="list-style-type: none"> • Price changes

Note that transactions posted to the previous period can affect the period status of the current period in the following cases:

- A closing entry was made in the previous period

Status Management of Material Ledger Data

- A goods movement took place in the previous period

In such cases, the status in the current period changes to *Quantities and values entered*.

Archiving Material Ledger Data

Archiving Material Ledger Data

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Archiving* and then the relevant entry for the data to be deleted.

See also:

[Archiving CO-Material Ledger Data \(CO-PC-ACT\) \[Ext.\]](#)

Material Price Determination

[Single-Level Material Price Determination \[Page 52\]](#)

[Multilevel Material Price Determination \[Page 55\]](#)

[Transaction-Based Material Price Determination \[Page 57\]](#)

Single-Level Material Price Determination

Single-Level Material Price Determination

Use

Single-level material price determination calculates the periodic unit price for a material. The standard price and the cumulative single-level differences of the period are taken into account. The material price calculated in multilevel price determination can be used for inventory valuation. Single-level price determination is a prerequisite for [multilevel price determination \[Page 55\]](#).

For more information on the process flow, see: [Periodic Actual Costing \[Page 59\]](#).

Prerequisites

The material ledger is active.

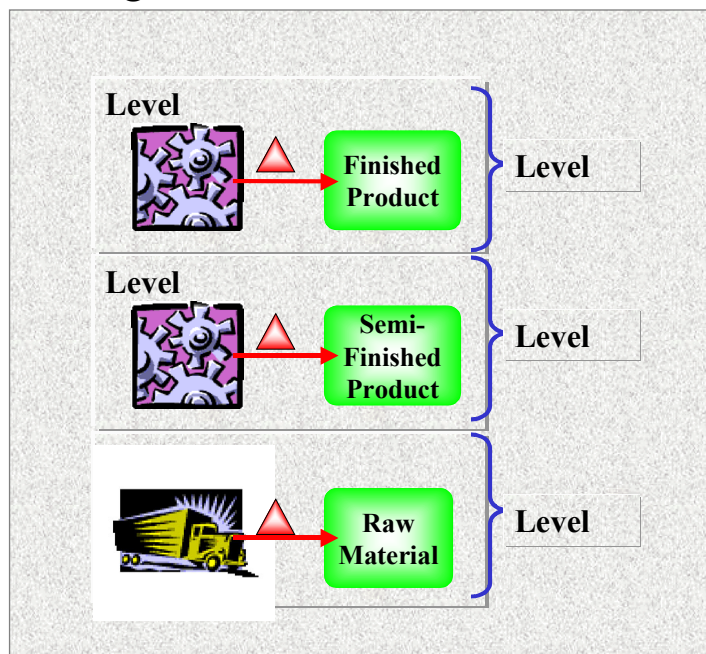
The price determination indicator in the material master is set to **3**.

The price control indicator in the material master is set to **S**.

Features of Single-Level Material Price Determination

A level is identified by a material and its associated [procurement process \[Page 135\]](#). For a material whose price is calculated through single-level price determination, movements are always valued at standard price because the price control indicator in the material master record is set to S. Differences between the standard price and the actual price of a valued transaction are updated in the material ledger.

Single-Level Price Determination



Single-Level Material Price Determination

Single-level material price determination takes into account the differences that arise directly when a material is procured:

- Price differences
 - These occur when the amount posted for a movement differs from the standard price in the material master record. The following transactions can cause these differences:
 - Goods receipts resulting from a purchase order
 - Invoice receipts
 - Settlement of production orders, process orders, and run schedule headers
 - Transfer postings
 - Initial entry of stock balances with values
 - Free delivery
 - Inward movements from consignment stock to the company's own stock
- Exchange rate differences
 - These occur when an amount in a foreign currency is translated using different exchange rates. This is the case, for example, when the exchange rate that applies when the invoice is entered differs from the exchange rate that applies when the goods receipt is entered.
- Differences from revaluations
 - These occur from a credit/debit to a material, a price change, or a posting to a prior period, for example.

The price calculated in price determination is updated as a moving average price in the *Accounting 1* view of the material master record. The price control indicator remains set to **S**. The standard price does not change.

Constraints

Materials whose prices are determined with transaction-based price determination cannot be considered later in multilevel actual costing.

Note



You must perform single-level material price determination for all materials for each posting period, regardless of whether any material movements have occurred for the relevant materials.

See also:

[Periodic Actual Costing \[Page 59\]](#)

[Transaction-Based Material Price Determination \[Page 57\]](#)

Single-Level Material Price Determination

Multilevel Price Determination

Use

Multilevel price determination calculates the periodic unit price for a material. The standard price, the single-level differences cumulated in the period, the differences between planned and actual prices, as well as input material differences (multilevel differences) are all taken into account. The material price calculated in multilevel price determination can be used for inventory valuation. For more information on the process flow, see: [Periodic Actual Costing \[Page 59\]](#).

Prerequisites

The material ledger is active.

Actual costing is active.

The price determination indicator in the material master is set to **3**.

The price control indicator in the material master is set to **S**.

Single-level price determination has been performed.

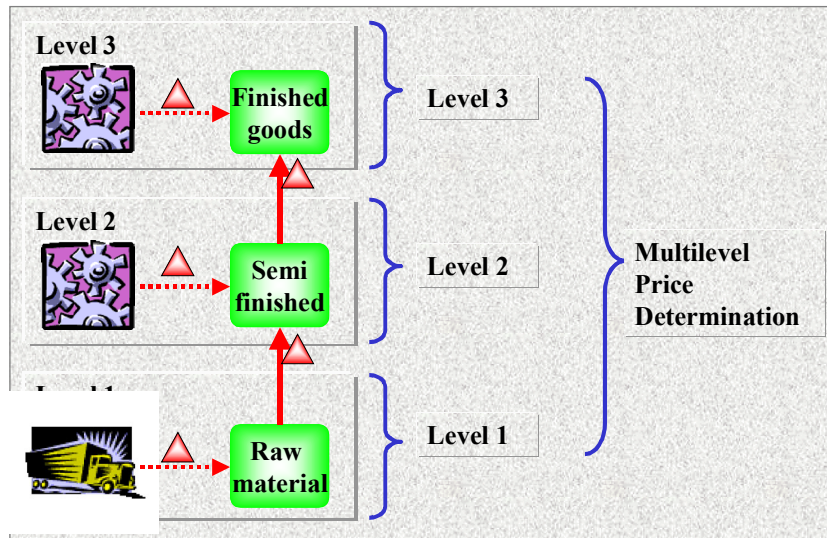
Features

A level is identified by a material and its associated [procurement process \[Page 135\]](#). Multiple levels are the result of one material being used in another material. These multiple levels are reflected in the actual BOM that is created in the costing run in the step *Determine Sequence*.

In multilevel production, both [single-level \[Page 52\]](#) and multilevel price differences exist. If one material is used in another material, and single-level price differences exist for the input material, this results in multilevel price differences. In this way, differences are rolled up from raw materials through semifinished products to finished products. This solves the problem of follow-up costs.

Multilevel Price Determination

Multilevel price determination



The price calculated through price determination is updated as a periodic unit price (V price) in the *Accounting 1* view of the material master record. The price control indicator remains set to **S**. The standard price does not change.

See also:

[Periodic Actual Costing \[Page 59\]](#)

[Transaction-Based Material Valuation \[Page 57\]](#)

Transaction-Based Material Price Determination

Use

This function makes it possible for you to calculate the moving average price after every goods movement.

- If the material ledger is not active, you can only calculate the moving average price in the company code currency.
- If the Material Ledger is active, you can calculate the moving average prices for materials in up to three currencies/valuations.

Integration

After each valuation-relevant transaction, the system automatically performs price determination to adjust the valuation price of the material and the value of the material stock.

For more information, see [Collecting Actual Data for the Material Ledger \[Page 35\]](#).

Prerequisites

If you want to calculate the moving average price in up to three currencies/valuations, check the following settings:

- The material ledger is active for the material.
- The material has material price determination 2.
- The material has price control indicator V.



If the material has material price determination 2 and price control S, the moving average price is calculated for information only. The material is valued with the standard price.

Features

Transaction-based material price determination takes the following amounts into account:

- Price differences
- Exchange rate differences
- Revaluation amounts

The standard price can be calculated statistically for materials having price control indicator V, but it has no impact on the valuation of the material.

Postings for Transaction-Based Material Price Determination

The posting logic of transaction-based price determination corresponds to that of the system without the material ledger. Two accounting documents and a Material Ledger document are created for transaction-based material price determination. One of the accounting documents documents the updating of costs in accordance with the expected material price. The other

Transaction-Based Material Price Determination

accounting document documents the distribution of price and exchange rate differences. The Material Ledger document exists as a follow-on document to the material document.

See also:

[Single-Level Material Price Determination \[Page 52\]](#)

[Multilevel Material Price Determination \[Page 55\]](#)

[Periodic Actual Costing \[Page 59\]](#)

[Material Price Change \(MM-IV-MP\) \[Ext.\]](#)

Periodic Actual Costing

Use

There are two methods of carrying out a periodic actual costing:

- Costing run for processing mass data
- Individual processing

The actual costing calculates the actual prices of the material stocks and consumption of the previous posting period. This does not affect the valuation of the current period.

Prerequisites

1. The *material ledger* is active
2. The *price determination* indicator in the material master is set to 3.
3. The *price control* indicator in the material master is set to S.

Features

The actual costing uses the quantity structure to create a valuated **actual** quantity structure. This actual quantity structure is created in real-time based on actual goods movements. This function also includes the functionality of single-level price determination. During the closing entries, the system adjusts both the material stock accounts and the accounts in Financial Accounting from the previous period.

Note



When carrying out a periodic actual costing SAP recommends you to use the costing run. You should only use the individual processing functions for postprocessing individual materials that are incorrect.



As an alternative, you can manage multilevel actual costing with the [Schedule Manager \[Ext.\]](#). To do so, [create \[Page 63\] a costing run \[Page 63\]](#) and then use the Schedule Manager. First create a task group in the Schedule Manager. Then insert tasks under the task group. Select the tasks corresponding to the flow steps in the costing run.

See also:

[Updating the Actual Quantity Structure \[Page 38\]](#)

[Process Flow: Multilevel Actual Costing \[Page 62\]](#)

Costing Run

Costing Run

Purpose

In the component *Actual Costing/Material Ledger*, you can perform multilevel actual costing by plant during a costing run. This allocates the follow-up costs to the semifinished and finished products, and the differences against a material's preliminary valuation price to the material's inventory and consumption. This is accomplished with the functions of single-level and multilevel price determination. The recalculated prices can then be used for future valuation.

To use this function, choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.

Features

In multilevel actual costing, the system calculates a new valuation price for a material using both the material ledger master data and quantity structure data across all manufacturing levels.

See the following for further information:

[Creating a Costing Run \[Page 63\]](#)

[Performing a Selection \[Page 65\]](#)

[Determining the Costing Sequence \[Page 66\]](#)

[Allowing Material Price Determination \[Page 67\]](#)

[Performing Single-Level Material Price Determination \[Page 68\]](#)

[Performing Multilevel Price Determination \[Page 69\]](#)

[Allowing Closing Entries \[Page 83\]](#)

[Performing Closing Entries \[Page 84\]](#)

[Marking Prices for Future Valuation \[Page 87\]](#)

General Data in Costing Runs

Use

By choosing *General data* for a selected period, you can see which plants are assigned to a costing run, which plants can still be assigned to a costing run, and which plants may no longer be selected in the period.

Activities

Before you perform multilevel actual costing, select the plants you want from the selection window *Available Plants*. For each period, a plant can only be assigned to one costing run. If you have already performed a flow step for a costing run, you can no longer change which plants are assigned to a run. You can only change the plant assignment if you completely delete the costing run. For more information, see [Deleting a Costing Run \[Page 64\]](#).

Process Flow: Periodic Actual Costing

Process Flow: Periodic Actual Costing

Purpose

With this procedure you can use the multilevel price determination functions in the context of actual costing. For more information, see: [Periodic Actual Costing \[Page 59\]](#).

Process Flow

1. You create a costing run for one period.
For more information, see [Creating a Costing Run \[Page 63\]](#).
2. When performing a costing run, you can use the [schedule manager \[Ext.\]](#) to analyze the individual flow steps of the multilevel actual costing. If you carry out the flow steps for multilevel actual costing in the background, you can use the [job overview \[Ext.\]](#) to display your jobs and their statuses.
3. You have the system select the materials, and then check the results of the selection.
For more information, see [Performing a Selection \[Page 65\]](#).
4. You have the system determine the costing sequence, and then check the results.
In this step, the system groups the materials into the sequence of steps that the costing run will follow.
5. For more information, see [Determining the Costing Sequence \[Page 66\]](#).
6. You allow material price determination for assigned plants and one specific period.
For more information, see [Allowing Material Price Determination \[Page 67\]](#).
7. You perform single-level price determination for the costing run, and check the results.
For more information, see [Performing Single-Level Material Price Determination \[Page 68\]](#).
8. You perform multilevel price determination for the costing run, and check the results.
For more information, see [Performing Multilevel Material Price Determination \[Page 69\]](#).
9. You allow closing entries based on plant, period and fiscal year.
For more information, see [Allowing Closing Entries \[Page 83\]](#).
10. You perform the closing entries for single-level and multilevel material price determination.
You can choose whether to reevaluate the inventories in the period to be settled.
For more information, see [Performing Closing Entries \[Page 84\]](#).
11. If in the future you want to adjust your standard prices to reflect your actual prices, you can use the prices calculated in the costing run as the standard prices for the following period. If this is the case, mark the prices from the costing run as future valuation prices and then release them.
For more information, see [Marking Prices for Future Valuation \[Page 87\]](#) and [Releasing Planned Prices \[Page 104\]](#).

You can also use the functions for marking and releasing prices to make the new prices effective as valuation prices in the period directly after the closed period. To do this, you must mark the prices **after** the material price determination but **before** the closing entries.

Creating a Costing Run

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run* then *Costing Run* → *Create*.
Alternatively, you can copy an existing costing run. In this case, choose *Costing Run* → *Copy*. When you do this, the plants from the costing run being copied are transferred into the new costing run. You can manually change the assignment of plants.
2. Enter the necessary data and choose *Execute*.
3. Under *General Data*, assign the relevant plants to the costing run.
4. Save the costing run.

Result

You see a list of the plants that are contained in the costing run plus information telling you which plants can participate and which plants can not participate.

Next, select the materials.

See also:

[Performing a Selection \[Page 65\]](#)

Deleting a Costing Run

Deleting a Costing Run



You are sure that you really want to delete the costing run.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Delete Costing Run*

The system issues a warning about the consequences of deletion.

2. Choose the appropriate function to either delete the costing run or terminate the transaction.

Result

The costing run data is deleted. The system indicates which tables the data was deleted from.

Performing a Selection

Prerequisites

You have created a costing run. For more information, see:

[Creating a Costing Run \[Page 63\]](#)

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
2. Under *Process* and *Selection* choose *Parameters*.
3. Specify the processing option.

You can have the system perform the function in the background when dealing with large amounts of data.

4. Choose *Execute*.

Result

You see a list of the plants involved indicating how many materials were selected in each plant. For each plant, there is a hierarchical display with information about the materials selected. You can also see more information in the log.

Check the results.

Next, determine the costing run sequence.

See also:

[Determining the Costing Sequence \[Page 66\]](#)

Determining the Costing Sequence

Determining the Costing Sequence

Prerequisites

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.

You have performed a selection for the costing run and you have checked the results.

For more information, see [Performing a Selection \[Page 65\]](#).

Procedure

1. Under *Process* and *Determine Sequence* choose *Parameters*.
2. Enter the necessary data and check the method of processing.

You can have the system perform the function in the background when dealing with large amounts of data.

3. Choose *Execute*.

Result

The system calculates the sequence that the costing run will follow.

You see a list of the manufacturing levels (for example, level 1 contains raw materials, level 2 contains semifinished goods, and so on) with a hierarchical list of the materials that were processed by the system. You can see more information in the log.

Next, perform single-level price determination for the costing run.

See also:

[Allowing Material Price Determination \[Ext.\]](#)

[Performing Single-Level Material Price Determination \[Page 68\]](#).

Allowing Material Price Determination

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
2. Under *Process*, go to either *Single-level* or *Multilevel material price determination*.
3. Double-click on the padlock symbol to allow material price determination.

Result

For the plant you selected, you can perform single-level and multilevel material price determination as well as closing entries in the period entered.

Note



If you want to perform single-level material price determination when postprocessing outside of the costing run, you can use the following menu path to check whether price determination is allowed:

Accounting → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Periodic Material Valuation* → *Organizational Measures* → *Display Allowed Tasks*

See also:

[Performing Single-Level Material Price Determination \[Page 68\]](#)

[Performing Multilevel Price Determination \[Page 69\]](#)

[Performing Closing Entries \[Page 84\]](#)

Performing Single-Level Material Price Determination

Performing Single-Level Material Price Determination

Prerequisites

- You have determined and checked the costing sequence for the costing run.
For more information, see [Determining the Costing Sequence \[Page 66\]](#).
- You have allowed material price determination.
For more information, see [Allowing Material Price Determination \[Page 67\]](#).

Procedure

5. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
6. Under *Process* and *Price Determination (Single-Level)* choose *Parameters*.
7. Enter the required data and set the processing option.
You can perform the function in the background for large amounts of data.
4. Choose *Execute*.

Result

The system calculates periodic unit prices for the settled period and updates them (for information) in all valuation approaches in the *material price analysis*. The system also updates the price in company code currency in the material master record for the settled period.

For material price determination, the system deals with all materials as a basis for multilevel price determination.

Check the results of the single-level price determination.

Then perform multilevel material price determination.

Note



To postprocess individual materials choose
Accounting → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Periodic Material Valuation* → *Determine Material Prices (Single-level)*
this enables you to carry out single-level material price determination outside of the costing run.

See also:

[Performing Multilevel Price Determination \[Page 69\]](#)

Performing Multilevel Price Determination

Prerequisites

You have performed single-level price determination for the costing run.

For more information, see [Performing Single-Level Material Price Determination \[Page 68\]](#).

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
2. Under *Process* and *Multilevel price determination* choose *Parameters*.
3. Enter the required data and set the processing option.

You can have the system perform the function in the background when dealing with large amounts of data.

4. Choose *Execute*.

Result

The system uses the results from single-level price determination to calculate new prices for materials that belong to the higher manufacturing levels (such as semifinished and finished products).

The system calculates periodic unit prices for the settled period and updates them (for information) in all valuation approaches in the *material price analysis*. The system also updates the price in company code currency in the material master record for the settled period.

Multilevel price determination is used for materials that are part of a production cycle and are in level 1 of the costing sequence. In addition, prices are determined for the materials produced in this period that are in level 2 or higher.

Check the results of the multilevel material price determination.

After multilevel material price determination, allow the closing entries.

See also:

[Allowing Closing Entries \[Page 83\]](#)

Errors During Multilevel Price Determination

Errors During Multilevel Price Determination

Prerequisites

In order to perform multilevel price determination successfully, the following prerequisites must be satisfied:

- The materials are not locked.
- Single-level price determination was performed.

Errors During Material Price Determination

Even if these prerequisites have been met, you may still experience the following errors during multilevel price determination:

1. The cumulated quantity of a material in the period is zero, which prevents an actual price from being calculated.
2. The actual BOM contains a cycle that is not converged and therefore does not allow price determination.
3. The price for the material is negative.
4. The price calculated in multilevel price determination for a material exceeds the threshold you set.
5. The sum of the multilevel price differences that would subsequently be debited to the material exceeds the threshold you set.

These errors can be divided into three categories:

- Error 1 is corrected automatically by the system. No action is required on the part of the user. The system calculates with an alternative price that is found through a strategy.
- Errors 2 and 3 can also be corrected through special strategies in order to enable price determination. When you maintain the parameters for multilevel price determination, you can specify the strategy that is to be used under *Show Postprocessing Options*.
- Errors 4 and 5 occur as a result of the error thresholds you set. These error thresholds must be set to enable the errors to be corrected automatically using strategies under *Show Postprocessing Options*.

Options for Error Correction

- During **manual postprocessing**, you analyze each material with errors, check for missing or incorrect postings, or make adjustment postings.
- All errors up to the error threshold you set can be corrected **automatically** in the postprocessing options through special strategies that enable valid price determination.

See also:

[Automatic Error Correction by the System \[Page 77\]](#)

[Processing Incorrect Material Price Determination Manually \[Page 74\]](#)

[Control of Automatic Error Correction \(Postprocessing Options\) \[Page 82\]](#)

Recommendations for Multilevel Price Determination

General

Due to the high level of complexity and the wide range of problem situations, there is no single best method of performing multilevel price determination. This section contains information that will assist you in finding a strategy that is suited to your particular situation.

Possible Approaches

- First perform multilevel price determination, specifying that if threshold values are exceeded, the system should issue warning messages only. Then look at the warning messages in the log. In the costing results, sort the material list by variance between actual price and standard price. You can also use the layout *material list: materials with receipts from multilevel processes* in the results list of the costing run. For example, you can switch to the layout of the material list *price analysis* to see the materials sorted by variance.

Search for the materials whose variances are not acceptable, and decide whether you want to make adjustment postings. If you cannot make any adjustment postings, or if the adjustment postings do not remove the errors, set an error limit and execute the run again for **all** materials. When you do so, turn on automatic error correction so that the system can remove the errors that are resulting in the threshold values being exceeded.

- Also check whether the warning and error limits you set for single-level price determination were exceeded. If you did not set any limits, or if the set limits were not exceeded, any new errors are due exclusively to multilevel price determination and can be removed with automatic error correction. The worst that can happen is that in the reduced BOM (see [Automatic Error Correction by the System \[Page 77\]](#)), all receipts from multilevel processes are ignored.
- If there is a large number of materials, you may want to set an error limit right from the start. It is then possible to determine the materials that have errors using the report *Materials by Period Status*. In some cases this may be easier than searching through the warning messages of multilevel price determination.
- When you process materials that have errors, you always start with the lowest costing level, since errors at this level are reproduced at the higher levels. However, it is possible for variances at different levels to cancel each other out. For example, if a material at the lowest level has large negative variances, such variances may cancel out variances at higher levels. If you remove the variances at the lowest level by means of correction postings or error correction, new errors may appear at the higher levels.

Warnings

If you first execute a costing run and generate warning messages for values that exceed the threshold value, and then set error limits, you must repeat the entire costing run with the error limits for **all materials**. You should **not** limit the run to materials for which you have set error limits.

