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General Concepts in Production

Co-produced products

We define the product that is being produced simultaneously by the same process that the company uses to produce its main output, that is, the product that the company normally sells. For example, the production of flour (main product) and bran (co-produced) are produced simultaneously. The possibility to define co-produced products is given in the detail lines of the bill of material, as well as in the lines of the production documents.

Sub-products

We define the product that is being produced simultaneously by the same process that the company uses to produce its main product and the co-produced products. For example, the production of flour (main product) and bran (co-produced) produces at the same time βήτες. The possibility to define sub-products is given in the detail lines of bills of material, as well as in the lines of the production documents. They are valued at standard cost which is deducted from the total cost to be allocated to main products and co-produced.

Production cost factor of main products and co-produced

Production cost factor is the weight based on which the total production cost will be allocated to each main product and co-produced individually. The possibility to define cost factors is given in the detail lines of the bills of material of the main product, as well as in the lines of the production documents.

Cost element

Cost element is defined as any additional cost being charged to production cost. Is divided into two categories: Labor cost (salaries, other subcontracts etc) and General Industrial costs (electricity, depreciation of machinery and other assets, etc). Usually the value which will affect the production costs comes from connection with a cost accounting (detailed) account (92.nn.nn.nnnn)

The possibility to define cost elements per product charged by each cost element is given in the detail lines of the bills of material as well as in the lines of the production documents.

Cost element unit

Cost element unit is defined as the weight based on which the total value of each cost element will be charged on each main product and co-produced (only those products and co-produced that the company has defined to be charged by the cost element).

Wastage

Wastage is defined as the consumption quantity which will remain in the consumption area at the end of the production process and depending on the material may or may not be used in the next phase.

Note:

This quantity is likely to be needed to produce a given amount of product. Therefore, the wastage can also be defined as the amount that may be used in addition to the consumption amount.

Cost of raw and auxiliary production materials (Direct cost)

The cost of raw and auxiliary production materials is defined as the total cost of raw and auxiliary materials as defined by the total consumption and the cost calculated by the stock valuation method used by the company (FIFO, LIFO, Weighted average etc).

Labor cost (Direct cost)

Is defined as the total labor cost required in the production process.

Cost of General Industrial Expenses (Indirect cost)

Is defined as the total general industrial expenses (machinery depreciation etc) required in the production process.

Production cost

Production cost is defined as the cost incurred for the production of a product. The production cost of a product is determined by the cost of direct materials used in production, the cost of direct labor and general industrial costs charged on the product's production process. The cost of materials and direct labor costs are characterized as direct production costs while general industrial expenses are classified as indirect costs.

Production cost = Cost of raw and auxiliary materials + Labor cost + General Industrial Expenses.

Subcontracting

Subcontracting is defined as the process during which the company delegates to a third party the production process or part of it.

Bills of material

Definition

The bill of material is defined as the detailed record of a plan (a “prescription”) required for the production of a certain quantity of a product.

It is worth noting here that the concept of the prescription is inadequate for determining the bills of material. This is because the software requirements are far beyond the need for determination of raw and auxiliary materials in codes and quantities by code. Today the company should be updated about cost centers, the machines used, the human resources required and for anything else involved in the process of production.

Criticality

Initially we must note the significance of drafting the bills of material, because they define in a significant way the production process, therefore, the company’s mode of operation, ie, the next 'steps' it has to do to achieve the best results.

Only in this way the company will reach the point to identify precisely the quantitative and qualitative requirements for everything used in the production process and the emergence of all production problems.

Moreover, it is worth noting that it is now necessary to create bills of material for more than one product, in those cases where the requirements of raw and auxiliary materials, cost centers, machines, human resources allow for it (Co-produced).

Objectives and results of the bills of material

- The quantitative and qualitative determination of requirements to cover needs irrespective of how they were derived (from customer orders, production forecast, non forecasted needs)
- The calculation of losses (wastages) and the reduction of materials that cannot be used in next phase
- Determining the production cost of a product in order to achieve cost reduction.

Production Orders

Definition

Order production is defined as the recording of required product quantities for a specified period in accordance with the company mode of operation to meet its obligations.

Criticality

They constitute an exhaustive list of requirements in products, product quantities and bills of material to be used in the production process. Recording production orders requires special attention since major business functions will depend on these, such as raw materials orders, engagement of machinery time and human resources..

Consumption slips

Definition

As production slips we define the recording of raw and auxiliary materials consumed in the production process.

