

Safe Container Loading and Transport

A FRONTLINE WORKER'S COMPANION GUIDE TO SAFETY LAW IN AUSTRALIA AND NEW ZEALAND

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This is a condensed version of a larger Guide - Safe Container Loading and Transport Guide: A Guide to Safety Laws in Australia and New Zealand. This companion guide is intended as an easily digestible tool for front-line container loading personnel located outside Australia and New Zealand.

The process

Safe container transport focuses on load distribution and restraint, gross weights, and dimensions.

This involves:

- **Consignment Planning:** Ensure containers are suitable and free from damage.
- **Packing:** Secure cargo properly to withstand transport forces.
- **Transport:** Handle containers carefully across all modes of transport.
- **Delivery:** Safely unpack and report cargo condition.

Stakeholder responsibilities

Consignor: Provide adequate packaging.

Packer: Inspect and secure the container and cargo.

Shipper: Declare cargo, including Verified Gross Mass (VGM).

Transport Operators: Handle containers with care.

Consignee: Unpack safely and report cargo condition.

Preparing containers for shipping

MAXIMUM GROSS WEIGHTS

- Do not exceed payload limits.
- Verify container's CSC Safety Approval Plate.

VERIFIED GROSS MASS (VGM):

- Provide VGM before loading onto ships.
- Use approved weighing methods:
 - Method 1: Weigh loaded container.
 - Method 2: Weigh contents and add tare weight.

Load restraint and packing

Load restraint ensures the load within the container is adequately restrained in accordance with ANZ legal requirements when unloaded from a ship and ready to be transported by road.

Packaging

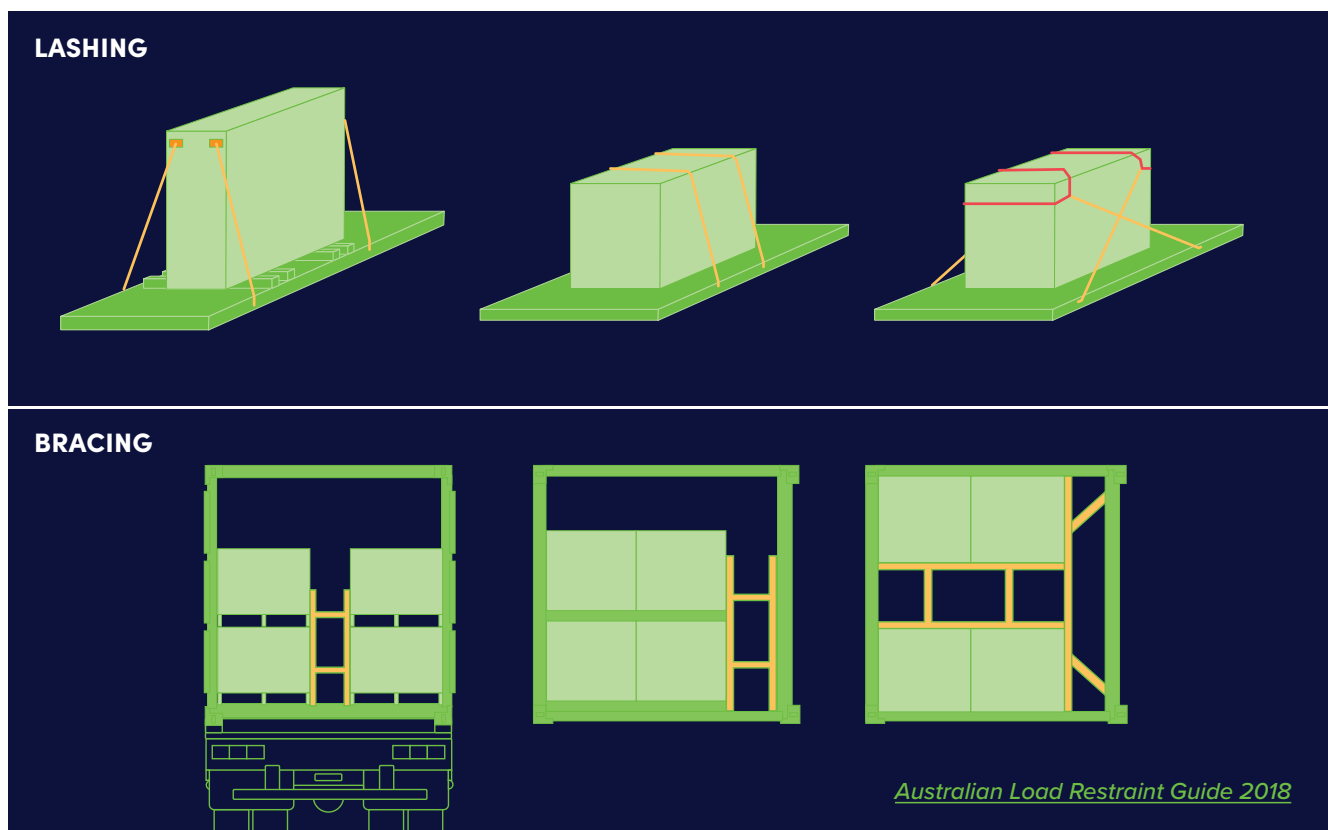
- Use adequate packaging inside containers to withstand stacking and transport forces.
- Ensure all packaging types can handle normal transport pressures.

