



INTER 2025



COSTING

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CHAPTER 2 MATERIAL



Theory Chart

Chp2 Material Costing

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INTRODUCTION

General Meaning of Materials

commodities/ physical objects used to make the final product

Direct Materials

Cost of materials which can be **directly attributable** to the end product in an **economically feasible** way.

3Es of Material Cost Control

- Direct Materials constitute a **significant part** for manufacturing and production of goods.
- Being an input and a significant cost element, it requires adequate **management attention**.
- Cost control starts from here, and for this purpose it is necessary that the principle of 3Es (**Economy, Efficiency and Effectiveness**) are applied for this cost element.
 - economy in **procurement**
 - efficiency in **handling and processing** the material
 - and effectiveness in producing desired **output** as per the standard

Importance of Proper Recording and Control of Material

- **Quality of final product:** depends on the quality of materials
- **Price of the final product:** **cost of final product** is directly related with cost of materials used to produce the product
- **Production continuity:** production process runs smoothly by maintaining stock level and should **not be paused** for the **want of materials**.
- **Cost of stock holding and stock-out:** Inventory Control by setting quantitative levels is used to control stock holding cost in the form of **interest for the fund** used, stock handling losses like **evaporation, obsolescence** etc. Under-stocking causes in loss of revenue due to **stock-out** and breach of commitment.
- **Wastage and other losses during handling and processing**
- **Regular information about resources:** on availability and utilisation of materials are necessary for the entity for **timely and informed decision** making.

MATERIAL CONTROL

Objectives of Material Control

- **Minimising interruption in production process:** to have a constant **availability of every item** that may be needed in production process
- **Optimisation of Material Cost:** The overall material costs includes **price, ordering costs and holding costs** which needs to be **minimized**
- **Reduction in wastages:** losses and wastages in the process of manufacture are a **concern** of the production department and it **should be minimized**
- **Adequate Information:** **Proper records** should be maintained to obtain **reliable** information for all items of materials and stores. which also helps in proper **production planning**.
- **Completion of Order in Time:** to have good market **reputation**

Requirements of Material Control

- **Proper co-ordination:** of **departments** involved viz., finance, purchasing, receiving, inspection, storage, accounting and payment.
- **Defined Purchase Procedure:** to see that purchases are made, after making suitable **enquiries**, at the most **favourable terms** to the firm.
- **Standard forms:** for **placing the order**, noting **receipt** of goods, authorising **issue** of the materials etc.
- **Budgets Preparation:** concerning materials, supplies and equipment to ensure **economy in purchasing** and **use** of materials.
- **Internal Check System:** so that all **transactions** involving materials, supplies and equipment purchases are properly **checked and approved**
- **Proper and Safe Storage:** of all materials and supplies in a well **designated location** with proper **safeguards**.
- **Perpetual Inventory System:** with continuous stock checking so that it is possible to determine, at **any time**, the **quantity** and the **cost** of each kind of material in stock.

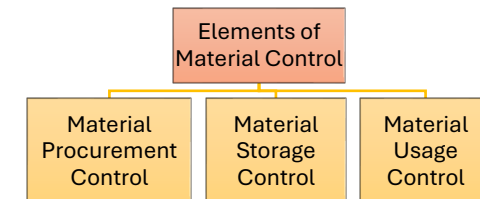
Requirements of Material Control

- **Efficient Issue Procedure:** so that there will be delivery of materials upon **authorized requisition** to departments in the **right amount** at the **right time**.
- **Store Records:** which exhibit summary and detailed **material costs** at the stage of **material receipt and consumption**.
- **Periodic Reports:** of materials **purchased, issue** from stock, inventory **balances, obsolete** stock, goods **returned** to vendors etc.

