



# Participant Handbook

Sector  
**Logistics**

Sub sector  
**Warehousing (Storage & Packaging)**

Occupation  
**Packaging**

Reference ID: **LSC/Q2303, Version 3.0**

**NSQF Level 3**



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## Warehouse Packer

**This book is sponsored by**

Logistics Sector Skill Council

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**Shri Narendra Modi**  
Prime Minister of India

“ Skilling is building a better India.  
If we have to move India towards  
development then Skill Development  
should be our mission. ”



## Certificate

### COMPLIANCE TO QUALIFICATION PACK - NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**LOGISTICS SECTOR SKILL COUNCIL**

for the

### **SKILLING CONTENT : PARTICIPANT HANDBOOK**

Complying to National Occupational Standards of

Job Role/ Qualification Pack: **'Warehouse Packer'** QP No. **'LSC/Q2303,V3.0 NSQF Level 3'**

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Authorised Signatory  
(Logistics Sector Skill Council of India)

## Acknowledgements

We thank the following organizations for endorsing the contents of this Participant Handbook, thus contributing towards skilling based on the Qualification Pack (QP) and National Occupational Standards (NOSs).



## About this book

This Participant Handbook is designed to facilitate training to the Warehouse Packer Qualification Pack (QP). It provides learners with the necessary knowledge to major warehousing activities, such as Packing products/ items, loading, unloading, receiving, sorting, put away, picking, packing and shipping, getting knowledge on Various Packaging materials, Packaging standards, Inventory management, Stock control methods, people management, material handling and ergonomics. Its decision-making orientation provides a real-world approach focusing on large and small warehouse industry. The book elaborates how Individuals in this position to manage general physical activities in order to pack, load, unload, sort and move products and materials by hand or using basic material handling equipment, How to take control of warehouse operations in case of emergency situations. This handbook also provides the latest information on the usage of technologies and reporting procedure to packaging operations. Many modules have been revised to capture the diversity, varied perspectives, and current spirit of warehousing. The handbook is divided into 4 NOSs. NOSs are Occupational Standards which have been endorsed and agreed to by the Industry Leaders for various roles. The NOSs are based on the educational, training and other criteria required to perform the job/ role of a Warehouse Packer.

### Key characteristics of this handbook:

- (i) It discusses concept of warehouse management in an easy to learn manner.
- (ii) It presents warehousing concepts in interactive and professional way.
- (iii) It gives opportunity to learners to visualize themselves in a professional warehouse set-up.

## Symbols Used



Key Learning Outcomes

The key learning outcomes are listed at the beginning of each module. These outline the focus areas that the learners will cover in every module.



Tips

Wherever possible, tips are included in every module. They provide additional insight to learners on a particular topic being discussed.



Steps

These provide step-by-step instructions for a specific process.



Notes

Notes at the end of each module is a space for learners to list down their key points related to the topic.



Time

This refers to the time specified for the completion of each module. The time in number of hours is mentioned at the beginning of each module.



Unit Objectives

These are listed at the beginning of each unit under every module. They highlight the focus areas that the learners will cover in every unit.

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	Scan the QR code below to access the ebook	









# 1. Introduction

Unit 1.1 - Supply Chain Management

Unit 1.2 - About the Course

Unit 1.3 - Importance of Warehouse in Supply Chain

Unit 1.4 - Roles and Responsibilities of a Warehouse Packer



## Key Learning Outcomes

**At the end of this module , participant will be able to:**

1. Discuss Supply Chain and Logistic Management
2. Explain the different types of Inventory and its importance
3. Discuss Warehousing industry and job opportunities in it
4. Define your job roles and responsibilities as a Warehouse Packer
5. Describe the various operations in warehouse and their importance in the effective logistics
6. Identify the expectations from a Warehouse Packer in his/her job role
7. Explain the various functions / operations of the warehouse
8. Define the inbound and outbound activities
9. Describe the major activities that are performed inside a warehouse
10. Get a clarity on the main roles of a Warehouse Packer

## Unit 1.1 - Supply Chain Management

### Unit Objectives

At the end of this unit , participant will be able to:

1. Define Supply Chain Management
2. Define Logistics Management
3. Explain the important flows in Supply Chain Management

### 1.1.1 What is Supply Chain Management?

Supply Chain Management envelops all activities starting from point of origin through point of consumption till End of Life of the Product or Service. It includes Planning and execution part of satisfying the customers' demand.

**Supply Chain definition** The movement of materials as they flow from their source to the end customer. Supply Chain includes purchasing, manufacturing, warehousing, transportation, customer service, demand planning, supply planning and Supply Chain management. (Source: CII-IL)

Supply chain management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance, and information technology.

### 1.1.2 What is Logistics Management?

**Logistics Management** is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverses flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements. (Source: CSCMP)

Supply Chain Management essentially ensures three flows:

- a. Product flow / Service Flow
- b. Information Flow
- c. Finance/Money Flow

Scan the QR code to watch the related videos



Logistics Management

<https://www.youtube.com/watch?v=4-QU7WiVxh8>

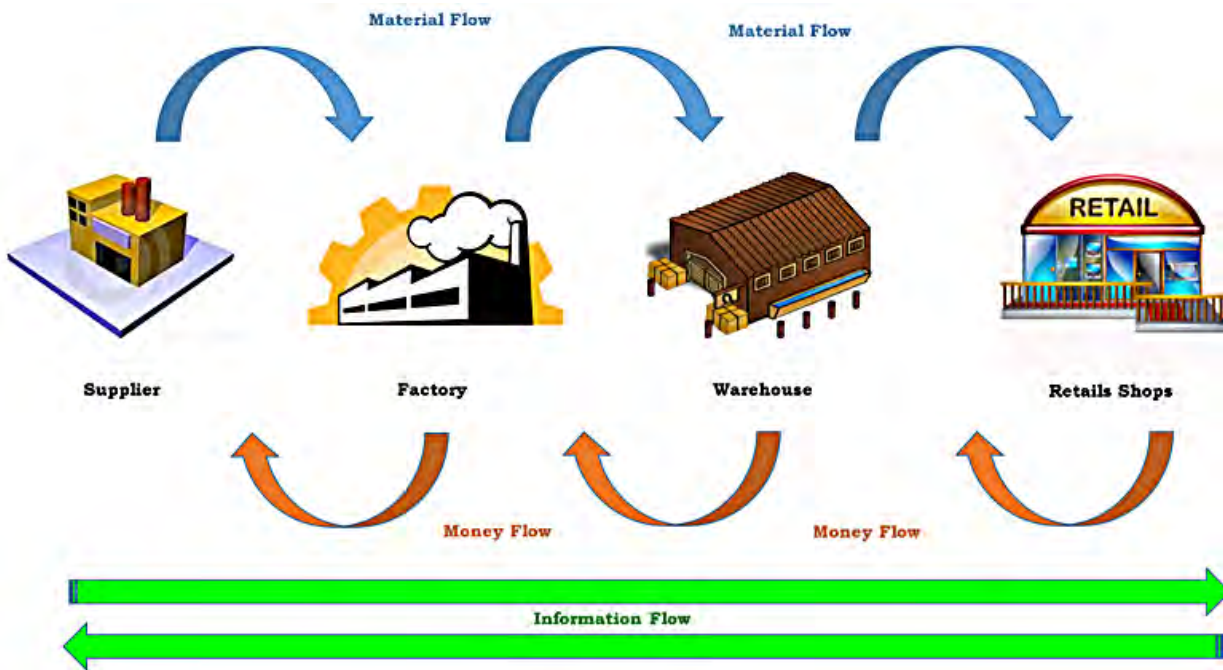


Fig 1.1.1: Supply Chain Flow

The product flow is the movement of goods from supplier to customers and customer to manufacturer in case of any customer returns or service requirements.

The information flow covers updating the status of the delivery as well as sharing information between suppliers and manufacturers. Information flow is supposed to happen on a real time basis, without any distortion and delay to ensure demand is met with correct supplies. The information flow in the supply chain includes the market signaling amongst the supply chain members regarding end-user preferences.

The finance flow is the result of first two flows that encompasses credit terms, payment schedules and consignment and title ownership arrangements.

## Notes




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## Unit 1.2 - About the Course

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain the importance of a Warehouse Packer
2. Describe the organization structure and reporting protocols
3. Elucidate the main objectives of this course

### 1.2.1 Organisation Structure

A Warehouse Packer works in a warehouse environment where their prime duty is to pack up orders and deliver them to the delivery platform for the benefit of customers. They are expected to pack customer orders for shipment keeping in mind the quantity and type that is specified in the packing list.

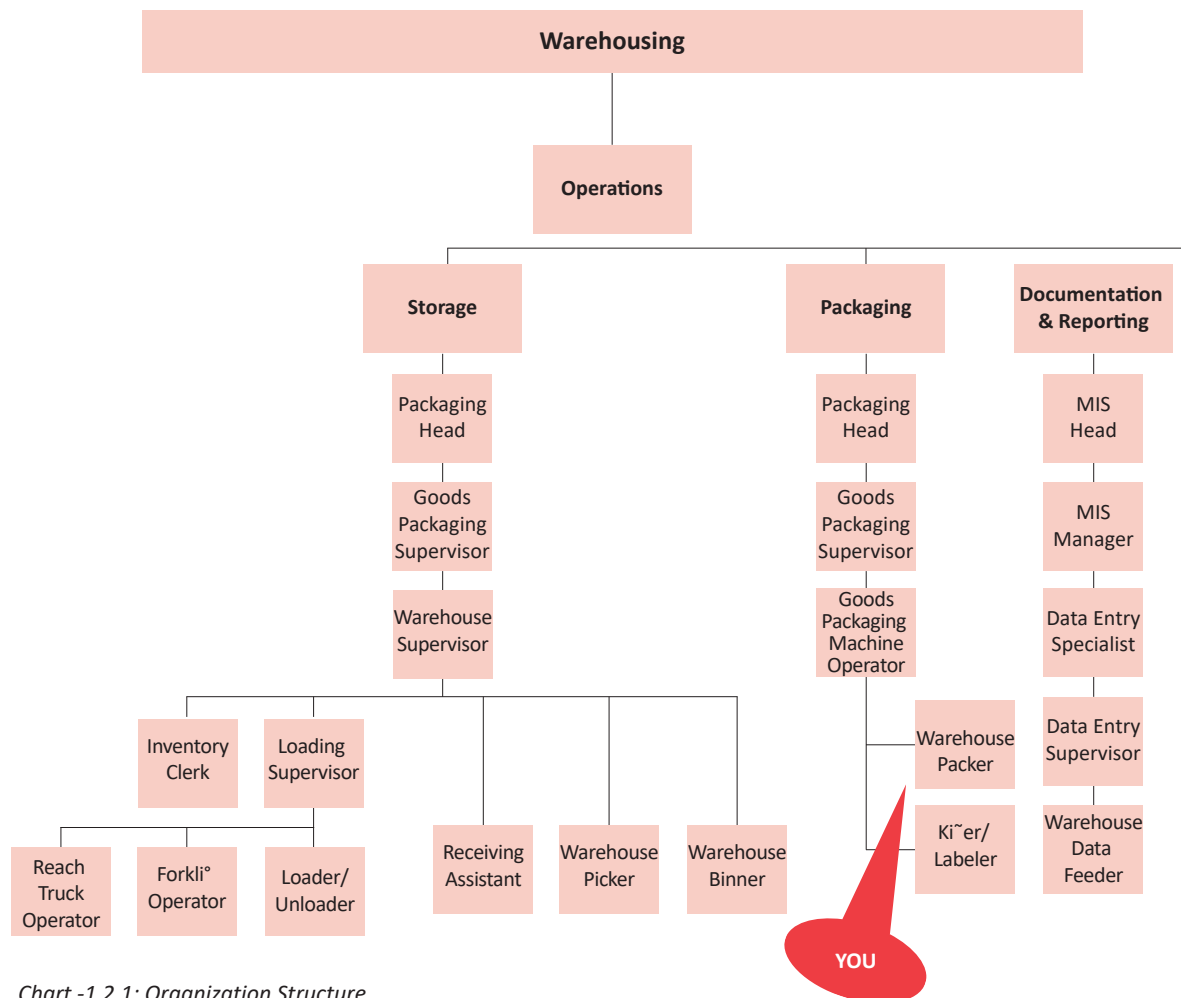


Chart -1.2.1: Organization Structure

A Warehouse Packer works in a warehouse environment where their prime duty is to pack up orders and deliver them to the delivery platform for the benefit of customers. They are expected to pack customer orders for shipment keeping in mind the quantity and type that is specified in the packing list.



Fig 1.2.2: Packing Activities

Warehouses and factories are the most common settings in which a packer will work. He or she will receive an order sheet that will outline which items must be gathered and packed and the packer will need to navigate through the staging area where the picked items by the warehouse picker will be placed for packing. Once the items are gathered, the packer will safely pack all the items in the appropriate packing material, seal the pack (box or carton box) and usually attach a packing slip to the box so the contents within are labeled or otherwise tracked.

### 1.2.2 Objective of this Course

- The main objective of this course is to make individuals to perform general physical activities in order to pack, load, unload, sort and move products and materials by hand or using basic material handling equipment.
- Train individuals to perform tasks in multi-temperature environments and develop skills to read work orders or receive oral instructions for work assignments, understand various sign boards and other labels.
- Develop skills to read orders to ascertain catalog numbers, sizes, colors, and quantities of merchandise
- Understand how to take delivery of goods and supplies, checking for damaged or missing items, loading goods for dispatch (some jobs include delivering).
- Educate on usage of various types of packing materials and packing goods with protective materials, such as bubble wrap and polystyrene chips etc.

## Unit 1.3 - Importance of Warehouse in Supply Chain

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain the importance of a Warehouse in supply chain
2. Explain the various activities carried inside a warehouse
3. Describe the significance of policies and procedures

### 1.3.1 Why we Need a warehouse?

A Warehouse is a place used for storage or collecting of goods, so as to make things available as and when required. There can be different types of goods stored inside a warehouse such as FG-Finished goods, WIP-Work in progress goods, RM-Raw materials etc. Below mentioned figure depicts the different types of goods stored inside a Warehouse and its forms



Fig 1.3.1: Inventory Types

Functions of warehousing includes Transportation consolidation, Product mixing, Docking, Service, Protection against contingencies etc.

