



# Participant Handbook

Sector  
**Rubber**

Sub-Sector  
**1. Tyre 2. Non-tyre**

Occupation  
**Storage & Warehousing**

Reference ID: **RSC/Q0108, Version 2.0**  
**NSQF Level 4**



**Material Handling  
and Storage Operator**

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## 2. Perform Loading and Unloading Activity



Unit 2.1 – Introduction to Material Handling Equipments

Unit 2.2 – Transport Equipments

Unit 2.3 – Positioning Equipments

Unit 2.4 – Unit Load Formation Equipments

Unit 2.5 – Principles of Designing and Selecting Material Handling System



## UNIT 2.5: Principles of Designing & Selecting Material Handling System

### Unit Objectives

At the end of the unit, you will be able to:

1. Paraphrase the principles of designing and selecting material handling system

### 2.5.1 Introduction

According to the Material Handling Institute, there are 20 principles for designing and selection of a material handling equipment. These principles have to be taken care of irrespective of whether the industry is related to rubber or not. They are:

<b>Orientation Principle</b>	Examine the structural relationships meticulously before introductory scheming to recognize existing techniques and issues, and manual and economic restrictions, and to build future needs and achievements.
<b>Flexibility Principle</b>	Utilize techniques and machinery which can execute a number of jobs under a number of functioning circumstances.
<b>Planning Principle</b>	Set up a plan to incorporate basic needs, desirable choices, and the consideration of contingencies for all material handling and storage commotions.
<b>Simplification Principle</b>	Simplify handling extracting, decreasing, or infusing unnecessary movement and machinery.
<b>Systems Principle</b>	Combine those handling and storage which are economically feasible into a harmonized system of function incorporating storage, receiving assembly, production, warehousing, packaging, transportation, and shipping.
<b>Gravity Principle</b>	Use gravity to shift material wherever feasible, while taking into consideration the restrictions concerning security, damage of the product, and loss.
<b>Unit Load Principle</b>	Maintaining product in as big a unit load as practical.
<b>Safety Principle</b>	Providing secure material handling machinery and methods which follow existential security codes and regulations in addition to accrued experience.
<b>Space Utilization Principle</b>	Make effectual use of all the cubic space available.
<b>Computerization Principle</b>	Examine computerization in material handling and storage systems when situation warrants for enhanced material and information control.
<b>Standardization Principle</b>	Standardize handling methods and equipment wherever feasible.
<b>Layout Principle</b>	Construct a functional sequence and machinery for all feasible systems solutions, and then pick the other system that best combines effectualness and effectiveness.
<b>Ergonomic Principle</b>	Identify human possibilities and restrictions by designing material handling machinery and policies for effectual interaction with the people utilizing the system.

## UNIT 3.1: Packaging and Assembling

### Unit Objectives

At the end of the unit, you will be able to:

1. Familiarise with the concept of packaging and assembling
2. Paraphrase the world packaging market
3. Prepare the packaging environment
4. Identify the tools and equipment used in packaging and assembling

### 3.1.1 Packaging

In current community, packaging is important and extensive. It surrounds, improves and preserves the products we purchase, from processing and production through handling and storage to the end buyer. With no packaging, material handling can be chaotic, ineffective, and expensive practice and modern customer marketing would be effectively not possible.

The former evolution of packaging has been well recorded somewhere else and will only be accessed upon here. Suffice it to say that the very experienced packaging industries which distinguish modern community today are far extracted from the basic packaging commotions of historical times.

Packaging rests at the very core of the modern community, and victorious packaging technologists should bring to their professional tasks a wide – ranging framework drawn from a mass of regulations. Methodical packaging is a must for most of the kind of products whether it is mined, grown, hunted, extracted, and produced. It is an important connection between the product manufacturers and their consumers. Unless the packaging function is executed accurately, the status of the commodity will get affected and the goodwill of the consumer will be lost. All the talent, quality, and reliability constructed into the commodity while evolution and manufacturing will be wasted, unless it is ensured that the commodity reaches the consumer in the accurate shape. Properly drafted packaging is the primary way to making sure of secure delivery to the end consumer in correct shape at an economical expense.

#### Definitions

Definitions In spite of the importance and main duty which packaging fulfils, it is generally considered as a required evil or an unwanted expense. Furthermore, in the view of several customers packaging is, at best, redundant, and at worst, a critical waste of resorts and an environmental danger. Such an opinion forms due to the operations which packaging has to execute are either unspecified or not contemplated in full. Around the time almost all customers come in touch with a package, its task in several instances is almost over, and it is perhaps comprehensible that the opinion that excessive packaging has obtained some acceptance.

Packaging has been described in several ways. A populist credit origin describes packaging as an industrial and marketing method for containing, preserving, recognizing, and facilitate the deal and delivery of agricultural, industrial, and customer articles.

The Packaging Institute International describes packaging as the enclosure of articles, products, or packages in a covered pouch, bag, cup, box, can, tray, tube, can, bottle, or other container form to execute one or more of the following operations: containment; preservation; communications; and usefulness or capability. If the gadget or container executes one or more of the operations mentioned above, then it is determined a package.