Elements of Material Control

Material control is a systematic control over the **procurement, storage and usage** of material so as to maintain an **even flow** of material. Material control involves **efficient functioning** of the following operations:

- **Purchasing** of materials
- **Storage** of materials
- **Receiving** of materials
- **Issuing** materials
- **Inspection** of materials
- Maintenance of inventory **records**
- Stock **audit**



MATERIAL PROCUREMENT PROCEDURE

Bill of Materials

- Also known as **Materials Specification List** or Materials List, it is a detailed list specifying the standard **quantities and qualities of materials** and components **required** for producing a product or carrying out of any job.
- It is prepared by **Engineering or Planning** dept.
- Use of Bill of Material by other departments
 - Purchase Department:** **procurement** is made based on **specifications** mentioned in the list i.e brand, variant, size etc.
 - Production Dept:** Production is **planned** according to the nature, volume of the materials required to be used as per list
 - Stores Dept:** Used as a **reference document** while **issuing** materials
 - Cost/ Acc Dept:** to **verify purchase and issues** with bill of material

Purchase Requisition

- This document **authorises** the **purchase department** to order for the materials specified in the note.
- It is a **form** used for making a **formal request** to the purchasing department to purchase materials.
- It is **filled** up by the **store keeper** for **regular** materials and by the **concerned dept. head** for **special** materials (not stocked as regular items)
- For **regular** materials, purchase dept. gives **standing order** to supplier and under that give **POs** for **periodic supplies** considering ROL, min stock etc.
- In respect of **special materials**, it is desirable that the **concerned technical** department should prepare materials specifications list specifying the quantity, size and order for the materials.

Selection of Quotation/ Proposal

- After **invitation** of tender from the **vendors**, interested vendors **send** their **price quotations/ proposals** to the purchase department.
- On the receipt of quotations, a **comparative statement** is prepared
- For **selecting** material suppliers, the factors which the purchase department keeps in its mind are—price, quantity, quality offered, time of **delivery**, mode of **transportation**, **terms** of payment, **reputation** of supplier etc.

Goods Received Note

- If everything **is in order** and the supply is considered **suitable** for **acceptance**, the Receiving department prepares a **Receiving Report** or **Material Inward Note** or Goods Received Note.
- Generally, it is prepared in **quadruplicate**, the copies being distributed to **purchase dept.**, **store dept.**, **receiving dept.** and **accounting dept.**

Material Requisition Note

- It is also known as **material requisition slip**.
- It is a **voucher of authority** used to get materials **issued** from store
- For issue of **regular materials** production dept prepare **requisition** slip but in case of any **new material** they can directly use **bill of material** in place of requisition slip
- The note is also **shared** with **Stores** and **Cost/ Accounting** department.

Quotation/ Request for Proposal RFP/ Notice Inviting Tender NIT

Materials purchase department has to answer the following question before initiating purchasing

Question	Comments
What to purchase?	According to purchase requisition
When to purchase?	According to decided Re-order Level which is calculated considering usage and lead time
How much to purchase?	According to ROQ/ EOQ which is decided based on inventory storage capacity and relevant costs
Where to purchase?	This is discussed in Material Procurement Procedure .
At what price to purchase?	Bidders who fulfill all other criterias of quality and other aspect are finally compared based on price quoted by them and finally a lowest bidder is selected.

Preparation and Execution of Purchase Orders

- After **selection** of best offer, the purchase manager or concerned officer proceeds to issue the **formal purchase order**.
- It is a **written request** to the supplier to **supply** specified **materials** at specified **rates** and within a specified **period**
- Copy** of POs is sent to **relevant depts** also.

Receipt and Inspection of Materials

- After issue of purchase order, **arrangements** is made **to receive** the delivery of materials
- After **receipt** of materials along with **relevant documents** like invoice, receiving department **inspect** the materials for its conformity with purchase order.
- After **satisfactory** inspection, materials are received and **Goods Received Note** is issued.
- If some materials are **not** found in good condition or are not in **conformity** with the purchase order are **returned back** to the vendor along with a **Material Returned Note**.