Processing Incorrect Material Price Determination Manually

Processing Incorrect Material Price Determination Manually

Use

Negative prices appeared in multilevel material price determination, or a specified threshold value was exceeded. The following tools are available for manual error analysis:

- The error log of the costing run
- The error document of the faulty material
- Material price analysis of the faulty material

Prerequisites

You are in a costing run.

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.

Procedure

Analysis of the Log for the Costing Run

1. In the costing run, analyze the log for multilevel material price determination.
2. Display the materials for which negative prices or threshold value excesses appeared in the message log for multilevel material price determination.



Note that followup errors appear as a result of the faulty material price determination: If a faulty material is used as an input material for another material, no prices can be determined for the material in which the faulty material is used. **Ignore the followup errors.**

Analysis of the Error Document

You can analyze the faulty materials in the following:

- Material price analysis
- The error document (from material price analysis)

Individual Postprocessing - Correction Postings:

First concentrate on the materials for which you can make correction postings.

Check whether you must do the following:

- Settle orders
- Post missing goods receipts
- Post missing goods issues
- Correct incorrect goods receipts or goods issues

Make the correction postings.

Processing Incorrect Material Price Determination Manually**Repetition of the Costing Run**

After these measures, carry out the costing run again.

Result

If no errors or warnings appear after repetition of the costing run, all materials have been costed with the desired threshold value. If threshold value excesses appear again and you don't want to accept these, have the system issue an error message and use the procedure for automatic postprocessing of errors.



In this case, you must reprocess **all** materials in the second run so that any followup errors caused by threshold values being exceeded are properly accounted for and calculated.

Processing Incorrect Material Price Determination Manually

Automatic Error Correction by the System

There are three different automatic error correction strategies that can be used, according to the type of error. (See [Control of Automatic Error Correction \[Page 82\]](#)):

Reduction in the Actual BOM (Error: Value Exceeds Threshold for One-way Step):

In the actual BOM, actual quantities are managed for each procurement alternative. In the case of an unrealistic input quantity for a higher level (for example, through a large quantity of WIP), a procurement alternative can be incorrect for multilevel price determination (threshold value excess or negative price). In the first step, the BOM reduction uses the minimum from the actual and target consumption to attempt to calculate a multilevel material price. If this first reduction is not successful, all variances through input materials are completely ignored (zero BOM). Hence only the costs of this level are still included. The price differences of the input materials that are not distributed to higher levels appear next to the input materials in the line *Not allocated*.

Cutting Connections in a Cycle (Error: Value Exceeds Threshold or Negative Price for a Cycle):

If there is a cycle present, then in straightforward cases it is possible to cut all connections of this cycle in one step. This cycle is then ignored completely in the multilevel material price determination. The non-distributed price differences for all materials in this cycle appear in the line *Not allocated*. This procedure can be used by the system automatically if cycles lead to threshold values being exceeded or negative prices.

Successive Cutting of a Cycle (Error: Cycle Does Not Converge):

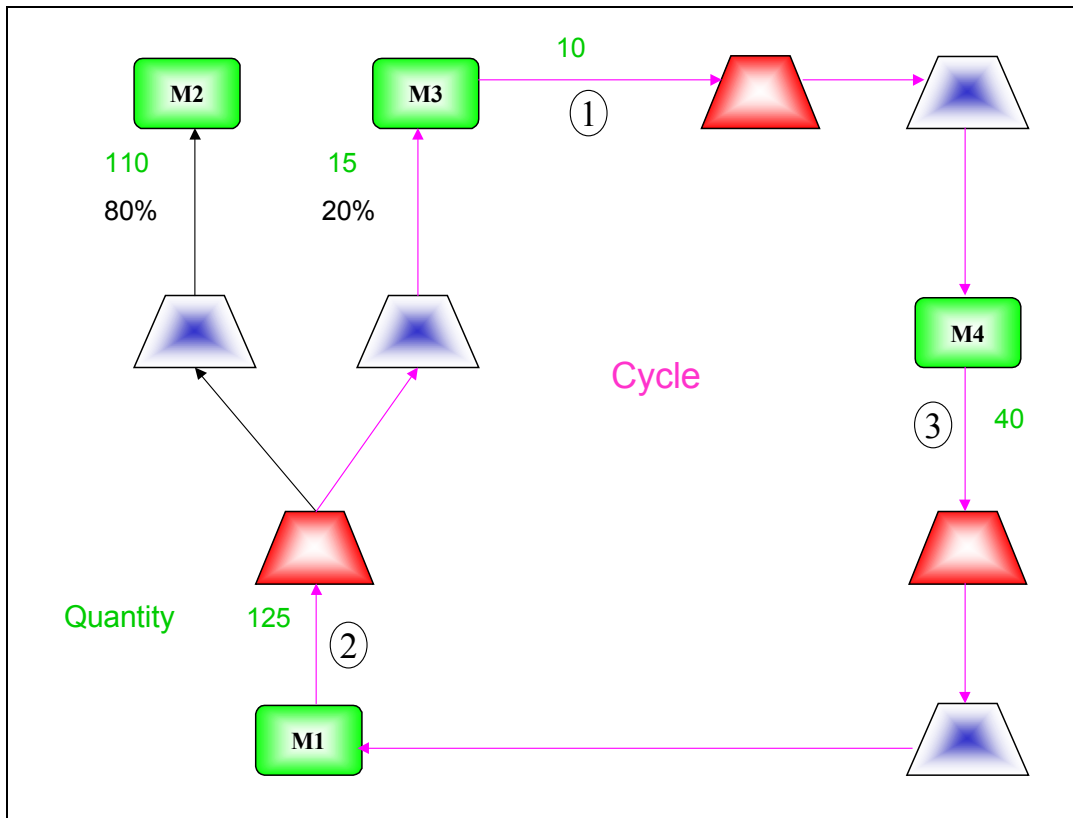
If a cycle does not converge, the system can cut the connections in succession. To do this, all connections in a cycle are examined, and the one with the lowest weighted quantity flow is cut first. If this is not successful, the connection with the next lowest weighted quantity flow is cut, and so on. The weighted quantity flow for each material is calculated according to the following formula:

$$\text{Weighted quantity flow} = \frac{\text{Quantity flow in the cycle}}{\text{Total consumption of the material} + \text{ending inventory of the material}}$$

If a material is consumed in a joint production process, only the portion of consumption corresponding to the apportionment structure is included as a quantity flow in the cycle.

The nondistributed price differences of all materials in this cycle appear in the line *Not allocated*.

Automatic Error Correction by the System



Costing with an Alternative Price (Error: Negative Price, Cumulative Quantity is Zero):

For this, the system attempts to calculate a price according to the following strategy:

- Only the total receipts of a period are included, not the cumulated line.
- If this is not successful, the beginning inventory valuation is used providing the quantity here is greater than zero.
- If not, the moving average price of the previous period is used if it has the status *Post Closing*.
- If none of these options can supply a price, the standard price from the material master is used.

The message for the material records which price has been used.

The price differences are displayed next to the material in the line *Not distributed*.

Threshold Value Check

The system offers two different threshold value checks for calculating the variances between the comparison price (the periodic unit price or the standard price) and the recalculated price. The methods check the values independently of each other in all set currencies. If a threshold value is exceeded in one currency, the system issues a warning or error message.

A warning or error message is issued for materials with a threshold value excess in **one** of the two checks.

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.

Choose *Process* → *Multilevel Price Determination* → *Parameters*

Choose *Edit* → *Show Postprocessing Options*.

During material price determination, threshold value checks are performed according to two methods.

Multilevel Variances: The system checks whether the total of all multilevel price differences for the quantity of the material procured on a multilevel basis equals a price that varies in percent from the comparison price by more than the threshold value.

Variances of the new periodic unit price: The system checks whether the recalculated material price varies in percent from the comparison price by more than the threshold value.

See also:

[Example: Threshold Value Check \[Page 80\]](#)

Example: Threshold Value Check

Example: Threshold Value Check

The logic of threshold value checks is explained in the following example.

100 bars of chocolate are produced. The standard price of a bar is USD 2. Single-level and multilevel price differences appear during production that are settled to the chocolate.

The **threshold values** amount to **20%** for the periodic unit price variance and **20%** for the multilevel variances.

The **comparison price** is the **standard price**.

Material Price Analysis

Chocolate					
	Qty	Single-level price differences	Multilevel price differences	Preliminary valuation	Price
Receipts	100	30	20	200	2.50
Purch. order	40	5	0	200	2.13
Production	60	25	20 ¹⁾	200	2.75
Cumulative inventory	100	30	20	200	2.50 ²⁾

Multilevel Variances: Only the multilevel differences related to the quantity procured on a multilevel basis and the comparison price (in this case, the comparison price is the standard price) are included.

Percentage variance =

$(\text{Multilevel differences} * 100\%) / (\text{Quantity procured on a multilevel basis} * \text{Standard price}) = 16.67\%$ (see 1)

Here, the threshold is not exceeded.

Example: Threshold Value Check

Variance of the periodic unit price: The recalculated price is compared with the comparison price (in this case, the standard price).

Percentage variance =

$(\text{Recalculated price} - \text{Standard price}) * 100\% / \text{Standard price} = 25\%$ (see 2)

Here, the threshold is exceeded.



Because one of the two thresholds has been exceeded, the material remains faulty. You must either manually postprocess the errors or set an automatic error correction in the postprocessing options.

See also:

[Processing Incorrect Material Price Determination Manually \[Page 74\]](#)

[Automatic Error Correction by the System \[Page 77\]](#)

[Performing Multilevel Price Determination \[Page 69\]](#)

Control of Automatic Error Correction (Postprocessing Options)

Control of Automatic Error Correction (Postprocessing Options)

Purpose

The postprocessing options allow you to set error thresholds and influence the system's automatic error corrections. In addition, you can limit the run to specific materials through the use selection parameters.

Prerequisites

You are in a costing run.

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.

Choose *Parameters* to branch to the *variant maintenance of multilevel price determination*.

Process Flow

Activate the postprocessing options with *Process* → *Show Postprocessing Options*.

In the *Postprocessing Options* screen, you can limit the run to specific materials, plants, valuation types and costing levels.

In the threshold values screen, you can disqualify the threshold values as errors and maintain the parameters for automatic correction of these errors by the system. With a one-way level, the error can be automatically removed through reduction of the actual BOM. With a cycle, it can be removed by cutting the entire cycle (see [automatic error correction by the system \[Page 77\]](#)).

Normally, none of these automatic error corrections are switched on.

For information on calculating threshold values, see [Threshold Value Check \[Page 79\]](#).

In the *Negative Price* screen under *Automatic Error Correction*, you specify how the system handles this error. Here, you can specify whether the error should be corrected through a cost estimate with the alternative price for a one-way level and through the cutting of all connections for a cycle (see [Automatic Error Correction by the System \[Page 77\]](#)).

As a default, the cost estimate with an alternative price is turned on for the one-way level.

In the *No Convergence With Cycle* screen under *Automatic Error Correction*, you specify whether the individual connections of the cycle/cycles should be cut successively.

As a default, this error correction is turned on.



If you close the postprocessing options again, all settings are returned to their default values.

Allowing Closing Entries

Prerequisites

You have performed single-level or multilevel price determination.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
2. Choose *Process*, then *Post Closing*.
3. Click on the padlock symbol to allow the closing entry.

Then perform the closing entry.

Result

You can perform closing entries for material price determination in the given plant and the given period.

Note



If you want to perform the closing entry when postprocessing outside of the costing run, you can use the following menu path to check whether this is allowed:
Accounting → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Periodic Material Valuation* → *Organizational Measures* → *Display Allowed Tasks*

See also:

[Performing Closing Entries \[Page 84\]](#)

Performing Closing Entries

Performing Closing Entries

Prerequisites

- You have performed multilevel material price determination.
For more information, see [Performing Multilevel Material Price Determination \[Page 69\]](#).
- You have allowed closing entries.
For more information, see [Allowing Closing Entries \[Page 83\]](#).

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
2. Under *Process* and *Post Closing* choose *Parameters*.
3. Specify whether the system should reevaluate the material stock for the period to be closed with the prices calculated in the material price determination.
If you only want a single-level closing entry, first perform single-level material price determination and the closing entry immediately afterwards.
4. Specify the processing option. You should perform the function in the background.

Result

- If you have specified that the system should **reevaluate** the material stock in the previous period, it does the following:
 - The system changes the price control for the material in the previous period from standard price *S* to moving average price *V* and updates the periodic unit price (that it calculated for the material price determination) as the valuation price for the previous period.
In the *Accounting 1* view of the material master record, the periodic unit price for the previous period is displayed as the *moving price* (price control *V*).
The preliminary valuation price (standard price) remains unchanged and can continue to be displayed.
 - The system posts the price differences and exchange rate differences that are assigned to ending inventory to the material stock account. You can see these amounts as well as the closing document in material price analysis.
 - If you specified that the system should **not** reevaluate the material stock in the previous period, then it does the following:
 - The system does not change the price control.
 - The system does not post the price differences and exchange rate differences that were assigned to ending inventory to the material stock account, but rather to the *Accrual Account (Material Ledger)* account (transaction key *LKW* in Customizing).

See the following for further information on postings: [Example: Multilevel Price Determination \[Page 121\]](#)

Performing Closing Entries

[Example: Closing Entry \[Page 126\]](#)

If you want to use the new prices as valuation prices for a future period, you must first mark these prices.

Note



When you have finished the closing entry, recalculate the status data and choose *Costing Results*. Choose *Display Material List with Filter* → *Materials Still Open* and make sure that all materials have been processed.

See also:

[Marking Prices for Future Valuation \[Page 87\]](#)

Reversing Closing Entries

Reversing Closing Entries

Prerequisites

- You have performed the closing entries for single-level or multilevel material price determination.
- The closing entries that you want to reverse relate to the previous period.



You can only reverse the closing entries from the previous period. Reversing closing entries for periods before the previous period is not possible.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Actual Costing* → *Edit Costing Run*.
2. Under *Process* and *Post Closing* choose *Parameters*.
3. Choose *Closing Entry* → *Reverse*.



The indicator *Revalue material* is not relevant to a reversal. The system automatically determines whether for the closing entry that you want to reverse the inventory was revaluated or not from the closing document.

Result

The system reverses the postings and the changes related to the last closing entry.

Marking Prices for Future Valuation

Prerequisites

- You have performed single-level or multilevel price determination.
- You have checked the new prices from material price determination. The prices with price control indicator V come from the current period's price determination. You want to use these prices as valuation prices in the following period (price control indicator S).
- Closing entries were performed

Procedure

1. Under *Process* and *Mark Material Prices* choose *Parameters*.
2. Determine when the system should mark the prices. Enter data as required.
3. Choose the method of processing. You can perform the function in the background.
4. Choose *Execute*.

Result

The prices are marked as future valuation prices for the materials in the costing run.

Next, you can do the following:

1. Change the prices manually
For more information, see [Determining Future Prices \[Page 101\]](#).
2. Release the planned prices
For more information, see [Releasing Planned Prices \[Page 104\]](#).

Costing Results

Costing Results

Use

This is where you obtain a hierarchical overview of the results from a costing run. The costing run is displayed, in turn enabling you to display materials with errors:

- Starting from the overall display of the costing run
- Using a material list for the material price analysis

You can get an overview of the goods movements in the material price analysis and branch to the relevant documents.

The status data for the hierarchy display is not automatically determined when you access the costing results or after executing a costing function. To view the most current display, choose *Calculate status data again*.

Features

You can choose from the following hierarchy displays:

- Costing run/Plant/Material type/Valuation class/Origin group
- Costing run/Plant/Material group/Valuation class/Origin group
- Costing run/Division/Material type/Valuation class/Origin group
- Costing run/Level/Cycle number

You can choose from the following views:

- Costing Run Overview
- Single-Level Price Determination
- Multilevel Price Determination
- Closing Entry

The overview displays the status of each level as it relates to *single-level price determination*, *multilevel price determination* or *closing entries*.

In the other views, you can see the number of materials for each level and whether the particular action was successful or with errors, and also whether it is still open or is not supported. You can choose from various filters when displaying the material list. You can display, for example, *all materials with errors* or *only materials with goods movements*.

Actual Cost Component Split

Use

The actual cost component split is used to analyze actual costs over multiple production levels.

- Differences from preliminary valuation
- Price differences
- Exchange rate differences

The entered actual costs of a material are listed according to cost components. The original identity of the costs (for example, whether they are material costs or production costs) is retained throughout all production levels.

As with material ledger data, the actual cost component split is updated based on the transactions. During the entry of follow-up costs after multilevel price determination for a material, you can analyze the complete composition of the costs in the parallel currencies / valuations. Because you can display the actual cost component split up to the level of the procurement alternative, you can compare the different production procedures with each other in detail.

At the end of the month, *Profitability Analysis* can use the actual cost component split to reevaluate the cost of goods manufactured.

Integration

The actual cost component split is updated with the following:

- Changes in stock
- Execution of invoice verification
- Order settlements
- Price changes
- Material debits and credits
- Account maintenance
- Single-level material price determination
- Multilevel material price determination
- Closing entries

Prerequisites

The actual cost component split can only be activated at the beginning of a period. A cost component split cannot be created for transactions of a period that have already been posted.

- The material ledger is active
- *Actual Costing* is active.
- The actual cost component split is active.
- Price determination control 3

Actual Cost Component Split

Features

The actual cost component split groups the actual costs according to cost components across multiple manufacturing levels. See the documentation for *Product Cost Planning* for more information on planned cost component splits.

According to your settings in Customizing, you can display a [primary cost component split \[Ext.\]](#) and/or a [cost component split for cost of goods manufactured \[Ext.\]](#). If you want to display both cost component split types, specify which is the primary cost component split and which is the auxiliary cost component split in Customizing.

Activities

In Customizing of *Product Cost Planning* under *Basic Settings for Material Costing* → *Define Cost Components*, check the following:

- The cost component structure and cost components
- If necessary, the transfer structure for the primary cost component split

In Customizing for the application component *Actual Costing/Material Ledger*, the following settings are made under *Actual Costing* → *Activate Actual Cost Component Split*:

- Activation of the actual cost component split for each valuation area

For more information on cost component splits, see the documentation for *Product Cost Planning*:

[Cost Component Split for the Cost of Goods Manufactured \[Ext.\]](#)

[Primary Cost Component Split \[Ext.\]](#)

[Transfer Structure for the Primary Cost Component Split \[Ext.\]](#)

[Cost Component Structure \[Ext.\]](#)

[Cost Component \[Ext.\]](#)

[Cost Component Views in Material Costing \[Ext.\]](#)

Displaying Reports for Actual Cost Component Splits

Prerequisites

The *actual cost component split* is active.

Procedure

Function	Menu Path
<i>Cost Components for Price</i>	Choose <i>Accounting</i> → <i>Controlling</i> → <i>Product Cost Controlling</i> → <i>Actual Costing/Material Ledger</i> → <i>Information System</i> → <i>Detailed Reports</i> → <i>Cost Components for Price</i> .
<i>Cost Components</i>	Choose <i>Accounting</i> → <i>Controlling</i> → <i>Product Cost Controlling</i> → <i>Actual Costing/Material Ledger</i> → <i>Information System</i> → <i>Detailed Reports</i> → <i>Material Price Analysis</i> . Choose the <i>Cost Components</i> view.
<i>Plan/Actual Comparison</i>	Choose <i>Accounting</i> → <i>Controlling</i> → <i>Product Cost Controlling</i> → <i>Actual Costing/Material Ledger</i> → <i>Information System</i> → <i>Detailed Reports</i> → <i>Material Price Analysis</i> . Choose the <i>Plan/Actual Comparison</i> view.

