

**OUT OF GAUGE CONTAINERS: CARGO SECURING BASICS**

**CMA CGM IS CURRENTLY EXPERIENCING SERIOUS DAMAGES PERTAINING FROM IMPROPER SECURING OF CARGO UNITS ON FLAT RACK CONTAINERS.**



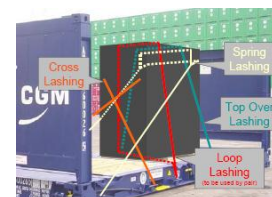
**OVERVIEW**

Lashing a cargo unit is intended to prevent it from moving longitudinally or laterally and to stop it tipping.

Lashing refers to the use of strapping, chains, steel wire, ropes and other securing materials which are fixed, on one hand, to the package and, on the other hand, to the container.

**TYPES OF LASHING**

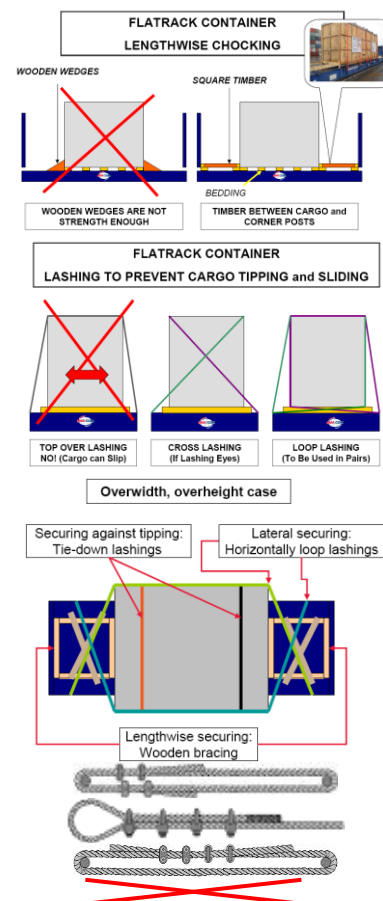
- Top Over Lashing: Increase friction only.
- Cross Lashing: Prevents sliding and tipping but needs securing points on the cargo unit.
- Loop Lashing: Prevents transverse sliding and tipping but to be used by pair.
- Spring Lashing: Prevents longitudinal sliding and tipping.
- Round turn lashing: Ropes or belts wound around a piece of cargo. Not recommended as the cargo can move freely in the loop.



**BEST PRACTICES**

The important factors that determine the effectiveness of the lashings are the quality of the materials and the fixing points as well as the directions in which the lashings work.

- The weight of the cargo unit does not exceed the container Max Payload and the container floor load limit (see BP card "Container weight limits").
- Gravity center: As close to the centre of the container, to an height not exceeding the limit specified by Shipping Line's instructions (CMA CGM SSE department do recommend not to exceed the height of the container end walls").
- Shipper provides the Shipping Agent with accurate description of cargo dimensions and extent of oversize (For example, an overlength cargo can exceed the distance between quay crane portal beams... ).
- Using dunnage, top over lashing you increase friction and you avoid steel to steel contact.
- Check container lashing points MSL (7/8" # 49 kN # pull strength 5000 kg or 1" # 65kN).
- Shipper/Packer assess the securing arrangements according the IMO "Code of Safe Practice for Cargo Stowage and Securing" (CSS Code). See below BP card.
- Ship's officer, Surveyor (the NCB for the USA) or Terminal Operator to inspect the container and the securing arrangement prior loading. The shipment is rejected if:
  - Container capabilities are exceeded.
  - Corner castings are usable for lifting (not hidden by piece(s) of cargo, crate(s)).
  - Lengthwise, transverse or securing against tipping or sliding are insufficient or inadequate.
  - For under deck stow, it overhangs too near the container corners (at least 30 cm from outer end of the flat needed for cell guide clearance).
  - Corrective action cannot be performed on site
- Cable wire eyes:
  - U bolts on the free end, 4 clips (3 clips achieve only 75% of cable MSL), spaced with 6 rope diameter apart.
  - Clips are tightened to a sufficient torque If free end of the wire cable is crushed to half the thickness of the wire.













**MORE INFORMATION**

- CMA CGM intranet Mira links:** Best Practices Cards : « [Cargo Securing Assessment](#) » « [Packing Container Weight Limits](#) » « [Cargo Stowage and Securing: NE P&I](#) » « [Safe Transport of Containers by sea: ICS-WSC](#) »
- Web:** « [Container Handbook: Securing the product in the container](#) »  
 « [Container handbook: Permissible loading capacity of container](#) »  
 « [European Guidelines on Cargo Securing for Road Transport](#) »  
 « [Industry Guidance for Shippers: Safe Transport of Containers by Sea](#) »

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<b>DON'ts</b> <span style="color: red; font-size: 2em;">X</span>	
Poor lengthwise securing with wooden wedges	
Caterpillars are partly outside the container	
Inadequate lateral securing	
The container is full, wooden wedges are not strength enough	
No roof bows, tyres not lashed together and to the container	
No lateral and no longitudinal securing, straps only increase pressure onto container's floorboard	
Wire cables are loose, no transverse securing	
Handling with slings and elephant hooks/top lifting lugs	
No lateral securing	
Cargo shifting due to lack of wooden dunnage and damaged floorboard	

<b>DO's</b> <span style="color: green; font-size: 2em;">✓</span>	
Lengthwise securing with wooden bracing, transverse securing with loop lashing	
Axles have been raised and the vehicle stands on wooden sleepers.	
Lateral securing with wooden wedges supported on container stanchions	
Lengthwise securing with wooden bracing, cross lashing, top over lashing and loop lashing through forklift pockets...	
Open Top: Roof bows in place as much as possible and tyres lashed together and to the container	
The sailing boat is secured in all the directions	
Crosslashing with chains	
Handling with Overhigh frame	
Lateral securing using loop lashings	
Wooden dunnage 8' long 6"x6"	

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