Load distribution

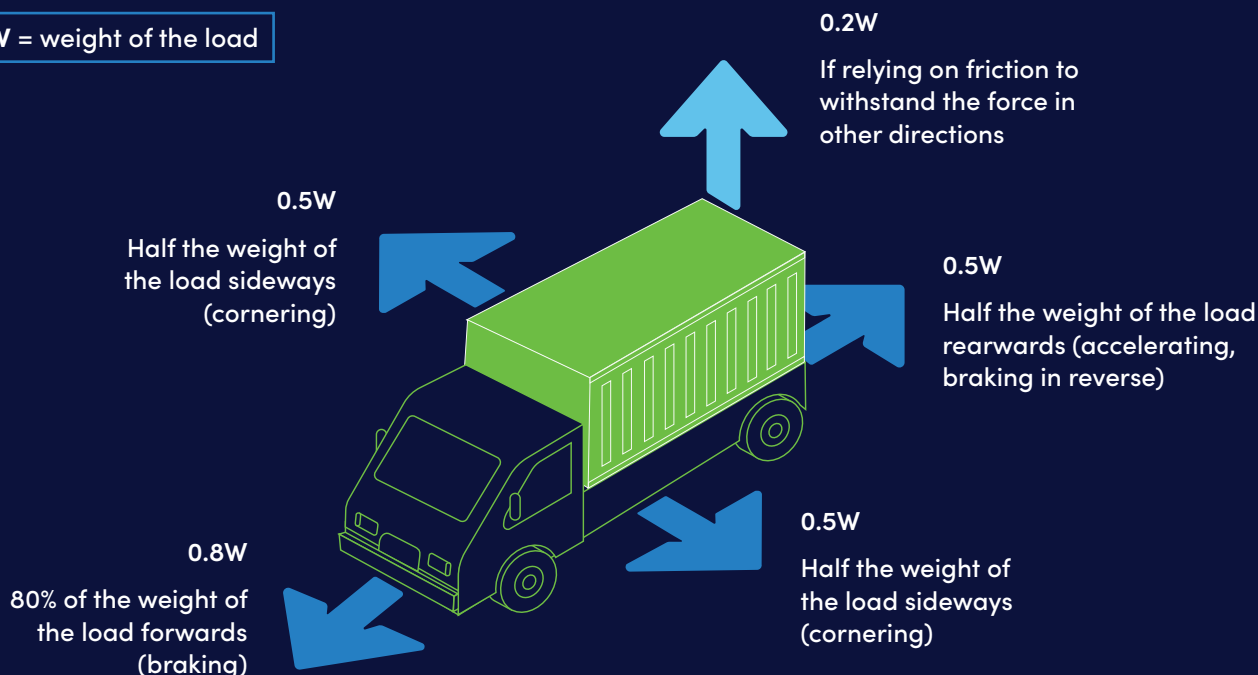
- Distribute heavy cargo evenly (side/side, back/front/ and up/down) and correctly position the centre of gravity.
- Avoid irregular layers.
- Stow heavy goods at the bottom and lighter goods on top.
- Inform carriers and consignees of any uneven loading or centre of gravity that is more than 10% of the container length away from the centre of the container.
- Keep tainting and sensitive goods separate.
- Follow handling instructions on packages.
- Aim for tight or secured stow using blocking, bracing, shoring, or lashing.

Load restraint methods

- **Securing (locking), blocking, or lashing:** Prevent cargo from sliding or tipping.
- **Tight stow:** Accept small gaps up to 15 cm; larger gaps must be blocked or consolidated.
- **Small packages:** Secure with dunnage bags or netting to prevent lifting.
- **Loose/secured stows:** Lash individual items to prevent tipping and sliding.
- **Corner posts:** Use to prevent fore and aft shifting, especially for rail shipments.
- **Floor bracing:** Block and brace to outer floor edges; do not use walls or doors.
- **Additional strength:** Block and brace against the rear header to prevent door and cargo damage.