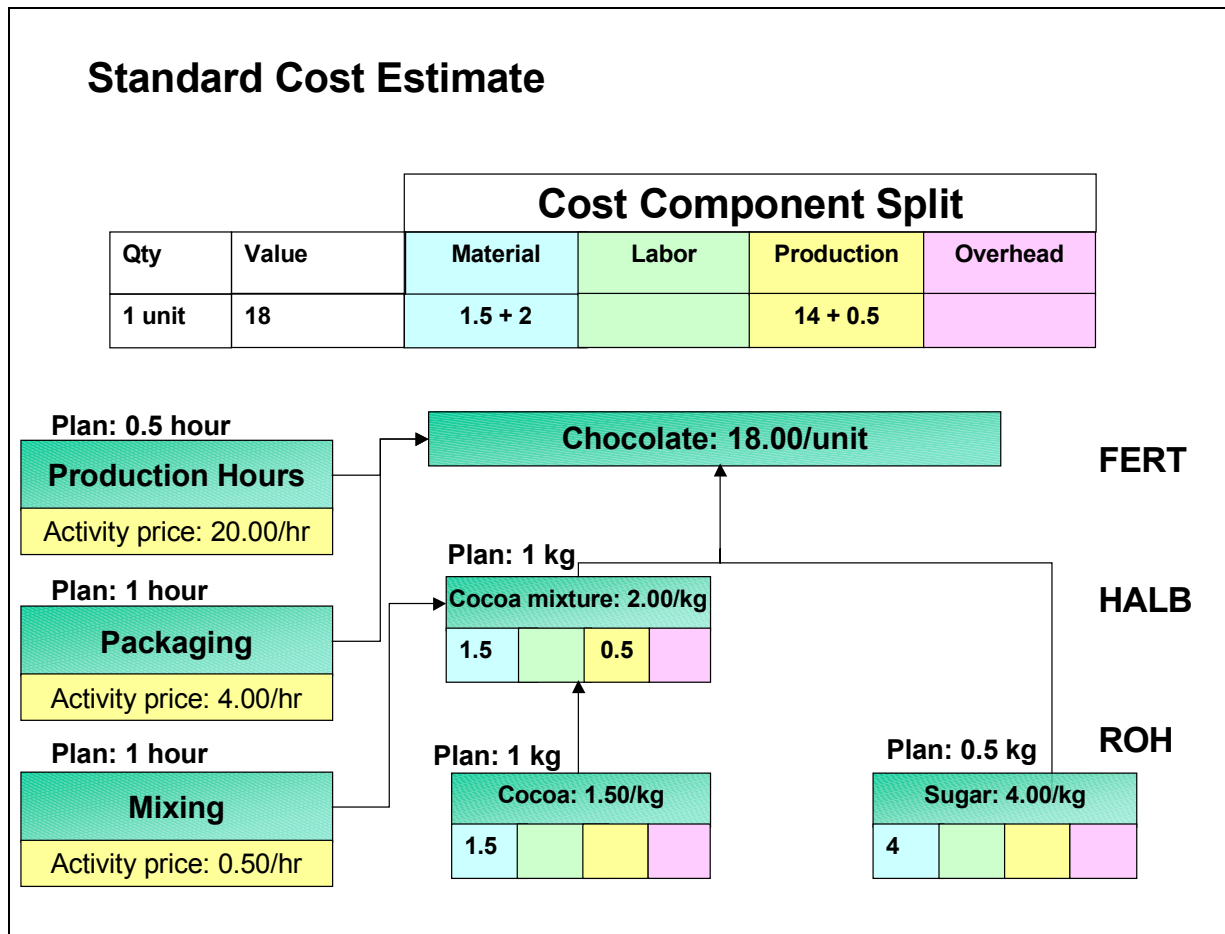
See also:

[Cost Components for Price \[Page 194\]](#)

Example: Actual Cost Component Split

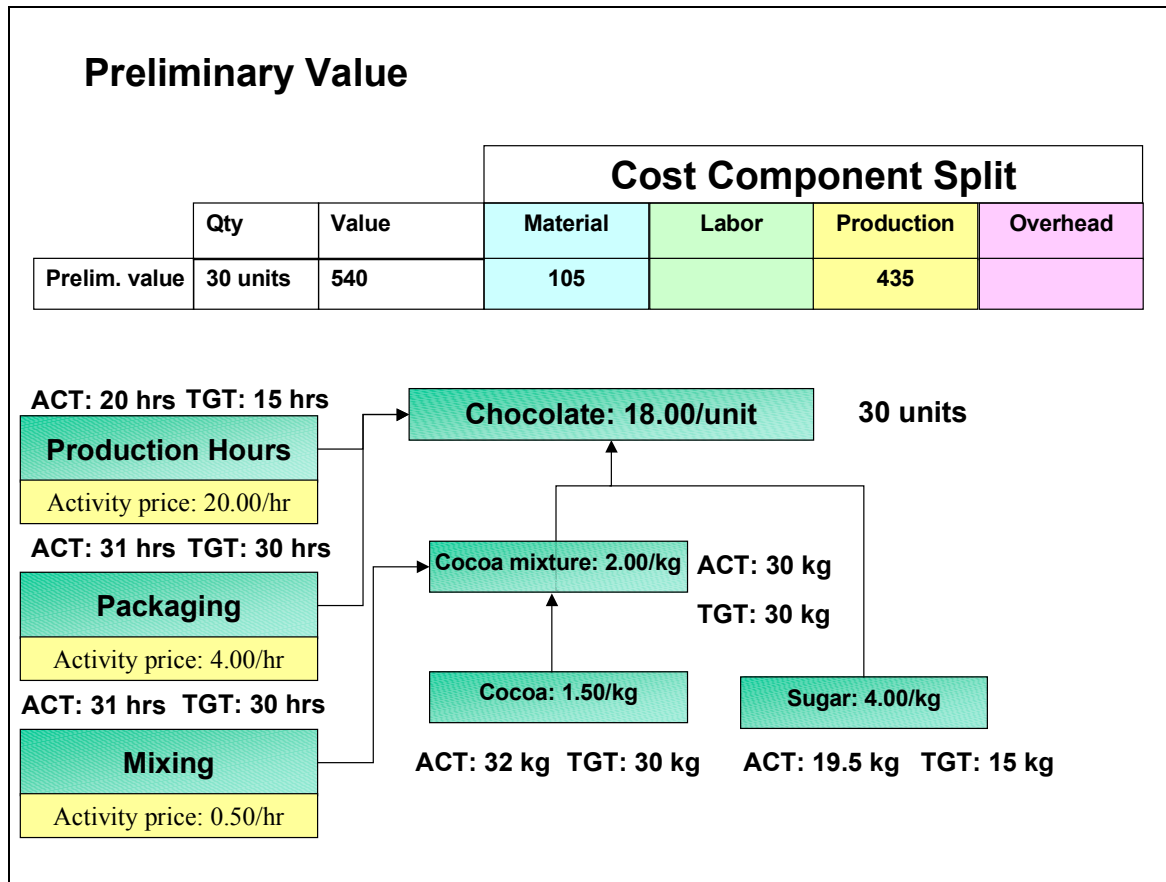
Example: Actual Cost Component Split

A planned cost estimate was created for a bar of chocolate. This product consists of the semifinished product *cocoa* and the raw material *sugar*. The activity types *production hours*, *packaging*, and *mixing* are necessary to manufacture the chocolate. In Customizing of *Product Cost Planning*, a cost component structure was defined with the cost components *raw materials*, *personnel*, *production*, and *material overhead*.



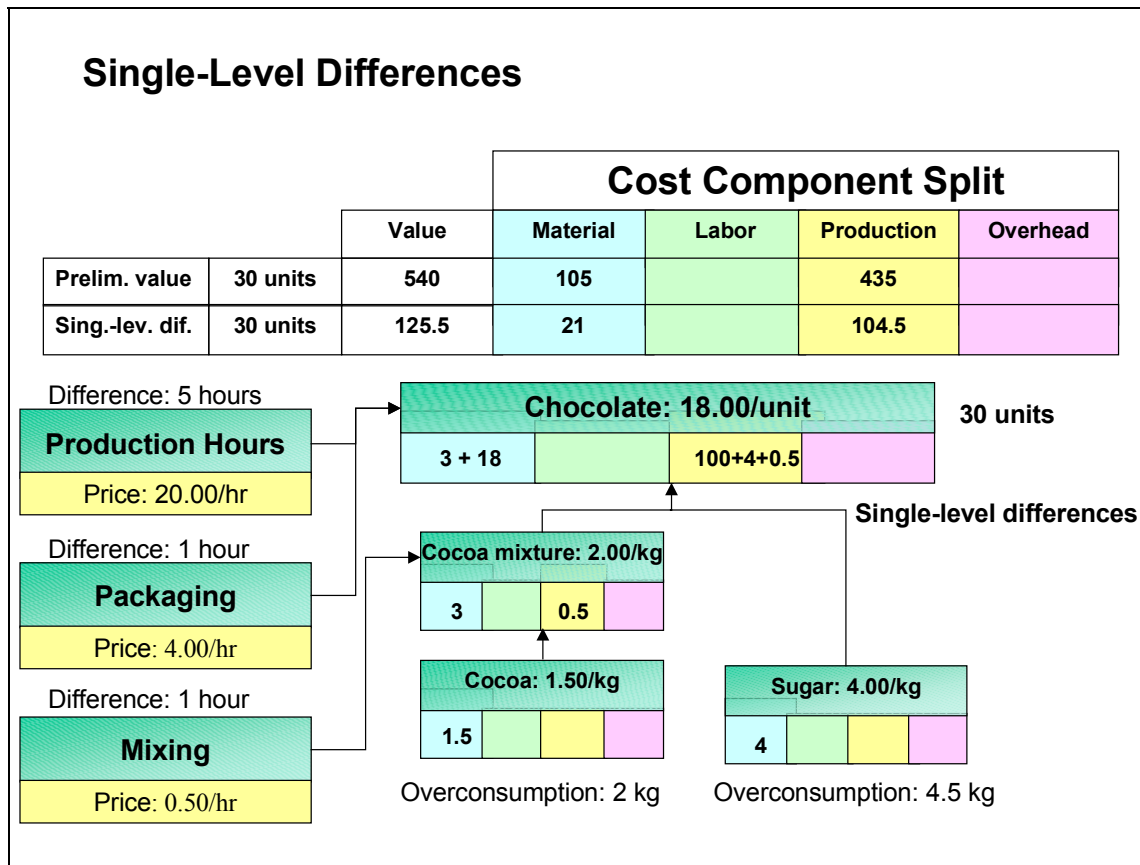
During the period, a production order is created for the material *chocolate*. For production of the chocolate, the semifinished product *cocoa* and the raw material *sugar* are withdrawn from inventory and the production activities are confirmed.

The chocolate is valued at standard price. At this point in time, the differences have not yet been posted. The single-level differences (due to over- or underconsumption) remain on the order. At this point in time, the actual cost component split matches the cost component split for planned costs and explains the preliminary valuation of the material *chocolate*.



Actual Cost Component Split: Update and Single-Level Material Price Determination

Single-level differences are broken down into cost components as they arise (in this case, when the order is settled). Single-level material price determination distributes the single-level differences as cost components to the categories *consumption* and *ending inventory*. You see the result in the *cost components* view in *material price analysis*.



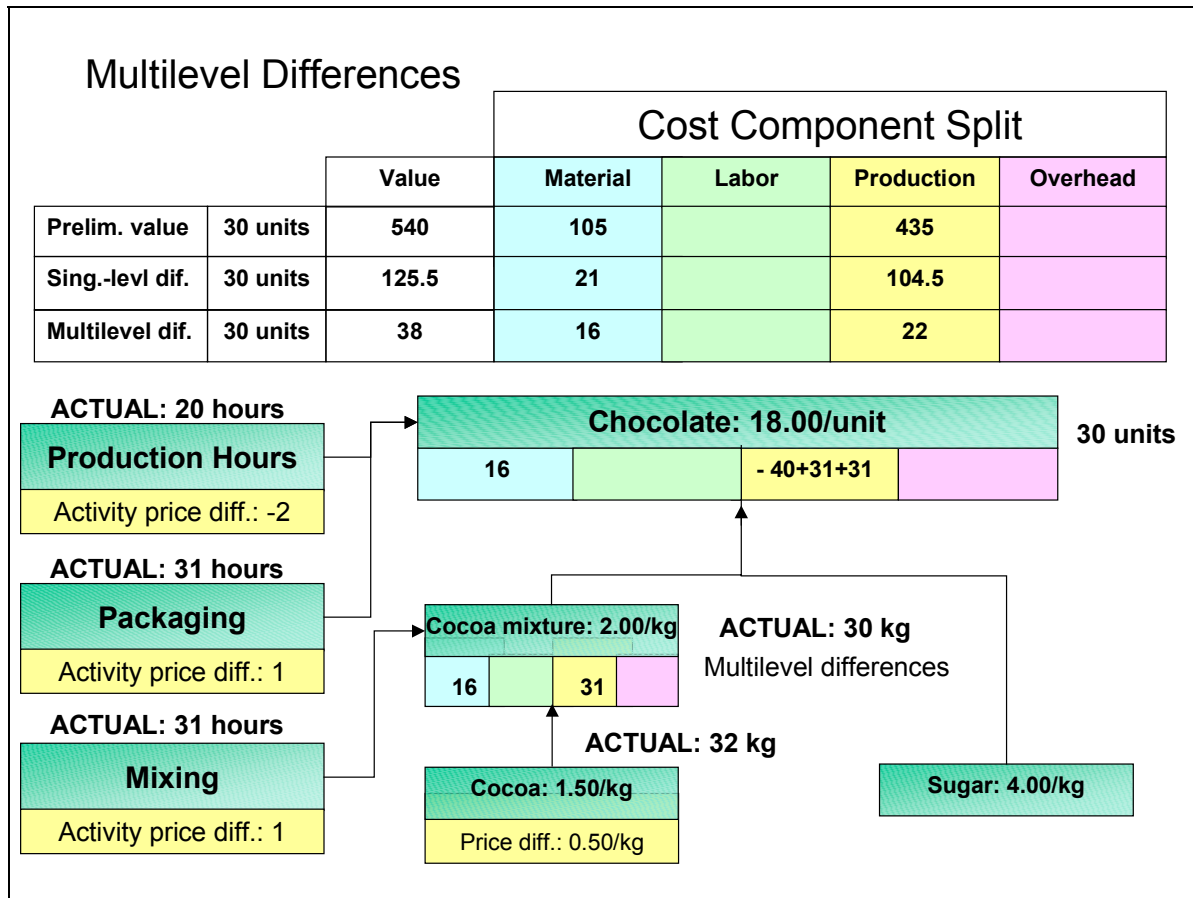
Actual Cost Component Split: Multilevel Material Price Determination

Actual Cost Component Split: Multilevel Material Price Determination

Multilevel material price determination rolls up data (such as the differences that arose for the input materials and the price differences of cost center activity prices from actual activity price calculation) as multilevel differences to the material being manufactured. The actual cost component split distributes these rolled-up differences to the corresponding cost components.

With a cost component split for the cost of goods manufactured, the difference between the planned activity price and the actual activity price is entered into the corresponding cost component for the production activity.

With a primary cost component split, the difference between the planned activity price and the actual activity price is distributed to the corresponding cost components, and is added to the cost components of the next-highest costing level.



The closing entry carries the cost component split information of the ending inventory forward to the beginning inventory of the subsequent period.

Price Changes

Price Changes

Use

Using this function, you can change prices, mark prices for change, and release prices for material valuation.

If the material ledger is **active**, a price change for a material with price determination 3 (single- and multilevel material price determination) is only possible if there have been no goods movements relevant to valuation and no incoming invoices for the material in the period.

If the material ledger is **not active**, you can always change material prices regardless which price control has been set for the material.

- If a material is valued at the standard price, it is always valued at the same price. The development of delivered prices is included in the material master for statistical purposes, but not used for material valuation. The price differences are posted to a price difference account.
- If a material is valued at the moving average price, the price changes with every goods movement and incoming invoice if the purchase order price or invoice price varies from the moving average price. In other words, the price automatically reflects the delivered price.

You can make a price change in the following ways:

- In a processing step with immediate effect
For more information, see [Changing Material Prices \[Page 108\]](#).
- In a two-step procedure
For more information, see [Determining Future Prices \[Page 101\]](#) and [Releasing Planned Prices \[Page 104\]](#).

When making changes with immediate effect, you can post a price change to the previous period or year. For more information, see [Posting a Price Change to the Previous Period or Year \[Page 109\]](#).

Features

If you **activated** the material ledger, you can maintain valuation prices independent of one another in up to three currencies and/or valuations. If the material ledger is **not active**, you only maintain the valuation prices in company code currency with legal valuation. You can perform the following functions:

Change Material Prices

You can **change** current material valuation prices retroactively or at the current date. To do so, enter the posting date and company code in the selection screen.

Debit/Credit Materials

You can **debit and credit** materials retroactively and at the current date. To do so, enter the posting date and company code in the selection screen.

Maintain Future Prices

You can **maintain** future price for materials as follows:

- Manually with a validity date in the material master.
- Through self-defined translation rules between currencies/valuations in the rule maintenance of the transaction [Maintain Future Prices \[Page 101\]](#).
- Through manual individual maintenance in the transaction [Maintain Future Prices \[Page 101\]](#). With rule maintenance, you determine the translation rules between currencies and valuations with which the future prices are calculated. If you are performing manual individual maintenance, you can manually overwrite the prices calculated by the system.

Release Planned Prices

You can **release** planned prices for material valuation in the following ways:

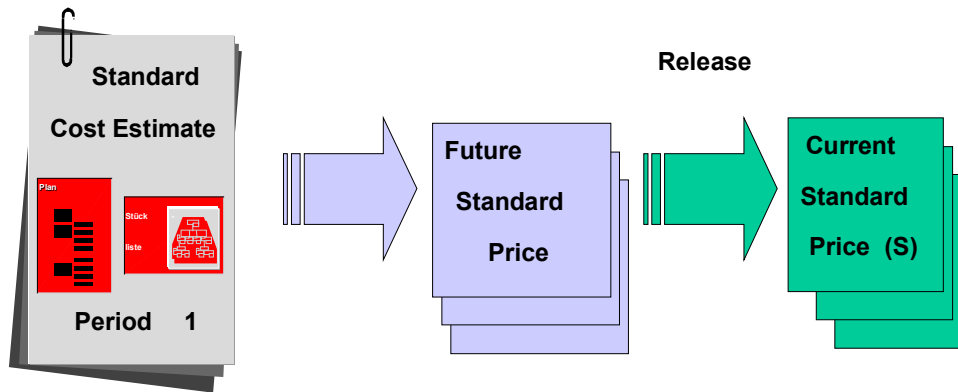
- **Manually** using the price release functions
- **Automatically** using the settings for *Dynamic Price Release* in Customizing
Planned prices are released automatically upon the first goods movement or invoice receipt in a period. A manual price release is necessary for materials **with no goods movements or invoice receipts**.

Future planned prices are calculated in the standard cost estimate. The results of a standard cost estimate take first priority as the valuation price for materials with price control S. For more information, see [Product Cost Planning \[Ext.\]](#).

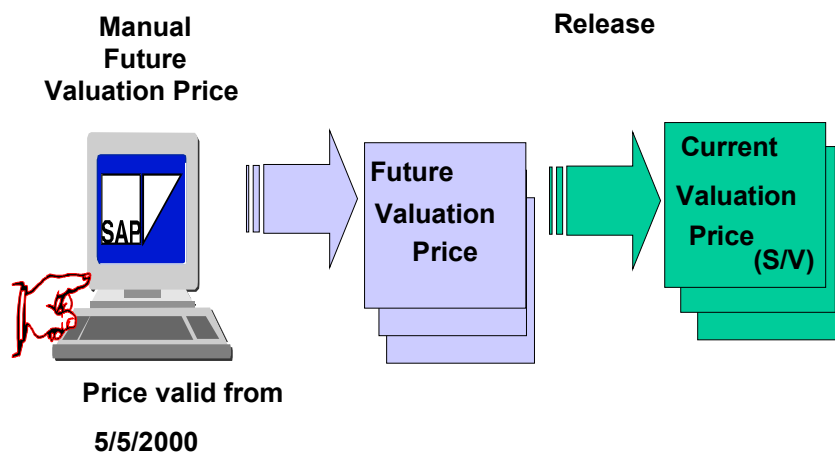
If multiple planned prices exist for a material, the system selects a price according to the following priorities:

1. Marked standard cost estimate

Price Changes



2. Manually maintained future valuation price



Influence on Currency Translation

In order to simplify maintaining valuation prices independent of one another in the transaction *Maintain Future Prices*; you can influence how the amounts in the different currencies and valuations are translated from currency to currency and valuation to valuation. You can overwrite the translated amounts manually if you activate manual individual maintenance in the transaction.



Maintaining future valuation prices in the material master record is possible in all currencies set. Translation into further currencies is performed with the exchange rate set in *Financial Accounting*.

See also:

[Debiting / Crediting Materials \[Page 100\]](#)

[Determining Future Prices \[Page 101\]](#)

[Releasing Planned Prices \[Page 104\]](#)

[Changing Material Prices \[Page 108\]](#)

[Displaying Price Change Documents \[Page 113\]](#)

[Material Valuation in the SAP System \[Ext.\]](#)

Debiting / Crediting Materials

Debiting / Crediting Materials

If you have **activated** the material ledger, then all other currencies are also displayed with the company code currency. If the material ledger is **not** active, then you will only see the company code currency.

Procedure

1. Choose *Logistics* → *Materials Management* → *Valuation* → *Material Price Change* → *Debit/Credit Materials*
or
Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Set Prices* → *Debit/Credit Materials*.
2. Enter the necessary data and choose *Enter*.
The overview screen appears.
3. Fill in the fields in the overview screen.
4. Choose *Save*.

Result

The system makes the following postings:

- For materials whose price control indicator is set to **S**, the revaluation amount is posted to a price difference account.
- For materials whose price control indicator is set to **V**, the revaluation amount is posted to a price difference account or a material stock account depending on the base quantity.

Example:

The base quantity of a material valued at the moving price (V) is 100 units; the inventory quantity is 50 units with an inventory value of USD 500. With an adjustment of USD 100, USD 50 is posted to the material stock account and USD 50 is posted to the price difference account.

Determining Future Prices (Automatically)

Procedure

1. Choose *Logistics* → *Materials Management* → *Valuation* → *Material Price Change* → *Maintain Future Prices*
or
Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Set Prices* → *Maintain Future Prices*
2. Enter the data for the material for which you want to maintain the future valuation price.
3. Enter the validity date of the marking.
4. If you want to maintain future valuation prices **automatically**, choose *Rule Maintenance*.

The Material Ledger Is Not Active

Set the following criteria for determining future valuation prices:

- i. Which existing price (such as *standard price* or *periodic unit price*) is to be used.
- ii. By what factor the result is to be multiplied (for example, with a factor of 0.5 the price will be halved)

The Material Ledger Is Active

Set the following criteria for determining future valuation prices in each currency and valuation:

- i. Which currency or valuation is to be used
- ii. Which existing price (such as *standard price* or *periodic unit price*) is to be used.
- iii. The date from which the translation exchange rate is taken (only in cases with different currencies)
- iv. The exchange rate type (*average rate*, for example) (only for differing currencies)
- v. By what factor the result is to be multiplied (for example, with a factor of 0.5 the price will be halved)

Maintain the values.

Choose *Execute*.

Result

The new future valuation prices are updated in all currencies and valuations in the material ledger data and also in the company code currency in the material master record.

If you have activated the *actual cost component split*, the cost component split data of the reference price is transferred during automatic price maintenance.

You can release the new future valuation prices. For more information, see [Releasing Planned Prices \[Page 104\]](#).

See also:

Determining Future Prices (Automatically)

[Determining Future Prices \(Manually\) \[Page 103\]](#)

Determining Future Prices (Manually)

Procedure

2. Choose *Logistics* → *Materials Management* → *Valuation* → *Material Price Change* → *Maintain Future Prices*
or
Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Set Prices* → *Maintain Future Prices*
5. Enter the data for the material for which you want to maintain the future valuation price.
6. Enter the validity date of the marking.
7. Choose *Manual Individual Maintenance* and check the new future price and the respective date. If necessary, change the entries into the respective currencies and valuations.
8. Maintain the values.
9. Choose *Execute*.

Result

The new future valuation prices are updated in all currencies and valuations in the material ledger data and also in the company code currency in the material master record.

If you have activated the *actual cost component split*, the system generates a predefined standard cost component split during manual price maintenance.

You can release the new future valuation prices. For more information, see [Releasing Planned Prices \[Page 104\]](#).



You can also manually maintain the future material price in the *Accounting 1* view of the material master.

See also:

[Determining Future Prices \(Automatically\) \[Page 101\]](#)

Releasing Planned Prices

Releasing Planned Prices

Prerequisites

The planned prices must exist in the system and they must be valid (validity date). If no valid planned prices exist in the system, the materials will continue to be valued with the valuation price used up to this point.

If the material ledger is **active** and you have set the *price determination* indicator in the material master to 3, then the following prerequisites must be fulfilled:

- The status of the material ledger data for the current period is as follows: *Period opened* or *Price change complete*. This means that there has been no goods movement, invoice, or order settlement posted for the material after execution of the period closing program.
- The closing entries for the previous period's material price determination have not yet been made.

