



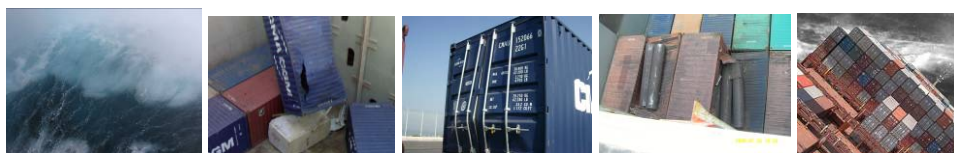
PACK THE CONTAINER (General advices)

HAZARDS

Combined cargo transport units like shipping containers will often start the transport on road, continue at sea and then may be end up in a rail transport. The cargo must be stowed as dry as possible and secure in or on the right type of container to withstand the forces caused by movements and accelerations from all the involved modes of transportation.

BEST PRACTICES

IT IS SHIPPER'S RESPONSIBILITY TO BRACE AND SECURE THE CARGO INSIDE A SUITABLE SHIPPING CONTAINER AND IN SUCH A WAY TO PREVENT CARGO DAMAGES-SHIFTING-SLIDING AND TIPPING IN ALL DIRECTIONS (foreward, backward and sideways)

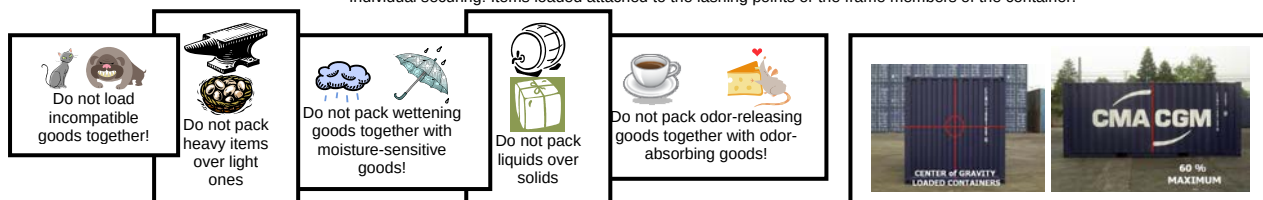


GOODS SAFETY =

SUITABLE CONTAINER (« Max Gross » not exceeded-Good weight distribution...)
+ CONTAINER IN GOOD CONDITION (Inspection before stuffing)
+ PRELOADING PLAN + DRY AIR + NO EXCESS LIQUIDS (oil, water, fuel...)
+ COMPACT LOADING* or INDIVIDUAL SECURING **

*Compact loading: No gaps or gaps filled with resilient material or airbags.

**Individual securing: Items loaded attached to the lashing points or the frame members of the container.



Use dunnage:

- o To avoid sliding.
- o To protect cargo from contacts.
- o To support cargo loaded on top of another.
- o To spread the weight of the cargo on the container's floor

Increase friction to avoid sliding:

- o rubber pads or mats or dunnage
- o Tight stowage to block the cargo.
- o Fill void spaces to the sides or between goods with blocking material.

Materials	Coefficient of friction, μ
Steel – Steel, dry	0.1
Steel – Steel, wet	0.0
Steel – Rubber	0.3
Steel – Timber (wood)	0.3
Timber (wood) – Timber (wood)	0.4

CONTAINER CLIMATE WARNING

- **Inside temperature:** At 25°Celsius (77°F) the air temperature inside a steel unit can rise up to 50° C (122°F).
- **Condensation:** The lower is the cargo water content, the greater is the temperature/Dew point difference and the lower is the risk of condensation.

Cargo to be dried out, liquids drained from used machineries-spare parts-motors-gear boxes to avoid leakage.



MORE INFORMATION

Logistics– Guidelines for the use of containers

Safety & Environment Team Site – Cargo Safety Security – Best Practices