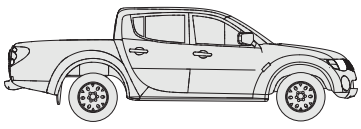
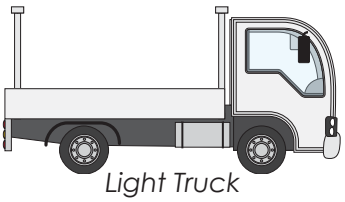
GBMA
Gypsum Board Manufacturers of Australasia

This Document:

- Provides guidance of minimum acceptable transport requirements when picking up Gypsum products from a member of GBMA on vehicles less than 4.5t GVM.
- Alternative load restraint systems or methods may be used provided they are supported by testing or engineering advice that demonstrates compliance with the NTC Load Restraint Guide 2nd Edition and the relevant state regulations.



Light Vehicle



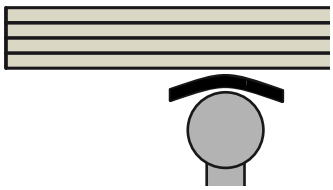
Light Truck

Load Restraint Equipment:

✓ Dunnage, where used, should extend to the edge of the product for support.

✓ Use square dunnage in good condition.

✘ Don't stack dunnage nor use rectangular dunnage on short edge.



Rubber between rack and load

✓ Corner protection is recommend to protect products and achieve full lashing tension.

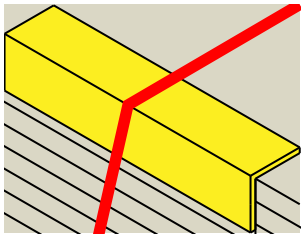
✓ Straps and ropes are to be fully tightened.

✓ Use tape to unitise small quantities and supplement restraint of small light loads.

Tape small quantities together to unitise

✓ When items are tapped, ensure no individual items can be pulled out by hand (maximum taped load is to be 15kg).

✓ Rubber (or raw cardboard) may be required between racks and product (improved friction and product protection).



Use corners to get full tension

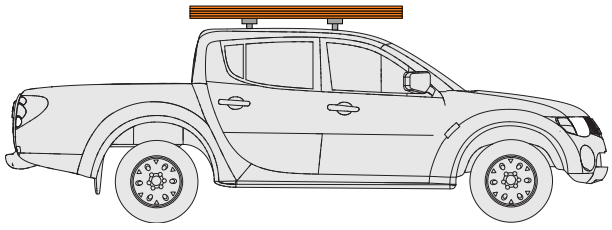
Roof Rack Requirements

✓ Up to 100kg for two heavy duty commercial roof racks (50kg each, see manufacturer). ^

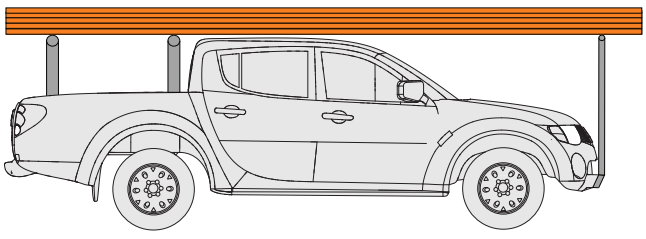
✓ Up to 150kg total on trade racks unless rated otherwise. ^

⚠ Where lashings attach to vehicle body, roof rack capacity may be overloaded. ^

⚠ Transporting heavy loads on racks is not recommended due to the adverse effects on vehicle handling and the ability of the racks to not fail under heavy braking. ^