Material Returned Note

- Sometimes materials have to be returned to suppliers due to **non conformity of PO**, such returns may occur **before or after the preparation** of the GRN.
- If the return takes place before GRN, such material obviously would **not be included** in the GRN and hence not shown in the stores ledgers. In that case, **no adjustment** in the account books is required.
- But if the material is **returned after its entry** in the GRN, a suitable **document** must be drawn up in support of the issue so as **to exclude from the Stores** of Material Account the value of the materials returned back. This document usually takes the form of a **Material Returned Note** or Material outward return note.

Checking and Passing of Bills for Payment

- The invoice received from the supplier is sent to the **accounts section** to check **authenticity** and mathematical **accuracy**.
- The **quantity and price** are also **checked** with reference to goods received note and the purchase order respectively
- The **accounts section** after checking its accuracy finally **certifies** and **passes** the invoice for payment.

Bill of Materials vs Material Requisition Note

- | | |
|---|--|
| <ul style="list-style-type: none"> It is the document prepared by the engineering or planning dept. It is a complete list of raw materials required for a particular job or work order. It can replace material requisition. It can be used for quotations. It helps in keeping a quantitative control on materials drawn through material requisition. | <ul style="list-style-type: none"> It is prepared by the production or other consuming dept. It is a document asking Store-keeper to issue materials. It cannot replace a bill materials. It is useful in getting historical cost only. It shows the material actually drawn from stores. |
|---|--|

Material Procurement Procedure

Engineering/ Planning Department

1. Bill of Material

Production Department

2. Material Requisition

Store

Purchase Department

3. Purchase Requisition

Purchase Department

4. Tender

5. Quotations

6. Purchase Order

7. Goods Delivery with Challan

9. Goods Received Note

Accounting Department

8. Invoice

10. Payment

Supplier

VALUATION OF MATERIAL RECEIPTS

Valuation of Material Receipts

- When materials are purchased there are **various cost items** along with **purchase value** which are required to be added to the cost of material.
- The Cost of Material is the amount taken in the **receipt** column of the **store ledger** when goods are received.

Discounts and Subsidies

- Trade Discount:** It's a **flat discount** available to everyone and is part of **marketing** strategy. It is to be deducted from the purchase price if it is not shown as deduction in the invoice.
- Quantity Discount:** It is provided when materials are purchased in **bulk quantities**. It is also shown as **deduction** from the invoice.
- Cash Discount:** Cash discount is **not deducted** from the purchase price. It is treated as interest and finance charges. It is **ignored**.
- Subsidy/ Grant/ Incentive:** Any subsidy/ grant/ incentive received from the Government or from other sources **deducted** from the cost of purchase.

Penalty and Charges

- Demurrage:** Demurrage is a **penalty** imposed by the transporter **for delay** in unloading or offloading of materials. It is an **abnormal cost**.
- Detention Charges:** Detention charges/ fines are imposed for **non-compliance** of rule or law by any statutory authority. It is an **abnormal cost** and not included with cost of purchase
- Penalty:** Penalty of any type is not included with the cost of purchase

Commission, Insurance and Freight

- Insurance Charges:** Insurance charges are paid for **protecting goods** during transit. It is **added** with the cost of purchase
- Commission or brokerage paid:** Commission or brokerage paid is **added** with the cost of purchase.
- Freight inwards:** It is added with the cost of purchase as it is directly attributable to procurement of material.

Duties and Taxes

- Road Tax/ Toll Tax:** Road tax/ Toll tax if **paid by the buyer** then it is included with the cost of purchase.
- GST:** It is **excluded** from the cost of purchase if **credit** for the same is **available**. If questions is silent, assume credit is available
- Basic Custom Duty:** Basic Custom duty is paid on import of goods from outside India. It is **added with the purchase** cost as credit is not available.

Cost of Containers

- Non-returnable Containers:** The cost of containers is **added** with the cost of purchase of materials.
- Returnable Containers:**
 - If on return of containers **full cost** of containers is **returned back** then in this case cost of containers is not added to the cost of purchase.
 - If the amount of refund on returning the container is less than the amount paid then only **short fall** is added with the cost of purchase.

