

CARGO INSURANCE SURVEYING –
STOWAGE IN CONTAINERS AND
INSUFFICIENCY OF PACKAGING

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This address should perhaps, more appropriately, be made to Freight Forwarders or those responsible for stowing containers or preparing goods for overseas transportation. There certainly seems to be a lack of understanding by some of those involved in this business as to the requirements to prepare cargo from the hazards of condensation.

There is also, it seems to me, to be a lack of knowledge of what can physically happen at sea as a result of rough weather.

Condensation:

- 1) Cause of condensation
- 2) Lack of inhibitors
- 3) Lack of silica gel and whether it is effective
- 4) The use of plastic and paper wrapping

Taking these in order

- 1-1 The cause of condensation can be varied, but primarily it is due to the cargo itself having a high moisture content.
- 1-2 The packaging materials such as wooden crates being constructed of green timber having an inherent ability to create moisture.
- 1-3 A wooden container floor still wet after cleaning and not been properly dried out before cargo is loaded.
- 1-4 The lack of ventilation within the container. Most 20ft's only have 2 very small slots, one on each side of the container, which sometimes are taped over because fumigation was required to the previous cargo and the tape has not been removed prior to the packaging of the current cargo.
- 1-5 On a long voyage heat will build up enough to allow condensation to occur. This rises to settle on the inside of the roof and over a long period of time the moisture drops down onto the cargo.
- 1-6 Transshipment on a voyage from the Northern to the Southern Hemisphere at Singapore or Hong Kong can mean a container could be waiting on a wharf for about a week at high ambient temperatures creating internal temperatures above 50°C which can be an ideal situation for condensation to be created and possibly never dry out.

Methods to avoid impact of corrosion

- 2 The use of inhibitors on bare metal surfaces can be very successful as long as they are applied properly and evenly. It is a messy job and various types can be used.
- 2-1 Some are spray cans

2-2 Liquids that can be painted on with a paint brush

2-3 Others are more in the form of a grease or a wax coating.

They can all do the job as long as total coverage is achieved. Unfortunately because it is a messy job I suspect that the most junior member of the staff is required to do this job and does not exercise all the care that may be required. Gaps occur resulting in corrosion on the bare surfaces

- 3) Silica Gel. I believe that silica gel is quite useful but it really only removes dampness rather than severe condensation. It will certainly soak up moisture but in the worst situations silica gel itself holds the water to the extent that further condensation may occur.
- 4) Plastic wrapping over a machine may protect condensation falling from the roof, but if the cause of condensation is inside the tent then there is a real problem. Paper lining the walls of containers reduce the impact of the inner steel wall gathering condensation. Paper placed over the top of cargo can assist in stopping moisture dropping from the roof area.

Resulting Damages

The worst examples I have seen relate to the movement of second hand machinery being shipped from one branch of an international company relocating their operations or passing on to their New Zealand branch machinery which is redundant in their own premises in, say, the UK.

The overseas company's engineering staff are told to dismantle the machinery so that it is in reasonable sized units to go into containers. This is carried out and sometimes the same staff load it into containers. At other times, they employ a so called specialist packaging company to do the loading. In the meantime, no one has taken responsibility for applying inhibitors or oil to all the bare metal surfaces. If condensation does build up within the container, those metal surfaces will become extremely rusty.

If the cargo is loaded into an open topped container with tarpaulin top and underdeck stowage has not been agreed as between the Shipper or Freight Forwarder and the Shipping Company, on deck stowage can, in bad weather, allow salt water to gain access causing devastating corrosion.

Stowage within the Container

The use of timber dunnaging, webbing strapping, wire rope, chains, and steel strapping are common to secure an uneven load into a container. Some methods can be quite good others are hopeless.

I have a preference for webbing strapping with ratchet tiedown, but they are rare, next best is wire rope and shackles. The worst in my view are steel straps which have no give whatsoever and can break probably by say a major jolt or movement within the container. The manufacturers of some strapping maintain they have a breaking point of several tonnes but that is probably exercised in a laboratory in stationary conditions.

Quite often heavy and large machinery may be secured in the container by timber 4 x 4's being nailed to the floor of the container, all the way around the base of the machinery. But nothing is placed between the walls of the container higher up on the piece of equipment. Such items are sometimes not even tied back across the top to the eyes that exist along the bottom of the sides of the container to allow such tying down.

Movement which allows machinery to jump out of the timber from the floor will cause the machine to move around and cause damage not only to the machine but also the container.

LCL Cargo

LCL cargo is loaded generally at a freight forwarders premises or some storage contractor where goods from a variety of exporters are gathered together and loaded into the container by that operator. I have found that palletised cargo in its original form has been broken down by the, freight forwarder, to maximise the space available. It is not uncommon for large items which have no great protection to be laid out on the floor of the container and other items with a pallet base placed on top squashing the cargo underneath.

Vinyl flooring in long rolls would be a typical example but it is more usual to have vinyl flooring loaded into FCL containers. The freight forwarder has no knowledge of the contents of the cargo sometimes and what it would specifically require in the way of additional protection in stowage.

I am of the view that some freight forwarders are working against the clock and scant regard is given to both the loading and securing and reliance is made upon squeezing the packages into a tight space will be good enough. That is satisfactory as long as there is not a collapse caused by the cargo at the lower level buckling under the weight from above.

Difficulties also occur upon arrival at destination when another freight forwarder or carrying company is required to devan the container without the ease of forklifts to be able to lift pallet loads of even size which have been broken down. Large items can be very roughly handled as there seems to be no other alternative to pull the cargo out from the container without the use of ropes or chains.

For all that, in my experience I have found that LCL cargo by sea is preferable to air freight where there are even more problems in loading cargo into the hold of passenger aircraft for long journeys involving transshipment.

Transportation by airfreight needs another paper sometime, but I do recall a shipment of frozen fish from Christchurch to Brisbane where it was thought that the normal temperature within the hold of the aircraft of about +4°C there would be little chance of a complete thawing for that transit except that on this particular flight a dog was being transported in the hold and the temperature had to be raised to +15°C meaning that the fish thawed and was rejected. The limit of USD20 per kilo was nothing like enough to pay for that very expensive fish.