

## STORE AND STORE KEEPING

### Outline of Presentation

- Objectives
- Functions of storekeeper
- Benefits of store keeping
- Features of successful store keeping
- Stores Organization
- Location and layout of stores
- Types of stores
- Stock taking

### Introduction

- **Store** is a place where excess material is kept which will be used as and when required. Loss of items, deterioration, obsolescence and inadequacy [of what is stored to what is needed] are treated as 'part of life'.
- **Store management** is "to receive materials, to protect them while in storage from damage & unauthorized removal, to issue the material in the right quantities, at the right time to the right place and to provide these service promptly and at least cost".

### Objectives of store

- In the chain of **internal customers** and **suppliers**, stores has several **internal customers**.
- As a matter of fact **all functions of management** are **internal customers to stores**.
- Customers as usual expect Quality, Cost and Delivery from every supplier. Stores also have to deliver these customer expectations.
- In the process of discharging this obligation, Stores perform some activities which are functions of Stores. **Functions of stores** include -
  - 1) **Minimizing cost of production** through minimizing cost on materials.
  - 2) **Maintaining the value** of materials.
  - 3) **Service to user departments**.
  - 4) **Establishing Co-ordination** with other departments.
  - 5) **Advising** materials Manager.

### Functions of Stores

1. Receipt
2. Storage
3. Retrieval
4. Issue
5. Records
6. Housekeeping
7. Control
8. Surplus management
9. Verification
10. Interaction & coordination

### Receipt

- Any item of **goods or material** that enters the organization **always enters through the stores**.
- Similarly, **every item** unless specifically excluded, **has to leave through the store**. Stores is **the final account keeper** of all materials.
- Material sent by any supplier **after the security clearance** comes to the stores. Stores check the document carried by the carrier, known as **Delivery Challan**, against **the copy of the Purchase Order** placed on the **supplier** by the organization.

### Receipt (2)

- Once the **adequacy is established** and **quantity is verified**, the material is sent for **testing for quality parameters**.
- Some times quality control tests are **elaborate** and **time consuming**. If the policy of receipt is to unload the material **subject to quality control acceptance**, it is cleared for unloading.
- Unloaded material is **kept on the hold**, if it not yet cleared by **quality control department**. If the material is **rejected** it is **sent back to the supplier** after clear documentation.

### Storage

- Once the **unloaded material** is approved by **the quality control department**, as per **the quality plan** in the quality system, it is moved to **a specific place** in the stores layout.
- The material is so stored that it becomes **easy to retrieve** and **issue** subsequently.
- Storage should also ensure protection against **deterioration, damage** and **pilferage**.

### Storage

- Detailed system is adopted for **location** and **labeling of items** while in **storage**. Storage plan is made keeping in mind:
  - Nature of the product**- physical state, toxicity, inflammability and other hazards
  - Volume and weight**- heavy or light
  - Movement frequency**- fast moving or slow moving
  - Point of use**

### Retrieval

- Easy and quick retrievability** of items that are demanded by **the internal customers**.
- Easy identification, maximum space utilization** and **minimum handling** are key factors to **retrieval functions**.
- It is common knowledge in many of the companies that after hours of searching for the item, the item is declared to be out of stock. This causes hold up of production process and avoidable **urgent purchase of out of stock material**. This function takes place as **per established retrieval system**.

### Issue

- Fulfilling customer demand** for the item in **minimum time**, keeping **quality high** and **cost minimum** is issue.
- An internal customer **doesn't pay the price** but he **has to fulfill** requirement of **authorization for the demand**.
- A duly **authorized indent** or **requisition** for the item is the key.

### Records

- Maintaining records of **receipt** and **issue**.
- Updating the stock levels** as per movement of materials.
- Basic records of store are **bin card** and **stock register**.
  - ✓ **Bin card** is placed on the bin in which items are stored. This gives **information about receipt, issue and balance**.
  - ✓ **stock register** gives all the information in the bin card and also the value.

### Housekeeping

- Maintenance of **spic and span cleanliness** in the store and ensuring principle of **Place for Everything and Everything in its place** is fully implemented.
- Good housekeeping ensures satisfactory work practices.

### Control

- Taking measures to **ensure material plan** is being adhered to.
- Any changes in **consumption pattern** or **replenishment pattern** are **closely monitored** for **corrective action**.
- Material movement is watched to **identify nonmoving material for disposal**. Effective control puts into effect **management objective** of '**no shortage and no excess**'.