W = weight of the load



Australian Load Restraint Guide 2018

Recommendations

Lashing guidelines

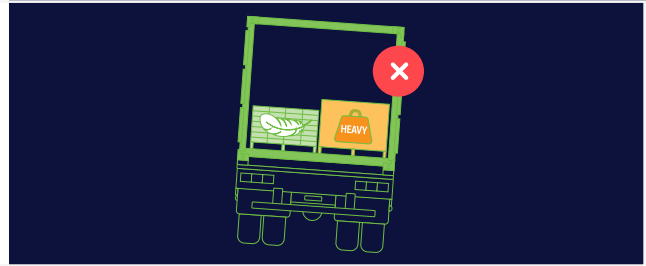
- Use corner posts for preventing fore and aft movement.
- Brace cargo to the container's floor edges to prevent lateral movement.
- Do not use container walls or doors for support.
- Block and brace against the rear header for additional strength.
- Distribute forces over a large area.
- Use non-slip materials to reduce sliding.
- Fasten lashings with hooks or shackles.
- Avoid overstressing the container structure.
- Do not overtighten lashings or use knots.
- Do not nail dunnage, blocking, or bracing to the container floor.
- Ensure that lashing and dunnage materials are in fit condition, sufficiently rated for the load and fitted properly.
- Ensure that individual packs/pallets within the load are packed and secured in accordance with these guidelines as well.
- Ensure gaps in stow do not cumulatively exceed 200 mm front to back and 100 mm side to side.
- Best practice includes taking photos as the goods are stowed and secured and providing them to the Shipper, Carrier and/or Consignee prior to shipping.

Legal requirements

- Load restraint systems must meet the Heavy Vehicle (Mass, Dimension, and Loading) National Regulation standards.
- Follow the ***Australian Load Restraint Guide 2018*** for safe and efficient load transportation.
- Loads within containers must be packed and secured so that they:
 - Retain their integrity during transport
 - Do not move within the container during transport
 - At a minimum, are capable of withstanding the forces shown below and that are likely to be experienced during transport
 - Will not adversely affect the stability or weight distribution of any vehicle carrying them
 - Will not dislodge from any vehicle carrying them.

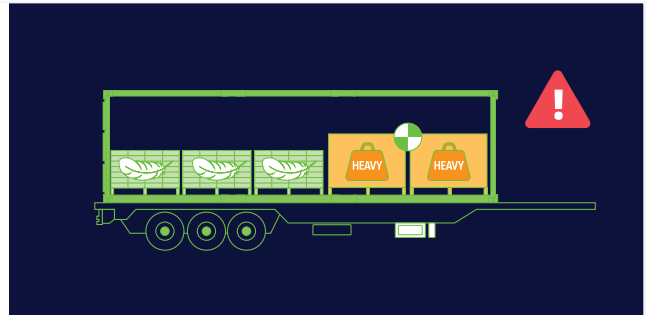
Make sure there is even weight distribution both across the width and preferably along the length of the container.

Uneven weight distribution may affect the stability of the carrying vehicle.

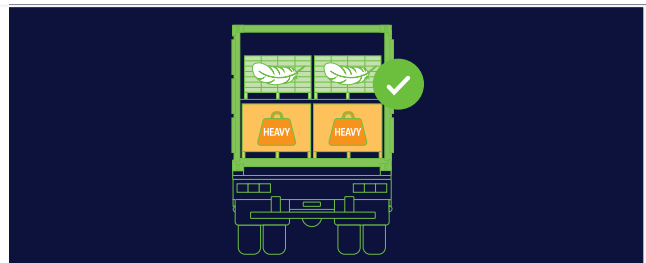


Consignors should advise drivers how a containerised load is packed, so they can understand the impact of the load on the vehicle's stability and drive accordingly.

Consignors should mark the centre of gravity on the container if it is more than 10% of the container length away from the container centre.



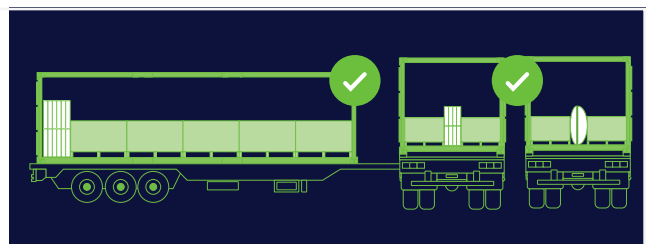
Load light freight on top of heavy freight to lower the center of gravity and increase vehicle stability.