Procedure

1. Choose *Logistics* → *Materials Management* → *Valuation* → *Material Price Change* → *Release Planned Prices*

or

Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Set Prices* → *Release Planned Prices*.

2. Enter data as required.
3. Enter threshold values for the price changes, if necessary.
4. Specify whether the program should be run as a test run or an update run.
5. Choose *Execute*.

A list with information about price changes and the corresponding revaluations appears.

6. To see the log, choose *Message list*.

Result

The system does the following:

- Updates the valid future prices (in the various currencies and valuations) as the current standard price or valuation price.
- Calculates a revaluation amount for the specific inventory quantity and revalues the inventory value by this amount.

The offsetting entry takes place in the revaluation account in accordance with account determination.

If no material stock exists, only the price is changed.

- Creates documents for the price change
- Creates change documents for the material master

See also:

[Displaying Price Change Documents \[Page 113\]](#)

Dynamic Release of Planned Prices

Dynamic Release of Planned Prices

Use

For each [Plant \[Page 17\]](#), you can specify that a planned price is to be released as the valuation price upon the first goods movement in a new period (as long as the validity date has been reached). You do this in Customizing, under

Controlling → Product Cost Controlling → Actual Costing / Material Ledger → Activate Valuation Areas for the Material Ledger

When using **dynamic price release**, the planned prices are handled by the system with the following priority:

1. Marked standard cost estimate
2. Manually maintained future valuation price



It is a good idea to use dynamic price release if it would pose organizational problems for you to release the planned prices between the program for period closing and the first goods movement. In this case, use dynamic price release so that the goods movements in this period are valued with the new price. Note that you must release the planned prices before the end of the period for materials that are not moved in this time.

Dynamic price release occurs when an order is settled, an invoice is created, or whenever a goods movement occurs for a material.

For more information, see [Releasing Planned Prices \[Page 104\]](#).

Integration

You can use this function even if you have not installed the material ledger. If you have installed the material ledger, you can use this type of activation for both material price determination settings.

Features

The first goods movement that triggers dynamic price release is valued with the new price.

The existing inventory is revaluated by the system and the following documents are generated:

- Material document for the goods movement
- Accounting document for price changes
- Material ledger document with the following items:
 - Update (UP)
 - Material price determination (CL) for materials whose prices were determined with transaction-based price determination
 - Price change (PC) with the new and the old prices for the material as well as the revaluation amount

Dynamic Release of Planned Prices

- Change document in the material master

Changing Material Prices

Changing Material Prices

Prerequisites

If the material ledger is **active**, the material prices of materials whose *price determination* indicator is set to 3 can only be changed at the beginning of the period before all price-relevant transactions.

If the material ledger is **not** active, you can change the material prices at any time.

Procedure

1. Choose *Logistics* → *Materials Management* → *Valuation* → *Material Price Change* → *Change Material Prices*
or
Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Set Prices* → *Change Material Prices*
2. Enter data as required.
3. An overview screen appears.
4. Fill in the fields in the overview screen.
5. Choose *Save*.

Result

Inventory is revaluated with all price controls, including valuation with standard price and valuation with periodic unit price.

Posting a Price Change to the Previous Period or Previous Year

Use

In Customizing for Invoice Verification, your system administrator can configure the posting of price changes to previous periods in two ways:

- The price change only applies to the previous period or to the previous year.
If this setting is chosen, the system only changes the price in the previous period or in the previous year. The account movements that took place in the previous period or previous year are reversed again in the current period.
See: [example \[Page 110\]](#)
- Price changes not only apply to the previous period or to the previous year but also to the current period.
If this setting is chosen, the system changes the price not only in the previous period or previous year, but also in the current period. If the quantities and previous prices are the same in the previous period or year, account movements only occur in the previous period. If this is not the case, account movements also occur in the current period. These account movements reverse the postings in the previous period and result in the current price change.
See: [example \[Page 111\]](#)

You post a price change to the previous period or year by entering a posting date from the previous period or year on the initial screen for making price changes.

Price Change in the Previous Period Only

Price Change in the Previous Period Only**Material Master Records**

	Previous period	Current period
Quantity	150	200
Price	10.00	11.00
Value	1500	2200

Price change valid in previous period only:

New price: 12.00

Account Movements

	Previous period	Current period
Stock account	300 +	300 -
Expenditure/income	300 -	300 +

Material Master Record After Price Change

	Previous period	Current period
Quantity	150	200
Price	12.00	11.00
Value	1800	2200

Price Change in the Previous and Current Period

Material Master Record

	Previous period	Current period
Quantity	150	200
Price	10.00	11.00
Value	1500	2200

Price change in the previous period and in the current period:

New price: 12.00

Account Movements

	Previous period	Current period
Stock account	300 +	100 -
Expenditure/income	300 -	100 +

Material Master Record After Price Change

	Previous period	Current period
Quantity	150	200
Price	12.00	12.00
Value	1800	2400

Price Change Document

Price Change Document

Definition

Document created by the system with the following:

- Material debits and credits
- Price changes
- Price releases
 - of a future price
 - from a cost estimate

Use

The price change document documents price changes as well as material debits and credits.

Displaying Price Change Documents

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Information System* → *More Reports* → *Price Change Document*.
2. Enter data as required.
3. To display the header data for the document, choose *Header*.

Result

The price change document appears.

Posting Example

Posting Example

The Hamburg plant manufactures chocolate from the raw materials cocoa and milk.

If the purchase order takes place in a foreign currency, price and exchange rate variances can arise if, for example, the exchange rate varies between the purchase order and the invoice receipt.

See also: [Example: Price and Exchange Rate Differences \[Page 115\]](#)

For period 1, single-level price determination takes place for the material.

See also: [Example: Single-Level Material Price Determination \[Page 119\]](#)

In addition to single-level price determination, multilevel material price determination and a closing entry take place for period 1.

See also: [Example: Multilevel Material Price Determination \[Page 121\]](#)

[Example: Closing Entries \[Page 126\]](#)

Example: Price and Exchange Rate Differences

Example 1

With the material price analysis, you can interpret how price and exchange rate differences arise under the category *Receipts*.

1 Initial inventory

In **Period 1**, there is a **beginning inventory of 10kg** of the raw material **cocoa** in the warehouse that is valued with the **standard price of 20 Mexican pesos (Mxn)**.

2 Goods Receipt

In the same period, a purchase order is placed for 20kg of cocoa in the foreign currency US dollars (USD).

The goods receipt of 20 kg of cocoa takes place at a price of 2.1 USD with an exchange rate of 1USD: 10 Mxn. 20 kg of cocoa costs 42 USD or 420 Mxn. 400 Mxn are posted to the material stock account and 20 Mxn to the price difference account.

3 Invoice Receipt

At invoice receipt a kilogram of cocoa costs 2.2 USD.

The increase in the price of cocoa causes price differences to arise, and fluctuations in the exchange rate (at invoice receipt 1USD is 11 Mxn) cause exchange rate differences to arise. At invoice receipt 20 kg of cocoa costs 44 USD or 484 Mxn. At invoice receipt 22 Mxn are posted to the price difference account and 42 Mxn are posted to the exchange rate difference account.

In the **material price analysis**, the following values are displayed for Period 1.

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
1 Initial inventory	10 kg	200 Mxn	0	0	20 Mxn
Receipts	20 kg	400 Mxn	42 Mxn	42 Mxn	24.2 Mxn
Procurement	20 kg	400 Mxn	42 Mxn	42 Mxn	24.2 Mxn
2 Goods receipt	20 kg	400 Mxn	20 Mxn	0	21 Mxn
3 Invoice receipt	0	0	22 Mxn	42 Mxn	0
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	30 kg	600 Mxn	42 Mxn	42 Mxn	22.8 Mxn
Consumption	0	0	0	0	0
Ending inventory	30 kg	600 Mxn			

*The price is calculated as follows:

(Preliminary valuation + price differences + exchange rate differences)/ quantity = price

Example: Price and Exchange Rate DifferencesSee also: [Displaying Material Price Analysis \[Page 43\]](#)**Postings:**

Postings are made to the following accounts:

No.	Periods	Inventory	Price differences	Exchange rate differences	GR/IR clearing account	Vendor account				
1	1	200								
2		400		20					420	
3				22		42		420		484



- The **gross invoice amount** without tax is calculated as follows:
 $2.2 \text{ USD/kg} * 2.2 \text{ USD/kg} = 44 \text{ USD}$
Translation is carried out through invoice verification **at the current exchange rate**:
 $44 \text{ USD} * 11 \text{ Mxn/USD} = 484 \text{ Mxn}$
- The **price difference** in the local currency **Mxn at goods receipt** is calculated with the exchange rate at the time of goods receipt:
 $\text{Price difference at goods receipt} = \text{price at goods receipt} * \text{goods receipt quantity} - \text{standard price} * \text{goods receipt quantity}$
or
 $20 \text{ Mxn} = 420 \text{ Mxn} - 400 \text{ Mxn}$
or
 $(2.1 \text{ USD/kg} * 10 \text{ Mxn/USD} - 2.0 \text{ Mxn/kg}) * 20 \text{ kg} = 20 \text{ Mxn}$
- The **exchange rate difference** in local currency **Mxn at invoice receipt** is the difference between the valuation of the goods receipt with the old and new exchange rates:
 $42 \text{ USD} * (11 \text{ Mxn/USD} - 10 \text{ Mxn/USD}) = 42 \text{ Mxn}$
- The **price difference** in local currency at the time of invoice receipt is the difference between the invoice amount and the total from the valuation of the goods receipt and the exchange rate:
 $\text{Price difference at invoice receipt} = \text{price at invoice receipt} - \text{price at goods receipt} - \text{exchange rate difference}$
or
 $22 \text{ Mxn} = 484 \text{ Mxn} - 420 \text{ Mxn} - 42 \text{ Mxn}$
The 22 Mxn is the price difference in purchase order currency, in this case USD, translated at the current exchange rate:
 $20 \text{ kg} * 0.1 \text{ USD/kg} * 11 \text{ Mxn/USD} = 22 \text{ Mxn}$

Example: Goods Issue

Example 2:

In **Period 1** there is a **goods issue of 10kg cocoa** for chocolate production. This 10 kg of cocoa is posted to a production order (see 4).

See also: [Example: Multilevel Price Determination \[Page 121\]](#)

In the **material price analysis**, the following values are displayed after goods issue in Period 1.

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	10 kg	200 Mxn	0	0	20 Mxn
Inward movements	20 kg	400 Mxn	42 Mxn	42 Mxn	24.2 Mxn
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	30 kg	600 Mxn	42 Mxn	42 Mxn	22.8 Mxn
Consumption	10 kg	200 Mxn	0	0	20 Mxn
Production	10 kg	200 Mxn	0	0	20 Mxn
Chocolate	10 kg	200 Mxn	0	0	20 Mxn
4 Goods issue	10 kg	200 Mxn	0	0	20 Mxn
Ending inventory	20 kg	400 Mxn		0	

See also: [Displaying Material Price Analysis \[Page 43\]](#)

Postings:

The following postings are made:

No.	Periods	Inventory	Production order		
1 [Page 115]	1	200			
2 [Page 115]		400			
4			200	200	

Example: Price Changes

Example: Price Changes**Example 3:**

The raw material cocoa is valued at a **standard price of 20 Mxn** per kilogram in **Period 1**. At the end of the period revaluation takes place: The new standard for Period 2 is 21 Mxn per kilogram. (See [5](#))

Segment of the Material Price Analysis for Period 2:

The period has begun, but no postings have been made yet. The price changes have been carried out.

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	20 kg	420 Mxn	0	0	21 Mxn

See also: [Displaying Material Price Analysis \[Page 43\]](#)

Postings:

The following postings are made:

No.	Periods	Inventory	Revaluation		
1 [Page 115]	1	200	200		
2 [Page 115]		400			
4 [Page 117]					
5	2	20			20

The revaluation amount of 20 Mxn is recorded in material ledger data and is used for calculation of the actual price.

Accounting View 1 in the Material Master

Period 1: Price control: S price (20 Mxn)

Period 2: Price control: S price (21 Mxn)

See also: [Price Changes \[Page 96\]](#)

Example: Single-Level Price Determination

Example 4:

For the **raw material cocoa** a single-level price determination is carried out in **Period 1**.

The **material price analysis** shows the following values after the single-level price determination in Period 1.

	Quantity	Preliminary valuation	Price difference	Exchange rate difference	Price
Beginning inventory	10 kg	200 Mxn	0	0	20 Mxn
Receipts	20 kg	400 Mxn	42 Mxn	42 Mxn	24.2 Mxn
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	30 kg	600 Mxn	42 Mxn	42 Mxn	22.8 Mxn
Consumption not allocated	10 kg 0	200 Mxn 0	14 Mxn 14 Mxn	14 Mxn 14 Mxn	22.8 Mxn 0
Production	10 kg	200 Mxn	0	0	20 Mxn
Chocolate	10 kg	200 Mxn	0	0	20 Mxn
Ending inventory	20 kg	400 Mxn	28 Mxn	28 Mxn	22.8 Mxn

Price differences are assigned to consumption through material price determination. If these differences are not entered into a multilevel price determination or multilevel price determination has not yet taken place, these price differences appear in the material price analysis under *Consumption/not allocated*.

See the following for further information:

[Displaying Material Price Analysis \[Page 43\]](#)

[Example: Price and Exchange Rate Differences \[Page 115\]](#)

[Example: Goods Issue \[Page 117\]](#)

During price determination, the system carries out the following calculation:

$$\frac{\text{prelimin. valuation} + \text{price diff.} + \text{exchnge rate diff.}}{\text{cumm. inventory}} = \frac{600 \text{ Mxn} + 42 \text{ Mxn} + 42 \text{ Mxn}}{30 \text{ pieces}} = 22.8 \text{ Mxn} / \text{piece}$$

Example: Single-Level Price Determination

The price control is not changed in the master data. The raw material cocoa is valued with the standard price. The price calculated through price determination is updated as a periodic transfer price in period 1 and as statistical information in the accounting view 1 of the material master.

Accounting View 1 in the Material Master

Period 1: Price control: standard price: 20 Mxn,
statistically updated moving average price: 22.8 Mxn



No postings occur in FI



No consumption is debited. For this reason, **uncalculated** price differences that are first entered into the higher processing steps during multilevel price determination appear in the material price analysis after single-level price determination

Example: Multilevel Price Determination

Example 5:

In **Period 1**, **100 chocolate bars** were produced from **10 kilograms of cocoa** and **10 liters of milk**. The resulting price and exchange rate differences of the raw materials are allocated to the finished product on a pro rata basis. See also: [Example: Price and Exchange Rate Differences \[Page 115\]](#)

Production order for 100 chocolate bars of production version 1:

		Plan	Actual		
		Quantity	Price / Activity price	Quantity	Price / Activity price
BOM	Cocoa	10 kg	MXN 200	10 kg	MXN 200
	Milk	10 liters	MXN 600	10 liters	MXN 600
Routing	Setup (MXN 50/hr)	1 hour	MXN 50	2 hours	MXN 100
	Production (MXN 50/hr)	3 hours	MXN 150	5 hours	MXN 250
	<i>Total</i>		<i>MXN 1000</i>		<i>MXN 1150</i>

Single-Level Price Determination

Single-Level Price Determination: Cocoa

The prices for the cocoa and the milk are determined by means of single-level price determination.

Material price analysis for the material **cocoa** in **period 1** after *single-level* price determination:

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	10 kg	MXN 200	0	0	MXN 20
Receipts	20 kg	MXN 400	MXN 42	MXN 42	MXN 24.2
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	30 kg	MXN 600	MXN 42	MXN 42	MXN 22.8

Example: Multilevel Price Determination

Consumption Not allocated	10 kg 0	MXN 200 0	MXN 14 MXN 14	MXN 14 MXN 14	MXN 22.8 0
Production	10 kg	MXN 200	0	0	MXN 20
Chocolate	10 kg	MXN 200	0	0	MXN 20
Goods issue	10 kg	MXN 200	0	0	MXN 20
Ending inventory	20 kg	MXN 400	MXN 28	MXN 28	MXN 22.8

See also: [Example: Goods Issue \[Page 117\]](#)

[Example: Single-Level Price Determination \[Page 119\]](#)

Price differences are assigned to consumption through material price determination. If these differences are not used in multilevel price determination, or if multilevel price determination has not yet taken place, these price differences appear in material price analysis under *Consumption/not allocated*.

Single-Level Price Determination: Milk

The material *milk* has only price differences resulting from two different procurements. No exchange rate differences arise. Milk is procured only from local producers (and therefore not in a foreign currency).

Material price analysis for the material *milk* in **period 1** after *single-level* price determination:

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	0 liter	0	0	0	60 MXN
Receipts					
Goods receipt 1	20 liters	MXN 1200	MXN 100	0	MXN 65
Goods receipt 2	20 liters	MXN 1200	MXN 140	0	MXN 67
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	40 liters	MXN 2400	MXN 240	0	MXN 66
Consumption Not allocated	10 liters 0	MXN 600 0	MXN 60 MXN 60	0 0	MXN 66 0
Production	10 liters	MXN 600	0	0	MXN 60
Chocolate	10 liters	MXN 600	0	0	MXN 60
Goods issue	10 liters	MXN 600	0	0	MXN 60
Ending inventory	30 liters	MXN 1800	MXN 180	0	MXN 66

Material price analysis for the finished product *chocolate* in **period 1** after *single-level* price determination:

Example: Multilevel Price Determination

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	0 bars	0	0	0	MXN 10
Receipts	100 bars	MXN 1000	MXN 150	0	MXN 11.5
Production	100 bars	MXN 1000	MXN 150	0	MXN 11.5
Order settlement	0	0	MXN 150	0	0
Goods receipt	100 bars	MXN 1000	0	0	MXN 10
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	100 bars	MXN 1000	MXN 150	0	MXN 11.5
Consumption					
Ending inventory	100 bars	MXN 1000	MXN 150	0	MXN 11.5

Multilevel Price Determination

The price and exchange rate differences from single-level material price determination of both raw materials appear in material price analysis of the finished product *chocolate* in the column *receipts*. There you see the documents from the lower levels. As with single-level price determination, the price and exchange rate differences from milk and cocoa are proportionally allocated to consumption and ending inventory after multilevel material price determination.

Material price analysis for the material **cocoa** in **period 1** after *multilevel* price determination:

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	10 kg	MXN 200	0	0	MXN 20
Receipts	20 kg	MXN 400	MXN 42	MXN 42	MXN 24.2
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	30 kg	MXN 600	MXN 42	MXN 42	MXN 22.8
Consumption	10 kg	MXN 200	MXN 14	MXN 14	MXN 22.8
Production	10 kg	MXN 200	MXN 14	MXN 14	MXN 22.8
Chocolate	10 kg	MXN 200	MXN 14	MXN 14	MXN 22.8
Multilevel price determination	0	0	MXN 14	MXN 14	0
Goods issue	10kg	MXN 200	0	0	MXN 20
Ending inventory	20 kg	MXN 400	MXN 28	MXN 28	MXN 22.8

Material price analysis for the material **milk** in **period 1** after *multilevel* price determination:

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
--	----------	-----------------------	-------------------	---------------------------	-------

Example: Multilevel Price Determination

Beginning inventory	0 liters	0	0	0	MXN 60
Receipts					
Goods receipt 1	20 liters	MXN 1200	MXN 100	0	MXN 65
Goods receipt 2	20 liters	MXN 1200	MXN 140	0	MXN 67
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	40 liters	MXN 2400	MXN 240	0	MXN 66
Consumption	10 liters	MXN 600	MXN 60	0	MXN 66
Production	10 liters	MXN 600	MXN 60	0	MXN 60
Chocolate	10 liters	MXN 600	MXN 60	0	MXN 60
Multilevel price determ.	0	0	MXN 60	0	0
Goods issue	10 liters	MXN 600	0	0	MXN 60
Ending inventory	30 liters	MXN 1800	MXN 180	0	MXN 66

Material price analysis for the material *chocolate* in **period 1** after *multilevel* price determination:

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	0 bars	0	0	0	MXN 10
Receipts	100 bars	MXN 1000	MXN 224	MXN 14	MXN 12.4
Production	100 bars	MXN 1000	MXN 224	MXN 14	MXN 12.4
Multilevel price determination	0	0	MXN 74	MXN 74	0
Order settlement	0	0	MXN 150	0	0
Goods receipt	100 bars	MXN 1000	0	0	MXN 10
Other inward/outward movements	0	0	0	0	0
Cumulated inventory	100 bars	MXN 1000	MXN 224	MXN 14	MXN 12.4
Consumption					
Ending inventory	100 bars	MXN 1000	MXN 224	MXN 14	MXN 12.4

Closing Entries with Revaluation of Materials

Note: In this example, it is assumed that the closing entry of the material *cocoa* in the first period is not made until now with the closing entries for multilevel price determination.

Closing entries for

Example: Multilevel Price Determination

- Single-level price determination of the material *cocoa* (see also: [Example: Closing Entries \[Page 126\]](#)) **6**
- Single-level price determination of the material *milk* **8**
- Single-level price determination of chocolate **9**
- Multilevel price determination of chocolate **10** and final revaluation in Period 1 **11**
- Credit to inventory (only shown for the example for chocolate) in Period 2 **12**

No.	P*	Invent or y	Pri ce dif fer en ce s co co a	Pri ce dif fer en ce s mi lk	Pri ce dif fer en ce s ch oc ol at e	Ex ch an ge rat e dif fer en ce s co co a	Ex ch an ge rat e dif fer en ce s ch oc ol at e	Pri ce dif fer en ce s of we r lev el	Ex ch an ge rat e dif fer en ce s of lo we r lev el							
2300068910111	1	15088		2022		100140	280	150	42							
					14		18060	150		28					74	
										14					74	14
12	2		238					224			14					

* Period

Example: Closing Entries

Example: Closing Entries

Example 6:

[Example: Single-Level Price Determination \[Page 119\]](#) for the material cocoa is used for this closing entry.

