

# Containerisation

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The container provides an effective and secure way of moving goods between nodes. It offers a flexible solution for the transport of goods; it is effectively a box that is capable of being transported using a variety of different modes of transport, such as sea, road and rail. Containers may contain a full load of an organisation's goods (referred to as FCL or Full Container Load).

Where an organisation has a smaller volume to move it can be referred to as an LCL (Less than Container Load) and will normally be consolidated with other cargo destined for the same port. There are certain standards that apply to the dimensions of basic shipping containers, regulated by ISO (International Standards Organisation). Within the overall dimensions, the design of containers can be very varied. The basic size of a container is 8 feet wide by 8 feet 6 inches high. Standard containers are available in lengths of 10, 20, 30 and 40 feet. Higher cube containers can have a height of around 9 feet 6 inches.

Half height containers are available for heavy goods where cubic capacity is not important. Maximum gross weights apply. The container's Tare weight (i.e. the weight of the empty container) will also be specified in order to determine the maximum permitted payload. The range of lengths gives an opportunity to build load sizes, which optimise capacity. Sometimes a larger sized container than required will be supplied for a particular shipment. This is in order to optimise the return load logistics of the operator. (Fritz Institute All Rights)

There are advantages and disadvantages to containerisation:

## Advantages

- They offer a means of consolidating cartons, boxes etc. into a manageable unit load.
- Providing due care is taken in loading and unloading a container, the product packaging need not be as robust as would be required for un-containerised transit.
- A container whose capacity is fully utilised provides an economic transport solution.
- Containers offer the opportunity to optimise the capacity of the carrying medium, be it road, rail or ship.
- They are secure and considerably reduce the risk of theft and pilferage of goods.
- They provide an opportunity to offer, through the use of different transport modes, an end-to-end service from supplier to customer.

## Disadvantages

- They require sophisticated handling techniques. Although the rail and ship operators will have infrastructure in place to handle containers, this may not necessarily apply to all port facilities. This will sometimes result in slower transit times overall.
- Lack of handling facilities at donors and other suppliers premises and at ports and airports, may tie up trailers and vehicles, for example, while containers are stuffed and de-stuffed.
- Often, containers will be used on trips where the container operator cannot secure a return load. This may delay the return of containers and occasionally result in non-availability.
- There is a vast range of containers available. There are three main types of box container :

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- Non-insulated containers have a standard construction, protect against weather and theft, but offer no real protection against extremes of temperature.
- Insulated containers are lined to prevent heat loss, but constructed to ensure airflow around the goods is maintained.
- Refrigerated containers have a built-in unit which keeps the goods, chilled or frozen as required. They obviously require a power source to maintain the temperature level.

There are many container variants available to suit different types of goods and materials.

## **The major types are:**

- Standard box containers allow access through end doors, and usually have internal lashing points.
- Open sided containers have walls of mesh, and are often used to transport hazardous goods. Otherwise, they will be curtain sided to allow side access to the container for loading and unloading purposes.
- Tank containers comprise a transit tank of dimensions to fit a standard container size.
- The tank is constrained by a rigid framework.