Up to 100kg for 2 commercial roof racks ^



150kg for trade racks - engineered rating ^

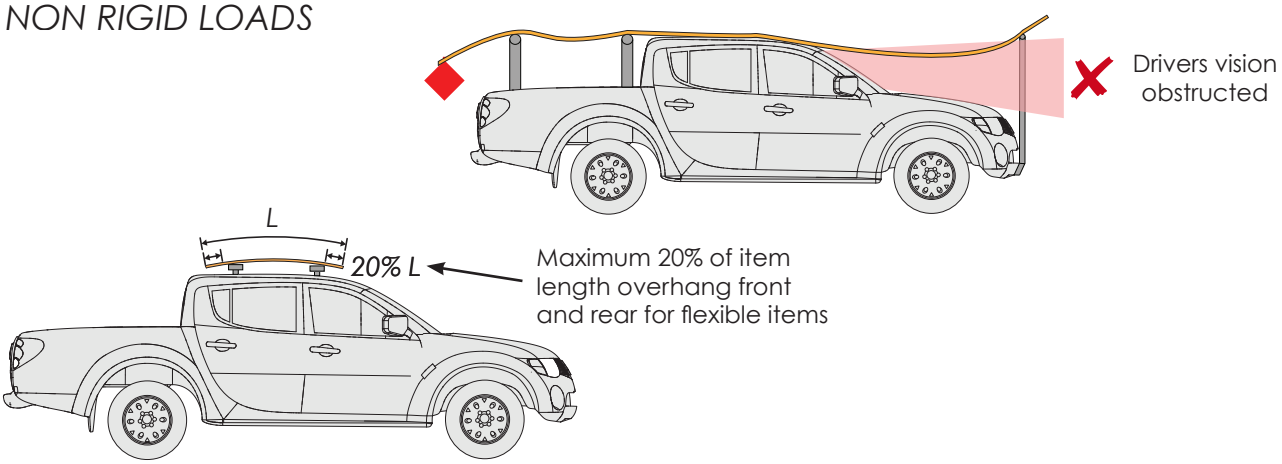
^ some racks will have a lower rating, check manufactures rating before use.

Load Dimension Requirements – Vehicles

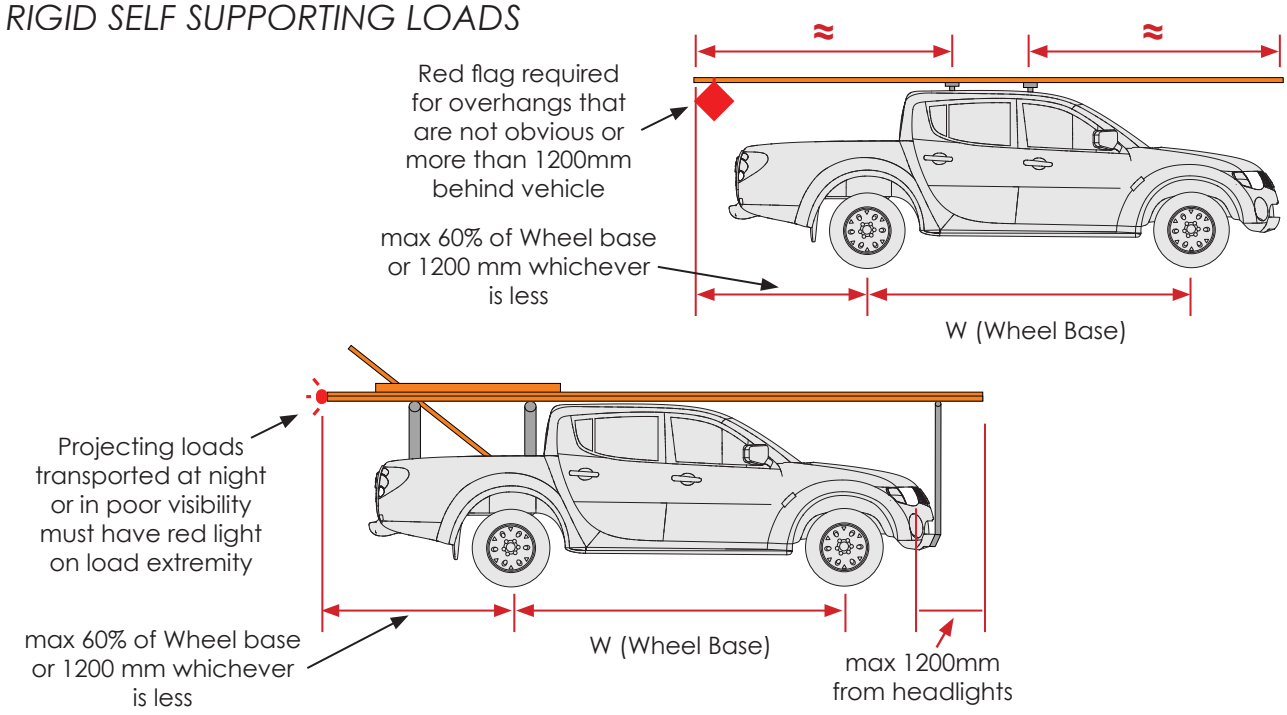
General conditions on loading:

- ✓ Maximum rear overhang is 60% of the wheel base or 1200mm from the rear axle, whichever is less. Front overhang is maximum 1200mm from the headlights.
- ✗ Do not load flexible products with an overhang of more than 20% of their length.
- ✓ Drivers forward vision must not be obstructed by product loaded on the vehicle.
- ✓ Loads projecting more than 1.2m from the rear of the vehicle must have a red flag attached of minimum size 450 x 450mm.
- ✗ Do not exceed manufacturers cargo rating.

