

### Grain in Shipping Containers

With the advent of intermodal containerization in the late 50 and early 60's, containers led to a revolution in the shipping industry. The benefit of containerization has been one of the greatest aids to trade development and globalization.

The simple unitization and protection of the goods offered by a shipping container allows manufacturers to source, produce and supply products in the knowledge that the goods will arrive at destination in good order and condition in the vast majority of cases.

Most cargo is carried in 20 foot or 40 foot containers. A 20 foot equivalent unit, otherwise known as "teu" is often used to describe the carrying capacity of a container vessel or the throughput of a container terminal.

The maximum payload mass for a 20 ft (6.1m) container is approximately 22,000 kg, and 27,000 kg for 40 ft (12m) container.

As the utilisation of containers has expanded adaptations for usage with non-traditional products has occurred. In particular their use for the shipping of grains is proving to be a very effective means of transportation.

Traditionally, ocean transport of grain is carried out in whole vessel bulk shipments. This is an effective means of transporting large quantities of product however, damage and contamination can cause problems which impact the whole shipment or hold-full. As more regulation and quality focus is brought to bear on any product for human consumption, the use of containers for grain shipments will likely increase.

Small modifications to a standard container are necessary to adapt it for grain transport. A false bulkhead is installed which acts independently of the doors. This is designed reduce movement of the grain and possible leakage.



A liner will be inserted in order to upgrade a basic container to meet the standard required for food and grains, thereby avoiding the cost of bringing the whole container up to "Food Quality" standard. Some importing countries have concerns with single use container liners because the disposal can be costly and the practice is not environmentally sound.

Loading the container with grain is generally 'low tech' in nature and is simply done by lifting one end of the container to a near upright or "tilt" position, the product is then fed into the container with the use of a conveyor or funnel shoot. Following loading the container is lowered back to a horizontal position and doors are sealed.

It is important that the packer does not overload the container, and once loaded, the container must be labeled to make all those in the transport chain aware of the nature of the cargo and to be aware of the potential risk when opening the doors!

Food quality regulation is robust in many countries and locally, the Australian Quarantine & Inspection Service (AQIS) will undertake inspection and verification procedures which are designed to make sure that the grain and containers meet legislation requirements.

Shipping containers will continue to be adapted for greater usage to meet the trends in global trade.

Contact us if you would like additional information.

**The Team at Vero Marine**