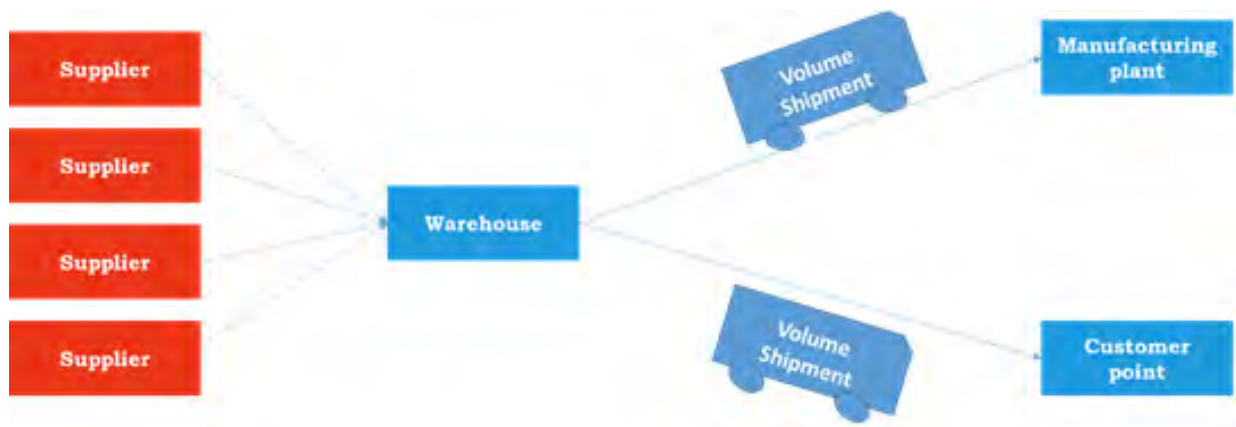


Fig 1.3.2: Transportation Consolidation



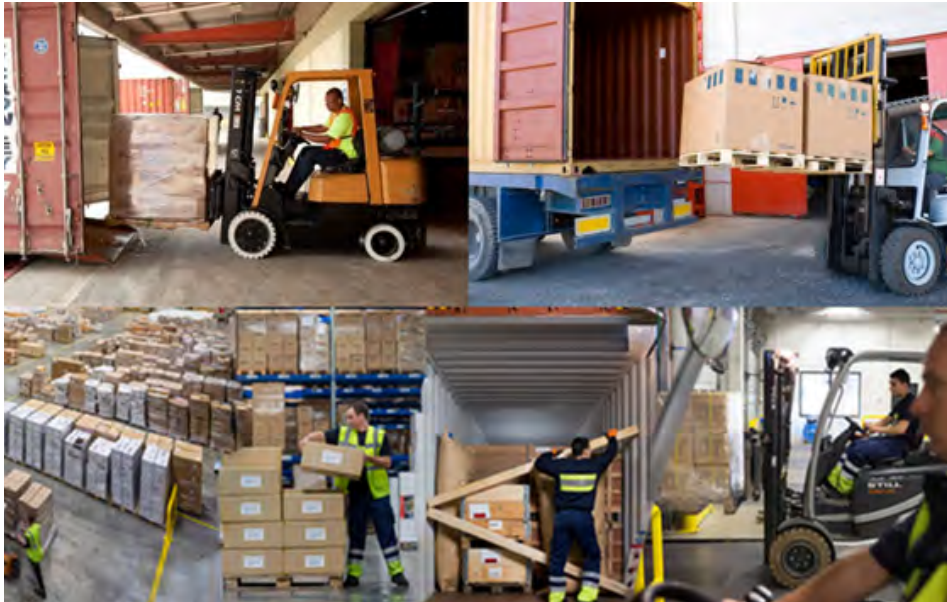


Fig 1.3.3: Docking Services

## 1.3.2 Warehouse Activities

After goods are received and before goods are shipped, a series of internal warehouse activities take place to ensure an effective flow of inventories (goods) throughout the warehouse and to organize and maintain company inventories. The following list includes the activities found in most of the warehouses

**Receiving** - Schedule Carrier, Unload Vehicle, Inspect for damage

**Put a way** - Identify Product, Identify Product Location, Move Products, Update Records

**Storage** - Storage location by popularity, size, cube etc, equipment storage

**Order Picking** - Information, Walk & Pick, Batch Picking

**Shipping** - Schedule Carrier, Load Vehicle, Bill of Lading, Record Update

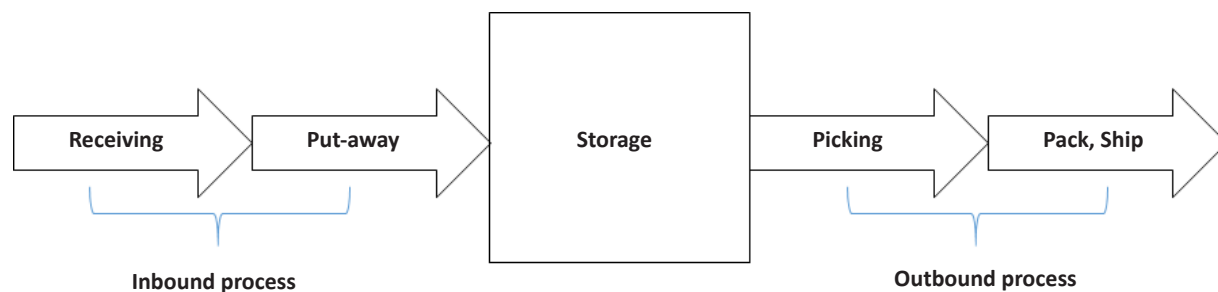


Fig 1.6: Warehouse Activities

## Exercise

1. The three important flows in Supply Chain Management
2. The activities carried inside the warehouse



## Unit 1.4 - Roles and Responsibilities of a Warehouse Packer

### Unit Objectives

At the end of this unit , participant will be able to:

1. Describe the roles and responsibility of a Warehouse Packer
2. Explain various work a warehouse picker will carry inside a warehouse

### 1.4.1 Warehouse Packer Role

The main roles of a warehouse packer are given below for reference.

- The Warehouse Packer is responsible for filling customer orders and delivering them to the delivery platform in a manner that meets company standards for safety, security, and productivity. The Warehouse Packer is responsible for the completeness and correctness of all orders filled.
- Efficiently pack customer orders for shipment, ensuring that the correct number and type of product is loaded and shipped. Assemble various types of products for shipment. Carry or transport orders to shipping locations or delivery platforms with material handling equipment. Label, tag, or mark orders as requested.



*Fig 1.4.1: Packing Procedure*

- Mark and label containers, container tags, or products, using marking tools. Measure, weigh, and count products and materials. Repack and weigh any orders that require such handling when necessary. Report quality variances.
- Examine and inspect containers, materials, and products in order to ensure that packing specifications are met.
- Record product, packaging, and order information on specified forms and records.
- Remove completed or defective products or materials, placing them on moving equipment such as conveyors or in specified areas such as loading docks.
- Seal containers or materials, using glues, fasteners, nails, and hand tools.
- Ensure inbound and outbound shipments are accurate and free of damage
- Conduct physical inventories as and when required.
- Maintain a clean, neat, and orderly work area. Assist in maintaining the security of the warehouse. Conduct operations in a manner that promotes safety.

Scan the QR code to watch the related videos



Role of a Packer

<https://www.youtube.com/watch?v=aTVfbSeeS74>

## Notes



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## Summary



The basics of Supply chain management is discussed at the ground level and the importance of Logistics linkage in managing an efficient supply chain. Three main flows of supply chain management is clearly explained in this chapter. The participant will able to understand the main roles of the individual as a Warehouse Picker with the set targets. This unit also discusses the necessity of a Warehouse and different activities carried inside the warehouse.

## Exercise



1. What are the three important flows in logistics management?
2. The \_\_\_\_\_ flows in both direction in logistics management?
3. A warehouse packer reports to a \_\_\_\_\_?
4. What are the different types of goods stored inside a warehouse?
5. Order picking is an \_\_\_\_\_ process?





## 2. Prepare for Packing

Unit 2.1 - Primary Objective of Packing

Unit 2.2 - Initiating Packing Operation

Unit 2.3 - Identifying Discrepancies and Rectifying Errors

Unit 2.4 - Deciding on a type of Packaging Material

Unit 2.5 - General Safety, Security and Administrative

Unit 2.6 - Knowledge and Understanding on Organizational  
Product and Process



## Key Learning Outcomes

**At the end of this module , participant will be able to:**

1. Explain the importance of a Packing in logistics
2. Get clarity about the elements of a Packing list
3. Realize the elements in an automated picklist
4. Explain the different operation areas in the warehouse
5. Get basic knowledge on the pre packaging
6. Describe how to identify the discrepancies and variance in packing
7. Recognize the various types of packaging materials used inside a warehouse
8. Explain the general safety and security procedures
9. Recognize the different types of PPEs
10. Get Clarity on the purpose of PPEs
11. Explain the various safety standards pertaining to the industry

## Unit 2.1 - Primary Objective of Packing

### Unit Objectives

At the end of this unit , participant will be able to:

1. Describe about the objective of the packaging
2. Explore the various errors in picking and packing
3. Explain the different types of packaging used in logistics and its purpose

### 2.1.1 Primary Task for Packaging

The primary task for packaging is to minimize damage that could occur after an item has left the production line. In the warehouse the item is subject to a variety of situations where damage could occur. Forklifts can drop materials, they can fall from conveyor belts, or fall from broken pallets. In each of these instances, the packaging has to be designed so that it will protect the item from damage, but light enough so that it does not increase the weight of the finished good so much that the shipping costs are significantly increased. In addition the packaging must protect the item from environmental damage, such as extreme temperature, water damage, contamination with other goods, or damage from static, which is important for electronic items.

In today's high-tech world and considering the complexities of designing an order fulfillment system, the packing area is often treated more as an afterthought. Realistically however, the Packer is a key member of the order fulfillment team. Considering this



Fig 2.1.1: Packaging examples

1. The Packer is the last employee to touch your product before it gets to the customer.
2. The Packer is the last person who can catch simple errors such as:
  - Incorrect counts
  - Wrong SKU
  - Incomplete order
  - Wrong color, size
  - Product damage
3. If the product is not protected and packaged correctly, it most likely get lost or damaged in shipment

### 2.1.2 Packaging and Minimizing Damage

The primary task for packaging is to minimize damage that could occur after an item has left the production line. In the warehouse the item is subject to a variety of situations where damage could occur. Forklifts can drop materials, they can fall from conveyor belts, or fall from broken pallets. In each of these instances, the packaging has to be designed so that it will protect the item from damage, but light enough so that it does not increase the weight of the finished good so much that the shipping costs are significantly increased. In addition the packaging must protect the item from environmental damage, such as extreme temperature, water damage, contamination with other goods, or damage from static, which is important for electronic items.

### 2.1.3 Common Uses of Packaging Include

**Physical protection:** The objects enclosed in the package may require protection from, among other things, mechanical shock, vibration, electrostatic discharge, compression, temperature, etc.



Fig 2.1.2: Physical Protection Examples

**Information transmission:** Packages and labels communicate how to use, transport, recycle, or dispose of the package or product. With pharmaceuticals, food, medical, and chemical products, some types of information are required by governments. Some packages and labels also are used for track and trace purposes.





Fig 2.1.3: Packaging Information Examples

**Marketing:** The packaging and labels can be used by marketers to encourage potential buyers to purchase the product. Package graphic design and physical design have been important and constantly evolving phenomenon for several decades. Marketing communications and graphic design are applied to the surface of the package and (in many cases) the point of sale display.



Fig 2.1.4: Marketing Packaging Example

**Convenience:** Packages can have features that add convenience in distribution, handling, stacking, display, sale, opening, re-closing, use, dispensing, reuse, recycling, and ease of disposal.



Fig 2.1.5: Convenience packaging example



**Barrier protection:** A barrier from oxygen, water vapor, dust, etc., is often required. Permeation is a critical factor in design. Some packages contain desiccants or oxygen absorbency to help extend shelf life. Modified atmospheres or controlled atmospheres are also maintained in some food packages. Keeping the contents clean, fresh, sterile and safe for the intended shelf life is a primary function.



Fig 2.1.6: Protection Packaging Example

**Security:** Packaging can play an important role in reducing the security risks of shipment. Packages can be made with improved tamper resistance to deter tampering and also can have tamper-evident features to help indicate tampering. Packages can be engineered to help reduce the risks of package pilferage



Fig 2.1.7: Security Packaging Example

## Unit 2.2 - Initiating Packing Operation

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain how a packer gets input to start the operation
2. Recognize the details in the packing list
3. Explain the sequence for each functions inside the warehouse
4. Describe how a packer gets instructions to start the packing operations

### 2.2.1 Picking Details

Packing operations is performed on completion of the picking operations by a warehouse picker at a SKU level. The purpose of the picking process is to accurately pick the line items listed on a pick ticket in a timely fashion. For example, below is the picking accuracy data for one picker during one month.

<u>Date</u>	<u>Lines Picked</u>	<u>Lines</u>	
		<u>Picked Correctly</u>	<u>% Picked Correctly</u>
6/5/2006	233	233	100.0%
6/6/2006	216	216	100.0%
6/7/2006	191	191	100.0%
6/8/2006	207	207	100.0%
6/9/2006	170	168	98.8%
6/12/2006	199	199	100.0%
6/13/2006	162	161	99.4%
6/14/2006	153	153	100.0%
6/15/2006	192	192	100.0%
6/16/2006	187	187	100.0%
6/19/2006	194	194	100.0%
6/20/2006	221	221	100.0%
6/21/2006	212	211	99.5%
6/22/2006	211	208	98.6%
6/23/2006	231	230	99.6%
6/26/2006	201	200	99.5%
6/27/2006	232	232	100.0%
6/28/2006	246	246	100.0%
6/29/2006	199	199	100.0%
6/30/2006	211	211	100.0%

Fig 2.2.1 Picking Details

All the functions from order picking to shipping need to be integrated into a smooth flowing system. The volume and size of the orders usually effect how and where each function will be completed. Slowdowns and errors tend to become more frequent as workers take on multiple tasks

From a packing perspective, the order fulfillment process can be outlined simply as follows. The exact sequence and responsibility for each function varies with each application.

