

Material handling is defined as the movement, prediction, storage and control of materials and products throughout the process of manufacture and distribution, consumption and disposal.

It is one of the activities in larger distribution systems by which materials, parts and products are moved, stored and tracked in the world's commercial infrastructure.

EXTERNAL LOGISTICS

It is concerned with the transportation and related activities that occur outside the factory/facility.

INTERNAL LOGISTICS

It involves the storage and movt. of materials inside a given facility.

Material Handling Equipments

- ① **TRANSPORT EQUIPMENT** - It is used to transfer equipments move materials inside a factory.
It has 5 main components/equipments • Industrial trucks
• AGV's • RGV's (Rail guided vehicle) • conveyers • cranes
- ② **POSITIONING EQUIPMENT** - consists of equipments that are used to handle parts and other materials at a single location. • Industrial robots
- ③ **UNIT LOAD FORMATION** - It includes containers that hold individual items during handling. equipments used to load and package the container. containers may be • boxes; barrels; containers • drums
- ④ **STORAGE EQUIPMENTS** - Storage methods include
(1) conventional storage methods Bulk storage, rack systems bins and drawers. labor intensive
(2) Automated storage systems These are designed to eliminate labour
- ⑤ **IDENTIFICATION AND CONTROL EQUIPMENT** - It includes keeping track of material being moved and stored. This can be done by assigning bar codes, RFID tags.

Automated guided vehicles - AGV is a material handling system that uses independently operated, self propelled vehicles guided along pre defined paths. operated by onboard batteries. Their pathways are powered by unrobustive

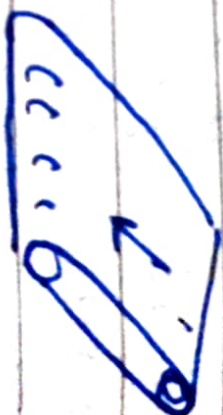
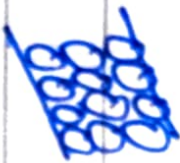
(1) Towing vehicles for driverless trains
(2) Pallet Trucks (3) Unit load car ~~trucks~~ cars.

conveyers - moving apparatus / items or bulk materials, usually inside a facility.

conveyers are used where material must be moved in large quantities b/w specific location over a fixed path.

TYPES OF CONVEYERS

- roller conveyers
- skate-wheel conveyers
- belt conveyers



- chain conveyers
- overhead trolley conveyers

Analysis of material handling systems.

Quantitative models are used for analyzing material flow rates, delivery cycle times, and other aspects. This analysis is useful in ~~app~~ determining the equipments required.

vehicle based

conveyor based