The material cocoa is not revaluated

The following values are displayed in the master data of the accounting view **before** the closing entry:

Period 1: Price control: S price; S price = 20 Mxn

Period 2: Price control: S price; S price = 21 Mxn

The accounting view 1 of the material master displays the following values **after** the closing entry:

Period 1: Price control: S price; S price = 20 Mxn

Period 2: Price control: S price; S price = 21 Mxn

Postings:

- In Period 1 the price and exchange rate difference accounts are posted to an *Accruals and Deferrals Account 6*
- In Period 2 the price and exchange rate differences are redistributed *7*

Number	Periods	Inventory	Price differences	Exchange rate differences	Revaluation	Accruals and Deferrals Account Material Ledger					
1	1	200									
2		400		20							
3				22		42					
4			200								
6					28		28				56
5	2	20							20		
7				8		28		20			56

Example: Closing Entries

The material cocoa is not revaluated:

The following values are displayed in the master data of the accounting view **before** the closing entry:

Period 1: Price control: S price; S price = 20 Mxn

Period 2: Price control: S price; S price = 21 Mxn

The accounting view 1 of the material master displays the following values **after** the closing entry:

Period 1: Price control: Moving average price; Moving average price = 22,8 Mxn

Period 2: Price control: S price; S price = 21 Mxn

Postings:

Number	Periods	Inventory	Price differences	Exchange rate differences	Revaluation				
1	1	200							
2		400		20					
3				22		42			
4			200						
6	Last day of Period 1	56			28		28		
5	2	20							20
7	First day of Period 2		56	8		28		20	

The material ledger data display for Period 2 is independent of the option selected during revaluation:

	Quantity	Preliminary valuation	Price differences	Exchange rate differences	Price
Beginning inventory	20 kg	420 Mxn	8	28	22,8 Mxn

The price in the material ledger is an actual price and is calculated dynamically. For this reason, the price of 22,8 Mxn appears after the price and exchange rate differences from the previous period are updated.

Structuring Value Chains

Structuring Value Chains

Use

To make the most of *Product Cost Controlling*; it may be necessary to differentiate between the various methods of procurement for a material. This can help you find the most cost-effective procurement method. In addition, it may be necessary to analyze the costs of an entire value chain.

The system uses [process categories \[Page 137\]](#) to differentiate between the different types of procurement, with the central element in the value chain being the [procurement process \[Page 135\]](#). Procurement processes deal with both internal and external procurement.

Examples of this are:

- Subcontracting (external procurement)
- In-house production (internal procurement)
- Stock transfer (internal procurement)

In the case of in-house production, procurement processes are called [production processes \[Page 140\]](#). As a rule, a procurement process produces exactly one valuated material.

In the following situations, however, a procurement process can produce multiple valuated materials:

- Joint production
- Split valuation according to batch
- Valuated sales order stock

If multiple materials are produced or procured with one procurement process, it may be necessary to divide up these costs. The costs are divided among [procurement alternatives \[Page 146\]](#) that are then assigned to the particular material. If one process produces one material there is then a 1: 1 ratio between the procurement alternative and procurement process. If, however, a procurement process produces multiple materials, multiple procurement alternatives are then assigned to that process.

Integration

Procurement process and procurement alternatives are used:

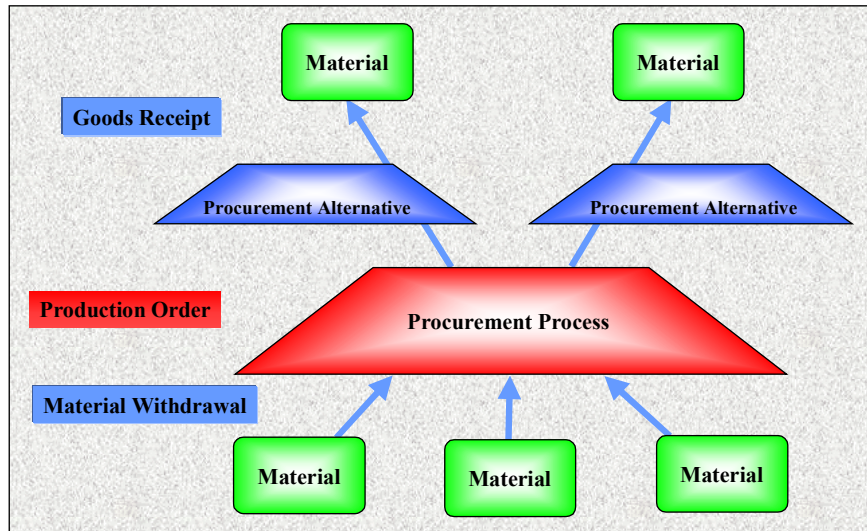
- In *Product Cost Planning*, when you work with mixed costing (even if the material ledger is not active)
- In *Cost Object Controlling*, in *Product Cost by Period* (even if the material ledger is not active)
- In the component *Actual Costing/Material Ledger* (when creating an actual quantity structure, for example)

Features

If Actual Costing/Material Ledger is active, a procurement alternative is created for each material at plant level. The [Controlling level \[Page 130\]](#) affected is called *Material/Plant*. You can analyze

Structuring Value Chains

costs and quantities in greater detail if you set the Controlling level more precisely, i.e. if you add *Production Version* to the characteristics.



Activities

You can find detailed information in the corresponding documentation concerning the use of procurement processes, procurement alternatives, and process categories, as well as controlling levels in conjunction with mixed costing or *Product Cost by Period*. You will find the relevant information there.

See also:

[Mixed Costing \[Ext.\]](#)

[Production Processes \[Page 140\]](#)

[Product Cost Collectors \[Ext.\]](#)

[Procurement Alternatives \[Page 146\]](#)

[Procurement Processes \[Page 135\]](#)

Controlling Level

Controlling Level

Definition

The Controlling level determines the level in *Product Cost Controlling* at which you can perform the following activities for a material:

- Calculate planned values
- Calculate actual values
- Calculate target values
- Analyze costs

There is only one Controlling level for each plant and [process category \[Page 137\]](#) for a given material. By means of various characteristics, this Controlling level determines the level of detail of the procurement alternatives created. The standard setting for the Controlling level is determined by the characteristics *Material/Plant*. For example, the Controlling level for the process category *production* can be set to show more detail by means of the additional characteristic *Production Version*.

Use

The Controlling level determines the characteristics with which the procurement alternatives and procurement processes are generated and for which data is updated.

- In *Product Cost Planning*, the Controlling level determines the characteristics of the procurement alternatives that are used to calculate the mixed price.
- In the *Product Cost by Period* component, you use a Controlling level when you:
 - Create a product cost collector
 - Use a production process that you want to assign to the lowest node in a cost object hierarchy
- In the application component *Actual Costing/Material Ledger*, the Controlling level is used to analyze the actual costs in the master data.

If you specify the Controlling level, it is valid for all application components.



Take the example of a material that is manufactured with different production versions. You can plan costs, update actual costs, and determine target costs. You use the Controlling level to specify that the costs for each production version can be updated and analyzed.

The next example shows how the Controlling level *Production Version* is used in the application components *Product Cost Planning*, *Cost Object Controlling*, and *Actual Costing/Material Ledger*.

If you want to calculate a standard price for the material that includes the costs for each production version, you can create a procurement alternative in *Product Cost Planning* for each production version. The system sets the Controlling level for the material at the level of the production version. You can mix the procurement

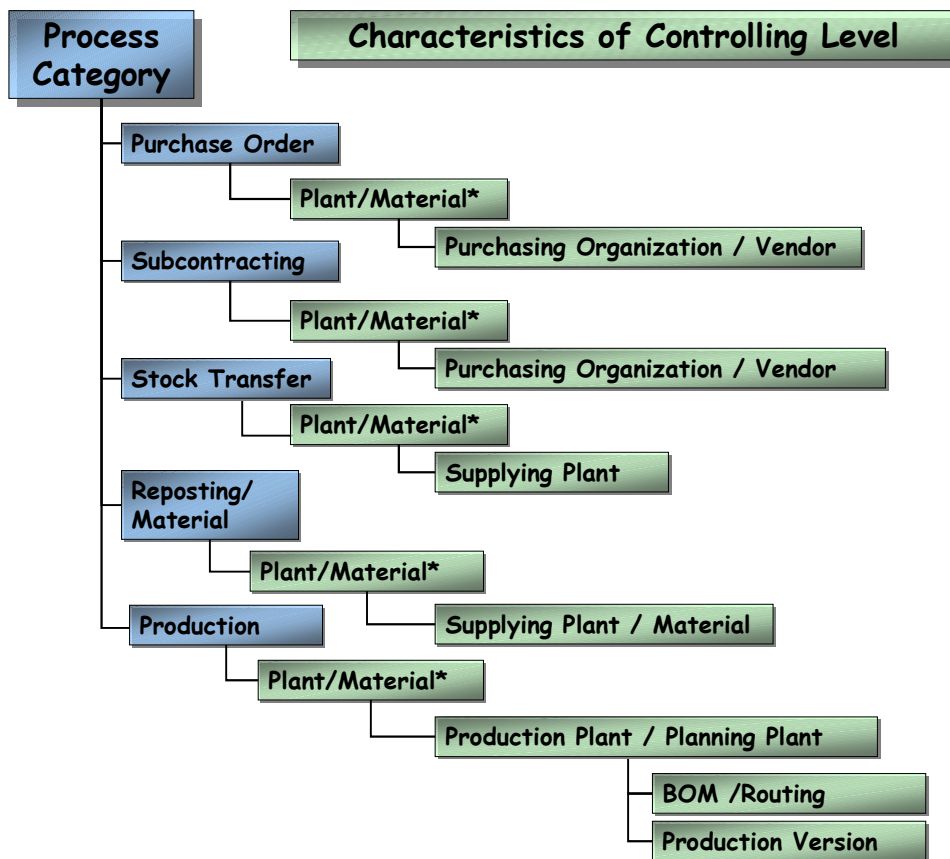
Controlling Level

alternatives in the ratio in which you anticipate the production versions will be used in production. The standard cost of each procurement alternative is calculated and mixed in the standard cost estimate for the material. The resulting mixed price can be updated as the standard price of the material.

You are manufacturing the material with two different production versions 0001 and 0002. You create a product cost collector for each production version in the *Product Cost by Period* component. The system collects the costs for each production version on this product cost collector. The system calculates the periodic unit price for the material in the application component *Actual Costing/Material Ledger*. You can analyze the values by production version in the master data of the material ledger.

Integration

Controlling levels are created for plant materials. There is only one Controlling level for each material and process category. Which Controlling level can be used depends on the process category (such as *production*). The Controlling level determines the characteristics that are used to identify a procurement process or procurement alternative:



*If you have not explicitly set the Controlling level, the system automatically sets the level to *Plant/Material*. Remember that the data volume on your computer will increase if you choose a higher level of detail for the Controlling level.

Controlling Level

If you are using product cost collectors, the level *Production Plant/Planning Plant* for the process category *production* is the least detailed Controlling level.

Features

Controlling Level in Application Component *Product Cost Planning*

You always create a procurement alternative with reference to the combination *material/plant* and (if applicable) *valuation type*. You also assign a process category to each procurement alternative. For more information, refer to [Creating/Changing/Displaying Procurement Alternatives \[Page 148\]](#) and [Mixed Costing \[Ext.\]](#).

Controlling Level in Application Component *Product Cost by Period*

In the *Product Cost by Period* component, the only relevant process category is *Production* (the [production process \[Page 140\]](#)). A production process is required in *Product Cost by Period* when you want to do the following:

- Collect costs on a [product cost collector \[Ext.\]](#)

If you want to collect costs on a product cost collector, you specify which Controlling level you want to assign to a plant material when you create the product cost collector. If a more detailed Controlling level has already been defined for the plant material, then that Controlling level is used when a new product cost collector is created.
- Assign the combination *material/plant/production process* to the lowest [cost object nodes \[Ext.\]](#) in a [cost object hierarchy \[Ext.\]](#)

If you want to assign the combination material / plant / production process to a cost object node but no relevant production process exists for the plant material, you can create the production process manually (see also: [Creating a Production Process for a Cost Object Hierarchy \[Page 144\]](#)). In this case you select the Controlling level when you create the production process.

Controlling Level for Production Process

The following Controlling levels for the production process are allowed in the *Product Cost by Period* component:

- Production Version

You can use this Controlling level for example to create a product cost collector for each production plant, planning plant, and production version of a material.

The Controlling level *Production Version* should always be used when production versions have been defined (such as in repetitive manufacturing).
- BOM/Routing

You can use this Controlling level for example to create a product cost collector for each production plant, planning plant, and BOM/routing of a material.

The Controlling level *BOM/Routing* should only be used if the material is not produced in repetitive manufacturing.
- Production Plant/Planning Plant

Refer to the section [Product Cost Collector Material / Production Plant / Planning Plant: Constraints \[Ext.\]](#).

The Controlling Level in Application Component *Actual Costing/Material Ledger*

The standard Controlling level *Plant/Material* provides the full functionality of actual costing. Choosing a more detailed Controlling level increases the accuracy of the values in the master data of the material ledger and enables a more exact analysis of the actual costs.



The Controlling level for the plant material can be changed under certain conditions. Such changes then apply to all application components. For more information, refer to [Editing the Controlling Level \[Page 134\]](#).

See also:

[Product Cost by Period \[Ext.\]](#)

[Actual Costing/Material Ledger \[Ext.\]](#)

Editing the Controlling Level

Editing the Controlling Level

Prerequisites

You cannot change the Controlling level if there are procurement alternatives or procurement processes for that Controlling level that are already being used. A locked padlock symbol indicates that a Controlling level cannot be changed. If you want to change the Controlling level, note the restrictions in the following cases:

- A product cost collector already exists for the Controlling level. In this case, you can only change the Controlling level after the product cost collector in question has been deleted. See also: [Reorganization of Product Cost Collectors \[Ext.\]](#)
- Production processes that are assigned to a cost object hierarchy already exist for the Controlling level. In this case, you can only change the Controlling level if the production process has been removed from the cost object hierarchy.
- Procurement alternatives that are used in a mixing strategy already exist for the Controlling level. In this case you can only change the Controlling level if you remove the procurement alternatives for the mixing strategies displayed.

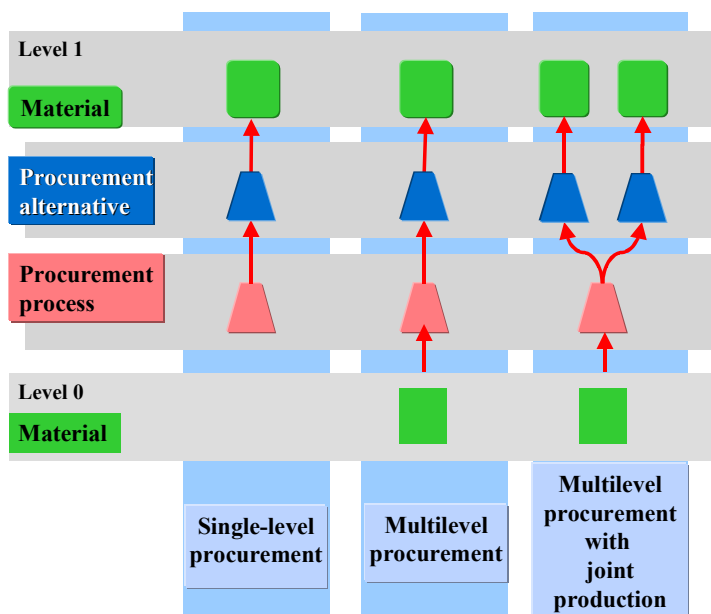
Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Edit Controlling Level for Material*.
2. Enter the plant and the material.
3. The padlock symbol next to the relevant Controlling level is not locked.
4. Position the cursor on the Controlling level that you want to change, and double-click on the symbol *Change Controlling level*.
5. Choose a Controlling level from the selection window.

Procurement Processes

Definition

Procurement processes are used in *Product Cost Controlling* to determine procurement costs and to present those costs. Procurement processes characterize the procurement transaction, possibly for multiple materials. A single process can produce multiple materials (such as with joint production), while the procurement alternative represents the production of just one material. Single-level and multilevel procurement alternatives are differentiated according to [process category \[Page 137\]](#). *Purchase Order*, for example, is single-level procurement and *Production* is multilevel procurement. You can determine the level of detail for a procurement process by choosing a Controlling level. For more information, see [Procurement Alternatives \[Page 146\]](#).



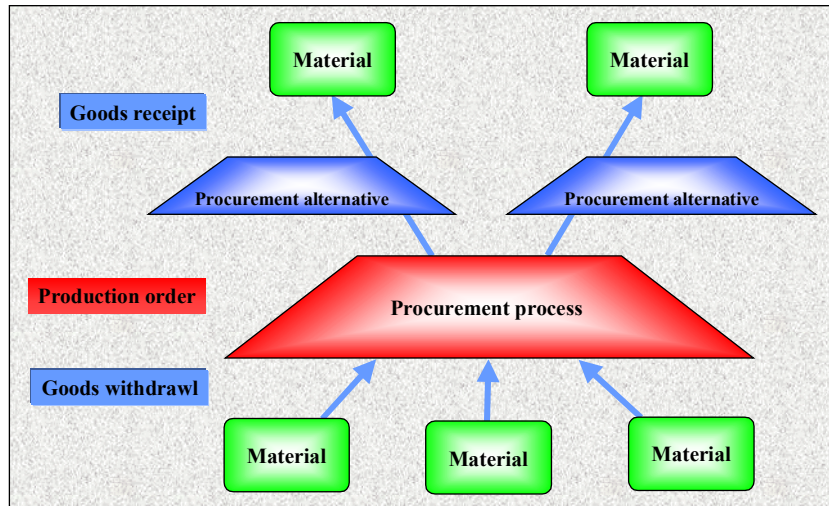
Use

Procurement processes are used in *Product Cost Controlling*, (i.e. *Product Cost by Period*) as well as in the component *Actual Costing/Material-Ledger*.



The procurement process for the process category *Production* is called [production process \[Page 140\]](#). If the Material Ledger is active with multilevel actual costing, every production order is assigned to a production process. If a goods receipt is posted to a material, that goods receipt is then assigned to the associated procurement alternative.

Procurement Processes

**See also:**

[Controlling Level \[Page 130\]](#)

[Maintaining Texts for Procurement Alternatives/Consumption Alternatives and Procurement Processes \[Page 163\]](#)

Process Categories

Definition

Process categories differentiate between the different types of procurement and consumption of materials. There are, for example, the process categories *Production* or *Purchase Order*. The different types of procurement and consumption are handled by the system in different ways. The system then updates different data using these different ways for processing consumption and procurement. Using this data, the system can differentiate characteristics that can be used to create procurement processes, procurement alternatives and consumption alternatives. For example, the following characteristics can be updated to a production process:

- Plant
- Material
- Production plant
- Planning plant
- Production version

You can determine the following characteristics for the procurement process *Purchase Order*:

- Plant
- Material
- Purchasing organization/vendor

In Customizing, you define which of these characteristics is used to create the procurement alternative or procurement process.

Use

In *Product Cost Controlling*, process categories are used, for example, in *Product Cost Planning* or in *Actual Costing/Material Ledger* when creating procurement alternatives and procurement processes.

Structure

The system differentiates between the following process categories:

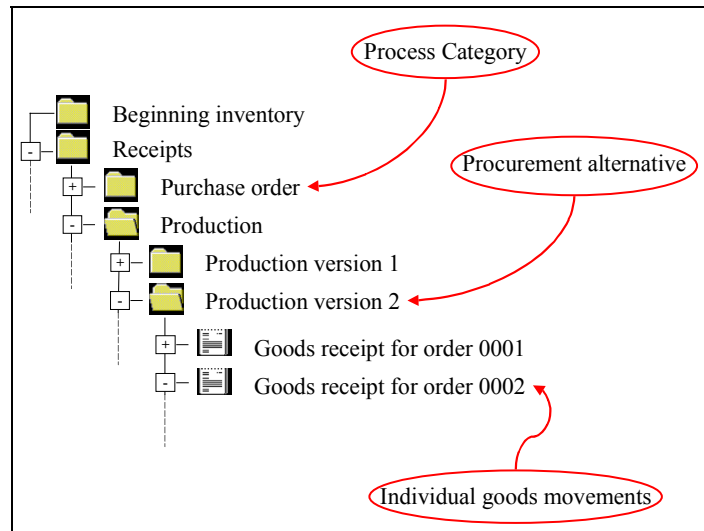
Category	Process Categories	
<i>Procurement</i>	Purchase order	Single-level
	Material transfer posting	Single-level
	Production	Multilevel
	Subcontracting	Multilevel
	Special-stock transfer posting	Multilevel
	Stock transfer	Multilevel
<i>Consumption</i>	Asset	Single-level
	Single-level order(internal order)	Single-level

Process Categories

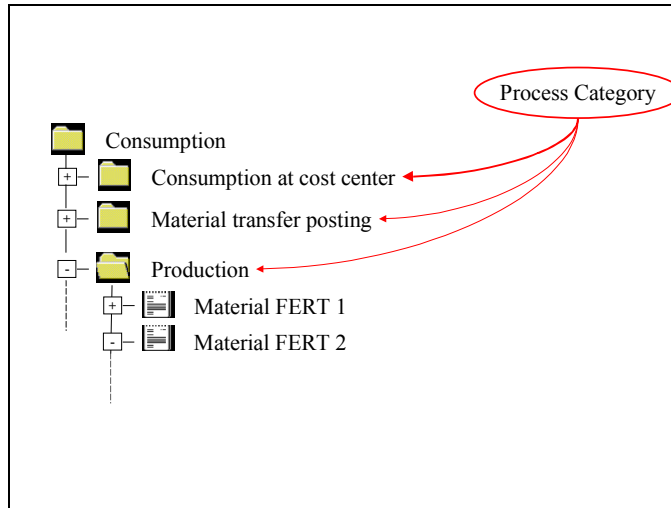
	Sales order	Single-level
	Cost center	Single-level
	Cost object	Single-level
	Project	Single-level
	Material transfer posting	Single-level
	Production	Multilevel
	Subcontracting	Multilevel
	Special-stock transfer posting	Multilevel
	Stock transfer	Multilevel

Upon goods movements, the system determines the process category automatically depending on the movement type.

Integration



Process Categories



Production Process

Production Process

Definition

Production processes are procurement processes of the process category *Production*.

Use

If you are using a given material in different manufacturing processes, production processes allow you to collect the quantities for each quantity structure (such as for each production version) and use those quantities for evaluation or analysis purposes.

Production processes are used:

- In the *Product Cost by Period* component
- When the *Actual Costing / Material Ledger* application component is active

The quantities updated by the production process are valued and the resulting costs allocated to the cost object.

Integration

The production order is assigned to a production process. Independently of the component, you can choose a Controlling level for the material from the production process that determines the level of detail for the creation of production processes. For example, if you want to collect and analyze the costs separately for each production version, choose the [Controlling level \[Page 130\]](#) *Production Version*.

The Controlling level determines which characteristics for the production process are updated.