- Pick Orders
- Consolidate Orders
- Check Orders
- Transport Consolidated Orders to Packing Area
- Pack Orders
- Label Orders
- Manifest Orders
- Transport Orders to Shipping Dock

In very small applications the packer may be responsible for all the steps. In larger systems a picker will usually pick, check and consolidate the orders. As the volume and size of the order gets larger, the problems of checking, consolidating and re-checking get increasingly complicated.

If there is insufficient manpower to break the functions into separate tasks, the work usually falls into the packer's job description.

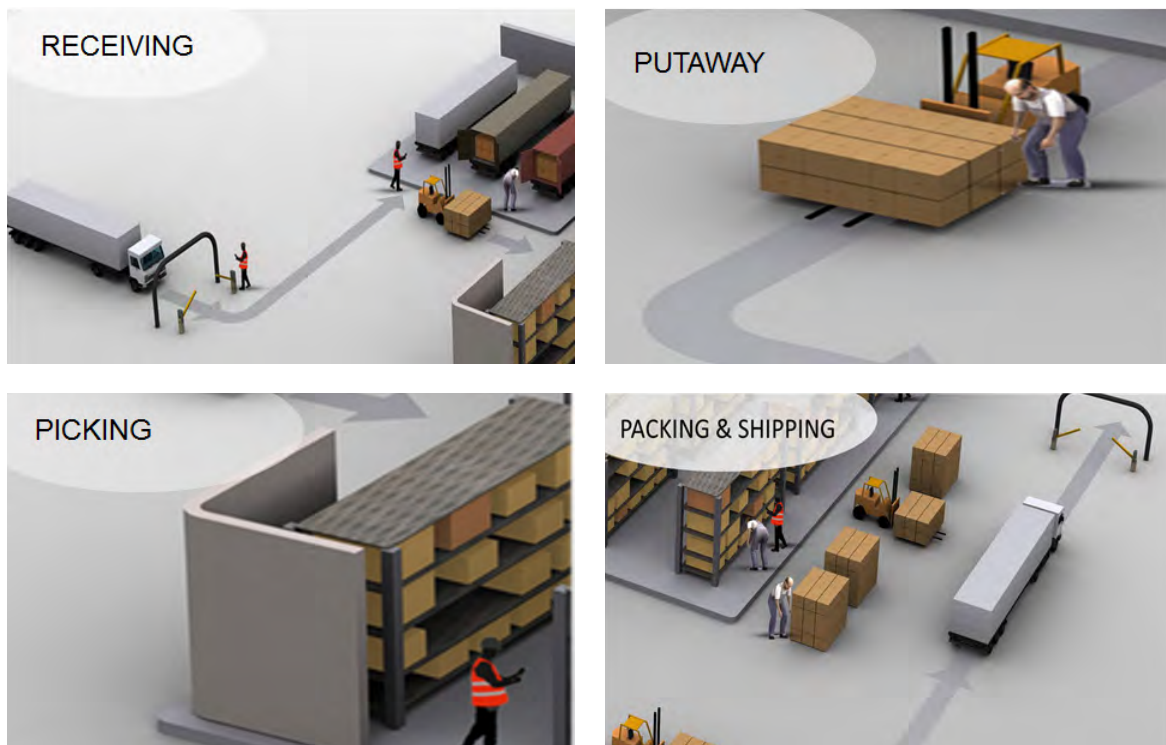


Fig 2.2.2: Warehouse Functions

**Receiving:** The receiving process is arguably the most important process in the warehouse. All downstream workflows depend upon the accuracies and efficiencies achieved during receiving.

**Picking:** Picking is by far the most labor-intensive process in the warehouse and also the most error prone which makes it an ideal workflow for operational improvements.

**Putaway:** Put-away is normally thought of as the process of moving received inventory from the dock, kitting area, or production department to a storage bin. The put-away process is also used to relocate inventory within the warehouse and to replenish dedicated storage bins with inventory from a reserve storage bin. Any time inventory is being placed in a storage bin it is being put away

**Packing & Shipping:** Almost every product we purchase as a consumer or a business is packaged. The packaging was initially intended to provide protection for the item as it being handled in the warehouse or when the item is being shipped. By developing packaging that allows a certain number of items to be stored safely and efficiently.

## 2.2.2 Receiving Instruction for Packing

The packing process starts with an order or command a Warehouse packer receives from his/her supervisor. The Warehouse supervisor provides a detail list of items or products to be packed by a packer. The Pack list or a Ship order list might be a computer generated list given by a supervisor or an automated instruction received in a hand-held device.



Fig 2.2.3: Packer receiving Information from Supervisor

The packing list should be clear and indicate exactly how many packages, cartons, and containers are arriving, and the contents of each of these.

A typical 'Packing list' has to provide the following information which will help the packer to perform the packing operations effectively

Scan the QR code to watch the related videos



Packaging Process

<https://www.youtube.com/watch?v=skU8lvDqz94>



Receiving & Put away Process

<https://www.youtube.com/watch?v=F2LlzwYsk9E&t=15s>



Product Code	Part Number	Product Description	Units of Measures	Packaging Material	Total box/pallet/bags
380200	AMW28	Bolt	Pack	Carton box	100
380110	OPL56	Nut	Pack	Carton box	150
380110	NMR89	Main cap	Each	Pallet	10
380130	BHM44	Side clamp	Each	Pallet	25
380140	DIV85	Engine Oil	milli gram	Bags	10
380140	AQS31	Gear box	Sets	Pallet	5

Table 2.2.4 Sample Packing List

### 2.2.3 Pre-Packaging

Prepackaging is performed in a warehouse when products are received in bulk from a supplier and subsequently packaged singly, in merchandisable quantities, or in combinations with other parts to form kits or assortments. An entire receipt of merchandise may be processed at once, or a portion may be held in bulk form to be processed later. This may be done when packaging greatly increases the storage-cube requirements or when a part is common to several kits or assortments.



Fig 2.2.5: Warehouse Functions



## Unit 2.3 - Identifying Discrepancies and Rectifying Errors

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain how to identify discrepancies in picking and packing
2. Describe the ways to update packing/posting
3. Identify the reasons for discrepancies
4. Explain the ways to report to management

### 2.3.1 Identifying Discrepancies and Rectifying Errors

Once items have been received for packing, the warehouse packer must return all packing lists to the warehouse supervisor/manager so that he or she can record the quantities packed in the inventory records. Recording the packed quantities of an item in the inventory record is referred to as posting the packing activity. As a warehouse packer, you must ensure that inventory is packed correctly and that the packing activity is accurately updated/posted in the inventory record.

There are two ways to update/post packing activity: without exceptions and with exceptions.

Updating the inventory record with no exceptions means that all packing list lines have been packed completely. In other words, the quantities of all the items allocated to the order and listed on the packing list are exactly equal to the quantities physically picked and packed by the packer.

Product Code	Part Number	Product Description	Units of Measures	Packaging Material	Total box/pallet/bags
380200	AMW28	Bolt	Pack	Carton box	100
380110	OPL56	Nut	Pack	Carton box	150
380110	NMR89	Main cap	Each	Pallet	10
380130	BHM44	Side clamp	Each	Pallet	25
380140	DIV85	Engine Oil	milli gram	Bags	10
380140	AQS31	Gear box	Sets	Pallet	5

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S.No	Product code	Part Number	Product Description	Units of Measures	Packaging material	Total box/bag/pallets	Picked Qty
1.	380200	AMW28	Bolt	Pack	Carton box	100	100 ✓
2.	380110	OPL56	Nut	Pack	Carton box	150	150 ✓
3.	380110	NMR89	Main cap	Each	Pallet	10	10 ✓
4.	380130	BHM44	Side clamp	Each	Pallet	25	25 ✓
5.	380140	DIV85	Engine Oil	milli gram	Bags	10	10 ✓
6.	380140	AQS31	Gear box	Sets	Pallet	5	5 ✓

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When the quantity of an item physically packed does not equal the quantity allocated to the order line and listed on the packing list, a packing exception occurs

S.No	Product code	Part Number	Product Description	Units of Measures	Packaging material	Total box/bag/pallets	Picked Qty
1.	380200	AMW28	Bolt	Pack	Carton box	100	100 ✓
2.	380110	OPL56	Nut	Pack	Carton box	150	125 ✗
3.	380110	NMR89	Main cap	Each	Pallet	10	10 ✓
4.	380130	BHM44	Side clamp	Each	Pallet	25	25 ✓
5.	380140	DIV85	Engine Oil	milli gram	Bags	10	10 ✓
6.	380140	AQS31	Gear box	Sets	Pallet	5	5 ✓

u 3.3 h h 0

In case of any exception, communicate with the immediate supervisor/warehouse manager about the discrepancies for further actions



7 3.4 h k o

There may be many reasons for exemption like

- Shortage in quantity
- Product damage
- Product mismatch etc.

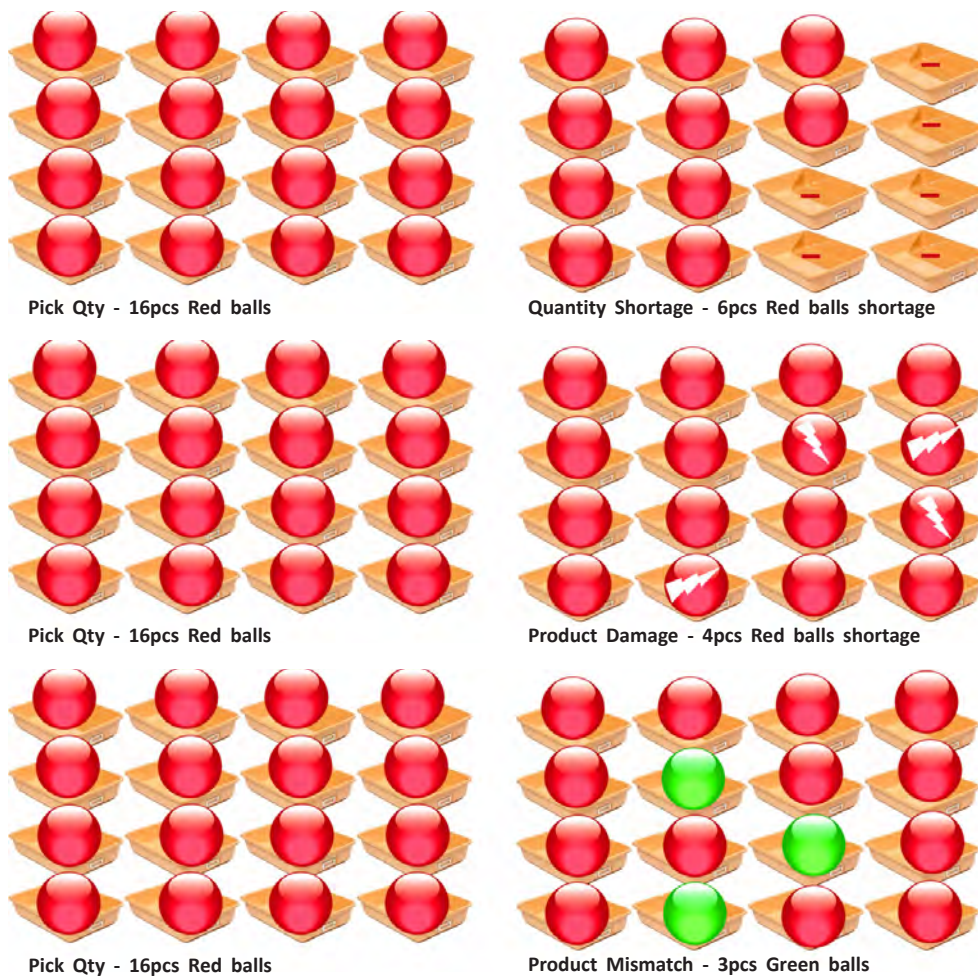


Fig 2.3.5: Reasons for Exemptions

Based on the input provided by the packer on the discrepancies, the administration will plan for the replenishment and place new orders to fulfill the requirements and a purchase order will be released to respective vendors.

Purchase Requisition						
S.No	Product code	Part Number	Product Description	Units of Measures	Required Qty	Required On
1.	380200	AMW28	Bolt	Pack	100	05.03.2016
2.	380110	OPL56	Nut	Pack	150	05.03.2016
3.	380110	NMR89	Main cap	Each	10	21.03.2016



Fig 2.3.6: Releasing Purchase Order



## Unit 2.4 - Deciding on a Type of Packaging Material

### Unit Objectives

At the end of this unit , participant will be able to:

1. Differentiate the types of packaging required for different products
2. Identify the options for selecting a packaging material
3. Get knowledge on different types of packaging for different types of industry

### 2.4.1 Packing Material

The packing material you choose will depend on the type of product you are shipping. Some of the more affordable types of packaging materials may not be suited for your product. When searching through the different types packaging materials you must take at least two questions into consideration.

- What type of packaging is required for my product?
- How much can I spend on packaging materials?

The more fragile the product the sturdier your material must be. Although there are times that the cost of the cheaper packaging material makes up for the price of damaged products. The first step in packing your product is to pick the container that it will be shipped in.

### 2.4.2 Corrugated Box

- Usually the cheapest option.
- Fragile items require special holders or materials such as bubble wrap to keep from breaking.
- All the information for the product can be cheaply printed on the box.
- Some boxes can also be used as the display of your product.
- May also require pallets



Fig 2.4.1: Corrugated Box

Scan the QR code to watch the related videos



<https://www.youtube.com/watch?v=BKEx6C2A3ml>  
Packaging materials: Types & Selection criteria

### 2.4.3 Wooden or Plastic Crates

- One of the more expensive packaging materials.
- The most fragile items such as glass bottles must be sent in a crate, or the amount of lost stock will be devastating.
- The cost of printing on a crate makes it necessary to supply extra information sheets.
- Can be used as display to lesser extent
- May also require pallets



Fig 2.4.2: Types of Crates

### 2.4.4 Pallets

- One of the more expensive packaging materials.
- The most fragile items such as glass bottles must be sent in a crate, or the amount of lost stock will be devastating.
- The cost of printing on a crate makes it necessary to supply extra information sheets.
- Can be used as display to lesser extent
- May also require pallets



Fig 2.4.3: Types of Pallets

## 2.4.5 Individual Item Packaging

The type of item will also determine its individual packaging type. Each of these will have varying cost also determined by the size of the product. The most common for liquids and solids are as follows.