Shortage

- Normal:** Cost of shortage due to normal reasons will be **absorbed** by good units. Example: Losses due to breaking of bulk, evaporation, due to unavoidable conditions etc.
- Abnormal:** Cost of shortage due to **abnormal reasons** will be debited to Costing P&L and do **not affect the unit cost** of production. Example: material mishandling, pilferage, due to avoidable reasons are not absorbed by the good units.

MATERIAL STORAGE & RECORDS

General Note

- **Proper storing** of materials is of primary importance. It is not enough only to purchase material of the required quality
- If the purchased material **subsequently deteriorates** in quality because of **bad storage**, the loss is even more than what might arise from purchase of bad quality of materials.
- Apart from **preservation** of quality, the store-keeper also ensures **safe custody** of the material. It should be the function of store-keeper that the right quantity of materials always should be **available in stock**.

Duties of Store Keeper

- **General control over Store:** Store keeper should keep control over **all activities** in Stores department like cross checking of **quantities** while **receiving** material, arrange for the **storage** in appropriate places, **issue** after checking etc.
- **Safe custody of materials:** it is to be ensured that materials are stored in a **safe condition** and environment required to **preserve the quality** of the materials.
- **Maintaining records:** of quantity **received, issued, balance** in hand and **transferred** to/ from other stores.
- **Initiate purchase requisition:** when stock **reaches Re-order Level**
- **Maintaining adequate level of stock:** at all time and take necessary action to **avoid stock out**, ensuring **stoppage** of further **purchasing** when the stock level approaches the **maximum** limit.
- **Issue of Materials:** only against the material **requisition** slip **approved** by the appropriate authority and also refer to bill of materials for cross check.
- **Stock verification and reconciliation:** between **book** balances with the **actual physical** stock at **frequent intervals** by way of internal control and check the any irregular or abnormal issues, pilferage, etc.

Store Records

- **Bin Cards:** It is a **quantitative record** of inventory which shows the quantity of inventory available in a **particular bin** (i.e. box/ container/ space where materials are kept.) by placing a physical card.
- **Stock Control Cards:** It is also a **quantitative record** (that includes receipt, issue, return, in hand and order given) of inventory maintained by stores department **for all items** of material.
- **Store Ledger:** is maintained to record **both quantity and cost** of materials received, issued and those in stock. The source documents for posting the ledger are Goods received notes, Materials requisition notes etc.

Bin Cards – Advantages / Disadvantages

- **Advantages:** **Less** chances of **mistakes** as **entries** are made **instantly** while receiving or issuing goods, Physical **verification** is **easy** hence good control over stock, **Identification** of items is **easy** by referring bin cards
- **Disadvantages:** **Records** are **dispersed** over a wide area, Cards are Liable to be **smeared** with dirt and grease because put **closer to material**, **People** handling material are **not suitable** for **making entry** in bin card

Stock Control Cards – Advantages / Disadvan.

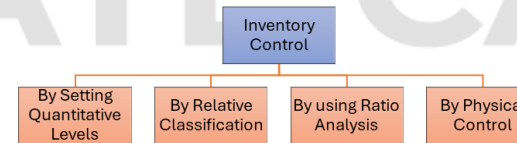
- **Advantages:** Records are kept in a **more compact** manner so that reference to them is facilitated, they are **neat and clean** as **dedicated personnel** is doing the entries, easy to get overall idea of **stock position** without going around, as **all records** are at **one place**
- **Disadvantages:** On the **spot comparison** of the physical stock of an item with its book balance is **not facilitated**. Physical **identification** of materials in stock **may not be as easy** as in the case of bin cards

INVENTORY CONTROL – QUANTITATIVE LEVELS

Definition

- Inventory Control is the function of ensuring that **sufficient goods** are retained in stock to **meet** all **requirements** without carrying **unnecessarily large stocks**.
- The main objective of inventory control is to maintain a **trade-off** between stock-out and over-stocking.