Criticality

The consumption slips (sheets) are a complete record of consumed materials and special attention is required as these sheets are likely to identify any losses in raw

and auxiliary materials which are not consumed (other losses) and can also determine more precisely the rate of wastage.

Production slips

Definition

As production slips we define the recording of products (ready and semi-ready) produced during the production process.

Criticality

A full inventory of produced products and special attention is required as these slips will most likely identify any other product losses, which in turn will affect the product cost.

Time sheets

Definition

As Time sheets we define the full record of all the data in the production process that have a starting point in human resources. In the time sheets full details of who worked on the production of what products at what stage, for how much, how long, as a result of which production order, using what resources (machines) is recorded.

Production Documents

Definition

As a production document we define the detailed reporting of results in the production process for each product (ready or semi-ready).

Criticality

The production documents record full details of each product (ready or semi-ready).

Details as to what quantity is produced, which raw and auxiliary materials are consumed and in what quantity, what additional charges other than the cost of raw and auxiliary materials SPECIFY its own cost.

Objectives and results of the production documents

- Information about meeting production needs for the specific product
- Determining the total cost of products
- Determining the origin of the product cost (cost of raw and auxiliary materials, cost of Labor, General Industrial Expenses)
- Identification of deviations from bills of material in order to improve them, if the documents reflect the actual results of the production process.

Production cost accounting

Computerized procedure

The Production Cost Accounting (class 9) is the last computerized procedure in the recording of the production process of the company and at the same time the most important, as after this procedure the company can get the answers needed.

Checks before starting the process of updating

- All the codes of the items involved in the production process to be updated with the following accounts:
 - Cost of Inventory (stock) (94.nn.nn.nnnn)
 - Production cost (93. nn.nn.nnnn)
 - Gross results (96. nn.nn.nnnn)*

**(Not necessary for production cost accounting but for the recording of cost of goods sold, which follows production cost accounting (class 9)).*

- All the cost elements involved in the production process to be updated with the accounts of the cost center (92. nn.nn.nnnn) (All those updated with cost centers)
- The correct update of the Cost Accounting accounts
- Proper recording and updating of production documents
- Proper recording and updating of purchase documents as raw materials cost calculation has to be performed first

- Proper recording of bills of material is a prerequisite for correct production cost accounting (class 9) results as they will also determine the sequence followed during product cost calculation. Bills of material should be properly recorded prior to production documents recording.

Results of production cost accounting (class 9)

Following the end of the process of production cost accounting (class 9) we should be able to see the updated value of our inventory (stock) (cost of production and consumption costs).

We should also be able to see the carry-over of labor costs, general industrial expenses and consumption costs in production cost, which in turn is transferred to the cost of stock (of produced items).

Production costing creates three (3) entries (articles) in Cost Accounting recorded in the last date of the costing period:

1. Assessment, where cost elements account 92.nn.nn.nnnn is credited and production cost account 93.nn.nn.nnnn is debited
2. Allocation, where raw and auxiliary materials account 94.nn.nn.nnn is credited and cost production account 93.nn.nn.nnn is debited
3. Production cost, where (produced items) cost of production account 93.nn.nn.nnn is credited and (produced items) stock account 94.nn.nn.nnn is debited.

Checks after the end of the process of updating

1. The cost of production reflected in the inventory to agree with the debit value of account 93.nn.nn.nnnn (produced items) and therefore with the credit value of account 94.nn.nn.nnnn (produced items)
2. The cost of consumption reflected in the inventory to agree with the debit value of account 94.nn.nn.nnnn (consumption)
3. The Labor cost and the General Industrial Expenses reflected in inventory should agree with the debit value of account 92.nn.nn.nnnn (cost elements).

Specific issues addressed

1. Differences in consumption due to physical inventory of direct materials
2. Production of items and consumption of raw materials with analysis by characteristics (Color – Size)
3. Full monitoring of subcontracting procedure
4. Credit of the subcontractor's warehouse with the raw materials that may have been sent to him by the company

5. Monitoring of production in progress
6. Costing of consumable materials by any valuation method used by the company
7. Monitoring and creating lots within the production process
8. Costing of items which are simultaneously produced and purchased
9. Determination of indicative costs of bills of material and update of these costs with actual cost data of previous costing periods.

Automations

1. Transformation of order document lines into production orders
2. Transformation of production order document lines into production documents
3. Generation of production documents from the lines of the time sheets
4. Automatic order proposal generation or determination of production requirements and generation of necessary documents
5. Generation of production documents from supplier document lines (subcontracting)
6. Consumption of raw and auxiliary materials monitored in lots
7. Consecutive generation of production documents of semi-ready items.