- Liquids- Plastic, glass, cans, or pouches.
- Solids- Plastic, cardboard, aluminum, bag, or tray.

Having a high-quality taping machine and a case erector will definitely aid in achieving the very essence of packaging that is to secure the product and to keep its original state or how it was after production. Packaging will only vary in every industry depending on how the product will be marketed. Different industries will definitely use different types of packaging but the objective will still remain constant. Below mentioned table gives a fair idea of different types of packaging for different types of industry

<p>Plastic - one of the most common packaging materials used for food products. This is commonly used for sodas, milk carton and egg trays. Rigid plastics are usually used for manufacturing food cartons (for to go) and other plastic trays.</p>	
<p>Metal or Aluminum - This type of packaging is normally used for canned goods, sodas and alcoholic drinks like beer. Although aluminum is good for packaging</p>	
<p>Overhanging boxes and pallets - Improper put away and picking results in such storage and there might be a chance of box falling and cause material and man power damages</p>	
<p>Glass - Is frequently used for preserved foods such as jams and honey. This type of packaging is easy to use and can be recycled over and over again. Glass is also used for consumable goods such as sodas, beer and wine. Although this packaging is fragile, it is still widely used across almost all industries</p>	
<p>Foam - you would notice this type of packaging on gadgets, TVs, furniture, glass and anything with sharp edges. Foams are custom made to make sure that it fits the product accurately.</p>	

## Unit 2.5 - General Safety, Security and Administrative

### Unit Objectives

At the end of this unit , participant will be able to:

1. Know Importance of safety in the warehouse work environment
2. Realize the various safety standards pertaining to the industry
3. Identify the type of PPE required for the related warehouse environment
4. Explain the type of PPE to be used for the type of product handled

### 2.5.1 Personal Protective Equipment

Personal protective equipment (PPE) is clothing and equipment worn by employees, students, contractors or visitors to protect or shield their bodies from workplace hazards.

Nearly 2million disabling work related injuries happens each year across the world and more than 5lakhs will involve head, eye, hands and feet. Using proper Personal Protective Equipment is a tool to do the packing job.



Fig 2.5.1: Personal Protective Equipment

Scan the QR code to watch the related videos



PPE

<https://www.youtube.com/watch?v=kcM9u4heDVk>

## 2.5.2 Types of Personal Protective Equipment

**Common Dust mask**



**Leather hand gloves for forklift truck driving**



**Respiratory protection**  
for example, disposable,  
cartridge, air line,  
half or full face



**Eye protection**  
for example,  
spectacles/goggles, shields, visors





**Hearing protection**  
for example, ear muffs  
and plugs



**Hand protection**  
for example,  
gloves and barrier creams



**Foot protection**  
for example, shoes/boots



**Head protection**  
for example, helmets, caps,  
hoods, hats



**Working from heights**  
for example, harness and  
fall arrest devices



## Tips

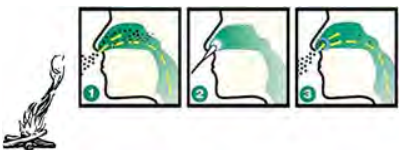






A person (Warehouse Packer, Forklift driver, Warehouse employee, Guest from other industry etc.) whoever is entering into the warehouse operation area (Storage location, Handling machine, equipment etc.) must wear Personal Protective Equipment all the time. Usage of PPE is much important considering a safe workplace.

## Lab

1. Give practical demonstration for using Personal Protective Equipment

## 2.5.2 Types of Personal Protective Equipment

Why safety is important and the importance of Personal Protective Equipment for a warehouse packer with some examples are depicted below for reference





## Unit 2.6 - Knowledge and Understanding on Organizational Product and Process

### Unit Objectives

At the end of this unit , participant will be able to:

1. Identify the additional packaging requirement
2. Explain various handling standards used in packaging
3. Describe the reporting procedures

### 2.6.1 Different Dimensions of Packaging

After communicating with the status of packing with the warehouse supervisor /warehouse manager, the next element is to identify the items that require further packing. This is because of two reasons;

1. In warehouses most of the products were stored in bulk carton or boxes to make use of warehouse space utilization
2. But the customer requires the products in various small quantity as per the demand flow – where breaking the bulk is required



Fig 2.6.1: Different dimensions of packaging

Based on the customer order requirement, the picker needs to identify the optimum packaging requirements to collect the product.

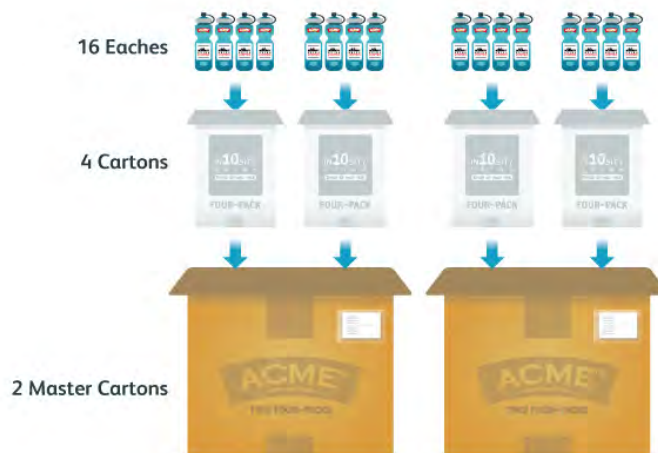


Fig 2.6.2: Different types of Packaging

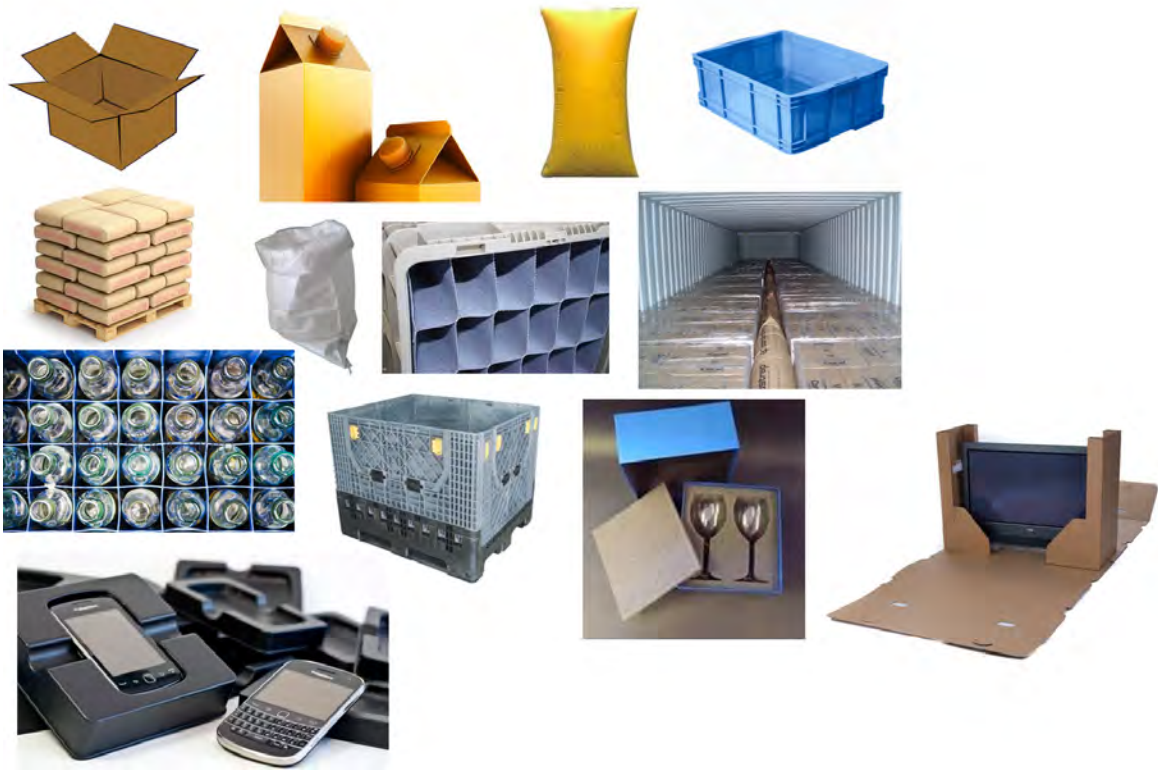




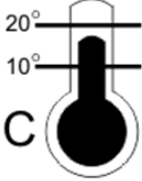



Fig 2.6.3: Different types of Packaging

The main aims of packaging are to keep the product in good condition until it is sold and consumed, and optimize space during transportation.

After completing the picking process and selecting suitable packaging requirements, hand over the items for relevant packing with required protection and safety labels. Below are a number of symbols often seen on packaging. Each has a specific meaning. The symbols are normally very simple and easy to understand.

	<p>This symbol reminds those handling the package to keep out of the rain and not to store it in damp conditions. It is normally found on card based packages which would be damaged if placed in contact with water.</p>
	<p>The broken wine glass suggests that the product inside the packaging could be easily damaged if dropped or handled without care and attention. The contents are fragile!</p>
	<p>The two hands holding or protecting the package is another reminder that the contents should be handled with care.</p>
	<p>The symbol seen opposite tells those handling the package that it must be stored the right way up. The arrows point towards the top of the package.</p>
	<p>The symbol showing the thermometer is found mainly on packages containing food and drink. The symbol clearly shows that the contents should be stored at a temperature between 10 and 20 degrees (centigrade).</p>
	<p>Chemicals that may cause damage to health.</p>



Chemicals that may catch fire in contact with air, only need brief contact with an ignition source, have a very low flash point or evolve highly flammable gases in contact with water.



Chemicals that at low levels cause damage to health.



Chemicals that may cause inflammation to the skin or other mucous membranes.



Chemicals that may destroy living tissue on contact.

The packer may assist in loading the packed items into the transportation truck or to the loading bay if necessary. By doing so an extra care is taken by the packer for the product that he has packer since he knows about the nature of the product very much than others.

### Ask



1. Symbol  stands for \_\_\_\_\_
2. Symbol  stands for \_\_\_\_\_
3. Symbol  stands for \_\_\_\_\_

Communicate with the immediate supervisor/warehouse manager regarding the status of inventory that has been identified as damage or misplaced during the packing. This will allow the supervisor/manager to take corrective action immediately.



*Fig 2.6.4: Packer Reporting to a Supervisor on Discrepancies*

In the same way report the status of the inventory that has been successfully packed up. Supervisor or the warehouse manager in turn update the correct list in the inventory record.

Incase of any challenging time limits or task loads encountered during the packing operations, inform the supervisor about the problems encountered and also in consultation with the supervisor or manager find out the way to overcome such challenges in the future. This will helps to improve packer productivity and in continuous improvement processes.

## Notes




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## Summary



Each and every product/item that is transported from one place to another, requires protection which is otherwise known as Packaging. There are many objective of packaging to protect the item from environmental damage, such as extreme temperature, water damage, contamination with other goods, or damage from static. This unit also give some insights on various packing materials and makes you to understand how to identify discrepancies in picking/packing and rectify them before next process. Personal protective equipment is one of the major tool needed while carrying out packing operation, the need of a PPE for a packer and its importance is clearly described in this unit for better understanding.

## Exercise



1. What is the main objective of packaging?
2. What will happen if a product is not properly packed?
3. \_\_\_\_\_ and \_\_\_\_\_ communicate how to use, transport, recycle, or dispose of the package or product.
4. List the sequence of order fulfillment process.
5. What is the importance of pre-packaging?
6. List out the reasons for order packing exemptions
7. \_\_\_\_\_ type of packaging is normally used for canned goods, sodas and alcoholic drinks like beer.
8. What type of PPE will you use to protect your hand?
9. What type of PPE will you use while working in high storage/retrieval locations?







## 3. Perform Packing

Unit 3.1 - Receiving items for packaging

Unit 3.2 - Importance of Standard Operating Procedure - SOP

Unit 3.3 - Safety protection in packing

Unit 3.4 - Labels and Standards

Unit 3.5 - Inspections to be carried out during packaging

Unit 3.6 - Roles and Responsibilities of different colleagues  
on the shop floor



## Key Learning Outcomes

**At the end of this module , participant will be able to:**

1. Describe how to receive products/items for packing
2. Explain the required handling standards and ergonomics in packing operations
3. Describe about the importance of Standard Operating Procedure – SOP
4. Get knowledge on various additional materials in packaging
5. Recognize the important functions of packing labels and standards
6. Demonstrate the types of labels and symbols used in warehouse
7. Realize the types of inspections need to be carried our during packing
8. Describe the roles and responsibilities of different colleagues in the shop floor

## Unit 3.1 - Receiving Items for Packaging

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain how a packer will receive an item/product in the packing area
2. Recognize the importance of handling standards in packaging
3. Explain the required ergonomic standards to be followed in packing

### 3.1.1 Packing Station

Once the items has been picked up the warehouse picker and placed on the packing area, it is the responsibility of the packer to ensure that all the items that require packing has reached the appropriate packing area for further process. Good service includes the ordered good's arriving in satisfactory condition.



Fig 3.1.1: Packing station

### 3.1.2 Handling and Ergonomics

All containers and packaging must be designed with consideration given to ergonomics and ease of part removal. Appropriate consideration must be given to unit load height restrictions, weight restrictions, carton disassembly and other requirements which may affect ergonomics and worker safety. Many of the injuries in manufacturing are musculoskeletal disorders caused by cumulative upset.

For moving heavy packages or loads, a warehosue packer might make use of the forklift operator or a pallet truck operator to carry out the job



Fig 3.1.2: Packing heavy products using handling equipment

## Unit 3.2 - Importance of Standard Operating Procedure - SOP

### Unit Objectives

At the end of this unit , participant will be able to:

1. Describe the importance of Standard Operating Procedure – SOP document
2. Explain the necessary steps to be followed while performing packing
3. Identify the cause and effect in deviating SOP's
4. Get insight on various packaging methods followed

### 3.2.1 Standard Operating Procedures

Standard operating procedures (SOPs) are written/pictorial instructions intended to document how to perform a routine activity. Many organization rely on standard operating procedures to help ensure consistency and quality in their operations. Standard operating procedures are also useful tools to communicate important corporate policies, regulations and best practices.