Ways to do Inventory Control

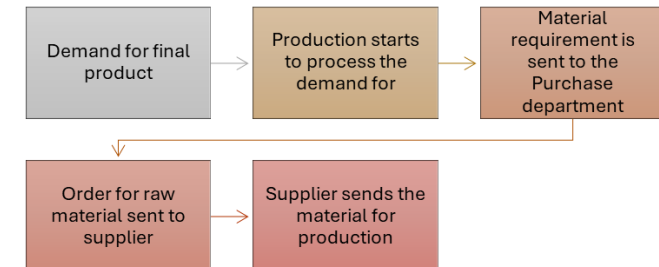


Inventory Stock Out

- **Meaning:** Stock out said to be occurred when an inventory **item could not be issued/** supplied due to **insufficient stock** in the store.
- **Consequences:** The stock-out situation costs to the entity not only in **financial** terms but in **non-financial** terms also which in turn becomes financial in long term
- **Important Terms:**
- **Safety Stock:** Safety stock is the level of stock of any item which is maintained in **excess of lead time consumption** to avoid stock out.
- **Stock Out Cost:** **Loss of contribution** due to occurrence of stock-out.

Just In Time (JIT) Inventory Management

- JIT is a **system** of inventory management with an approach to have **zero inventories** in stores.
- According to this approach material should only be **purchased when** it is actually **required** for production.
- It is based on two principles:
 - **Produce** goods only **when** it is **required** and
 - the products should be **delivered** to customers at the time **only when they want**.
- It is also known as 'Demand pull' or 'Pull through' system of production.
- **Mechanism:** In this system, production process actually starts after the order for the products is received. Based on the demand, production process starts and the requirement for raw materials is sent to the purchase department for purchase.



Store ledger

BIN CARDS vs STOCK CONTROL CARDS

• It is maintained by the storekeeper in stores.	• It is maintained in cost accounting department.
• It contains only quantitative details of material received, issued and returned to stores.	• It contains information both in quantity and cost value.
• Entries are made when transaction takes place.	• It is always posted after the transaction
• Each transaction is individually posted	• Transactions may be summarized and then posted
• Inter-department transfers do not appear in Bin Card	• Material transfers from one job to another job are recorded for costing purposes

INVENTORY CONTROL BY RELATIVE CLASSIFICATION

ABC Classification

- **Meaning:** This system exercises **discriminating control** over different items of inventory on the **basis of the investment** involved. Usually, the items are classified into **three categories** according to their relative **importance**.

Classification Criteria:-

Cate- gory	Qty %	Value %	Remarks
A	10	70	High Price items, very important items
B	20	20	Moderate investment over item, general treatment
C	70	10	No constant control required, the objective is to economies on ordering and handling costs

Advantages:-

- **Continuity** in Production: mainly using stock out concept to high value items
- **Lower Cost:** using EOQ concept over Category C to achieve economies
- **Less attention** required: Management focus mainly on A category

FSN Classification

- **Fast Moving:** This category of items are **placed** nearer to **store issue point** and the stock is reviewed frequently for making of fresh order
- **Slow Moving:** These are **stored little far** and stock is **reviewed periodically** for any **obsolescence** and may be shifted to Non-moving category
- **Non Moving:** These are **kept for disposal** and is reported to the management and an appropriate **provision for loss** may be created

HML Classification

- Under this system, inventory is classified on the **basis** of the **cost of an individual item**, unlike ABC analysis where inventories are classified on the basis of overall value of inventory.
- High Cost inventories are given more priority for control, whereas Medium cost and Low cost items are comparatively given lesser priority

PHYSICAL CONTROL IN INVENTORY

VED Classification

- **Vital:** Items are classified as vital when its **unavailability** can **interrupt** the **production** process and cause a production loss. Items under this are **strictly controlled** by setting re-order level.
- **Essential:** Items under this category are essential but not vital. The **unavailability** may cause **sub standardization** and **loss of efficiency** in production process. Items under this category are reviewed periodically and gets the second priority
- **Desirable:** Items under this category are **optional** in nature, unavailability does **not cause** any production or efficiency loss

Two Bin System

Under this system, each bin is divided into **two parts** – **smaller** part to stock the quantity equal to the **minimum stock** or even the **re-ordering level**, and the other part to keep the remaining quantity. **Issues** are made out of the **larger part**; but as soon as it becomes necessary to use quantity out of the smaller part of the bin, fresh order is placed.