Controlling Level	Characteristics of Controlling Level
Plant/Material	Material Receiving Plant
Production Plant/Planning Plant	Material Production Plant Planning Plant
Production Version	Material Production Plant Planning Plant Production Version

Production Process

BOM/Routing	Material Production Plant Planning Plant BOM Usage Alternative BOM Task List Type Task List Group Group Counter
-------------	--

In certain circumstances it is possible to change the Controlling level for a plant material. (See also: [Editing the Controlling Level \[Page 134\]](#))



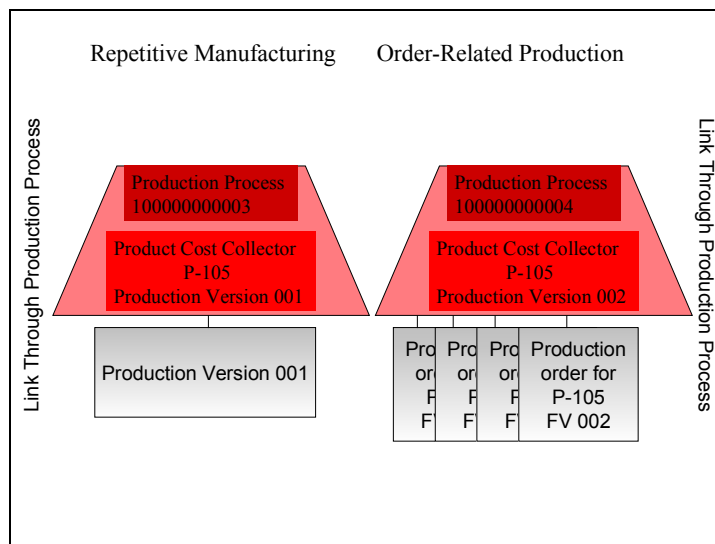
A production process for material P-105 for which the Controlling level *Production Version* was specified is defined by characteristic values such as the following:

- Material P-105
- Production plant 1000
- Planning plant 1000
- Production version 0001

Features

Product Cost Collectors

If you are using [product cost collectors \[Ext.\]](#) in *Cost Object Controlling* in the [Product Cost by Period \[Ext.\]](#) component, production processes link the product cost collectors to the manufacturing orders (in order-related production or process manufacturing) or to the production version (in repetitive manufacturing). This is the case regardless of whether the *Actual Costing / Material Ledger* application component is active or not.



Production Process

If no production process exists, the system automatically generates one when you create the product cost collector. (In some cases a production process will already exist, such as when a mixed cost estimate has been created for that material.) If the production process has not yet been created, you choose a Controlling level when you create the product cost collector. Then you enter the values of the characteristics of that Controlling level (such as planning plant 1000, production plant 1000, material P-105, and production version 0001). The Controlling level affects all application components.

Planning Plant and Production Plant

The planning plant and the production plant are characteristics of the production process. If the planning plant is not the same as the production plant, the product cost collector is created in the production plant. Settlement is to the material in the planning plant.

Manufacturing Orders

If the *Actual Costing/Material Ledger* application component is **active**, the system automatically assigns a production process to each manufacturing order on the basis of the characteristic values.

The system checks whether a Controlling level has already been assigned to the material being manufactured.

1. If no Controlling level has been specified, the system automatically selects the most basic level of detail, *Plant/Material*.
2. The system finds a more detailed Controlling level, and all characteristic values for the Controlling level are in the manufacturing order.

The system searches for a production process for the material according to the characteristic values. If a production process exists, it is assigned to the manufacturing order. If no production process exists, the system creates a new production process according to the characteristics of the Controlling level and the new characteristic value.
3. The system finds a more detailed Controlling level, but one of the characteristics for the Controlling level is not in the manufacturing order.

The system creates a production process for the Controlling level *Plant/Material* and assigns it to the manufacturing order.



In the Controlling level for the material, it is specified that the production process should be created for the production version. No production version is defined in the manufacturing order.

If the *Actual Costing/Material Ledger* application component is **not** active, a production process with the characteristic values relevant for the manufacturing order can already exist if:

- A mixed cost estimate with procurement alternatives with the relevant characteristic values has been created
- A product cost collector with the relevant characteristic values has been created

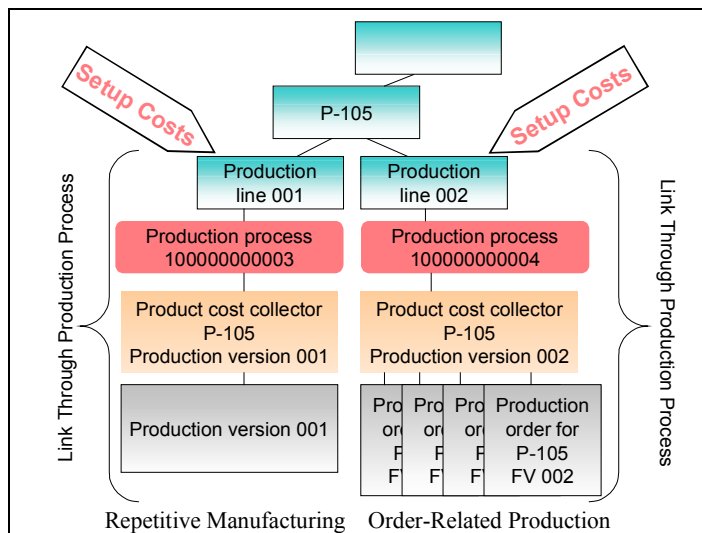
The manufacturing order with the same characteristic values is assigned to the product cost collector.
- A production process with the relevant characteristic values was created because a cost object hierarchy requires that production process

Repetitive Manufacturing

In repetitive manufacturing, costs are always collected on product cost collectors. To achieve this, the production version is linked to the product cost collector through the production process.

Cost Object Hierarchies

If you want to create a cost object hierarchy, assign the material and plant (or the material, plant, and production process) to the lowest cost object nodes in the cost object hierarchy. You assign the material, plant, and production process only if assignment at the material level does not meet your requirements (such as when you are manufacturing different production versions on different production lines and you want to assign different setup costs to the different lines).



If you have used cost object hierarchies for the combination material / plant / production version, it is recommended that you create production processes with the Controlling level *Production Version*. Preexisting cost object hierarchies for material / plant / production version or material / plant / run schedule header are converted (see also: [Conversion of Cost Object Hierarchies \[Ext.\]](#)).

See also:

[Product Cost Collector \[Ext.\]](#)

[Cost Object Hierarchy \[Ext.\]](#)

Creating a Production Process for a Cost Object Hierarchy

Creating a Production Process for a Cost Object Hierarchy

Prerequisites

- You want to create a [cost object hierarchy \[Ext.\]](#) for the Controlling level *Material / Plant / Production Process [Page 140]*.
- The production process that you want to assign has not been created.
 - A production process may already have been created for one of the following reasons:
 - You have created a mixed cost estimate for the material.
 - You have already created a [product cost collector \[Ext.\]](#) for the material.
 - You are using the application component *Actual Costing / Material Ledger*.

Procedure

1. Choose *Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Period → Master Data → Cost Object Hierarchy → Edit Production Process*.
The screen *Display Production Processes* appears.
2. Enter the following data:
 - Material
 - Plant. Note that the plant of the cost object node is the same as the planning plant in the manufacturing order.
3. Choose *Production Process → Create*.
The screen *Assign Controlling Level for Material* appears.
4. Choose a Controlling level by positioning the cursor.
5. Choose *Confirm*.
The screen *Create Production Process* appears.
6. Enter the following data:
 - The characteristics for the Controlling level (such as the production version if the Controlling level is *Production Version*)
 - A short text
7. Choose *Confirm*.
8. Save the production process.

Result

The system has created a production process for the material.

The production process was created in accordance with the Controlling level you selected. This Controlling level is valid for this plant material and can be changed under certain conditions. See also: [Editing the Controlling Level \[Page 134\]](#)

Creating a Production Process for a Cost Object Hierarchy

The production process is updated in all product cost collectors and [manufacturing orders \[Ext.\]](#) for this production process. All product cost collectors and manufacturing orders for this production process are automatically assigned to the relevant [cost object node \[Ext.\]](#).

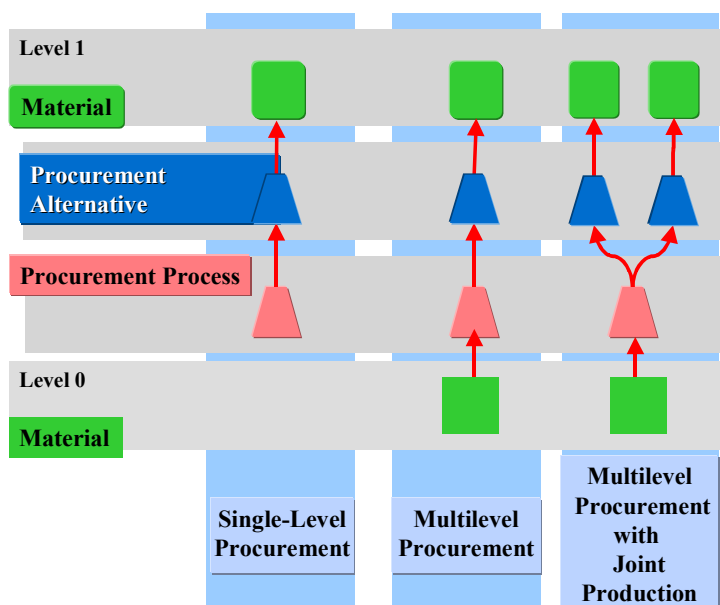
Procurement Alternatives

Procurement Alternatives

Definition

A procurement alternative presents the different options for procuring a material. You can choose the level of detail used to create the procurement alternative by defining the Controlling level. Single-level and multilevel procurement alternatives are differentiated according to [process category \[Page 137\]](#). *Purchase Order*, for example, is single-level procurement and *Production* is multilevel procurement.

For more information, see [Procurement Processes \[Page 135\]](#).



Use

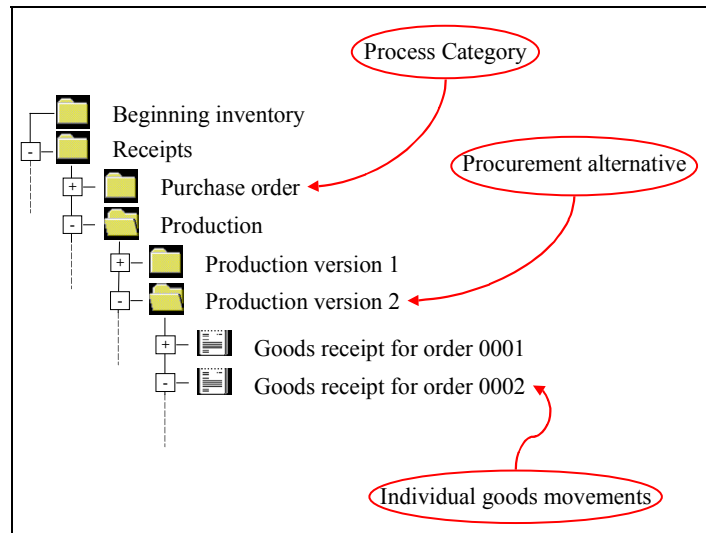
Procurement alternatives are used, for example, as follows:

- For mixed costing in the component *Product Cost Planning*
- In the component *Actual Costing/Material Ledger*

Example

The procurement process for the process category *Production* is called [production process \[Page 140\]](#). If the Material Ledger is active with multilevel actual costing, every production order is assigned to a production process. If a goods receipt from an order is posted to a material, that goods receipt is then assigned to the associated procurement alternative. In the following graphic, the goods receipt for order 0001 is assigned to procurement alternative *Production Version 2*.

Procurement Alternatives



As shown in the graphic, procurement alternatives are situated hierarchically under process categories.

See also:

[Controlling Level \[Page 130\]](#)

Editing Procurement Alternatives

Editing Procurement Alternatives

Prerequisites

If you use the following:

- Different processes to manufacture a product
- Different sources for procuring a material

these different manufacturing processes or supply sources can produce different prices for the same material. You can avail yourself of mixed costing to determine a price for this material. To be able to create the mixed price, there must exist a [procurement alternative \[Page 146\]](#) for each of the production processes or supply sources.

Procedure

Displaying Procurement Alternatives





1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Master Data for Mixed Cost Estimate* → *Edit Procurement Alternatives*.

The screen *Display Procurement Alternatives* appears.

2. Enter the material and plant for which you would like to display the procurement alternative. If a [valuation category \[Ext.\]](#) is also maintained for the material, you can enter a [valuation type \[Ext.\]](#). For more information, see [Joint Production and Split Valuation \[Ext.\]](#)

3. Choose .

All existing procurement alternatives for this material are hierarchically displayed, sorted by [process category \[Page 137\]](#).

- a. To expand or collapse this hierarchical list, choose  and .
- b. If you want to select a different layout for the list, or change the current layout, choose . For more information, see [Layouts \[Ext.\]](#).
- c. If you want to display detailed information about the procurement alternative, **double-click** on the required procurement alternative, or select it and choose .

The system then displays the detailed information.

Depending on the material and process category, certain information is either shown or hidden. If the procurement alternative contains data such as the valuation type, this information is displayed. If the procurement alternative does not contain a valuation type, this information is not displayed.


- d. To delete a procurement alternative, select the procurement alternative and choose .

Changing Procurement Alternatives


1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Master Data for Mixed Cost Estimate* → *Edit Procurement Alternatives*.

The screen *Display Procurement Alternatives* appears.

Editing Procurement Alternatives


2. Enter the material and plant for which you would like to change a procurement alternative. If a valuation category is also maintained for the material, you can enter a valuation type.
3. Choose .

All existing procurement alternatives for this material are hierarchically displayed, sorted by process category.

The [process category \[Page 137\]](#) (that is, type of procurement) specifies which entries have to be made in a procurement alternative. For the process category *Purchase order*, for example, you are required to enter the purchasing organization and the vendor. For more information, see [Procurement Alternatives \[Page 146\]](#) and [Controlling Level \[Page 130\]](#).
4. Double-click on the procurement alternative in the list to be changed.
 - a. Make the desired changes. For example, you can change a modifiable name or the costing lot size. You cannot change the process category. Instead, create a new procurement alternative and delete the old one.
 - b. Choose *Transfer*, to transfer the changes to the hierarchical list of the procurement alternatives.
 - c. Choose  to save the procurement alternatives.

Creating Procurement Alternatives

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Product Cost Planning* → *Material Costing* → *Master Data for Mixed Cost Estimate* → *Edit Procurement Alternatives*.

The screen *Display Procurement Alternatives* appears.
2. Enter the material and plant for which you would like to change or display a procurement alternative. If a [valuation category \[Ext.\]](#) is also maintained for the material, you can enter a [valuation type \[Ext.\]](#). For more information, see [Joint Production and Split Valuation \[Ext.\]](#).
3. Choose .
4. In the *Controlling Level* screen area, choose the process category for which the procurement alternative is to be created: *Purchasing*, *Subcontracting*, *Stock transfer*, *Purchase order* or *Inventory change*. For more information, see [Controlling Level \[Page 130\]](#) and [Process Category \[Page 137\]](#).

In the *Names* screen area, a technical name is generated (*Generated name*). You cannot change this name. However, you can enter a further name, which you can change at a later time (*Changeable name*).

The lot size is transferred from the material master as the default value (screen area *Costing data*). You can change this default value.
5. Enter data as required. The type of data required by the system is determined by the process category that you selected in step 4.
 - For the **process category *Purchase Order***:

You can enter the purchasing organization and the vendor. You cannot enter either the vendor or the purchasing organization only. However, it is possible to enter neither. The price for the material is then determined in accordance with the valuation strategy from the material master or the purchasing data.

Editing Procurement Alternatives


- For the **process category *Subcontracting***:
You must enter the vendor, the purchasing organization and the BOM for the material.
- For the **process category *Inventory change***:
Check the lot size.
- For the **process category *Stock Transfer***:
You must enter the special procurement plant.
- For the **process category *Production***:
If no production version exists for the material, you must enter the BOM and routing. If a production version exists, you must decide in a dialog box whether the procurement alternative is to be created using the production version or the BOM and routing. A production version determines the various production techniques that can be used to produce a material. You define production versions in the MRP view or the costing view in the material master record.



If you create a procurement alternative using a BOM/routing, you must specify the complete quantity structure, that is, the BOM and the routing. You cannot enter the BOM or routing only.



If you have already created a procurement alternative for the material using the production version, you cannot create another procurement alternative using the BOM/routing, and vice versa. This applies even if you delete all the existing procurement alternatives.

6. Choose *Transfer*, to transfer the procurement alternative to the list.
7. Choose  to save the procurement alternatives.

Integration of Procurement Alternatives and Procurement Processes

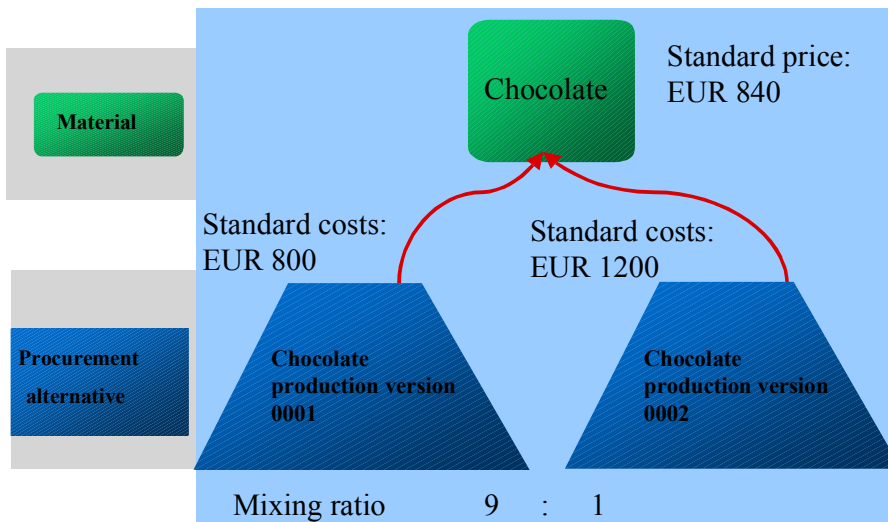
Prerequisites

The material chocolate is produced with two different machines. The run time of the older machine is considerably longer than the run time of the newer machine. A material is produced using two [production versions \[Ext.\]](#). Both production versions contain the same BOM, but different routings. The production version 0002 is used for production on the older machine. This is only the case if the capacity of the first machine is exceeded. Approximately 90 percent of the manufactured quantity is produced with production version 0001, and 10 percent with production version 0002. A standard price should be determined that takes both production versions and their weighting based on a mixing ratio into account.

Product Cost Planning

The standard price, that accounts for both production versions and their weighting, is calculated in a [mixed cost estimate \[Ext.\]](#). Mixed costing is performed on the basis of [procurement alternatives \[Page 146\]](#). The relationship between production versions is determined through the definition of mixing ratios.

Procurement Alternatives in Mixed Costing



In this example, a procurement alternative is created for every production version. The procurement alternative is defined through certain characteristic values.

Example:

Procurement alternative	Characteristic	Material	Production version	Production plant	Planning plant
-------------------------	----------------	----------	--------------------	------------------	----------------

Integration of Procurement Alternatives and Procurement Processes

100138610	Characteristic value	Chocolate	0001	1000	1000
100138612	Characteristic value	Chocolate	0002	1000	1000

A mixing ratio of 9:1 is then defined for the procurement alternative.

When executing the [standard cost estimate \[Ext.\]](#), the system calculates the standard costs for each procurement alternative and mixes them according to the mixing ratio. Then, the following cost estimates are stored in the system:

- Standard cost estimate for material *Chocolate*, production version 0001 (procurement alternative 100138610) with standard costs of EUR 800 for 1000 bars
- Standard cost estimate for material *Chocolate*, production version 0002 (procurement alternative 100138612) with standard costs of EUR 1200 for 1000 bars
- Standard cost estimate for material *Chocolate* with standard costs of EUR 840 for 1000 bars
The price is calculated as follows:
 $9/10 * 800 \text{ EUR} + 1/10 * 1200 \text{ EUR} = 840 \text{ EUR}$

The standard cost estimate for the material is a mixed cost estimate. The result of the mixed cost estimate is the mixed price.

The mixed price is updated through the release of the standard cost estimate in the material master record as a standard price of EUR 0,84 per bar. The standard price is used for valuation of the material *Chocolate*. Because the material ledger is active, this valuation is only preliminary (see *Actual Costing/Material Ledger* below).

For more information, see:

[Mixed Costing \[Ext.\]](#)

[Editing Procurement Alternatives \[Page 148\]](#)

[Creating/Changing Mixing Ratios \[Ext.\]](#)

[Displaying Mixing Ratios \[Ext.\]](#)

[Updating the Standard Prices \[Ext.\]](#)

The results of the standard cost estimate for the material can be displayed as valuated BOMs in the *Product Cost Planning Information System*:

Valuated BOMs:

Material: Chocolate		
Plant: WC03 Hamburg		
Lot size: 1000 bars		
Costing structure	Value	Quantity
Chocolate	EUR 840	1000 bars
Chocolate Production version 0001	EUR 800	1000 bars

Integration of Procurement Alternatives and Procurement Processes

Milk	EUR 200	1000l
Cocoa	EUR 500	1000kg
Activities (machine run time)	EUR 80	2 hours
Overhead (10% on milk)	EUR 20	
Chocolate Production version 0002	EUR 1.200	1000 bars
Milk	EUR 200	1000 l
Cocoa	EUR 500	1000 kg
Activities (machine run time)	EUR 480	12 hours
Overhead (10% on milk)	EUR 20	

Cost Object Controlling

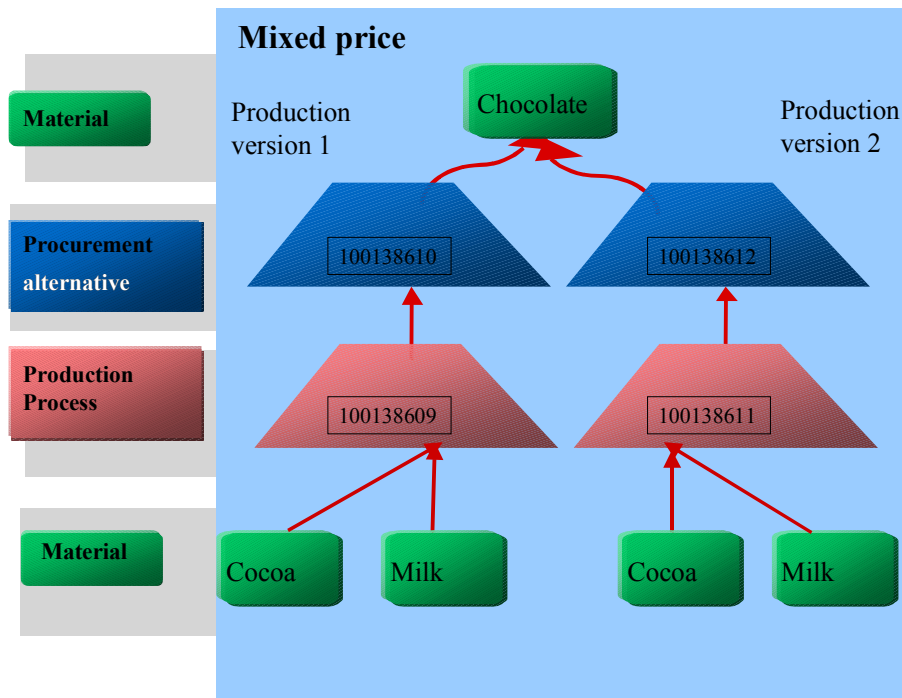
In *Cost Object Controlling*, the actual costs for each production version should be collected and analyzed. For this reason, a [product cost collector \[Ext.\]](#) is created for each production version in *Product Cost by Period* of Cost Object Controlling. When creating a product cost collector, the system generates a [production process \[Page 140\]](#). As with the procurement alternative, the production process for the material *Chocolate* is defined through the characteristic values.