A simple SOP for 'How to inspect an incoming truck' is given below for better understanding

Standard Operating Procedure (SOP)			
Title	Sample Packaging		
QA Signature		Area Manager Signature	
Date of signature		Date of signature	

**Objective:** To pack the finished goods and instruction to used proper packaging materials.

**Responsibility:** Warehouse Packer.

#### Section 1: Packaging







- 1) Label and seal each sample container according to SOPs;
- 2) Secure the bottle caps using fiberglass tape;
- 3) Place each sample bottle inside a sealable plastic bag and place it in its original shipping box or in individual fiberboard boxes.
- 4) Mark the temperature blank bag for identification; and
- 5) Secure the original shipping box with strapping tape, place shipping box in a plastic bag, and secure the plastic bag with tape.

As mentioned earlier the Standard Operating Procedures is written document of how a work has to be carried. This document needs continuous monitoring and review in certain frequencies like once in 3months, 6months or 1year.

There might be some operational challenges in the process of carrying the work. As a part of continuous improvements any staff or workers might communicate with his/her reporting head for any modification in Standard Operating Procedures. While doing so the workers or the warehouse supervisor has to follow the reporting structure for making any changes in the document.

Modifying the Standard Operating Procedure needs managers approval for the changes. The manager will review the changes and make the final modification as per the requirement with company seal and signature.

Proper packaging is extremely important, many claims and damages arise from improper packaging. Proper freight packaging is important so that your freight arrives in perfect condition. That's the reason many organisation have their own packing methods and procedures for different type of products and size of orders. Below mentioned were few packing methods as specified by most of the organisation

<p>Bubble Wrap: Ideal protection against fragile and irregular shaped objects. Serves as a good protector against shock and fills the void inside a shipping container.</p>	
<p>Foam Padding: Protects from vibrations and shock and can often be customized to fit around various items if needed.</p>	
<p>Paper Honeycomb: Effective during transport and often used in both inner and outer packaging.</p>	
<p>Loose Fill: Often referred to as "packing peanuts". Flexible packing material that is great for filling gaps around freight while offering shock protection.</p>	
<p>Paper Padding: Paper padding is useful for any blocking, filling and wrapping material in irregular or fragile products.</p>	
<p>Edge Boards: Often made out of either foam or cardboard, this is used to stabilize the load and reduce risk of damage to edges of boxes.</p>	
<p>Corrosion Protection: Used in situations for transportation of non-treated metals in order to prevent corrosion and oxidation.</p>	

## Unit 3.3 - Safety Protection in Packing

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain the importance of safety in packing
2. Describe the parameters to be considered in packing
3. Identify different forms of packing materials used for cushioning

### 3.3.1 Safety Protection

When packing your items for shipping or storing, you need to protect your fragile pieces with packaging material that will keep them safe from bumps, vibrations, or shocks of any kind. You need to consider how to pack the items in the box so that they don't shift, can withstand being moved by hand or by cart, and can be placed in a car trunk, or stacked in a moving truck or a storage locker. Different items require different packing options to keep them safe, for example, fine china needs a different packing method than electronic equipment.

Things to consider for cushioning material are:

- Will it remain resistant under the weight of the item it is supposed to protect? Or will it eventually compress under the weight of the item?
- Will it withstand multiple shocks? Will it bounce back after one bump or will it compress and not be available to cushion a second bump?
- Will it withstand changes in air pressure, temperature or humidity? If the package is going to be going on an airplane, or stored in an environment that is not climate controlled, will the cushioning material maintain its resilience?

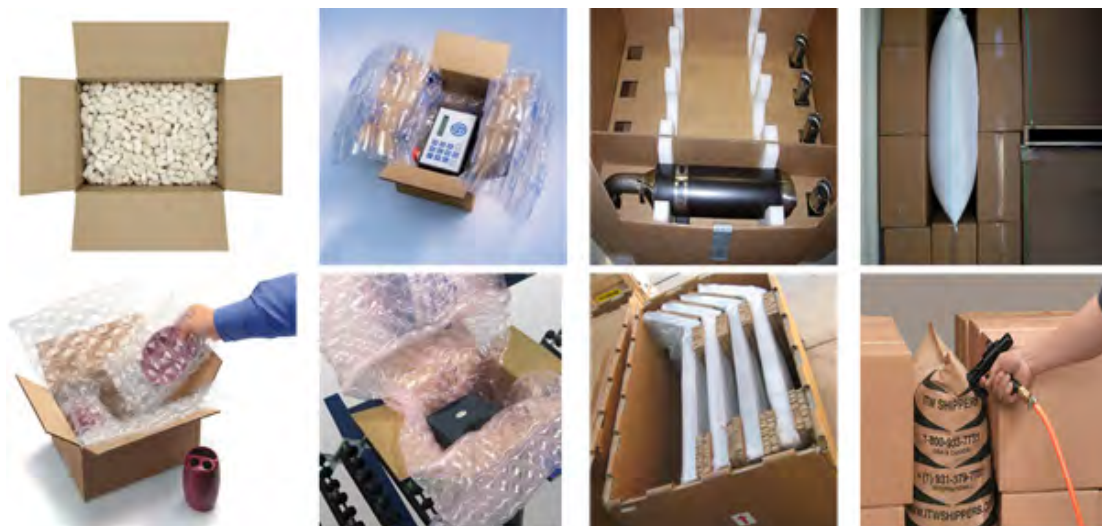


Fig 3.3.1: Safety Protection Material Inside Packing

Packing materials that are efficient at cushioning, able to withstand both item weight and multiple shocks include:

**Packaging peanuts/loose fill** - These are designed to fill a void within a box, taking up the space between the object being protected and the sides of the box. They flow around the object, interlock when stressed, and can withstand multiple shocks.

**Paper** - Heavy grades of paper or Kraft paper can be wadded into a box or wrapped around objects. These types of paper provide more cushioning protection than old newspaper.

**Corrugated fiberboard pads** - These paper based pads are made from a fluted board between one or two flat liner sheets. The pads provide cushioning.

**Inflated products** - Air filled bubble type wrapping provides cushioning around an object.

**Foam structures** - Polystyrene shapes engineered to fit around an item for cushioning

**Ask** 

1. Demonstrate the product packing with cushioning materials

**Notes** 

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## Unit 3.4 - Labels and Standards

### Unit Objectives

At the end of this unit , participant will be able to:

1. Recognize the importance of labelling in packaging
2. Explain and differentiate the various types of labels
3. Explain the symbols used in packaging and its handling standards

### 3.4.1 Package Label

A label provides complete information regarding the product. Labels are attached on the product package to provide information such as manufacturer of the product, date of manufacture, date of expiry, its ingredients, how to use the product, and its handling.

Important functions of labeling are as follows

- Describe the Product and Specify its Contents
- Identification of the Product or Brand
- Grading of Product
- Providing information required by Law



*Fig 3.4.1: Package Label*

- To avoid any additional carrier fees, each piece must be legibly and durably marked with the name, address, ZIP code of both the shipper and recipient
- Shipper and recipient information on the freight must match the shipper and recipient information on the Bill of Lading
- Address labels should be located in obvious locations

### 3.4.2 Symbols Used in Labels

Many types of symbols for package labelling are nationally and internationally standardized. For consumer packaging, symbols exist for product certifications, trademarks, and proof of purchase. Some requirements and symbols exist to communicate aspects of consumer use and safety. For example, the estimated sign notes conformance to weights and measures accuracy regulations. Examples of environmental and recycling symbols include the recycling symbol, the resin identification code, and the “green dot.” Some of the commonly used labels in the package box are given below for reference



Fig 3.4.2: Rack Labels



Fig 3.4.3: Shelf Labels



Fig 3.4.4: Floor Labels



Fig 3.4.5: Totes Labels



Fig 3.4.6: Shipping Labels

Scan the QR code to watch the related videos



Packaging and Labelling Guidelines

[https://www.youtube.com/watch?v=1TC3\\_VkKOH4](https://www.youtube.com/watch?v=1TC3_VkKOH4)



How to Label

<https://www.youtube.com/watch?v=gSn3COOJBKY>



How to Pack, Seal & Label Shipments

<https://www.youtube.com/watch?v=YNgRqt4Q8wk>

## Notes




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## Unit 3.5 - Inspections to be Carried out During Packaging

### Unit Objectives

At the end of this unit , participant will be able to:

1. Demonstrate the necessary inspections to be carried out while packing
2. Describe the various inspection points followed in product packaging

### 3.5.1 Inspecting Packaging

Packaging inspection and container loading supervision is carried out to ensure that the products are not damaged and are securely loaded. The inspection of packing will provide you with information about packing inspection of product that is ready for shipment.



Fig 3.5.1: Inspecting Packaging

Inspection of Packing - important points are' as follows

- Correct packing style i.e. case, crate, bundle
- Correct thickness of sheathing (or outer plate)
- Correct application of bottom cleats and skid runners for easy handling by forklift
- Ensuring protection of content by waterproof and strong plastic foil
- Ensuring dryness by using an adequate quantity of moisture absorbent (silica gel)
- Correct application of material for padding or cushioning such as felt, cellophane paper, polyester cuttings and crepe cellulose
- Ensuring proper application of lubricant for equipment machinery parts
- Dimensional inspection of cases, crates and other packing style
- Correct package tag (i.e. PO No., LC No., JOB No., etc.)
- Correct shipping marks
- Correct cautionary symbols
- Correct weight indication
- Correct outer and inner package number



## Unit 3.6 - Roles and Responsibilities of Different Colleagues on the Shop Floor

### Unit Objectives

At the end of this unit , participant will be able to:

1. Describe the roles and responsibilities of other colleagues
2. Get depth knowledge on the hierarchy and flow of command
3. Explain the role of a Warehouse packer
4. Describe the importance and contribution of other colleagues in the supply chain
5. Communicate the risks and problems associated with other colleagues in the floor

### 3.6.1 Different Colleagues on the Shop Floor

**Warehouse Manager:** A warehouse manager has many responsibilities, all of which consist of maintaining and receiving equipment. A warehouse manager must also supervise the staff of the warehouse, along with working with them to complete tasks. A warehouse manager must also maintain the physical condition of the warehouse by planning and implementing new design layouts, inspecting equipment, and issuing work orders for repair and requisitions. In the organization structure a Warehouse supervisor directly reports to the Warehouse manager.



*Fig 3.6.1 Warehouse Manager*

**Warehouse Supervisor:** The main function of a supervisor is to supervise a team of warehouse personnel to ensure the provision of a professional incoming goods, storage and dispatch service to customers, encompassing both speed and accuracy. The picker may directly report to the warehouse supervisor.

**Warehouse Picker:** The Warehouse Picker is responsible for filling customer orders and delivering them to the delivery platform in a manner that meets company standards for safety, security, and productivity. The Warehouse Picker is responsible for the completeness and correctness of all orders filled.

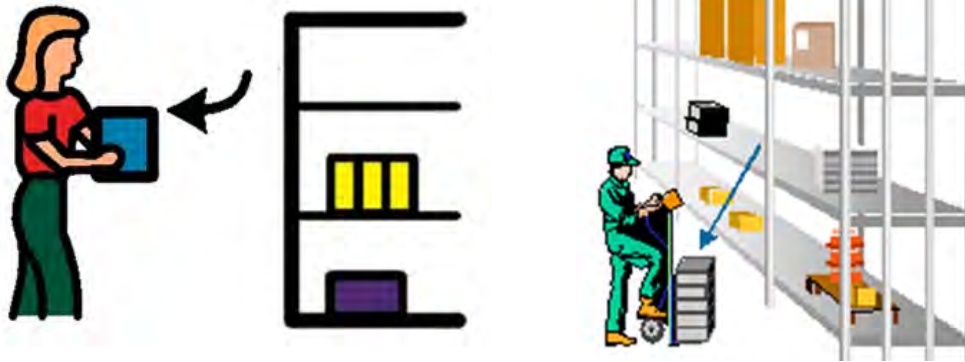


Fig 3.6.2: Warehouse Picker

**Put away assistant:** The duties and responsibilities of a put away assistant is to accurately place materials on shelves, in racks or other designated storage areas in an orderly manner. Enter quantity received against the purchase order in the computer system and print back order and inventory stock put away list.

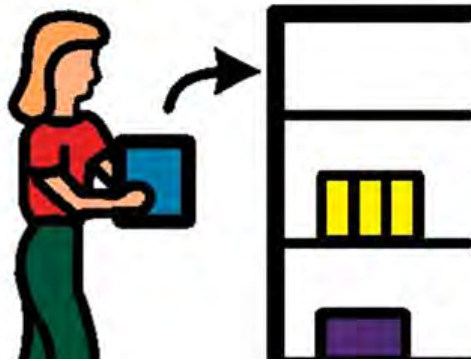


Fig 3.6.3: Put away assistant

**Forklift Operator:** The Forklift Operator is responsible for operating a forklift to move, locate, relocate, stack, and count products. Pull and prepare product for shipment, ensuring that the exact number and type of product is loaded and shipped. Perform picking duties in an efficient manner that meets customer service standards. An Inventory clerk might make use of a forklift operator to pull out heavy stocks stored on to the pallets and stocks stored on the storage racks during counting process.



Fig 3.6.4: Forklift Operator



The Inventory clerk needs to communicate with the colleagues in the shop floor to ensure whether things are in place for smooth warehouse operations. Some of them are as follows

**Dock Supervisor/assistant:** The Inventory clerk needs to communicate with the docking assistant/supervisor to ensure that there will be smooth loading and unloading operation will takes place throughout the day. Needs to collect details like truck schedules, truck reporting on time, late deliveries truck, previous day pending truck etc. to prioritize the loading/unloading operations.



Fig 3.6.5: Dock Supervisor

**MHE supervisor:** The Inventory clerk needs to ensure that whether he/she have sufficient material handling equipment to carry out the day's load (day's work). There might be problems in MHE maintenances, equipment break down, in-sufficient material handling equipment etc. In such cases the warehouse supervisor needs to co-ordinate with the MHE supervisor for proper co-ordination and proper utilization of MHE. The supervisor needs to have a backup plan in case of any challenges.