Establishment of System of budgets

By carefully **studying production plans** and production **schedules**, inventories requirement budget can be prepared which will **discourage** the **unnecessary investment** in inventories.

Perpetual Inventory Records

Perpetual inventory represents a system of records maintained by the stores department which requires following:

- The Stores Ledger showing quantities and amount of each item.
- Stock Control cards (or Bin Cards).
- Reconciling the quantity balances shown by (a) & (b) above.
- Checking the physical balances of a number of items every day systematically and by rotation.
- Explaining promptly the causes of discrepancies, if any, between physical balances and the book figures.
- Making corrective entries wherever required after step (e) and
- Removing the causes of the discrepancies referred to in step (e)

Advantages of Perpetual Inventory

- Physical stocks can be **counted** and book balances **adjusted** as and when desired **without waiting** for the **entire stock-taking** to be done.
- **Quick** compilation of **Profit and Loss** Account (for interim period) due to prompt **availability of stock figures**.
- **Discrepancies** are **easily located** and thus corrective action can be promptly taken to avoid their recurrence.
- A systematic review of the perpetual inventory **reveals** the existence of **surplus, dormant, obsolete and slow-moving** materials, so that remedial measures may be taken in time.
- **Fixation** of the various **stock levels** and checking of actual balances in hand with these levels **assist** the store keeper in **maintaining stocks** within limits and in **initiating purchase requisitions** for correct quantity at the appropriate time.

Continuous Stock Verification

- The checking of physical inventory **independently** is an **essential** feature of every sound system of material control.
- It can be done by **internal audit department** but are independent of the store and production staff.
- Stock verification is done at **appropriate interval** of time without prior notice.
- The **element of surprise** is essential for effective control of the system.

Why continuous verification is better than annual/ periodic stock taking

- In **Annual Stock Taking**, since all the items have to be covered in a given number of days, either the production department has to be **shut down** during those days to **enable thorough checking** of stock.
- **Advantages of Continuous verification:**
 - **Closure** of normal **functioning** is not required.
 - Stock **discrepancies** are likely to be brought to the **notice and corrected much earlier** than under the annual stock-taking system.
 - The system generally has a **positive influence** on the stores **staff** because of the **element of surprise** present therein.
 - The **movement** of stores items can be **watched more closely** by the stores auditor so that **chances of obsolescence buying are reduced**.
 - **Final Accounts** can be **ready quickly**. Interim accounts are possible quite conveniently.

MATERIAL ISSUE PROCEDURE

Material Issue

- Issue of material must not be made **without** properly **authorised** requisition **slip**.
- Usually, it is the **foreman** of a department who has the **authority to draw** materials from the store.
- **Physically** Issue of material must be made on the basis of **first in first out**, that is, out of the earliest lot in hand to **avoid deterioration**.

Issue against Material Requisition Note

- It is the **voucher of the authority** as regards to the issue of materials for use in the factory
- **After receipt** of material requisition **slip**, store keeper ensures that requisition is **properly authorized** and requisitioned **quantity** is **within** the quantity specified in **bill of materials**.
- **After satisfied** with the documents, store keeper **issue materials** and keep one **copy of MRN** for record.