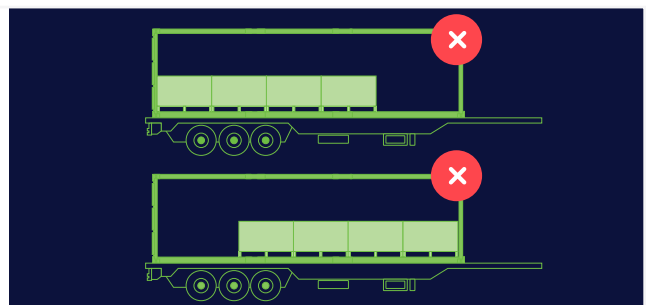
Pack loads tightly within containers to prevent the load from moving sideways or horizontally.



Fill gaps with empty pallets or rated dunnage, foam, custom framing or other suitable materials.



Do not leave gaps unblocked in containerised loads, because freight may move during transport and impact the container walls.



Packing completion tasks

- **Fumigation:** Treat cargo as per local laws.
- **Pest inspection:** Ensure container and cargo are pest-free.
- **Dangerous goods:** Apply placards and markings per IMDG Code.
- **Seal:** Use ISO 17712 compliant seal, record seal number, and ensure doors are closed.
- **VGM:** Determine and provide the Verified Gross Mass.

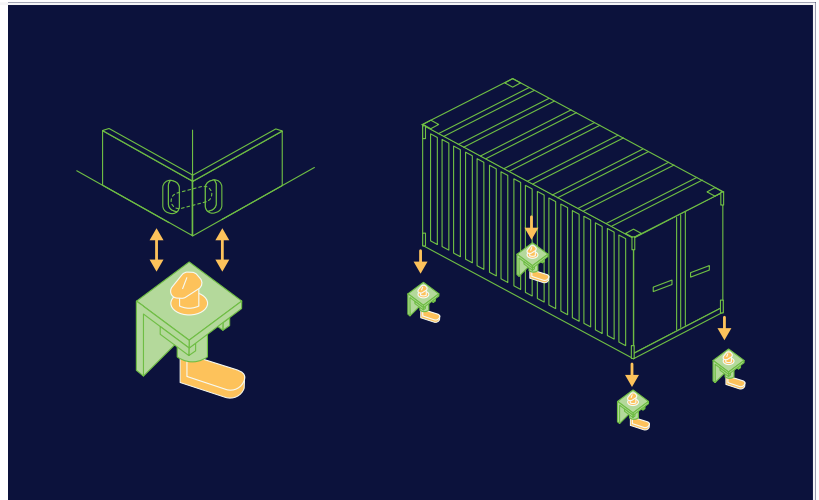
Transport of shipping containers

Australia's heavy vehicle safety laws set out specific obligations for transport operators and heavy vehicle drivers, as well as consignees and consignors, about the handling and transport of freight containers.

In relation to the carriage of containers by road, the *Australian Load Restraint Guide 2018* recommends:

Shipping containers and flat-rack platforms are equipped with corner castings designed to interlock with mating twist locks for lifting or restraint.

Restrain shipping containers with four twist locks.



Load containers with doors to the rear of the carrying vehicle at all times.

If doors are towards the front of the carrying vehicle, the forward restraint may not be adequate for heavy loads.



Receipt and unpacking of containers

- **Condition check:** Inspect container for damage; notify shipping line and logistics chain.
- **Seal integrity:** Verify seal matches transport documentation.
- **Hazard signs:** Look for high temperatures, leaks, or deformations indicating potential hazards.
- **Harmful atmosphere:** Be cautious of harmful gases from cargo or fumigants.
- **Pest inspection:** Ensure container and cargo are pest-free and comply with biosecurity requirements.
- **Risk assessment:** Conduct risk assessments for unpacking activities and use appropriate equipment.
- **Opening precautions:** Use a safety strap around inner locking rods to prevent door movement.
- **Cargo nature:** Handle low friction plates or high centre of gravity items with care.
- **Damage documentation:** Record and communicate any cargo damage or shifts to relevant parties. Take photos of the unpacking process and any damage.
- **Safety guides:** Follow state government safety guides for unpacking procedures and risk management.



ADDITIONAL SAFETY GUIDES ON AUSTRALIAN AND NEW ZEALAND SHIPPING

- SafeWork NSW: Guide for Unpacking Shipping Containers
- WorkSafe Victoria: Guidance Note on Unpacking Shipping Containers
- SafeWork Australia: Managing Risks When Unpacking Shipping Containers
- NHVR: Managing Risks of Transporting Freight in Shipping Containers
- WorkSafe Mahi Haumarua Aotearoa: Industry Guidance on Containers Inspection and Unpacking
- National Transport Commission Load Restraint Guide
- CTU Code

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