Fig 3.6.6: MHE supervisor

**IT (Information Technology) assistant:** The Inventory clerk has to ensure that all the IT equipment and mobile handling devices which rely on network connectivity works faultless. Because any delays caused because of IT will leads to huge error and losses. The supervisor needs to have a backup plan in case of any technology issues.



*Fig 3.6.7: IT Assistant*

**Human Resource Manager:** The main responsibility of a warehouse manager is to manage workforce. To actively plan for a day's work an Inventory clerk has to communicate with the human resource manager to get the details of the workforce available to carry out days operations. This would help him to quickly change over the job allocation to other useful resource in case of any absenteeism.



*Fig 3.6.8: Human Resource Manager*

**Warehouse Security guards:** The Inventory clerk needs to co-ordinate with the security guards for security related issues and challenges. If in case any security issues needs attention means, the Inventory clerk needs to fix the issues quickly by communicating with the management.

Based on the information collected, now comes the time management and efficient usage of the available resources, estimate the time required for each task and create a day plan for the entire warehouse operations.



*Fig 3.6.9: Warehouse Security Guards*

## Notes



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## Summary



The important process of packing origin is clearly explained in this unit. Appropriate handling standards and ergonomics considerations in packing is discussed in this unit. Standard Operating Procedure is an important procedure to be followed for carrying out any operations, since packing is the last process before the product going out, it is necessary to follow the standard operating procedure documents as instructed by the organization. Safety is the most important aspect to be followed in packaging, the necessary packaging protective material is discussed in this unit. Important aspects of shipping labels and handling instruction are also dealt for gathering in-depth knowledge on packaging.

## Exercise



1. How a packer will receive an item/product in the packing area?
2. How a packer will move and pack heavy products inside the warehouse?
3. What is a SOP document?
4. What type of material you will use for protection against fragile and irregular shaped objects.
5. 'Packing peanuts' refer to \_\_\_\_\_
6. What are the main consideration to be taken care for cushioning material
7. List out the important functions of labeling
8. List any 5 important points to be considered during packaging inspections





## 4. Perform Post Packing Activities

Unit 4.1 - Dealing with Damages and Losses

Unit 4.2 - Exposure to Documents

Unit 4.3 - Risk and impact of Deviating Procedure/Work Instructions

Unit 4.4 - Skills Essential for a Warehouse Packer



## Key Learning Outcomes

**At the end of this module , participant will be able to:**

1. Explain how to deal with damages and losses incurred during packing operations
2. Recognize various reasons for product damages and losses packaging
3. Describe the organization procedures in reporting damages
4. Explain the different ways in updating packing operations
5. Identify details about various documents needed for a warehouse packer
6. Differentiate the entry between Inventory list and Material request form
7. Identify use personal protective equipment forms
8. Explain KPIs and Dashboards
9. Recognize the importance of following work instructions
10. Describe the Dos and Donts in following work instructions
11. Adopt to situations and carry out packing operations accordingly.
12. Describe the right way of escalating things to the right person in the structure
13. Describe the importance of team skills



## Unit 4.1 - Dealing with Damages and Losses

### Unit Objectives

At the end of this unit , participant will be able to:

1. Recognize various reasons for product damages and losses packaging
2. Explain the reporting procedure in case of damages and losses
3. Explain the updating procedure after packing operation

### 4.1.1 Packer Reporting to Supervisor on Damages and Losses

During the packing operation/process the warehouse packer might come across some damages and losses. This might be due to some discrepancies and damages to the goods while carrying the warehouse operations (Put away, Picking, Packing, Returns etc).The warehouse supervisor is an individual who is responsible for monitoring the entire operations carried by the workers on the shop floor. So it is the responsibility of a warehouse packer to report to the Warehouse supervisor on these damages and losses.

There will be a procedure framed by the organization for dealing with loss or damages to goods. The individual as a warehouse packer has to be well aware of these reporting procedure for safe and structured operations. The warehouse supervisor in turn needs to address the problems to the warehouse manager for corrective measures.



*Fig.4.1.1: Packer Reporting to Supervisor on Damages and Losses*

Once items have been received for packing, the warehouse packer must return all packing lists to the warehouse supervisor/manager so that he or she can record the quantities packed in the inventory records. Recording the packed quantities of an item in the inventory record is referred to as posting the packing activity. As a warehouse packer, you must ensure that inventory is packed correctly and that the packing activity is accurately updated/posted in the inventory record.

There are two ways to update/post packing activity: without exceptions and with exceptions.

Updating the inventory record with no exceptions means that all packing list lines have been packed completely. In other words, the quantities of all the items allocated to the order and listed on the packing list are exactly equal to the quantities physically picked and packed by the packer.

Product Code	Part Number	Product Description	Units of Measures	Packaging Material	Total box/pallet/bags
380200	AMW28	Bolt	Pack	Carton box	100
380110	OPL56	Nut	Pack	Carton box	150
380110	NMR89	Main cap	Each	Pallet	10
380130	BHM44	Side clamp	Each	Pallet	25
380140	DIV85	Engine Oil	milli gram	Bags	10
380140	AQS31	Gear box	Sets	Pallet	5

Table 4.1.2: Sample Packing list

S.No	Product code	Part Number	Product Description	Units of Measures	Packaging material	Total box/bag/pallets	Picked Qty
1.	380200	AMW28	Bolt	Pack	Carton box	100	100 <input checked="" type="checkbox"/>
2.	380110	OPL56	Nut	Pack	Carton box	150	150 <input checked="" type="checkbox"/>
3.	380110	NMR89	Main cap	Each	Pallet	10	10 <input checked="" type="checkbox"/>
4.	380130	BHM44	Side clamp	Each	Pallet	25	25 <input checked="" type="checkbox"/>
5.	380140	DIV85	Engine Oil	milli gram	Bags	10	10 <input checked="" type="checkbox"/>
6.	380140	AQS31	Gear box	Sets	Pallet	5	5 <input checked="" type="checkbox"/>

Table 4.1.3: Sample Packed Packing list without any discrepancies

When the quantity of an item physically packed does not equal the quantity allocated to the order line and listed on the packing list, a packing exception occurs

Scan the QR code to watch the related videos



Packing list

[https://www.youtube.com/watch?v=h\\_gfer1uRXI](https://www.youtube.com/watch?v=h_gfer1uRXI)



Tips for reducing product damage

<https://www.youtube.com/watch?v=QGh0n9aTmQA>

S.No	Product code	Part Number	Product Description	Units of Measures	Packaging material	Total box/bag/pallets	Picked Qty
1.	380200	AMW28	Bolt	Pack	Carton box	100	100 <input checked="" type="checkbox"/>
2.	380110	OPL56	Nut	Pack	Carton box	150	125 <input type="checkbox"/>
3.	380110	NMR89	Main cap	Each	Pallet	10	10 <input checked="" type="checkbox"/>
4.	380130	BHM44	Side clamp	Each	Pallet	25	25 <input checked="" type="checkbox"/>
5.	380140	DIV85	Engine Oil	milli gram	Bags	10	10 <input checked="" type="checkbox"/>
6.	380140	AQS31	Gear box	Sets	Pallet	5	5 <input checked="" type="checkbox"/>

Table 4.1.4: Sample Packed Packing List with Discrepancies

In case of any exception, communicate with the immediate supervisor/warehouse manager about the discrepancies for further actions.

There may be many reasons for exemption like

- Shortage in quantity
- Product damage
- Product mismatch etc.

Based on the input provided by the packer on the discrepancies, the administration will plan for the replenishment and place new orders to fulfill the requirements and a purchase order will be released to respective vendors.

## Unit 4.2 - Exposure to Documents

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain the various documents that are used by a Packer
2. Explain the role of Return to vendor form
3. Differentiate the entry between Inventory list and Material request form
4. Identify the use personal protective equipment forms
5. Explain KPIs and Dashboards
6. Use and fill Damage report form

### 4.2.1 Technical knowledge on Packing Operations

Though the core job role of a packer is to pack the items/products for shipment or storage, there are also certain other documents which he might be known to and some of the important documents used by the packer in most of the warehouse are as follows

#### a) Order Pack list:

Total Orders: 1	Total Products: 2	Total Quantity
Order Date: 2/28/2015 4:59 AM	Ship Method: Unknown-Unknown	
Sale ID: 1-35064-1-1-58704	Channel ID: 58704	
		
Marketplace ID: 58704		
		
<b>Items:</b>		
Code: 10035275	SKU: 26165	
	Pick Qty: <input type="text" value="1"/>	
Description: WHITE RABBIT FUR SUEDE FINGERLESS GLOVES	Locations: 1A21E4( <input type="text" value="19"/> )	
Code: 682055206752	SKU: UMA-34992-RD-00	
	Pick Qty: <input type="text" value="1"/>	
Description: MTL WD CHALKBOARD (RED)	Locations: 4C05F3( <input type="text" value="3"/> )	

Fig 4.2.1: Sample Order Pack list



d) Material Request Form

**MATERIAL REQUEST FORM**

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**FORMAT NO.:** \_\_\_\_\_

Request No.: \_\_\_\_\_ Request Date: \_\_\_\_\_ Request Qty / Unit: \_\_\_\_\_

Location / Area: \_\_\_\_\_ Requested by: \_\_\_\_\_ Signature: \_\_\_\_\_

SR	Order No.	Material Code	Description	Qty	Need Date

Requester signature	Manager – Purchase	Manager – Works / Production

Fig 4.2.4: Sample Material Request Form

e) Personal Protective Equipment Request Form

Personal Protective equipment Issue record

Name: \_\_\_\_\_ Department: \_\_\_\_\_

PPE Item	Issue No	Training given	Date of Supplied	Employee Sign.	Replace Date	Returned Date	Sign.
Issued by		Designation	Sign.	Returned to		Designation	Sign.

Fig 4.2.5: Sample PPE Request Form





- h) **Procedure for recording damages, breakages etc:** If a product/item has been identified as damages or breakage during the packing, the packer has to report the details of the same and submit it to the quality department or to the supervisor for further analysis. Further process has to be taken only after the inspection and getting it certified by the quality team.

<b>LOSS / DAMAGE REPORT</b>						
Format No.:		<input type="checkbox"/> <b>Loss Report</b>		Report No.:		
Rev. No. :		<input type="checkbox"/> <b>Damage Report</b>		Report Date:		
Rev. Date. :						
<i>Internal References</i>						
Shipment Ref. No.	Shipped Date	Order No.	Material ID	Material Qty	Values	BL No.
Description of Shipment						
Destination	Nos. of Days	Insurance No.	Description of Insurance on Loss / Damage			
Loss / Damage Date & Time	Responsible person	Authority	Details			
<b><i>Description of Loss / Damage</i></b>						
<i>Item Loss / Damage</i>						
Particulars	Item Name	Qty	Value	Repair / Recovery / Loss / damage status		
<i>Investigation / Impact – Corrective Actions / Preventive Actions</i>						
Nature of Loss / Damage	Responsible Agency	Current Location of Material		Contacts		
Remarks						
				Prepared by		
				Approved by		

Fig 4.2.8: Sample Damage Report

## Unit 4.3 - Risk and impact of Deviating Procedure/Work Instructions

### Unit Objectives

**At the end of this unit , participant will be able to:**

1. Recognize the importance of work instructions
2. Identify the cause and effect of deviating work instructions
3. Explain the Dos and Donts in following work instructions

### 4.3.1 Risk and Impact of Deviating Procedure

Work Instructions are the most basic tool used in every business or organization to help an employee follow a sequence of steps. Poor Work Instructions could result in returned product, loss of materials, customer complaints, or liability issues.

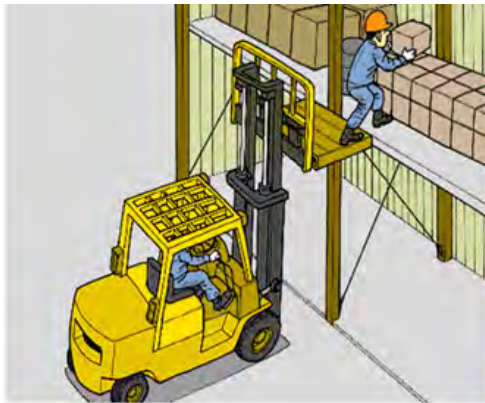
Here are some samples of Work Instructions

- Process step instruction
- Service steps
- Evacuation plan directions
- Process Checklists
- Safe assembly instruction
- Work standards
- Health instruction
- Safety instruction
- Work checklist
- Inspection instruction
- Labels
- Equipment maintenance
- Testing instructions
- Product specifications

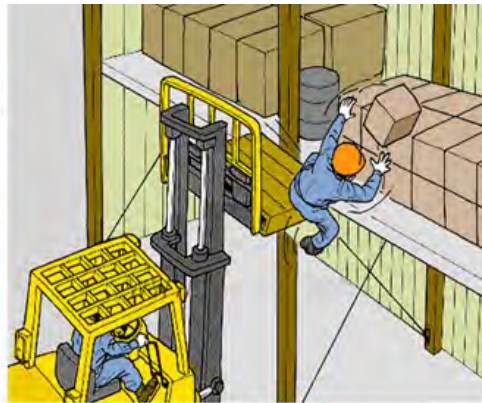
### 4.3.2 Samples of Ineffective Work Instructions

- An ineffective Work Instruction can result in non-conformances, losses of product and lost customers and revenue.
- An ineffective Work Instruction is confusing.
- It can have too much or too little information.
- A Work Instruction that gives an opportunity for many interpretations or multiple meanings will be implemented incorrectly.