Transfer of Material

- The **surplus** material arising on a job or other units of production may **sometime** be **unsuitable** for transfer **to store** because of its bulk, heavy weight, brittleness or some other reason.
- It may, however, be possible to find some **alternative use** for such materials by transferring them to some **other job** instead of returning them to the store.
- Transfer of material should be **allowed** only in **rare cases** because if it becomes very regular, maintaining records and cost **allocation becomes challenging**.
- At the time of material transfer, a **material transfer note** should be made in **duplicate** by dept making transfer and **one copy** should be sent to **cost accounting** dept to necessary adjustments in cost ledgers. No copy is required by store as no entry is required.

Return of Material

- Sometimes it is **not practicable** to measure the exact **quantity** of material **required** by a user department so it is issued often in **excess** of actual quantity
- To have **better control** any **surplus** material left over on the completion of a job should be **promptly hand over** to the storekeeper for safe and proper custody
- **Shop Credit Note or Stores Debit Note** is prepared by the dept returning the surplus material and should be in three copies for Stores, Cost Accounting and Self.

Need of Methods

- In a situation where the **material** may have been **purchased at different times** and at **different prices** with varying discounts, taxes etc. the problem arises as to **how the material issues** to production are to be valued.
- Various methods to tackle this: FIFO Method, LIFO Method, Weighted Average Method, Other Methods

Selection of Methods

- The cost accountant should select the proper method based on following factors
- **Frequency of purchases**, price fluctuations & range
 - The **frequency of issue** of materials, relative qty. etc.
 - **Nature** of cost accounting system.
 - Nature of **business** & the **type** of production process.
 - Mgt. policy relating to the **valuation of closing stock**.

Types of Methods

Cost Methods	Price	Specific Price Method, FIFO, LIFO, Base Stock Method
Average Methods	Price	Simple Average Price Method, Weighted Average Price Method
Market Methods	Price	Replacement Price Method, Realisable Price Method
Notional Methods	Price	Standard Price Method, Inflated Price Method, Re-use Price Method

VALUATION OF MATERIAL ISSUES

FIFO Method

- Materials issued are **valued at prices** in the **order** in which they arrive in the store or the items longest in stock are issued at oldest rate
- **Suitable** when **prices are falling** (logic – old high prices are charged to material cost of production while replacement cost of materials will be low)
- **Unsuitable** when **prices are rising** (logic – low prices are charged to material cost of production which is lower than current replacement cost)
- **Closing stock** will be near to current **market price** (Advantage)

LIFO Method

- This method assumes that the items of the **last batch** (lot) purchased are the **first to be issued**.
- **Suitable** when prices are **rising** (logic – high prices which are relevant at the production will be charged to material cost)
- **Not suitable** when prices are **falling** (logic – stock will be of high cost and lower than market price, difference need to be booked as loss in balance sheet)
- This method is useful when management wants to **book less profit to lower tax** amounts, but in India it is not permitted to use this method as per accounting standards and Income Tax Law.

Weighted Average Method

- This method uses the **weighted average prices** of materials taking received quantity as the weight
- It **smoothenes the price fluctuations** if at all is there, due to material purchases
- **Every time lot** is received, it would require **re-computation of issue prices**.

Other Methods

- **Specific Price Method:** This method is useful, especially when materials are purchased for a specific job or work order. Issue is at purchase price
- **Base Stock Method:** Minimum quantity of stock under this method is always held at a fixed price as reserve in the stock, to meet the state of emergency, if it arises. Stock in excess of base will be issued using FIFO, LIFO etc.
- **Simple Average Price Method:** Under this method, materials issued are valued at average price, which is calculated by dividing the total of rates at which different lot of materials are purchased by total number of lots.
- **Replacement Price Method:** is defined as the price at which it is possible to purchase the same item at current price
- **Realisable Price Method:** price at which the material to be issued can be sold in the market, different shown in P&L
- **Standard Price Method:** where material is issued at some predetermined price

VALUATION OF RETURNS AND SHORTAGES

Valuation of Materials Returned to the Vendor

- The price of the materials to be returned to the vendor **should include** its invoice price **plus freight, receiving and handling charges** etc.
- In stores ledger, return to be valued at the **stores ledger price** and not invoice price.