Example:

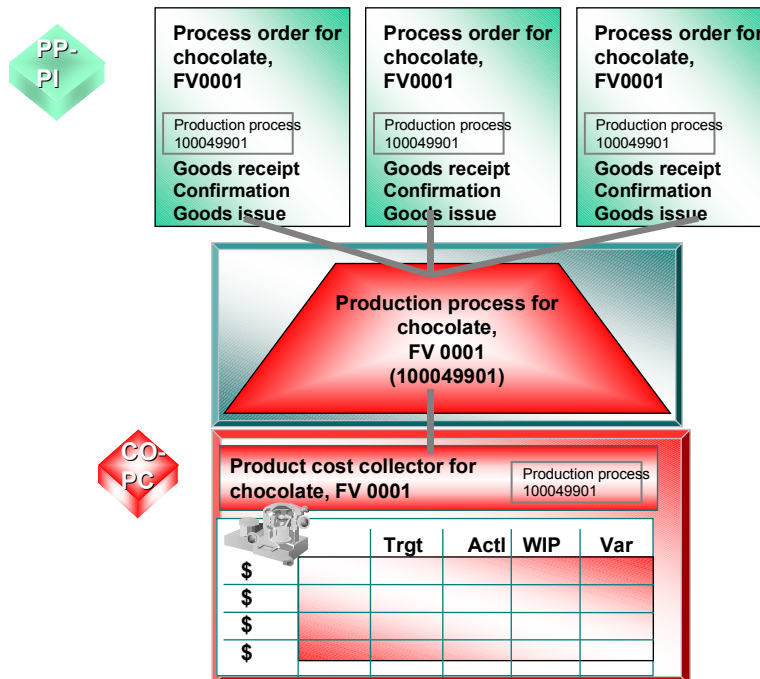
Production process	Characteristic	Material	Production version	Production plant	Planning plant
100138609	Characteristic value	Chocolate	0001	1000	1000
100138611	Characteristic value	Chocolate	0002	1000	1000

Within the system, every production process is linked with the corresponding procurement alternative that was created during mixed costing.

Integration of Procurement Alternatives and Procurement Processes



Two product cost collectors exist in the system, one for each production version. The production process is linked with the product cost collector. Every process order that is created for the characteristic values of the production process, is automatically assigned to the production process and, in turn, linked with the product cost collector.



Integration of Procurement Alternatives and Procurement Processes

See the document [Product Cost by Period \[Ext.\]](#) to find out which settings to make so that the costs of production are collected on a product cost collector.

In this example, a process order for 1000 bars of chocolate is created for production version 0001. During production, 1000 liters of milk are withdrawn from inventory. Before the milk is mixed with the cocoa, someone notices that the milk is sour. For this reason, another 1000 liters are withdrawn from inventory. The product cost collector is charged with the costs for 2000 liters of milk for the production quantity of 1000 bars.

Another 1000 bars of chocolate are produced with another process order for the same production version. Here, the actual costs are equal to the planned costs.

The following costs are charged to the product cost collector for the production of chocolate.

Product Cost Collector for <i>Chocolate, Production Version 0001</i>			
Quantity produced in the period	2000 bars		
	Input quantity	Actual costs in EUR charged to the product cost collector	
Cocoa	2000 kg	1000	
Milk	3000 l	600	
Activities	4 hours	160	
Overhead (10% on milk)		60*	
Sum of debits		1820	
Credit		1680	
Difference		140	

*The actual overhead is calculated in period-end closing.

A process order for 200 bars is created for production version 0002. During production, the actual costs are equal to the planned costs.

Product Cost Collector for <i>Chocolate, Production Version 0002</i>			
Quantity produced in the period	200 bars		
	Input quantity	Actual costs in EUR charged to the product cost collector	

Integration of Procurement Alternatives and Procurement Processes

Cocoa	200 kg	100	
Milk	200 l	40	
Activities	2.4 hours	96	
Overhead (10% on milk)		4*	
Sum of debits		240	
Credit		168	
Difference		72	

*The actual overhead is calculated in period-end closing.

2200 bars of chocolate were produced in the period.

The difference on the product cost collector can be analyzed through [variance calculation \[Ext.\]](#) in period-end closing of Product Cost by Period. In variance calculation, the causes of the difference can be ascertained through the [variance categories \[Ext.\]](#) to which they are apportioned.

If a mixed cost estimate exists, the system used the itemization of the relevant quantity structure (in this case, production version 0001) to calculate the variances. This means the following: If the variances are calculated for the product cost collector that was created for production version 0001 (which is linked to production process 100138609), the system calculates the target costs on the basis of the standard cost estimate that was created for production version 0001 (for procurement alternative 100138610). Then, the system compares the target costs with the actual costs. The resulting value is then assigned to the individual variance categories.

In this example, the following variances exist for production version 0001.

Scrap variances [Ext.]	EUR 0	Mixed price variance	EUR - 80***
Input price variances	EUR 0	Output price variance	EUR 0
Input quantity variance	EUR 200*	Lot size variance	EUR 0
Resource-usage variance	EUR 0		
Remaining input variance	EUR 20**		

*The input quantity variance was caused by the additional inventory withdrawal of 1000 liters of milk.

**The remaining input variance was caused by the calculation of overhead. Overhead was determined on the basis the costs for 2000 liters of milk instead of the planned 1000 liters of milk.

***The mixed price variance is calculated from the difference between the target credit, based on the standard costs of the procurement alternative, and the actual credit based on the mixed price:

Calculation of the mixed price variance:

Target credit based on the standard costs of the procurement alternative	EUR 1600
- Actual credit based on the mixed price	EUR 1680
= Mixed price variance	EUR -80

In this example, the following variances exist for production version 0002.

Integration of Procurement Alternatives and Procurement Processes

Scrap variances	EUR 0	Mixed price variance	EUR 72***
Input price variances	EUR 0	Output price variance	EUR 0
Input quantity variance	EUR 0	Lot size variance	EUR 0
Resource-usage variance	EUR 0		
Remaining input variance	EUR 0		

Calculation of the mixed price variance:

Target credit based on the standard costs of the procurement alternative	EUR 240
- Actual credit based on the mixed price	EUR 168
= Mixed price variance	EUR 72

See the following section for more information on mixed price variances and other variance categories: [Variance Categories \[Ext.\]](#).

The product cost collector is settled after variance calculation. During this settlement the following occurs:

- The balance of the product cost collector is settled to *Financial Accounting, Profit Center Accounting* and *Actual Costing/Material Ledger*.
- The individual variance categories are settled to Profitability Analysis.

Actual Costing / Material Ledger

As soon as the product cost collector is settled, single-level price differences appear in the material ledger data display. After multilevel price determination, no multilevel price differences appear in the data display as no activity price variances or variances in the prices of raw materials exist.

	Quantity	Preliminary valuation	Single-level price differences	Multilevel price differences	Price
Beginning inventory	0 units	EUR 0	EUR 0	EUR 0	EUR 0
Receipts	2200 units	EUR 1848	EUR 212	EUR 0	EUR 0.94
Production					
Production version	2000 units	EUR 1680	EUR 140	EUR 0	EUR 0.91
0001					
Production version	200 units	EUR 168	EUR 72	EUR 0	EUR 1.20
0002					
Cumulated inventory	2200 units	EUR 1848	EUR 212	EUR 0	EUR 0.94

Integration of Procurement Alternatives and Procurement Processes

Ending inventory	2200 units	EUR 1848	EUR 212	EUR 0	EUR 0.94
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The chocolate is produced with two different methods of procurement that vary in cost. If the chocolate is produced with production version 0001, it costs EUR 0.94 per bar. The chocolate produced with production version 0002 costs EUR 1.20 per bar. The actual price (price of ending inventory) is the mixed price from both production versions and is EUR 0.94.

For more information on the material ledger data display and single-level/multilevel material price determination, see the following:

[Material Ledger Data \[Page 33\]](#)

[Multilevel Actual Costing \[Page 59\]](#)

Relationship Between Procurement Alternatives and Procurement Processes

[Procurement alternatives \[Page 146\]](#) and [procurement processes \[Page 135\]](#) are used in the components *Product Cost Planning*, *Cost Object Controlling* and *Actual Costing/Material Ledger* in *Product Cost Controlling*. The relationship between the two objects becomes apparent when multiple materials result from a single procurement process. For this reason, the relationship is explained using the example of joint production.

Example

Joint Production

Two materials are produced from one manufacturing order.

Prerequisites

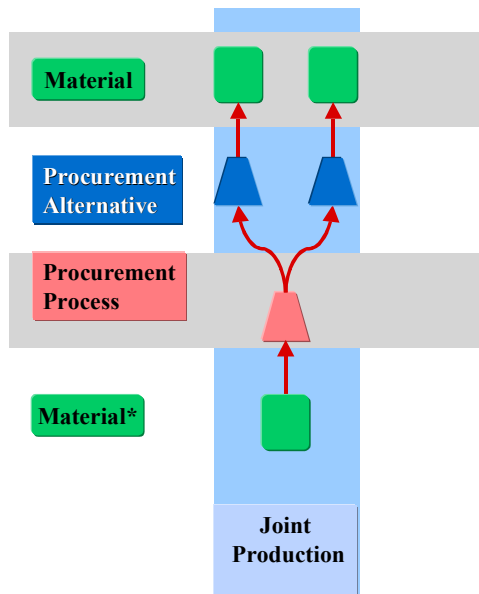
You are using the application component *Actual Costing/Material Ledger*.

Linking the procurement alternative and procurement process with other system data

The system creates the following:

- A procurement process *Production* for both co-products, for example in relation to a production version.
 - The manufacturing order with which the co-products are produced is linked to the production process.
- A procurement alternative for each co-product
 - The procurement alternative links the procurement process to the corresponding co-product. The co-products are listed in the order items in the manufacturing order.

Relationship Between Procurement Alternatives and Procurement Processes



* Leading co-product or process material

Updating the costs

In order to calculate the periodic unit price for each co-product, the actual costs must be updated to the order item, that is the procurement alternative. During production, the actual costs for the manufacturing order are first collected on the order header as they relate to the procurement alternative. In period-end closing of Cost Object Controlling, the costs are distributed to the order items and, in turn, the procurement alternatives. You can analyze the costs on the order item (for example, during variance calculation). The updated data can be settled to other application components such as *Financial Accounting (FI)*, *Profitability Analysis (CO-PA)*, *Profit Center Accounting (EC-PCA)* and *Actual Costing/Material Ledger*. In the application component Actual Costing/Material Ledger you can then calculate the periodic unit price for co-products.



Multiple procurement alternatives are also assigned to a procurement process in, for example, in the following situations:

- If you are working with valuated sales order stock in *Product Cost by Period*
- If you are working with split valuation types and the material ledger is active or you are working with *Product Cost by Period*.

See also:

[Production Processes \[Page 140\]](#)

[Special Requirements in Joint Production \[Ext.\]](#)

Consumption Alternatives

Definition

Consumption alternatives represent different possibilities for consuming a material, such as:

- Production (multilevel)
- Subcontracting (multilevel)
- Stock transfer (multilevel)
- Cost center (single-level)
- Asset (single-level)

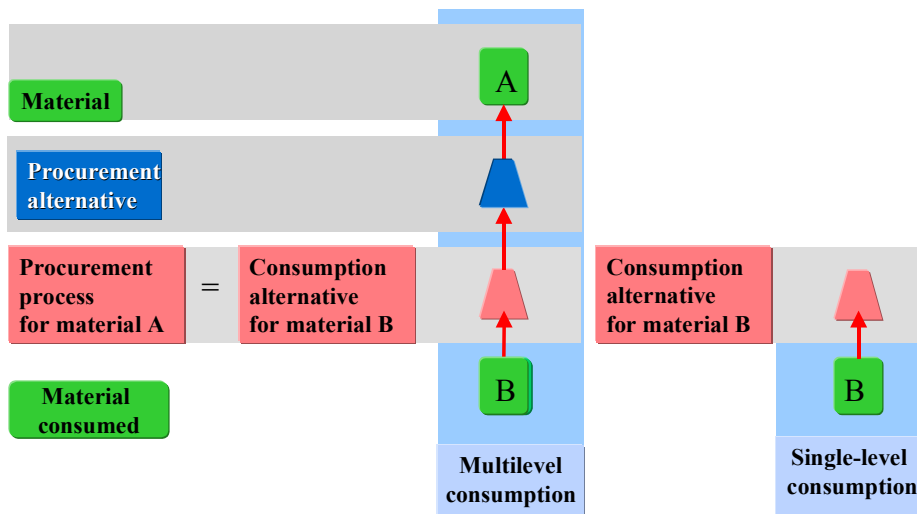
In multilevel processes, the consumption alternative and the [procurement process \[Page 135\]](#) are the same.

Use

Consumption alternatives are used for display purposes in *material price analysis* in the application component *Actual Costing/Material Ledger*.

Structure

Consumption alternatives are categorized by a [process category \[Page 137\]](#).



Consumption Alternatives

Maintaining Texts for Procurement Alternatives/Consumption Alternatives and Procurement Processes

Use

When displaying procurement alternatives, consumption alternatives and procurement processes, the system displays the technical name, which is made up of the characteristics of the Controlling level. For example, a purchase order with the vendor Mueller and purchasing organization EN03 would be given the name "Vendor:Mueller Purch.org.:EN03". In this transaction, you can replace the technical name with a name that you define. If you do this, the name that you define will be displayed on the next screen instead of the technical name.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Material Ledger* → *Edit Procurement Alternative/Consumption Alternative*.

The screen for *Display/Change Procurement Alternative/Consumption Alternative* appears.

2. Enter *Plant* and *Material*.

The system lists all relevant procurement and consumption alternatives (or procurement processes) for a plant and a material under *Procurement Alternative/Consumption Alternative* (or *Procurement Process*).

They are listed in a hierarchy according to process category.

3. Double-click on a procurement alternative, a consumption alternative or a procurement process to see that item. The system displays the *Name* and the *Controlling level*. Use the symbol *Display/change* to select either display mode or change mode.
4. Enter the text.
5. Choose *Copy*.
6. Choose *Save*.

Selected Functions

Selected Functions

In this unit some of the special functions in the *Actual Costing/Material Ledger* component are detailed.

See also:

[Valuated Sales Order Stock and Actual Costing \[Page 165\]](#)

[Price Limiter and Price Limiter Quantity \[Page 168\]](#)

Valuated Sales Order Stock and Actual Costing

Use

[Valuated sales order stocks \[Ext.\]](#) are costed in Actual Costing. Transfer prices are also supported. You can display the data for this in *Material Price Analysis*.

Integration

The data is updated through the following:

- Goods movements (*Materials Management*)
- Settlement of the order balance (*Cost Object Controlling*)
- Invoice receipt for externally procured materials (*Materials Management*)

Prerequisites

- You are working with *valuated sales order stock*.
- The *material ledger* is active.
- *Actual costing* is active.
- You are using *Price Determination Control 2 or 3*.

If you have only **activated the material ledger**, valuated sales order stock is only supported by **single-level material price determination**. **Multilevel material price determination** only supports valuated sales order stock when **actual costing** is **activated**.

Features

In-House Production

The manufacturing costs for individual requirements materials produced in house can be collected on manufacturing orders or product cost collectors in Cost Object Controlling.

Production / Process Order

The system creates a [production process \[Page 135\]](#) for every production order that is assigned to a sales order item. The production process is assigned to a [procurement alternative \[Page 146\]](#). When the production order delivers to stock for the first time, the system creates a valuated sales order stock and initially values this with the standard price. With settlement of the production order, the difference between actual costs and standard costs is settled to the component *Actual Costing/Material Ledger*.

Valuated Sales Order Stock and Actual Costing

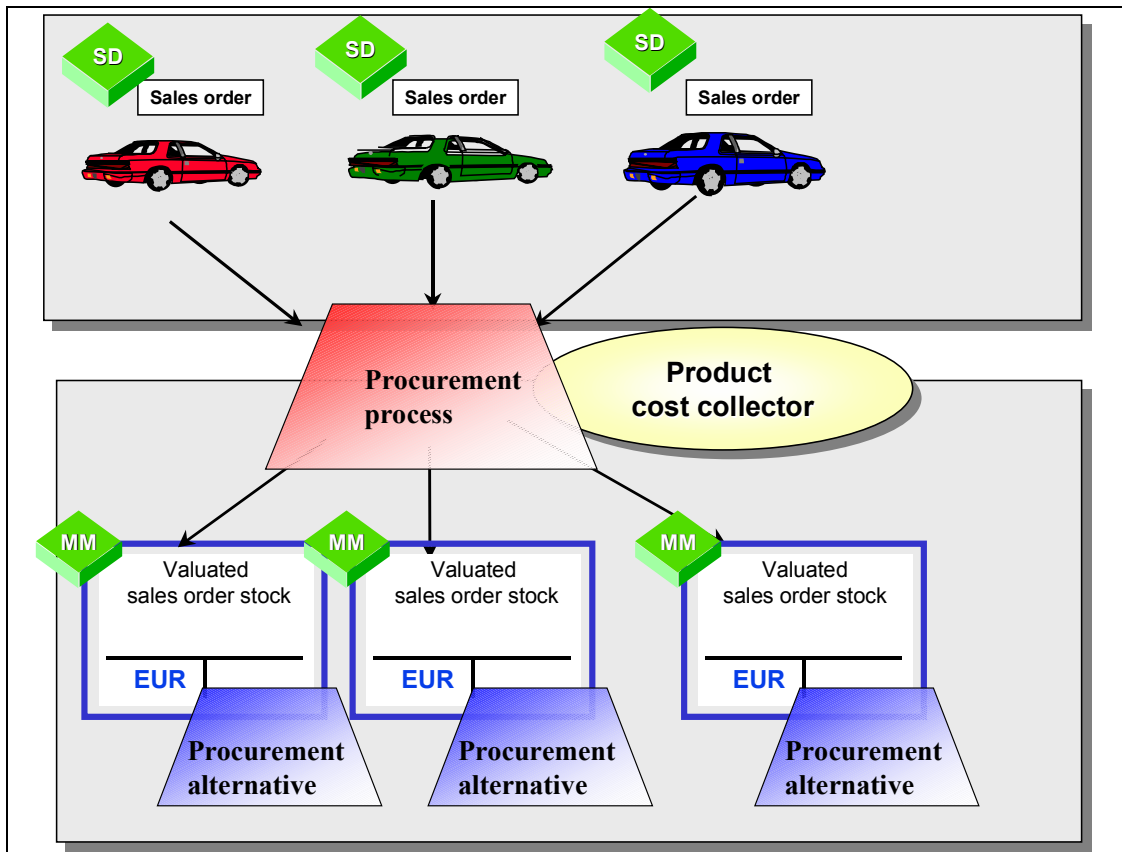


Product Cost Collectors

You create a product cost collector (see [Product Cost Collectors in Sales-Order-Related Production \[Ext.\]](#)) for an individual requirements material. The material is repetitively manufactured. Production is triggered through the planned orders that are created for each sales order item. The product cost collector collects the costs of all planned orders for individual requirements material. The product cost collector is both credited and debited during goods receipt. During goods receipt, the system creates a valuated sales order stock and initially values this with the standard price or the moving average price. The product cost collector is assigned to a production process. A procurement alternative exists for every sales order stock. With settlement of the production order, the difference between the actual costs and standard costs are distributed to the sales order stocks through the different procurement alternatives.

For general information on settlement and information on the distribution of differences through procurement alternatives, see the section [Settlement in Product Cost by Order or Period. \[Ext.\]](#)

Valuated Sales Order Stock and Actual Costing



External Procurement

With external procurement, a procurement alternative is created for each sales order stock.

Price Limiter and Price Limiter Quantities

Price Limiter and Price Limiter Quantities

Prerequisites

- The *material ledger* is active
- You are using *price determination control 3*

Background

The price limiter ensures that in certain situations (for example stock shortages) the price will not be distorted. If price or exchange rate differences occur at the point of invoice entry, order settlement, or adjustment they will be taken into account by the single-level material price determination for the cumulative inventory stock coverage check. This means that only costs covered by the inventory are assigned to the material.

The differences not covered by the cumulative inventory are shown in the *material price analysis*, under the line *Not allocated*. In addition to this, in the periodic material valuation a difference is made between transactions that:

- Increase the material inventory of the period
Examples: Goods receipts for purchase orders, production orders, stock transfer orders.
- Do not increase the material inventory **quantity** of a period, and that can be associated to goods movements in other periods
Examples: Invoice entries, order settlements, adjustments.

1. Example

In this example a goods receipt of 200 liters of Milk occurred in the previous period, the same period in which the goods were consumed. In the current period another goods receipt for 100 liters of Milk and an **invoice entry for 200 liters** occur. The cumulative inventory is 100 Liters. For this reason, only half of the invoice price difference (in this case –100 EUR) will be assigned to the material. The other half of the price difference appears, with reversed +/- sign, as 100 EUR in the line *Not allocated*. This occurs in order to correct the price differences assigned to the inventory value in the line *Cumulative Inventory*.