NON RIGID LOADS



RIGID SELF SUPPORTING LOADS



Note: The above limits are for consistency and to ensure safe transport of loads. Some regulatory requirements may vary from state to state, however the above requirements are compliant for all states.

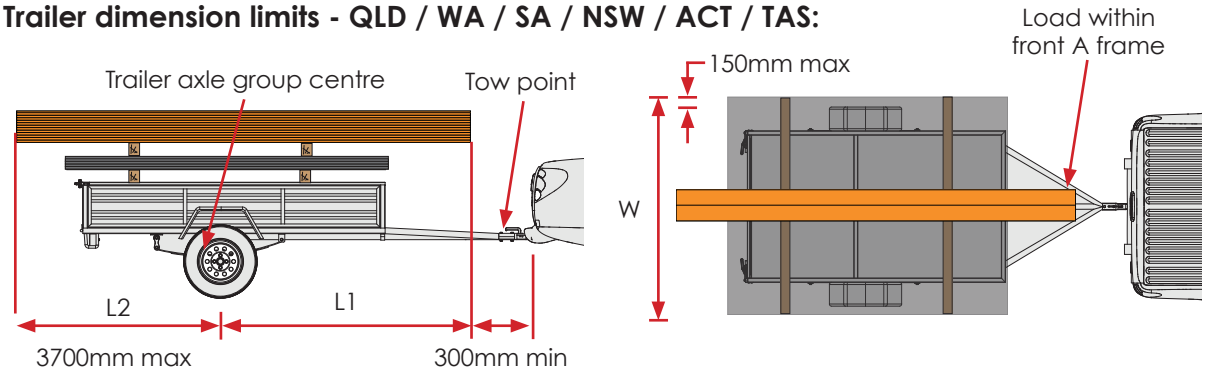
Load Dimension Requirements – Trailers

General conditions of loading:

- ✘ Do not exceed the trailer capacity or the towing limit of the vehicle.
- ⚠ Legal overhang limits may not be suitable for all items due to flex in materials.
- ✓ Product placement should provide some weight on tow ball (approx 5-10% of load).
- ✓ Product must be supported to prevent flex of more than 100 mm.
- ✓ Use a bright flag at least 450 mm square on the rear of any load not easily visible or projecting more than 1.2 m.(NSW and TAS require a red flag).
- ✓ Maximum side overhang is 150 mm. Total width must be less than 2.5 m.
- ⚠ The legal rear overhang requirement is "the lesser of:
  - the length of the load carrying area, or body, ahead of the rear overhang line; and
  - 3.7 metres."

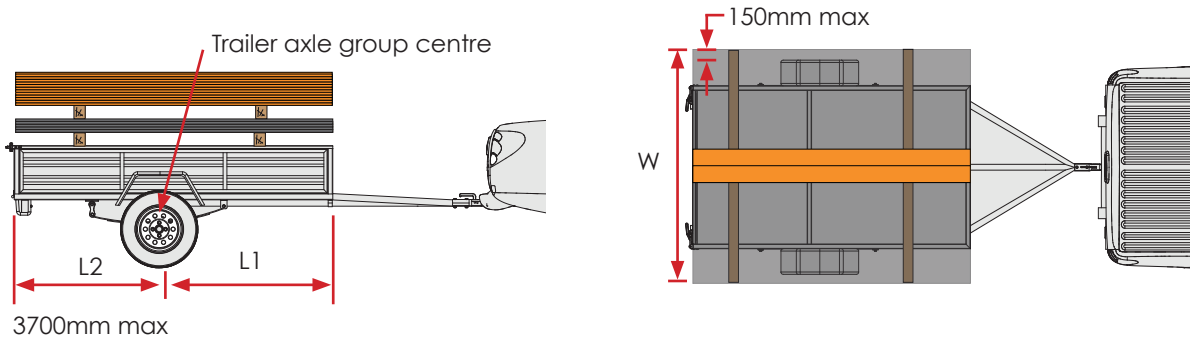
  The following include some interpretations.

