

# Reefer claims loss prevention

A loss prevention America Focus publication

## Phase 3 - Loading of the refrigerated container

**While we realize that P&I Club Members typically are not involved in the loading of perishable cargo in refrigerated containers for CY-CY shipments, we offer the following loading guidelines as best practices that can be passed on to suppliers, transloaders, cold storage operators and shippers.**

P&I Club Members may be involved with loading perishable cargo for CFS shipments and/or through bills of lading involving transloads to and from refrigerated containers, railcars and/or refrigerated truck trailers.

The shipping line typically arranges for the temperature and fresh air exchange (vent) to be set at the load port or off dock container yard, the shipper and/or their truckers and suppliers should check the refrigerated container to ensure that the temperature and vents are set according to the booking. The shipper and/or their suppliers should also check to make certain that there are no visible damages to the container and that the container is clean and free of any odours. The shipper should also check to ensure the generator is operating and has adequate fuel for the trip.



### **The unit should be pre-cooled with the doors closed**

After the unit has been pre-cooled, the unit should be shut down while the actual loading is taking place to prevent accumulation of moisture on the evaporator coil.

It is very important that the cargo is cooled to its desired carrying temperature prior to loading. The reefer unit is not intended to cool cargo and this could result in excessive moisture on the evaporator coil.



### **Chilled Cargo Stowage Guidelines**

For all chilled cargo such as fresh fruits, vegetables and chilled meat, we recommend that the hand stowed cargo or unitized, palletized cargo be stacked as a solid block in the seagoing container without any space between the cargo and the walls of the container. In all instances, cargo should never be loaded above the red line or up against the container doors, which may block or hinder conditioned air circulation and, potentially result in substandard temperature management. Slip sheets or similar materials block air circulation and should never be used. The goal of proper stowage is to allow air to circulate through and around the chilled cargo.

For hand stowed cargo, the cargo should be stowed as a block with one carton on top of another with little or no separation between the load and the walls of the container. There should be no space between the cartons since a gap between the cartons can cause air to short cycle through the gap. When short cycling occurs, the air does not find a path back to the refrigeration unit, resulting in insufficient and non-uniform cooling of the cargo.

## Frozen Cargo Stowage Guidelines

Frozen cargo should be block stowed as a solid block in a similar fashion to block stowing chilled cargo. There should be no gaps in the load pattern. Moreover, the goal of properly stowing frozen cargoes in refrigerated containers is to develop an envelope of cold air around the frozen block stowed cargo thereby shielding the frozen cargo items from heat transfer across the walls and floor of the container. The sidewall fluting of the container permits cold air to circulate around the perimeter of the load.



If loading is to take place at the load port or at the shipping line appointed off dock facility, a surveyor should be appointed to inspect the cargo and record receiving temperatures.

After loading is completed, install calibrated temperature recording devices inside the container and record the date, time and placement of the recorder on the recorder label.

Do not load cargo above the highway weight regulations. In the United States, the maximum cargo weight that can be loaded into a 20 FT reefer container is 34,900 lbs. (15,830 kg) and a 40 FT high cube reefer container is approximately 41,500 lbs. (18,824 kg). The actual amount of cargo that can be legally stowed in a refrigerated container will be dependant on local and federal regulations and the weight of the refrigerated container, chassis, tractor, generator set and amount of fuel.

Acknowledgement:

Dr. Pat Brecht, PEB Commodities, Inc.

**George Radu, Thomas Miller Insurance Services (San Francisco)**

Email: [George.radu@thomasmiller.com](mailto:George.radu@thomasmiller.com)

**Brendan Kruse, Thomas Miller (Americas) Inc. (New Jersey)**

Email: [Brendan.kruse@thomasmiller.com](mailto:Brendan.kruse@thomasmiller.com)