Remember, once the training is completed, Work Instructions and procedures are what most employees depend on. There are many accidents recorded for not following defined procedures or work instructions in the workplace, some of them are as follows

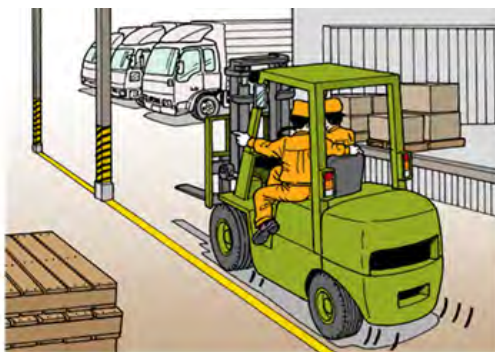


❌ Do not use Forklift for stacking materials



❌ Workers should not be used for storage

Fig.4.3.1 Work instructions Dont's



❌ Never allow strangers to travel in a forklift



❌ Never carry a operation without our PPE  
Personal Protective Equipment

Fig.4.3.2: Work instructions Dont's

## Unit 4.4 - Skills Essential for a Warehouse Packer

### Unit Objectives

At the end of this unit , participant will be able to:

1. Identify the right ways of packing during peak, normal and non-peak hours.
2. Describe the reporting structure
3. Explain the various channels of communication
4. Get knowledge on the escalation matrix in the organization structure
5. Identify the right way of escalating things to the right person in the structure
6. Describe the importance of team skills

### 4.4.1 Communicating with Peer Group

Language should not be a barrier in communication. Most of the times we would be working along with contract workers, labors who doesn't have much English knowledge. Thus the individual who will be working as a Warehouse Packer needs to know and understand how to communicate in both English and in local language.

Most of the times the individual needs to provide advice and guidance to peer group and juniors on any updates and delays in schedules, on technology part etc.



Fig.4.4.1: Communicating with peer group

### 4.4.2 Area of Waste in Warehouse Environment

A good warehouse operation run efficiently only by managing time. The less time and effort that's wasted getting a task done, the more healthy the bottom line will eventually look. As a warehouse supervisor the individual on this job needs to know and understand how to manage time and prioritize the tasks within the scheduled time limits.

**Areas of waste often identified in a warehouse environment:**

**Transportation/Conveyance:** Unnecessary internal transport that results in added cost and lower productivity such as storing fast moving inventory in the back of the warehouse.

**Inventory:** Any activity that results in excess - or lack - of inventory or placed in a different location where required. Poor visibility or inaccurate information over the existing inventory in the warehouse management systems will impact the preparation of orders and ultimately result in stock being unavailable for sales or shipping, thus increasing the frozen assets in the company.

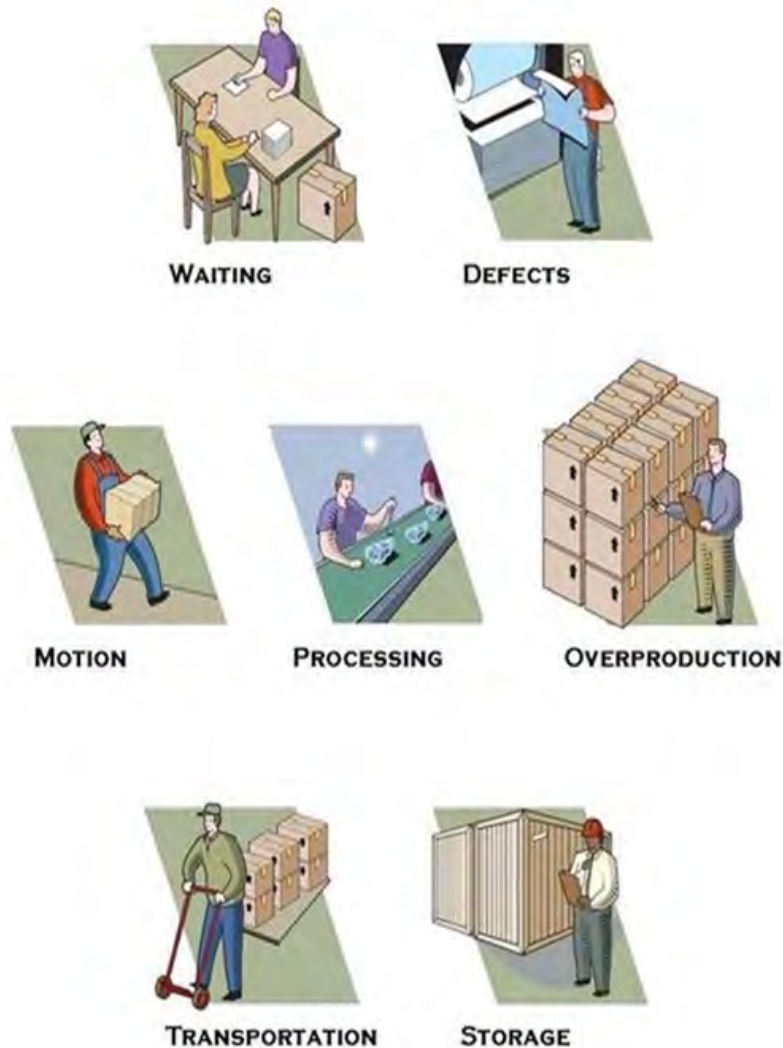


Fig.4.4.2: Areas of waste

**Movement:** Unnecessary movement of people, such as walking, reaching or stretching, due to inefficient layouts, lack of ergonomic workstations, manual picking that involves more than just one 'touch' per item to prepare the order and make it ready to be shipped or picking trails not optimized.

**Waiting:** People, systems and material delays due to wasteful processes. Waiting for picking lanes replenishment, material or shipping approvals, waiting for data or waiting for correct materials and services to arrive due to poor replenishment planning.

**Defects:** Activities that cause rework, returns or adjustments, such as customer guidelines which require too many manual operations, or delayed customer instructions which are received after the order was prepared, billing mistakes, inventory discrepancies, or materials missing, damaged, defective, wrong or mislabeled.

**Space:** The use of space that is less than optimal, such as low or excessive fill-up rates of trailers, containers or cartons, inefficient use of warehouse space, racking systems not aligned to the kind of product and expected flow.

Notify the manager regarding any concerns faced during the day for appropriate actions. Complete any forms as required by management.



*Fig.4.4.3: Packer Reporting to Manager on Challenges*

As mentioned earlier Warehouse Packing is the most critical operation since it completely deals with cost of the goods, a Warehouse Packer needs to gear up himself for achieving the targets and goals set by an organization. He needs to adjust according to volume, capacity and manpower during peak and non-peak hours. Below mentioned sports example depicts the way how an individual playing a role of a warehouse packer should react/work during peak and non-peak hours



*Packing during Peak hour*



*Packing during Normal hour*



*Packing during Non-Peak hour*

*Fig.4.4.4: Packer Flexibility According to Work*

## Notes



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## Summary



The main objective of this unit deals with the post packing activities and the necessary record updation. The unit clearly explain the reporting structure and procedures for damages and losses incurred during packing process. Various documents that might be necessary during the packing operations is explained in detail for better understanding. Importance of work instructions and sample dos and donts in following work instructions are given with pictures for clear understanding.

## Exercise



1. To whom a packer needs to report on damages and losses during packing operation?
2. How to update the packing operation with exemptions?
3. What are the various reasons for exemptions in packing?
4. What is the use of a 'Return to Vendor' form?
5. What is the use of a 'Material Requisition' form?
6. Explain few risks in deviating work instructions in packing?
7. What are the Areas of waste often identified in a warehouse environment?







## 5. Carry Out Housekeeping Activity

Unit 5.1 - Identify Potential Work Hazards and Safety Issues

Unit 5.2 - Occupational/ Environmental Health and Safety



## Key Learning Outcomes

**At the end of this module , participant will be able to:**

1. Explain the importance of housekeeping after picking
2. Describe various common work hazards in warehouse
3. Explain on Occupational/ Environmental Health and Safety
4. Explain the importance of safety
5. Describe the consequence of non-compliance with safety standards
6. Describe the difference in safety requirements for different types of materials
7. Get knowledge about firefighting standards and prerequisites
8. Recognize about assembly points and evacuation plan

## Unit 5.1 - Identify Potential Work Hazards and Safety Issues

### Unit Objectives

At the end of this unit , participant will be able to:

1. Visualize common workplace hazards that one might encounter inside warehouse
2. Explain the nature of the workplace accidents and its route cause
3. Describe the necessary precautionary care to be taken to prevent workplace hazards
4. Identify the consequence of non-compliance with safety standards
5. Explain the difference in safety requirements for different types of materials
6. Brief about the importance of housekeeping in warehouse

### 5.1.1 Housekeeping

Some of the common risks that can be identified by warehouse packer during in the warehouse area are as follows

Storage rack beam damage - This may due to poor maintenance or may be due to a forklift arm hitting the beam



Storage rack beam damage



Wet floor accidents



Overhanging boxes and pallets - Improper put away and picking results in such storage and there might be a chance of box falling and cause material and man power damages



Rope obstructing workforce and causing accidents



Maintenance material or items dropping on the floor may leads to accidents



Scrap materials on the floor may also leads to accidents





## Unit 5.2 - Occupational / Environmental Health and Safety

### Unit Objectives

At the end of this unit , participant will be able to:

1. Explain about firefighting standards and prerequisites
2. Recognize about assembly points and evacuation plan
3. Get awareness on various safety mock drills and how to react during emergency situations

### 5.2.1 Health and Safety

Warehouse operations can present a wide variety of potential hazards for the people working in the warehouse. There are several health and safety issues to be concerned with if you are working in a warehouse and each staff member should be well aware of all the safety and evacuation procedure in case of any accidents or disasters.

**Evacuation plan and fire extinguishers:** Emergency evacuation is the immediate and urgent movement of people away from the threat or actual occurrence of a hazard. Examples range from the small scale evacuation of a building due to a storm or fire to the large scale evacuation because of a flood, threat because of terror attack or approaching weather system.

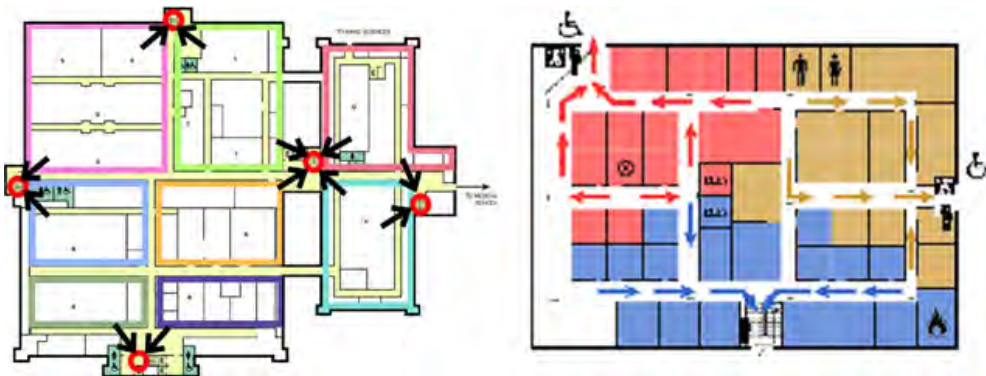


Fig 5.2.1: Evacuation Plan

The staffs/workers in the warehouse have to be familiar with the warehouse section of Safety and Security plan. The supervisor needs to ensure that warehouse personnel have read the warehouse evacuation plan and are trained in fire safety.

**Safe Assembly point:** An Assembly Point is a predetermined safe location outside the building. It is at this location that all occupants of the building must report to upon evacuating the building in case of an alarm of fire or any other emergency. All occupants should evacuate the building by the nearest exit to the outside of the building and then proceed to the Assembly Point.





Fig 5.2.2: Emergency assembly point

**First Aid Mock Drills:** Caring for injured or ill persons in the work place until they can receive professional medical care is an important skill for every person. With some knowledge of first aid, a person can provide immediate care and assistance to someone who is hurt or who becomes ill. First aid drills can help prevent infection and serious loss of blood. It could even save a limb or a life.



Fig 5.2.3: First aid mock drills

## Summary

The warehouse packer is an individual who is responsible for capturing any errors or discrepancies in product packaging before it is sent out or stored inside the warehouse. The individual in this role is also responsible to identify any common workplace hazards and report to management for appropriate actions to be taken. Some of the common workplace hazards that once might encounter inside the warehouse has been discussed in this unit for better understanding. Important aspects of environmental health and safety is explained clearly with pictorial examples for better understanding.

## Exercise

1. List any 3 common type of workplace hazards
2. What is safe assembly point
3. Describe the Evacuation plan layout



## Glossary

<p>Advance Shipping Notice (ASN)</p>	<p>A document sent by a supplier to a customer to indicate when an order will be shipped. ASNs are usually transmitted electronically.</p>
<p>Advanced Planning and Scheduling System (APS)</p>	<p>A type of software that uses mathematical models and related techniques to find optimal solutions to complex production and supply problems.</p>
<p>Airway Bill</p>	<p>A document that accompanies goods shipped by an international courier to provide detailed information about the shipment and allow it to be tracked. The air waybill has multiple copies so that each party involved in the shipment can document it.</p>
<p>Available to Promise (ATP)</p>	<p>The inventory status of a product that is currently on hand and available for immediate shipment.</p>
<p>Backhaul</p>	<p>A shipment that moves in the opposite direction along a route just taken by a vehicle in making a delivery, allowing it to make use of its hauling capacity on the return trip.</p>
<p>Bill of Lading</p>	<p>A document listing all the goods contained within a shipment and stating the terms governing its transportation. A bill of lading is a legal document between the shipper of a particular good and the carrier detailing the type, quantity and destination of the good being carried. The bill of lading also serves as a receipt of shipment when the good is delivered to the predetermined destination.</p>
<p>Bill of Materials (BOM)</p>	<p>A listing of the parts and materials that become part of a finished product, organized in a hierarchical structure that reflects their components, subassemblies or intermediate forms.</p>

Bullwhip Effect	An alternative name for demand amplification
Carrier	A company that specializes in transporting goods.
Carrying Cost	The cost of holding goods in stock. Expressed usually as a percentage of the inventory value and includes cost of capital, warehousing, depreciation, insurance, taxation, obsolescence, and shrinkage. Also called inventory cost or holding cost.
Cartons	Cartons are not standardized unit but may generally refer to a rectangular box that weighs around 2kgs to 22kgs. It is palletizable, conveyable and generally can be handled by one person.
Classification of Warehouses Based on Customer Groups	Retail Distribution center: This warehouse supplies product to the retail stores. A typical order may comprise hundreds of items and the warehouse might serve hundreds of stores as the flow of product is huge
	Service parts distribution center: It is the most challenging one among all the other facilities to manage. They hold spare parts for expensive capital equipment like automobiles, aerospace, medical equipment etc.
	3PL (Third Party Logistics) warehouse: A company may outsource its warehousing operations to a third party or such warehouses that may help them in saving a percentage of warehousing cost, which likely to occur if it is done on their own.