Trailer dimension limits - QLD / WA / SA / NSW / ACT / TAS:



- ✓ L2 must be less than or equal to L1.
- ✓ Front overhang must maintain a minimum 300mm clearance to tow ball.

Trailer dimension limits - VIC / NT (unless on racks):



- ✓ L2 must be less than or equal to L1 where L1 is the distance from the axle centre to the front of the load carrying area (front of box for box trailer).

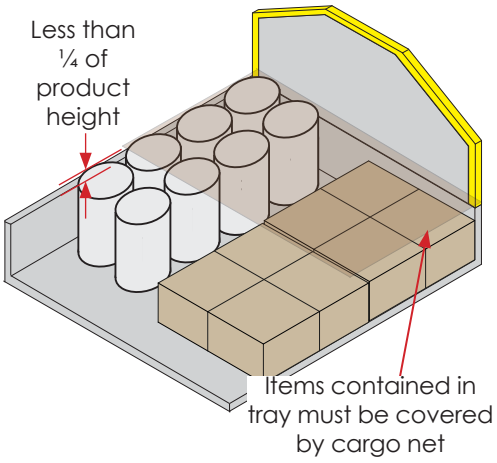
Load Restraint Requirements

General conditions:

- ✓ A Loads must be placed in the cargo area whenever possible. never place in an area with passengers.
- ✓ No low friction surfaces (i.e. Steel on Steel) - products must be placed on surfaces such as timber or rubber. Unless fully blocked in all directions.
- ✓ Where lashings are used for restraint, use table below to determine the required number of lashings.
- ✘ No elasticated lashing straps "Ocky straps" etc. are to be used.

Items contained in cargo area:

- ✓ Cargo area walls must cover at least ¾ of the freight. Tie down taller items.
- ✓ Cargo nets or covers must be used where lashings are not applied and where items may come out of the tray. The cargo net or cover must be of sufficient strength that it will prevent any object escaping (will not fit through any holes).
- ✓ Load items against the front wall of the cargo area or against other products that are blocked against the front.



Items restrained with lashings:

- ✓ Minimum two lashings on all loads.
- ✓ Belly-wrap or load choke round objects, bundles of objects (eg cornice), or multiple packs (more than 2 next to each other).
- ✓ All freight loaded with an incline must be lashed and where possible belly-wrapped or choked.
- ⚠ Check vehicle stability and rack capacity.
- ✓ All Freight is to be block forwards against headboard where possible.

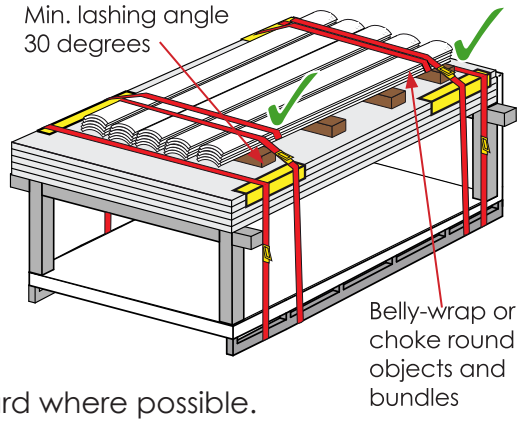
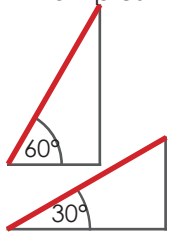


Table 2: Restraint capacity per strap for freight on rough sawn timber or rubber surfaces.

Lashing Angle	50mm webbing strap and ratchet	35mm webbing strap and ratchet	25mm webbing strap and ratchet	25mm hand tightened webbing strap	10mm or 12mm Rope Single Hitch
30° - 45°	300 kg	250 kg	100 kg	35 kg	50 kg
45° - 60°	420 kg	350 kg	140 kg	40 kg	71 kg
60° - 90°	520 kg	430 kg	170 kg	60 kg	87 kg

