

## Ocean Container Guide...

ISO containers also known as intermodal containers are designed for transportation by more than just one mode of transport: such as road and rail, or rail and ship. These freight containers conform to the International Organization for Standardisation (ISO) container manufacturing standards.

ISO containers are produced in several standard configurations, including dry (or cube), insulated, flat rack (or platform), open top, refrigerated, and tank. Dry ISO containers are general purpose, totally enclosed, box type containers used for general purpose transportation. These containers are also called cube containers. Standard heights for dry containers are 8 feet 6 inches. Dry containers are also manufactured with extended heights of 9 feet 6 inches, and are referred to as high cube containers. Cargo is loaded from the end of the container.

Insulated or thermal ISO containers are used to transport of chilled and frozen goods. They are also used for temperature sensitive materials and products. The container walls are insulated, but the container does not have a refrigeration unit.

Flat racks and platforms have no side walls, but may have end bulkheads. They are used to transport heavy machinery. Collapsible flat rack containers are open sided ISO containers with end bulkheads that can be folded down when the rack is empty.

Open top ISO containers are box type containers with no top. These containers can be used to carry heavy, tall or hard to load cargo, and bulk material, such as coal or grain. Cargo can be loaded from the top or end of the container.

Refrigerated, or reefer ISO containers are used to transport of chilled and frozen goods. They are also used for temperature sensitive materials and products where a steady temperature must be maintained during shipping.

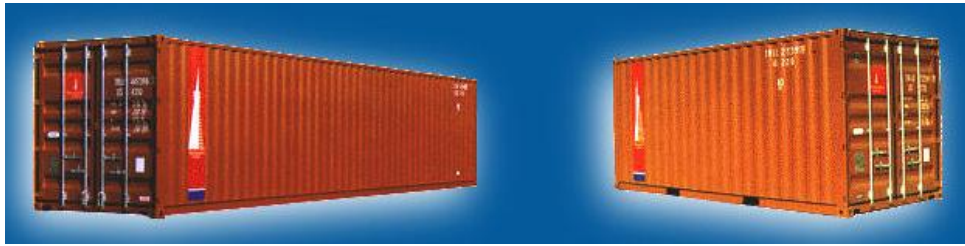
Tank ISO containers have a cylindrical tank mounted within a rectangular steel framework. These containers are built to the same standard dimensions as other ISO containers. They are used to transport liquid or bulk materials.

ISO containers are manufactured in standard sizes. The standard width of ISO containers is 8 feet, the standard heights are 8 feet 6 inches, and 9 feet 6 inches, and the most common lengths are 20 feet and 40 feet. Less common lengths also include 24, 28, 44, 45, 46, 48, 53, and 56 feet.

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## Dry Containers

Dry, or standard containers are basically steel boxes, either 40' or



20' long, by 8' wide by 8'6" high. Two steel doors on one end open (almost the full dimensions of the container) to allow loading and unloading, either by hand or by forklift.

## High Cube Containers

As the name implies, high cube containers are containers that provide extra height inside. High cubes are the same basic dimensions as a standard dry container, but are , outside, 9'6" high, giving you 1 foot of extra cargo space. High cube containers are used to accommodate large, bulky but not very dense (heavy) cargo. High cubes are a good way to maximize shipping cost per cuft or unit, as the rate difference is not very significant vs. a standard height container. High Cube containers are also available in 45 foot (and sometimes, 48 foot) lengths.

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## Open Top Containers

Open Top containers, are basically a dry container, with the roof



removed. In place of the steel roof, is a tarp, which can be removed for loading or unloading the container from above (ie: a crane), or can be left open to accommodate cargo that is overheight.

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## Flat Rack Containers

Flat racks (and platform) containers are probably the most



unique of all shipping containers, and are very much a specialty shipping device. Used for shipping equipment, industrial machines, boats, etc. these containers are basically just 'platforms' on which goods are loaded, and then strapped or tied down. This allows shipping of goods that would

normally move as 'bulk' goods, as a containerised unit, saving on costs for trucking, loading, handling, etc. Flat Rack containers generally have a floor, and two bulkheads, one at each end. Some of them, like the one in the picture, have ends that fold down. Others have only 4 corner posts, and some have fixed ends. Platform containers are basically flat rack containers with no bulkheads or posts, just a 20' x 8' or 40' x 8' piece of steel .

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## Refrigerated Containers

This type of container is capable of maintaining the temperature of frozen, chilled or warm cargo. A refrigeration unit is built onto the nose of the container and power is provided by a motor generator (when container is on wheels), by terminal (when grounded in a yard) or by the ship (when laden on board). Air, cold or warm, is supplied to the inside of a container via an air duct system that enters the container from the bottom. Air circulates under, over and through the load before it returns to the refrigeration unit. This circulation is repeated continuously when the unit is in operation. In the nose of each refrigeration unit are adjustable ventilation holes. At specific settings, these vents allow fresh air exchanges to avoid a build up of carbon dioxide inside the container. All fresh fruits and vegetables are living products and as a result give off heat and carbon dioxide. Vents allow this warm toxic air to be expelled from the container in order to avoid spoilage. The most advanced reefer containers are computerised enabling highly precise temperature control. Transportation has become easier due to this type of precise control that ensures preserving the quality of foods such as meat, fish, eggs, vegetables and fruits, as well as films, plants and pharmaceuticals.



## Tank Containers

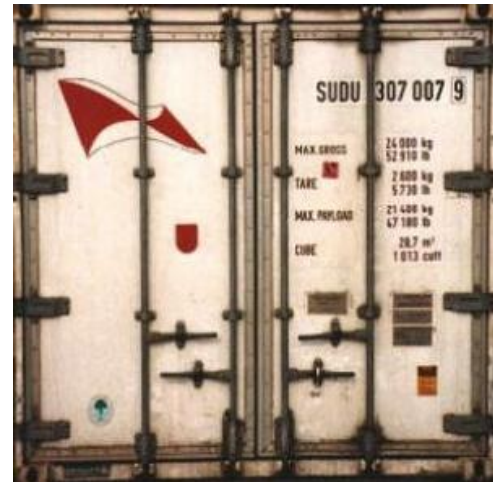
Used for carrying liquid cargoes and can come in frame or beam configuration. Some cargoes must be transported at elevated temperature or pressure and for this the tank needs to be insulated and have an integral heating system.



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## Container Marking

The current standard which deals with the coding, identification and marking of containers is DIN EN ISO 6346, dated January 1996. Among other things, this standard specifies that the previous standards with similar content have equal validity, since a number of older versions of containers with different markings naturally remain in service alongside the brand new ones.



- 1 owner code, consisting of three capital letters
- 2 product group code, consisting of one of capital letters U, J or Z
- 3 six-digit registration number
- 4 check digit

The owner code must be unique and registered with the International Container Bureau either directly or through a national registration organization.

The product group code consists of one of the following three capital letters:

- U - for all freight containers
- J - for detachable freight container-related equipment
- Z - for trailers and chassis

Also shown is the gross and tare weights

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