Classification of  
Warehouses Based on  
The Ownership and  
Usage

Private warehouses: Such warehouses are owned and managed by the firm for storing the items that they produce. Generally companies would concentrate more on such storage facilities and so it would be a highly secured environment.

Public warehouse: These warehouses are owned and managed by private parties (individual or a partnership firm). To start such warehouses, a license from government is required. It would be relatively an economical option to store goods.

Government warehouse: These warehouses are owned and managed by Government of a state or country. In India we have CWC (Central Warehousing Corporation), SWC (State Warehousing Corporation), FCI (Food Corporation of India) etc. Both Government and private firms can use this warehouses for storing their goods

Bonded warehouses: These warehouses are owned, managed and controlled by government as well as private agencies. Bonded warehouses are used to store imported goods for which import duty is yet to be paid. In case of imported goods the importers are not allowed to take away the goods from the place till such duty is paid. These warehouses are generally owned by dock authorities and found near the ports.

Consignment Inventory

An inventory control practice in which a supplier maintains ownership of inventory on a customer's site until the inventory is sold, monitoring its level and replenishing it as needed.

Consumer	The individual or organization who acquires a product in order to use it for its intended purpose rather than reselling it to someone else. A consumer becomes ultimate customer.
Cross Docking	Products are moved directly from receiving docks to shipping docks, with no intermediate storage. Two steps could be skipped in cross docking: Put away and Picking. Also called as "X docking"
Customer	The individual or organization that purchases a product or service in a supply chain transaction.
Cycle Count	A cycle count is an inventory auditing procedure, which falls under inventory management, where a small subset of inventory, in a specific location, is counted on a specified day at specific frequencies.
Cycle Stock	The amount of inventory required to support the operations of a facility, with no reserve to cover unforeseen events. Refer: safety stock.
Cycle Time	This term is used to denote the interval between successive repetitions of a cyclical process, as in the cycle time of a machine or assembly line.
Dependent Demand	Demand for item (called lower level or child item) that does not occur until there is a demand for another item (called higher level or parent item). Also, where demand for the higher level or parent item can be satisfied only if the lower level or child items are available.



Distribution Center (DC)	A storage facility in which goods may be staged, sorted, assembled, packaged, and/or stored temporarily as they pass through a particular segment of a supply chain. Distribution centers differ from warehouses primarily in the focus on facilitating distribution rather than holding inventory.
Distribution Network	The set of facilities and lanes that transports finished goods from a production facility to the downstream customers of that facility.
Electronic Data Interchange (EDI)	A set of protocols for transferring information regarding demand and supply over private electronic networks.
Enterprise Resource Planning System (ERP)	A suite of software that combines tactical-level applications for production and distribution planning with execution systems for order management, inventory control, accounting, Finance, HR and related operations
Fast Pick Area	The fast-pick area of a warehouse is used to fill orders for the most popular items in a facility. A forward pick area increases the pick density by concentrating a large number of SKU's within a small physical space.
FIFO	First In First Out : A type of inventory classification directs picking from the oldest inventory first
Finished Goods (FG) Inventory	The store of completed products on the output side of a production facility.
Full Pallet	A pallet of goods that contains only a single kind of product.

Full Truckload Shipment (FTL)	A shipment of goods that consumes the capacity of a truck, requiring the truck to be dedicated to the shipment.
Handling Marks	These are instructions given on the boxes for handling purposes at different stages during transportation starting from warehousing till delivery to the importer's destination.
Independent Demand	The demand for a product on the part of its end consumers. So named because it is the ultimate source of demand, and doesn't depend on a source of demand further down in the supply chain.
Information Marks	These convey additional information such as buyer's code number, quantity, dimensions and information for storage of the boxes. This information need not be given on the transport documents.
Inter-Modal Transportation	The practice of using more than one medium of transportation, such as rail and ship, within a single shipment.
In-Transit Inventory	Inventory that is currently in a transportation lane between two facilities.
Inventory	Inventory is the raw materials, work-in-process goods and completely finished goods that are considered to be the portion of a business's assets that contain economic value that are ready or will be ready for sale
Inventory Turnover Ratio (ITO)	A measure of how quickly inventory is used once it arrives at a facility, calculated as the annual sales of a product divided by its average inventory level. It can also be calculated as Cost of Goods Sold (COGS) divided by Aggregated average Inventory.

Item Fill Rate	The percentage of line items, calculated across all orders, for which the full quantity of the requested product is available for immediate shipment. Percentage of customer or consumption orders satisfied from stock at hand. It is a measure of an inventory's ability to meet demand. Also called as demand satisfaction rate.
Just-In-Time Manufacturing (JIT)	The practice of reducing inventory levels by scheduling materials to arrive just as they are needed in the production process.
Less-Than-Truckload Shipment (LTL)	A shipment of goods that consumes only a fraction of the capacity of a truck, requiring that the truck be shared with other shipments.
LIFO	Last In First Out: Opposite to FIFO
LSP	LSP – Logistics Service Providers: Is a company that provides management over the flow of goods and materials between points of origin to end-use destination. The provider will often handle shipping, inventory, warehousing, packaging and security functions for shipments.
Merge in Transit	A technique in which separate shipments are combined en route and delivered as a single unit
MHE	Material Handling Equipment can be defined as the set of all pieces of equipment that make possible the physical movement within the warehouse. Example: Forklifts, Stackers, HOPT-Hand Operated Pallet Trucks, BOPT-Battery Operated Pallet Trucks etc.

Mixed Pallet	A pallet of goods that contains two or more kinds of products.
Mode of Transportation	The medium by which a vehicle moves products from one facility to another. The primary modes are truck, rail, boat, barge, airplane, and pipeline
On-Time Delivery (OTD)	A measure of fulfillment effectiveness, calculated as the percentage of orders that arrive at the customer site within the agreed-upon time.
Order Cost	The fixed cost of placing an order, follow up, regardless of the quantities involved.
Packing Slip	A document enclosed with a shipment that lists the goods included in that shipment together with information about the origin, destination, and means of transport
Pallet	A pallet is the structural foundation of a unit load which allows handling and storage efficiencies. A Pallet is the common unit of material stored in the warehouse as they are standardized to handled as a single unit. Generally in a warehouse there are large sizes of packaging called pallets which is a wooden or plastic base are generally used.
Perfect Order	A measure of fulfillment effectiveness, calculated as the percentage of orders that ship complete, arrive on time, contain the correct goods, are free of damage, and have accurate paperwork.
Periodic Review	An inventory replenishment policy in which inventory is counted at fixed intervals and orders are placed whenever the current count falls below a set threshold.

PO – Purchase Order	A purchase order (PO) is a commercial document issued by a buyer to a seller, indicating types, quantities agreed prices for products or services. This also includes the desired date on which the product or services is needed.
Primary Packaging	The level of packaging that immediately encloses a product, such as a bottle, box, can, or blister pack.
Raw Materials Inventory	The inventory of incoming materials maintained at a production facility for use in the production process.
Reorder Point (ROP)	The level or count at which the inventory for a particular product is replenished.
Replenishment Lead Time	The interval between the time a company places an order for raw materials and the time it receives those materials.
RFID	Radio-Frequency Identification is the use of radio waves to read and capture information stored on a tag attached to an object. A tag can be read from up to several feet away and does not need to be within direct line-of-sight of the reader to be tracked
RFID Scanner	A radio frequency identification reader (RFID reader) is a device used to gather information from an RFID tag, which is used to track individual objects. Radio waves are used to transfer data from the tag to a reader
Safety Stock	The amount of inventory that must be maintained in order to handle fluctuations in supply and demand.

Secondary Packaging	The level of packaging that groups a standard number of primary packages together for convenience in handling, storage, and sales. The most common form of secondary packaging is the carton.
Shipping Marks	These contains all information that are required to do proper delivery at the right destination. These marking are as same as in the transport documents.
Shrinkage	The reduction in inventory that occurs through pilferage, misplacement, loss of moisture and related forms of attrition.
SKU	A SKU-Stock Keeping Unit is the simplest form and smallest physical unit of a product handled by an organization
Space Utilization	Space utilization tells us how well we use the existing storage capacity, measuring the impact of our choices of material handling equipment, labor, methods, procedures and systems support.
Stock-Out	The situation in which there is not enough inventory on hand to fill a received order.
Storage Facility	A facility that exists primarily to hold goods in anticipation of future demand. Some storage facilities may also perform final assembly and packaging in order to move these operations closer to the end consumer as Value addition.
Supplier	The organization that provides a product or service in a supply chain transaction.
Supply Chain	A network of facilities and transportation that transforms raw materials into finished products and delivers those products to consumers.

<p>Supply Chain Management (SCM)</p>	<p>The set of activities involved in designing, planning, and executing the flow of demand, supply, and cash across a supply chain.</p>
<p>Trans-shipment</p>	<p>A technique in which goods are shipped laterally within the same echelon of a distribution system, such as between warehouses or between retail stores.</p>
<p>Types of Warehouses</p>	<p>Raw Materials warehouses: This type of warehouse is used for storing the raw materials that are stored for used in the production process.</p>
	<p>Semi-finished or WIP-Work In Progress warehouses: The materials that have undergone some processes of production and will be processed further before reaching market are stored in these warehouses.</p>
	<p>Finished goods warehouses: This is an ultimate warehouse that is used for serving the market demand. These warehouses are located strategically considering the market reachability and access to different modes of transportation.</p>
	<p>Order fulfillment centers: This is actually one of the major roles of a warehouse, acting as a fulfillment center that is intended to meet the demand from its various customers.</p>
<p>Unit of Measure or Quantity</p>	<p>Unit of Measure is the criterion based on which you measure the quantity of the material. Unit of measure is a value for a physical size. Example 'Each', 'Centimeter', 'gram' etc</p>



Value Added Services (VAS)	Value Added Services (VAS) is a common terminology used in Warehouse context which can be any service that a Warehouse provides to the clients in addition to performing traditional functions of a warehouse. VAS includes labelling, kitting, sorting, low level assemblies etc.
Vendor-Managed Inventory (VMI)	An inventory control practice in which a supplier monitors and replenishes inventory on a customer's site.
Warehouse	A storage facility that holds controlled quantities of goods in a particular location within a supply chain.
WMS	WMS-Warehouse Management System is a software application that supports the day-to-day operations in a warehouse.
Work-In-Process Inventory (WIP)	Inventory currently being used in a production process or held for use within the production area. Includes all materials that have been removed from raw materials inventory but not yet deposited in finished goods inventory.



## Annexure – QR Codes

S. No	Chapter No.	Unit No.	Topic Name	URL	Page No.	QR Code (s)
1	Chapter 1 - Introduction	UNIT 1.1 - Supply Chain Management	1.1.3 - What is Logistics Management?	<a href="https://www.youtube.com/watch?v=4-QU7WiVxh8">https://www.youtube.com/watch?v=4-QU7WiVxh8</a>	3	 Logistics Management
2	Chapter 1 - Introduction	Unit 1.4 - Roles and Responsibilities of a Warehouse Packer	1.4.1 Warehouse Packer Role	<a href="https://www.youtube.com/watch?v=aTVfbSeeS74">https://www.youtube.com/watch?v=aTVfbSeeS74</a>	10	 Role of a Packer
3	Chapter 2 - Prepare for Packing	Unit 2.2 - Initiating Packing Operation	2.2.2 Receiving Instruction for Packing	<a href="https://www.youtube.com/watch?v=skU8lvDgz94">https://www.youtube.com/watch?v=skU8lvDgz94</a>	21	 Packaging Process
4	Chapter 2 - Prepare for Packing	Unit 2.2 - Initiating Packing Operation	2.2.2 Receiving Instruction for Packing	<a href="https://www.youtube.com/watch?v=F2LlzwYsk9E&amp;t=15s">https://www.youtube.com/watch?v=F2LlzwYsk9E&amp;t=15s</a>	21	 Receiving & Put away Process
5	Chapter 2 - Prepare for Packing	Unit 2.4 - Deciding on a Type of Packaging Material	2.4.2 Corrugated Box	<a href="https://www.youtube.com/watch?v=BKEx6C2A3ml">https://www.youtube.com/watch?v=BKEx6C2A3ml</a>	26	 Packaging materials: Types & Selection criteria
6	Chapter 2 - Prepare for Picking	Unit 2.5 - General Safety, Security and Administrative Procedures	2.5.1 Personal Protective Equipment	<a href="https://www.youtube.com/watch?v=kcM9u4heDVk">https://www.youtube.com/watch?v=kcM9u4heDVk</a>	29	 PPE

7	Chapter 3 - Perform Packing	Unit 3.4 - Labels and Standards	3.4.2 Symbols Used in Labels	<a href="https://www.youtube.com/watch?v=1TC3_VkKOH4">https://www.youtube.com/watch?v=1TC3_VkKOH4</a>	50	 Packaging and Labelling Guidelines
8	Chapter 3 - Perform Packing	Unit 3.4 - Labels and Standards	3.4.2 Symbols Used in Labels	<a href="https://www.youtube.com/watch?v=gSn3COOJBkY">https://www.youtube.com/watch?v=gSn3COOJBkY</a>	50	 How to Label
9	Chapter 3 - Perform Packing	Unit 3.4 - Labels and Standards	3.4.2 Symbols Used in Labels	<a href="https://www.youtube.com/watch?v=YNgRqt4Q8wk">https://www.youtube.com/watch?v=YNgRqt4Q8wk</a>	50	 How to Pack, Seal & Label Shipments
10	Chapter 4 - Perform Post Packing Activities	Unit 4.1 - Dealing with Damages and Losses	4.1.1 Packer Reporting to Supervisor on Damages and Losses	<a href="https://www.youtube.com/watch?v=h_gfer1uRXI">https://www.youtube.com/watch?v=h_gfer1uRXI</a>	61	 Packing list
11	Chapter 4 - Perform Post Packing Activities	Unit 4.1 - Dealing with Damages and Losses	4.1.1 Packer Reporting to Supervisor on Damages and Losses	<a href="https://www.youtube.com/watch?v=QGh0n9aTmQA">https://www.youtube.com/watch?v=QGh0n9aTmQA</a>	61	 Tips for reducing product damage



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