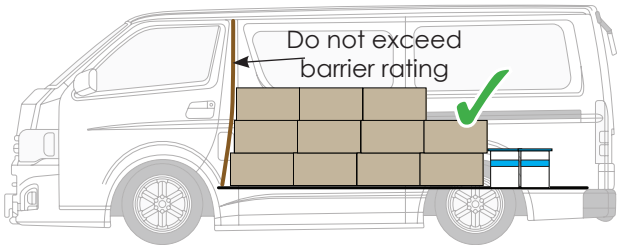
Restraint Angle Examples



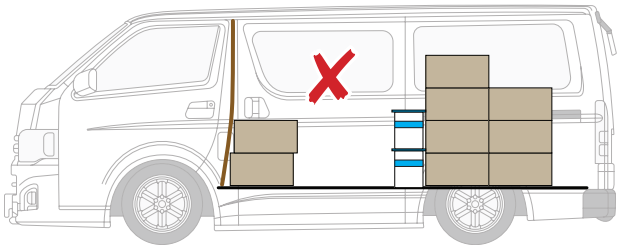
Load Restraint Requirements

Items contained in cargo area:

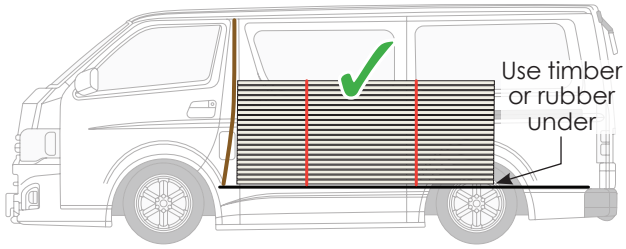
✓ Loads are to be stored in the cargo only and must not be stored in a compartment with passengers.



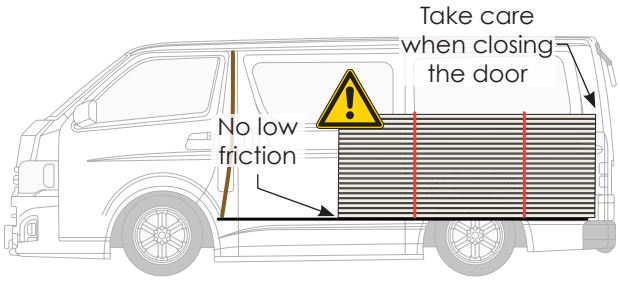
Distribute the load along the van, starting from the front blocked against the cargo barrier. Do not exceed manufactures rating for loose loads.



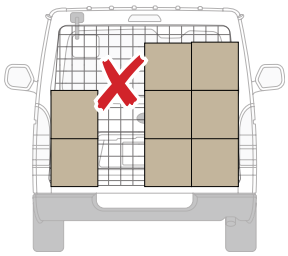
Don't leave gaps or have tall stacks that can slide or topple.



Heavier loads need to be tied down. Use rubber or timber under the load and aim to block forwards.



Avoid gaps. Where a gap is essential, tie the load down. Always load on rubber or timber.



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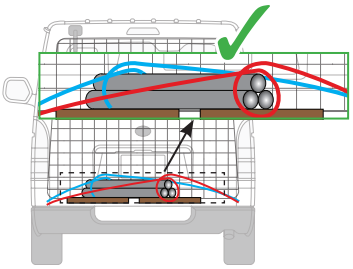
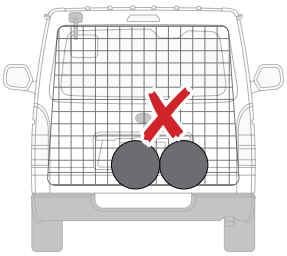


Thin items should be loaded diagonally and secured to the floor with belly wraps.

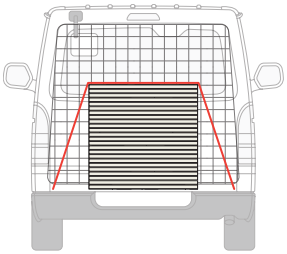


Secure items from rolling, Belly wrap round objects.

Table 3: Weight limits per restraint

Restraint angle	35mm ratchet tightened webbing	25mm ratchet tightened webbin	Rope with single hitch (truck knot)
30° - 60°	250 kg	100 kg	50 kg
60° - 90°	430 kg	170 kg	85 kg

Note: Use rubber, timber or uncoated cardboard under the load!



Secure heavy loads centrally across the vehicle with rubber or timber under the load.

Key Assumptions:

1. Static friction coefficient = 0.4.
2. Minimum lashing angle = 30°.
3. Restraint forces: 0.8g forwards, 0.5g rearwards and sideways, 0.2g vertical.