

FACT SHEET2/98

November 1998

**CARRIAGE OF HARD FROZEN BEEF CARCASSES
IN REFRIGERATED CONTAINERS**

**INFORMATION FOR SHIPPERS, PACKERS, SHIPPING LINES
AND THEIR AGENTS**

While the use of freight containers substantially reduces the physical hazards to which cargo is exposed, improper or careless packing of cargoes may result in serious and costly damage to the container.

The Australian Chamber of Shipping has been informed by a number of its members that the shipments of hard frozen beef carcasses in Integral Refrigerated Containers have resulted in damage to the internals of the container due to improper handling procedures adopted by those stuffing and de-stuffing the contents.

Following is a guide-sheet for the information of exporters, importers and their agents including personnel responsible for packing and unpacking containers in an effort to reduce the incidence of container damage.

NATURE OF CARGO

Hard frozen carcasses are irregular in shape, with numerous protrusions/bones and knuckles. The size and shape of the carcasses makes it difficult to get a block stow and as a result the voids may present space utilisation problems or conditions not conducive for ideal air circulation. Therefore, specific load planning of stowage is necessary.

During transport the carcasses may lock or freeze together. It has been reported that these carcasses may then require to be forcibly dislodged or dragged from the container. Stowing of cargo is usually performed with mechanical assistance and manual placement of cargo.

De-stuffing is usually by dragging or manhandling the carcasses out of the container.

INTERIOR DAMAGE (Linings, flooring and Insulation)

Interior damage is caused by impact of the heavy hard carcasses as they are forced or thrown to the stowage position. The ceilings suffer indentation when the carcasses strike them when topping-up the stow. Door panels are invariably damaged when doors are forcibly closed against protrusions. Floor damage is high and tends to occur on discharge as the stack is pulled apart and the upper carcasses are allowed to drop and impact the airflow floors.

MACHINERY DAMAGE

The front end of the container houses the machinery, its evaporator and the air circulatory mechanism. This machinery is protected by grilles and reasonably robust panels, which can withstand normal wear and tear associated with acceptable methods of loading. However, the impact from careless stowing

(improper handling - such as throwing of heavy cargo) of frozen carcasses which have sharp protrusions, frequently damages or distorts the panels and machinery. This is particularly evident at the upper levels when carcasses are forced into position.

CONSEQUENCES OF DAMAGE

Utilisation of heavy-duty stainless steel lined containers has resulted in a reduction in breakages to the linings. However, this has been unable to prevent distortion to the lining and crushing of the adjacent insulation. In severe cases; the sealant may be dislodged, covings bent or broken and panel connectors at wall junctions with roof and floor damaged. It is common for a container poorly loaded with frozen carcasses to have numerous dents.

Repair costs are very high. Of equal concern is the fact that the overall appearance and serviceability of the container is heavily downgraded thus shortening its life and reducing its acceptability for other cargoes.

Damages to the insulating envelope will result in loss of thermal efficiency leading to a reduction in insulating properties.

SAFE CARRIAGE OF CARGO

If the cargo is stowed to the level of the roof, above the marked clearance, airflow is severely disrupted. The nature of the cargo may also cause the air to short circuit at the machinery end. The combination of these two factors will restrict the airflow at the rear or door end, resulting in thawing or other problems associated with the carriage temperature of the cargo.

Door end damage can result in seal breakage leading to air leakages, which will effect the safe carriage of cargo.

The most serious problem caused by improper handling and stowage of carcasses is the damage to the machinery. This can lead to jammed fans, refrigerant losses or overloaded motors. The plant then fails to function and cargo will be affected due to absence of refrigeration. Many of these issues can only be addressed if the container is de-stuffed. Therefore, if a failure occurs at sea, Shipping Lines are not in a position to rectify the fault. Furthermore, if a machinery failure occurs as a consequence of poor packing methods the container operator is likely to reject liability for cargo damage.

It is essential to ensure that cargo is stowed and secured to prevent movement inside the container. Consideration should be given to the fact that sea voyages are undertaken in a variety of weather conditions likely to exert a combination of forces arising from the ship's movement, including: pitching, rolling, heaving surging, yawing and swaying. Securing methods utilised for land transport may not always be adequate at sea. Special attention should be given to building a secure face of the cargo to prevent collapse of the stow when doors are opened for Customs inspection or unpacking the container at destination.

Due to the excessive costs in relation to damages that can be clearly identified as being caused due to poor or improper stowage, Shipping Lines are now seeking to recover the costs of repair from responsible parties. Handling and loading of carcasses in a manner which minimises impact and damage to all internal surfaces is the responsibility of the Shipper/Packer.

For your reference some photographs of typical damages caused by improper and poor stowage are attached.

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