### Surplus management

- **Effective disposal system** for **unneeded material** to **reduce inventory cost** and **proactive measures** to eliminate deterioration and obsolescence.
- Obsolete items are good in all respect but have no useful role in the company due to changes that have occurred in the course of time.
- Surplus items are those that have **accumulated due to faulty planning, forecasting and purchasing**. Hence a **usage value** is associated with these items.
- **Scrap** is **wastage generated due to processes** like turning, boring drilling etc. and also due to bad manufacturing. It is said that in India nearly Rs. 2500 crores are tied up as obsolete, surplus and scrap items.

### Verification

- Stock verification to **eliminate gap** between **information** and **physical stock**.
- In stores some items are maintained as **stock items**. The stores triggers the procurement cycle for such items when a predetermined reorder level is reached.
- Hence correct stock position through verification is critical to ensure 'no shortage and no excess' for the item.

### Interaction & coordination

- Very close interaction between **Purchasing, production, quality control and engineering functions** is obviously needed in the discharge of the functions discussed so far.
- It also becomes necessary to **coordinate the flow of material samples and information through a network of departments** for performance of stores functions.
- Besides, **every management function** being an **internal customer**, **interaction is very important**.

### Benefits of Store Keeping

- The following advantages of store keeping help the organization to receive, store and distribute materials easily & quickly.
  - 1. Provides the proper place:**  
Under modern store keeping, each item of the material is kept **at proper place** so that at the time of need it may be obtained easily. If any material is not kept at proper place and is not available when required then the advantages of store keeping are not fully derived.
  - 2. Leads to minimum inventory investment:**  
It avoids the material in stores and thus enables the company to have more profitable use of working capital by way of minimum inventory of investment.
  - 3. Leads to easy identification and specification of materials:**  
Store keeping will make easy identification and specifications of materials in store. It will also help in using the oldest materials first on the basis of first in first out. It provides for proper storage space, equipment and scientific location of the store rooms.

### Benefits of Store Keeping (2)

#### 4. Materials estimation in anticipation:

Store keeping is a link between purchasing and production. The efficient and economical receiving's, handling, and issuing of store items, will save the investment in inventory and further it will facilitate ordering of needed materials. So, the choice of right and at right place and at right time can be made for future needs of an organization.

#### 5. Protection of material:

By effective store keeping process, materials stored are protected against damages, deterioration, theft, pilferage, unauthorised removal etc.

#### 6. Helps to minimise accident:

The proper system of store keeping the materials when place in different racks, bins and shelves properly (and not in a haphazard manner) will help in minimising the cases of accidents.

### Benefits of Store Keeping (3)

#### 7. Quality & Cost:

Modern age is the age of specialisation. Qualitative goods are to be produced at lesser and lesser cost. Poor control and bad store keeping may result in the issuance of old, Semi-obsolete materials to the factory which would create the problem of product quality. This will also create marketing problems for the company and in extreme case, may affect its reputation.

#### 8. Enables the continuous production:

Stoppage in manufacturing operations is minimised by ensuring continuous flow of materials needed for the different jobs. Thus, production schedules are not dislocated and therefore promised delivery dates are maintained. Stock position is easily known which enables timely replenishment of stock of the needed items once the stock reaches the minimum level.

#### 9. Reduces mismanagement:

A regular analysis will be possible in order to control losses, wastages, obsolescence and pilferage and have updated information on material requirements. The good system of store keeping will be helpful in measuring, counting and weighing the store items.

### Benefits of Store Keeping (4)

#### 10. Other benefits:

Store keeping also make easy identification of materials in a store due to application of classification and codification system with the result there is no problem in the process of issuing the material to the concerned department.

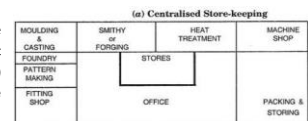
### Organisation of Stores:Types of Stores - Central Store

#### (a) Central Store:

In **small factories**, it is desirable to centralize the materials so that:(1) they may be brought **under the control of one store-keeper** and (2) **the store-room** should be as far as possible **near the place**, where material is to be used.

If there are **several manufacturing departments**, the store-room will be most conveniently situated, where it is **near to all departments**. This will **reduce handling** and a **lot of manual work is eliminated**.

This type is called **Centralized Store**.



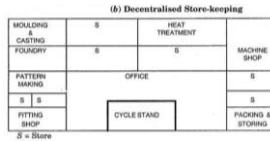
### Organisation of Stores: Types of Stores - Decentralized Store

#### (b) Decentralized Store:

In **large factories**, where there are several departments, each using different type of materials, it becomes beneficial to separate the stores.

For example,

- Near the welding department, store the materials required for welding;
- Near the foundry department, store the items which are used there;
- Near assembly department, store the parts that are required there and so on.