Valuation of Materials Returned to Stores

- Such returns are entered in the **receipt column** at the price at which they were **originally issued**
- Include the materials in stock, as if they were **fresh purchases**.

Valuation of Shortages during Physical Verification

- Normal Shortages:** **only quantity column** under issues is used and the cost is **distributed** to remaining good units in balance
- Abnormal Shortages:** **issue column** is used to value the amount to be transferred to **P&L Account**

TREATMENT OF LOSS OF MATERIALS

Waste

- The portion of raw material which is **lost during storage or production** and discarded.
- The waste may or may not have any value.
- Treatment of Waste
 - Normal:** absorbed by good units.
 - Abnormal:** to Costing Profit and loss

Scrap

- The part of production which are **discarded and disposed-off** without further treatment.
- Generally, scrap has either **no value or insignificant value**. But sometimes, it may be **reintroduced** into the process as raw material.
- Treatment of Scrap
 - Normal:** The cost of scrap is **borne by good units** and income arises on account of **realisable value is deducted** from the cost.
 - Abnormal:** The scrap account should be **charged with full cost** and transferred to Costing P&L Account

Spoilage

- It is the term used for materials which are **badly damaged in manufacturing operations**, and they cannot be rectified economically and hence taken out of the process to be disposed off in some manner without further processing.
- Normal** spoilage (i.e., which is inherent in the operation) costs are included in costs either under **direct cost or as production overhead**
- Abnormal:** is charged to the Costing Profit and Loss Account.

Reclamation of loss from **spoiled units**

- In the case of articles that have been spoiled, it is necessary to take **steps to reclaim** as much of the loss as possible. For this purpose:
- All defective units should be **sent to a place** fixed for the purpose;
 - These should be **dismantled**;
 - Good and serviceable** parts should be separated and taken back into the **stock**;
 - Parts which **cannot** be made serviceable should be **collected** in one place for being **melted or sold off**.

Defectives

- It signifies those **units** or portions of production which **do not meet the quality standards**.
- Defectives arise due to **sub-standard materials**, bad-supervision, bad-planning, poor workmanship, inadequate-equipment and careless inspection.
- The defectives which can be **re-made** as per the quality standard by using additional materials are known as **reworks**.
- Defectives which cannot be brought up to the quality standards are known as **rejects**. The rejects may either be **disposed-off or re-cycled** for production process.
- Normal:** An amount equal to the cost less realisable value on sale of defectives are **charged to material cost** of good production.
- Abnormal:** transferred to costing profit and loss account.

Obsolescence

- Obsolescence refers to the **loss in the value** of an asset due to **technological advancements**.
- Materials may become obsolete under any of the following circumstances:
 - where it is a **spare part or a component** of a machinery that is used in manufacturing and is now obsolete;
 - where it is used in the manufacturing of a **product which has now become obsolete**;
 - where the material itself is **replaced by another material** due to either improved quality or fall in price.
- In all the three cases, the value of the obsolete material held in stock is a **total loss** and immediate steps should be taken to **dispose it off** at the best available price.
- The loss arising out of obsolete materials is an **abnormal loss** and it does not form part of the cost of manufacture.

Waste

- It is **connected** with raw **material** or inputs to the production process.
- Waste of materials may be **visible or invisible**.
- Generally, waste has **no recoverable value**.

Scrap

- It is the loss **connected** with the **output**
- Scraps are generally **identifiable** and has **physical substance**.
- Scraps are termed as **by-products** and has **small recoverable value**.

Scrap	Defectives
It is the loss connected with the Output	This type of loss is connected with the output as well as the input
Scraps are not intended but cannot be eliminated due to the nature of material or process itself.	Defectives also are not intended but can be eliminated through a proper control system.
Generally, scraps are not used or rectified.	Defectives can be used after rectification.
Scraps have insignificant recoverable value.	Defectives are sold at a lower value from that of the good one.