Price Limiter and Price Limiter Quantities

Material: Milk				
Plant: 6000				
		Quantity	Preliminary valuation	Price Difference
Beginning inventory		0 l	0 EUR	0 EUR
Acquisitions		100 l	1000 EUR	50 EUR
Goods receipts		100 l	1000 EUR	250 EUR
Invoice entries		0 l	0 EUR	-200 EUR
Not allocated		0 l	0 EUR	100 EUR
Cumulative inventory		100 ST	1000 EUR	150 EUR

2. Example

In this example a goods receipt and an invoice entry for 100 Liters of Milk take place in the same period. This means that all of the invoice price difference is covered by the inventory. Therefore a difference of 50 EUR is displayed in the line *Cumulative inventory*.

Price Limiter and Price Limiter Quantities

Material: Milk				
Plant: 6000				
		Quantity	Preliminary valuation	Price differences
Beginning inventory		0 I	0 EUR	0 EUR
Acquisitions		100 I	1000 EUR	50 EUR
Goods receipts		100 I	1000 EUR	250 EUR
Invoice entries		0 I	0 EUR	-200 EUR
Cumulative inventory		100 I	1000 EUR	50 EUR

Installation: Material Ledger / Actual Costing

Purpose

This section explains how to activate the functions of the component *Actual Costing/Material Ledger*.

Process Flow

1. Read the Implementation Guide for the component *Actual Costing/Material Ledger*.
You can find this in Customizing under *Controlling* → *Product Cost Controlling* → [Actual Costing/Material Ledger \[Ext.\]](#).
2. Set up the Material Ledger with the help of the Implementation Guide in Customizing.
3. Activate the material ledger for the relevant [plants \[Page 17\]](#)/valuation areas.
4. Check the Customizing settings for the material ledger for each plant.
For more information, see [Checking Customizing for the Material Ledger \[Page 172\]](#).
5. Prepare the data for the production startup of the material ledger.



The preparation of data for production startup of the material ledger **can not be reversed**.

The production startup is necessary for the following:

- a. To generate material ledger data for the materials already existing
- b. To create valuation data in parallel currencies and valuations.
- c. To save specific administrative data for the material ledger (currency settings at the time of production startup, for example)

For more information, see [Preparing Data for the Material Ledger \(Production Startup\) \[Page 175\]](#).

6. In certain cases, you reconcile the material stock account from Materials Management (subledger accounting) with that of Financial Accounting (G/L accounting).

For more information, see [Reconciling Accounts for the Material Ledger in Different Currencies and Valuation Categories \[Page 177\]](#).

Result

The functions of the component *Actual Costing/Material Ledger* are available.

Checking Customizing for the Material Ledger

Checking Customizing for the Material Ledger

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Check Settings*.
2. Enter a [plant \[Page 17\]](#).
3. If you want to see account information in the list, select the *Display accounts* indicator.
4. Choose *Execute*.

Result

You see a list that states (among other things) the following:

- Whether the material ledger is active for the indicated plant
- Which currencies and valuations are set
- Whether you still have to prepare the data for the material ledger (production startup)
- The valuation levels and the organizational units which are assigned to the plant
- Which transactions (posting strings) are used
- Which general ledger accounts are used for posting

Symbols are used to indicate inconsistent or missing settings.

See also:

Implementation Guide for [Actual Costing/Material Ledger \[Ext.\]](#)

Setting Material Price Determination

Use

You can change the *price determination* indicator in the material master to change the material's price determination from transaction-based to single- or multilevel price determination, or vice versa.

This function is typically used after the material ledger is installed, because at that point all materials have price determination control 2 (transaction-based).

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Change Material Price Determination*.
2. Enter the selection data for the material or materials.
3. Enter the following:
 - a. In the *Old price determination* field, enter the current price determination setting.
 - b. In the *New price determination* field, enter the new price determination setting.
 - c. In the *New price control* field, enter the desired price control setting.

If you want to change a material with price determination 2 and price control V to price determination 3, you must first change the material's price control to S.

4. Choose the method of processing.
5. Choose *Execute*.

Result

The price determination (and, if applicable, the price control) of the relevant material or materials is changed in the material master record and in the material ledger data.

Note



If you change the price control, such as from **2 to 3** or from **3 to 2 and back to 3**, this can cause the following inconsistencies in *material price analysis*:

- The beginning inventory of the current period differs from the ending inventory of the previous period.
- Quantities and values at higher levels of the hierarchy (such as *receipts*) do not correspond to the assigned documents at the lower levels.

From the subsequent period onward, the display structure of *material price analysis* again corresponds to the documents.



You should only change the price determination setting when it is absolutely necessary.

Checking Exchange Rates

Checking Exchange Rates

Procedure

1. Choose *Accounting* → *Financial Accounting* → *General Ledger* → *Environment* → *Current Settings*. → *Enter Exchange Rates*
2. Choose the symbol for the activity *Enter exchange rates*.
3. If necessary, maintain the exchange rates and save the table.

Result

The system saves the exchange rates.

Preparing Data for the Material Ledger (Production Startup)

Prerequisites

- You have the **authorization** to convert the data (authorization object *S_TABU_DIS* in authorization class *Basis:Administration*).
- Make sure that the **currency settings** are correct in Customizing for Financial Accounting and in the Material Ledger. After production startup of the material ledger, **no changes** in the currencies, currency types or material ledger types are allowed.
- Make sure that the attributes of the **material types** in Customizing for Logistics - General are correct. The only materials that will be converted are materials with material types that allow value updates.
- Make sure in Customizing that **all plants** in which you want to activate the material ledger are set as active for the material ledger. Check your Customizing settings for each plant. You can retroactively set additional plants as productive and active, as well.
- Make sure that *Accounting* views exist for the relevant materials in the material master records.
- Make sure that no material postings in the relevant plants are necessary during the conversion. Between activation and production startup, the relevant **plants are blocked**.



The preparation of data for production startup of the material ledger **can not be reversed**.



If you have worked with the material ledger in your production system prior to Release 4.0A, please read 0081463 in SAPNet.

Procedure

1. Choose *Accounting* → *Controlling* → *Product Cost Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Production Startup*. → *Set Valuation Areas as Productive*.
2. Enter one or more plants.
3. **Enter an exchange rate type** if you want to translate the current inventories into multiple currencies and valuations using an historical exchange rate or average exchange rate for production startup of the material ledger. This exchange rate type must first be defined in Customizing under *General Settings*. Next, the currency exchange rates with which production startup should translate the local currency are set up for the exchange rate type and multiple currencies and valuations. This exchange rate type and this translation are **only** used for production startup.

When you enter an exchange rate type, the currency translation takes place in accordance with the settings for additional currencies in Customizing for Financial Accounting. If the currencies set in the material ledger vary from the currencies in Financial Accounting, the system translates using the average rate.

Preparing Data for the Material Ledger (Production Startup)

4. Choose the method of processing.
If you want to receive a detailed log, or if you must edit large amounts of data, it is best to run the program in the background.
5. Choose *Execute*.
6. Check the results in the log using *System → Own jobs*.

Result

Master data

The system does the following:

- Turns on the *Material ledger active* indicator in the accounting view of all the material master records of the plant
- Sets the price determination indicator in the material master records to price determination 2
If you want to use price determination 3, you can change setting 2. See the following for further information:
 - [Changing Material Price Determination \[Page 173\]](#)
 - [Performing Single-Level Material Price Determination \[Page 68\]](#)
 - [Performing Multilevel Price Determination \[Page 69\]](#)
- Creates material ledger master data for the current period, the previous period, and the last period of the previous year.
- Calculates prices in the other currencies for the material ledger data if, in fact, a price was maintained in the accounting view.
- Notes the currency setting at the time of production startup internally

Transaction Data

The system does the following:

- Transfers inventory quantities, inventory values and prices from material master records to the material ledger data for the current period, the previous period, and the last period of the previous year
- Calculates the inventory values and prices in the currencies of the material ledger at the current date using the stated exchange rate type
- Amends the **purchase order histories** with the set currencies, using the settings for additional currencies found in Customizing for Financial Accounting

Reconciling Accounts for the Material Ledger in Different Currencies and Valuation Categories

Prerequisites

You must perform this step if one of the following is true:

- The valuation level is the company code, and you have set the material ledger in the company code as productive.
- The valuation level is the plant, and you have set the material ledger in **all** plants belonging to the company code as productive.
- You are working with more than one currency or valuation category

Make sure that no material postings are necessary during the reconciliation in the relevant valuation area. The **company code for inventory accounting** is **blocked** during reconciliation.

When you convert the data at the beginning of a new fiscal year, carry the balances for general ledger accounts forward by choosing *Accounting* → *Financial Accounting* → *General Ledger* then *Periodic Processing* → *Closing* → *Carry Forward* → *Balances*. You can find documentation for this program under *Help* → *Application help*.

Procedure

1. Choose *Accounting* → *Controlling* → *Actual Costing/Material Ledger* → *Environment* → *Production Startup* → *Reconciliation with Bal.Sht Acct. in FI*.
2. Enter the company code.
3. Enter the account where offsetting entries should take place in order to deal with differences in foreign currencies in the material stock account, and to reconcile the accounts of Financial Accounting with the accounts of Materials Management.

The account should fulfill the following prerequisites:

- The account currency corresponds to the company code currency
- Balances are only carried in local currency
- Postings can only be made to the account automatically
- There is no open item management
- The account is a profit and loss account and not a reconciliation account

Do not enter a material stock account. If you enter one, you will lose reconciliation between subledger accounting for the material and G/L accounting.

4. Choose the method of processing.
5. Choose *Execute*.

You receive a list with a comparison of the inventory values from Materials Management (subledger accounting) and from Financial Accounting (G/L accounting).

Reconciling Accounts for the Material Ledger in Different Currencies and Valuation Categories**Result**

The system does the following:

1. Aggregates the inventory values in all currencies of Materials Management at the account level and compares them with the balance sheet account balances in Financial Accounting
2. Adjusts the balance sheet account balances in FI in the **other** currencies (and not the local currency) to the input from Materials Management, and posts differences to the adjustment account.
3. Generates an accounting document for the adjustment posting



There is no reconciliation for differences between Materials Management accounts and Financial Accounting accounts in the company code currency, because this inconsistency must first be eliminated. In this case, contact SAP.

Authorizations: Material Ledger / Actual Costing

Definition

You can use authorizations to protect the functions in the component *Actual Costing/Material Ledger*. The following authorization objects are relevant to this component:

- *K_MLPR_VA* *CO Material Price Change: Valuation Area*
- *K_ML_MTART* *CO Material Ledger: Material Type*
- *K_ML_VA* *CO Material Ledger: Valuation Area*
- *K_FVMK* *CO Release/Marking: Product Costing*
- *S_TABU_DIS* *Table Maintenance*
- *K_MLNUSER* *CO Material Ledger: Individual Settlement*
- *K_MLPUSER* *CO Material Ledger: Plant Settlement*

You can find authorization object *S_TABU_DIS* in authorization class *Basis - Administration*. You can find the other relevant authorization objects and their definitions under authorization class *Controlling*.

Use

The following table gives an overview of the use of authorization objects:

Authorization object	enables you to do the following
<i>K_MLPR_VA</i>	For specific plants: <ul style="list-style-type: none"> • Change prices • Display price change documents • Mark and release prices • Debit/credit materials
<i>K_ML_MTART</i>	For specific material types: <ul style="list-style-type: none"> • Display material ledger data • Perform and post single-level price determinations • Change price determination

Authorizations: Material Ledger / Actual Costing

<i>K_ML_VA</i>	For specific plants: <ul style="list-style-type: none">• Display material ledger data• Display material ledger documents• Create costing runs• Perform and display a selection of materials in a costing run• Perform multilevel price determination (in addition, you need object <i>K_ML_MTART</i> for all materials)• Allow and perform price determination and closing entries• Change price determination
<i>K_FVMK</i>	Release standard cost estimates Change prices
<i>S_TABU_DIS</i>	Prepare data for the material ledger in the context of production startup

See also:

The document *BC - User and Authorizations* under [Overview: Creating and Maintaining User Master Record \[Ext.\]](#).

Actual Costing / Material Ledger Information System

Definition

The following provides you with information about the contents of the reports in the information system of the application component *Actual Costing / Material Ledger*.

Object Lists

Object Lists

Definition

Report category in the application component *Actual Costing/Material Ledger* that provides you with overview information for specific analysis purposes.

Materials by Period Status

Use

This report gives you an overview of the respective period status of the listed materials
 You can display the period statuses of the selected materials in each plant for a particular period.

Features

The following statuses can be selected:

Status	Description
Not defined	Period records do not exist. (technical status)
New objects	Material has been recently created.
Period opened	Period closing program was run.
Price change completed	Price change has taken place for a material.
Quantities and values entered	At least one of the following prerequisites has been met: <ul style="list-style-type: none"> • Valuation-relevant goods movements have taken place • The closing entry has been made for the previous month In both cases, a price change is no longer allowed.
Values entered	At least one of the following prerequisites has been met: <ul style="list-style-type: none"> • Invoices have been received • An order has been settled • Materials have been debited/credited. In all cases, a price change is still allowed.
Price determined, single-level	Single-level material price determination was successful.
Price determined, multilevel	Multilevel material price determination was successful.
Closing entry reversed	The closing entry for a material was reversed.
Closing entry performed	The closing entry for a material has been performed.

Integration

You can access *material price analysis* by selecting a material.

Prices and Inventory Values

Prices and Inventory Values

Use

This report provides an overview of the prices and inventory values of materials and of the selected materials or valuated sales order or project stocks in a period. In the basic setting, the inventories are grouped according to material type and valuation class and subtotals of inventory values are displayed.

This report is also useful in the analysis of materials with regard to prices (for example, comparison of the standard price and the periodic unit price) or inventory values (for example, analysis of the price and exchange rate differences of the ending inventory).

You can select the currency/valuation used.

In the selection screen of the report, you can save the list of prices and inventory values as an extract so that you can access it later.

Features

The characteristics and key figures of the report are divided into the following groups:

- Value update (such as inventory value, standard price, periodic unit price, percentage price variance)
- Single-level / multilevel differences (price and exchange rate differences of ending inventory)
- Quantity update
- Material attributes (such as material type, division, or valuation class)
- Sales order or project stock (sales order number, WBS element)
- Administration (period status)

Integration

From the report *Prices and Inventory Values*, you can branch to *material price analysis* by selecting a material.

Materials with Largest Moving Price Difference

Use

This report displays the difference in the periodic unit price or moving average price between the current period and the previous period.

You generate an extract that can be displayed in a mini-application in the mySAP.com Workplace.

Activities

The extract that you save here is displayed in the mini-application. The report SAPRCKAPP02 allows you to see the contents of the extract in the R/3 system.

Note the variant under which you generated the extract.

Note for System Administration:

To display the extract in the mini-application, you must carry out the steps described under [Setting Up Mini-Applications \[Ext.\]](#).

Materials with Highest Inventory Value

Materials with Highest Inventory Value

Use

This report displays the materials with the highest inventory value in each period.

You generate an extract that can be displayed in a mini-application in the mySAP.com Workplace.

Activities

The extract that you save here is displayed in the mini-application. The report SAPRCKAPP02 allows you to see the contents of the extract in the R/3 system. Note the variant under which you generated the extract.

Note for System Administration:

To display the extract in the mini-application, you must carry out the steps described under [Setting Up Mini-Applications \[Ext.\]](#).

Detailed Reports

Definition

You can find reports for the analysis of material prices in the report category *Detail Reports*.

Use

You can analyze the causes of price changes and the development of material prices through multiple periods.

Material Price Analysis

Material Price Analysis

Use

Material price analysis shows the valuated transactions and the results of material price determination with price and exchange-rate differences for a given material in a plant in a period within a *price determination structure*. Data is displayed according to [process categories \[Page 137\]](#) and [procurement alternatives \[Page 146\]](#). The line items can be found under the procurement alternatives.

Features

With *price determination control 3*, the material ledger data is divided into the following categories:

- Beginning inventory
- Receipts
- Cumulated inventory
- Consumption
- Ending inventory

The transactions controlled through the movement types in Customizing are displayed in the category *Other inward/outward movements*.

With *price determination control 2*, valuation-relevant transactions are listed in the *price history*. If these transactions are displayed in the price determination structure, then the category *Price changes* also appears in the display.

Material Price Analysis

Material
Plant
Period/Year Period status

Prices and Inventory Values:
Inventory quantity
Inventory value
Indicator for material price determination
Control of the valuation price

Categories:

Beginning inventory
Receipts
Other receipts/consumption
Cumulative inventory
Consumption
Ending inventory

Integration

From *material price analysis*, you can branch to a multilevel procurement or multilevel consumption in the *actual BOM*. From the *actual BOM*, you can branch to the *activity price display*. In the *activity price display*, you can compare the plan prices with the actual prices in the currencies carried by the material ledger. The actual price **before** multilevel price determination corresponds to the preliminary valuation. The actual activity prices are only displayed **after** multilevel price determination if the indicator *Activity update relevant to price determination* is set in Customizing for *Actual Costing/Material Ledger*.

Cost Components

The *Cost Components* report shows the data of *material price analysis* broken down into cost components. The data is displayed in accordance with the period status in all set currencies and valuations.

Prerequisites

The *actual cost component split* is active.

For more information, see [Actual Cost Component Split \[Page 89\]](#).

Plan/Actual Comparison

Plan/Actual Comparison

Use

This report analyzes variances of materials in mixed costing. In the pane *Variances of Alternatives*, you can analyze the price variances that arose at the level of procurement alternatives. In the *Mix Variances* pane, you analyze the mix variances caused by the changed mixing ratios.

The display shows cost components in accordance with the period status in all selected valuations.

Prerequisites

- You have activated the *material ledger* and the *actual cost component split*.
- The material costed in mixed costing has a released standard cost estimate.
- For the display to be meaningful, each procurement alternative in mixed costing must have been costed.

Features

You can call up the *Plan/Actual Comparison* view for the following purposes:

- As an explanation report for:
 - The variances of procurement alternatives
 - The mix variances
- To see the cost components of:
 - The variances of procurement alternatives
 - Mix variances

The report that explains the **variances of procurement alternatives** contains sufficient data to calculate these variances.

Variances = Actual value – Target value

The field *Diff.%* shows the variance as a percentage of the target value.

The report that explains the **mix variances** prepares the data for calculation. The mix variances for the procurement alternatives that were costed in mixed costing are calculated with the following formula:

Mix variance = (Actual quantity – Target quantity) x (Planned price – Standard price)

If one or more procurement alternatives were not costed in mixed costing, but the goods movements for the alternative were entered, the following formula is used for the mix variances:

Mix variance = (Actual quantity – Target quantity) x (Actual price – Standard price)

These formulas are valid only at the level of procurement alternatives. You cannot use these formulas for summarized data at the level of processes and categories. In the case of summarization, the variances are the sum of the variances per procurement alternative. Mean values are calculated for the prices.

The variances shown in the price determination structure are the sum of the mix variances and the variances for each procurement alternative.

The reports for the **split variances for each procurement alternative** and for **split mix variances** show the variances by cost components.

For more information, see [Actual Cost Component Split \[Page 89\]](#).

→ Special Cases



You use transaction-based material price determination and change a price in the previous period. In *material price analysis*, the ending inventory is shown at the changed price. However, since the price had not yet been changed at the beginning of the current period, the initial inventory of the current period still shows the valuation at the original price. But the current period does show the price change of the previous period.



If, based on a stock coverage check, not all cumulated differences can be distributed to consumption or final inventory with *price determination control 3*, these are displayed in the category *Not distributed*.



Price differences are assigned to consumption through single-level material price determination. If these differences are not included in multilevel price determination, or if multilevel price determination has not yet taken place, they appear in the data display under *Not allocated*.

Note



If you change the price control, such as from **2 to 3** or from **3 to 2 and back to 3**, this can cause the following inconsistencies in *material price analysis*:

- The beginning inventory of the current period differs from the ending inventory of the previous period.
- Quantities and values at higher levels of the hierarchy (such as *receipts*) do not correspond to the assigned documents at the lower levels.

From the subsequent period onward, the display structure of *material price analysis* again corresponds to the documents.



You should only change the price determination setting when it is absolutely necessary.

Material Prices and Inventory Values Over Several Periods

Material Prices and Inventory Values Over Several Periods

Use

This report displays material ledger data of multiple periods. It can be used only with the material ledger.

The report can be used to analyze the change in a material's price and inventory over a given time period.

Features

The key figures and characteristics of the report are divided into the following groups:

- Value update
- Single-level / multilevel differences
- Quantity update
- Material attributes
- Administration

Transaction History for Material

Use

This report shows you the business transactions for a material over a period of time and can only be used with the material ledger.

The report gives a precise analysis of all business transactions that could be responsible for price changes within the Material Ledger. A history of all relevant transactions for a material is generated in the Material Ledger. Using this report, you can analyze the causes of the price changes and take the appropriate corrective measures.

Features

The key figures and characteristics of the report are divided into the following groups:

- Transaction characteristics
- Prices
- Inventories
- Changes

Integration

From the list of results, you can branch to the following documents for a selected transaction:

- Accounting document
- Original document

Cost Components for Price

Cost Components for Price

Use

This report lists the cost component split for the price according to cost components across all levels of production.

You can display the actual cost component split in accordance with the period status in all set currencies and valuations. If you perform the actual cost component split **after single-level price determination**, you receive a display of the cost component split for the current periodic unit price. Before **single-level price determination**, the periodic unit price of the previous month is displayed.

Prerequisites

The *actual cost component split* is active.

Features

You can choose from the following cost component split types:

- Primary cost component split
- Auxiliary cost component split

You can display the following prices:

- Moving price (V):
- Standard price (S):
- Future valuation price
- Future planned price

You can choose the base quantity for which the cost component split is displayed:

- Price unit
- Costing lot size
- Current inventory
- User entry

See also:

[Actual Cost Component Split \[Page 89\]](#)

More Reports

Definition

Under this report category of the *Product Cost Controlling* information system, you can find reports that were not assigned to another category, for example documents.

Material Ledger Document

Material Ledger Document

Definition

Document that displays the transactions relevant to material valuation in all preset currencies and valuations

Use

For every valued transaction (for example, goods movements, invoice receipts, credits and debits, account maintenance, material price determination, price changes or closing entries), the material ledger document records the changes that result from the posting in the system during the material valuation.

Structure

You have the possibility of selecting or defining your own layouts for the document display.

Integration

If the corresponding documents were generated, you can branch from the material ledger document to the following:

- The detail display
 - The detail display indicates how the data is entered in material price analysis.
- The material ledger data
- The accounting documents
- The source document

Price Change Document

Definition

Document created by the system with the following:

- Material debits and credits
- Price changes
- Price releases
 - of a future price
 - from a cost estimate

Use

The price change document documents price changes as well as material debits and credits.