### Advantages of Central Stores

- 1) It is economical because there is **economy in floor space, office overheads, stationery** etc.
- 2) It **ensures better control and supervision** because of **availability of specialized knowledge and experience of stores staff**.
- 3) **Better lay-out** is possible.
- 4) It **facilitates inventory checks**.
- 5) The **amount of capital invested in stock is minimized**.
- 6) Since all stores are located in one place, it becomes **convenient to control the physical stock balances more effectively**.
- 7) **Concise reports on scrap, obsolete stocks** can be **prepared regularly**.
- 8) **Better security** arrangement can be made.

### Disadvantages of Central stores

- (a) It **takes time to deliver materials** to production departments if **store is situated at some distance** from many departments. So it causes inconvenience and delay.
- (b) There is a **greater risk of loss by fire** because of **concentration of all types of materials in one place**.
- (c) There is **increased transportation cost**.
- (d) **Breakdowns in transport** in central store may cause **production stoppage** leading to increased cost.
- (e) **Administration** becomes **too complicated** in a very large store.

### Location of Materials

- In **small factories**, where there is **one small store**, the Store-keeper may **remember the location of materials** but in **large factory** where **several thousand items** are handled by him, memory would become unreliable.
- Hence to **facilitate the work of Store-keeper**, it is necessary to set up a **system of numbering the locations**. Under this system, **all locations in a Store-room are numbered** and these **numbers are entered in the Index register** against the items which are located there.
- Suppose code number for any item is **28-18 E-35**. This means, the location is in **store room 28, Rack 18, Shelf E and Bin 35**. By this system, man approaches at the **correct place for correct material**, and issuing becomes **quick and easy**.

### Location of Stores

- Here, location refers to **the site for a particular store**. The location of stores should be carefully planned.
- An important factor to consider when establishing a store setup is the question of **where to locate it** for an optimal effect.
- It is crucial to set up stores in a **convenient and safe place** near to the **Receiving Department**. It should also **be accessible from all parts of the factory and be free from the risk of fire, theft, and other hazards**.
- The general principle used to determine the location of a Stores Department is **to minimize the total cost** (i.e., in terms of kg/km) of **transporting materials**.

### Factors to be considered while deciding the Location of Stores

The **main factors** that determine **the location of stores** in a manufacturing operation are outlined as follows:

- 1. Minimization of Material Handling Efforts:** The raw material store should be near the production shops, and the finished **goods** and packing materials stores should be near the assembly shop. The stores should be **easily accessible** by transport.
- 2. Nature of the Materials:** The **nature of the materials** to be stored **influences location**. Weather-resistant materials can be stored outdoors, while materials such as **cement** and **plaster** must not only be protected from the weather but also be stored in a dry place.
- 3. Quantity, Weight, etc., of Materials:** The quantity of each of the goods to be stored must be considered to choose the location. When the quantities are known, adequate provision may be made for immediate and future storage needs.
- 4. Flow of Materials:** The location of stores should be convenient, enabling the steady and regular flow of store items without obstruction.
- 5. Free from Risk of Loss:** Stores must be set up in a safe location that is free from the risk of loss due to fire, theft, moisture, and other hazards.
- 6. Flexibility:** The location of stores must leave open the potential for future expansion.

### Layout of Stores

- The **layout of stores** refers to the **physical arrangement of storage facilities or the internal arrangement or placement of materials** inside the stores.
- **Layout of stores** aims at the **effective utilization of available space for storage of materials**. It seeks to make the receipt and issue of stores convenient, improve the appearance of the stores, and minimize the chance of damage, wastage, pilferage, and accidents.
- When designing the layout of stores, another important aim is **to reduce the operating cost of storage**. The **layout of stores** should be chosen based on **the class and quantity of the materials to be stored**, as well as the **general nature of the business**.
- **Different materials should be separately stored**, paying due attention to the viewpoints of space economy, effective supervision, minimum wastage, and convenience. The materials should be kept in bins, racks, shelves, drawers, drums, packages, and containers.

### Factors to be considered to Decide Stores Layout

- 1. Similarity:** Items of a similar nature should be stored in one place for the sake of convenience and easy identification.
- 2. Popularity:** The turnover of each item should be considered to enable fast-moving items to be stored near the point of issue/usage.
- 3. Size of Item:** Items that are large or bulky in nature should be stored near the point of use.
- 4. Nature of Materials:** The nature of the materials to be stored is important in determining the layout of stores. Hazardous, sensitive, and perishable goods should be stored separately in safe places.
- 5. Physical Movement of Materials:** Strictly adhere to the principle of 'first in, first out' in the matter of physical movement of materials.
- 6. Physical Facilities:** To create an efficient layout, it is important to consider physical facilities such as lighting arrangements, ventilation, wall paint, availability of cranes, and other handling equipment.

## Delivery Challan

[illegible]

## Purchase Order

[illegible]

## Bin Card

[illegible]

## Stock Register

[illegible]



## Tender Enquiry Sample

[illegible]