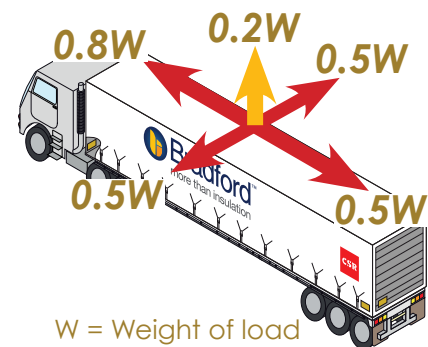


### This guideline:

- Covers transportation of Bradfords freight (including insulation batts, palletised boards, palletised rolls, etc) for linehauls transported via road.
- Is the loader and driver guide to the certification E00682-LRC1 to meet the loading performance standards listed in Schedule 7 of the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation* (22 February 2021).

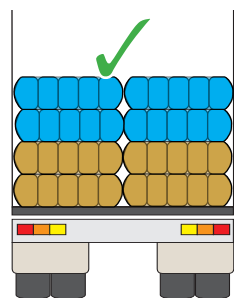
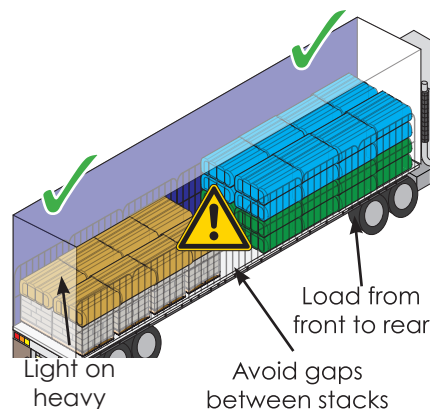
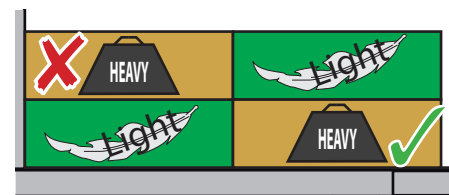
### Key Elements

- ✓ Trucks/Trailers with curtains and gates are preferred.
- ✓ Equipment must be in good working order.
- ✓ Insulation packs should be consolidated wherever possible.
- ⚠ Avoid loose individual packs of insulation if possible.
- ✓ Heavy products, such as foil rolls, should be unitised to a pallet.

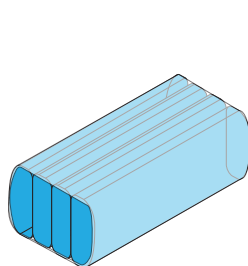


### Loading Rules - General

- ✓ Always load heavy items on the tray and lighter items above.
- ✓ Take note of any special rules for the product being loaded to avoid damage.
- ✓ Load from the front to the rear, so the load is blocked forwards wherever possible.
- ✓ Containment - To be secured by containment, there must be no large gaps (gaps are to be less than 100 mm to the front, 50 mm to the side and 1000 mm to the rear).
- ✓ Tie Down - If large gaps exist or the load is above the gates, or in excess of limits in Appendix 1 then tie-down must be used.

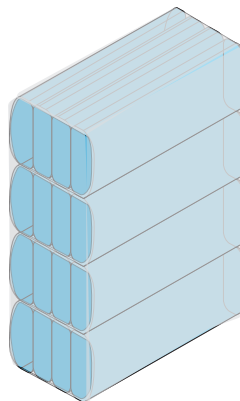


Butt items together at the centre. Note rated systems may have specific maximum gaps.

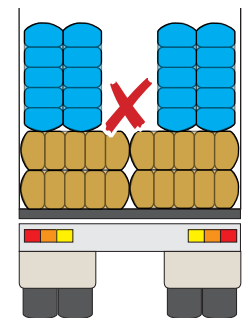


Unit packs

Multi or unit packs preferred






Multi packs






Don't leave gaps between items. This is likely to move in transit

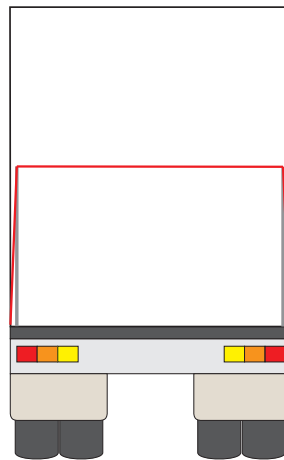
## Containment Systems - Rated Systems

-  For further information relating to the rating of gates and curtains, see Appendix 1.
-  Trailers with standard curtains and gates are generally not rated to provide restraint to the load.
-  Rated systems such as rated gates and/or rated curtains are certified to provide sufficient restraint to the load.

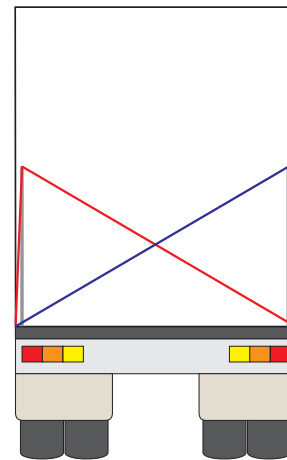


## Containment Systems - Non Rated

-  Trucks and trailers with curtains and gates are preferred for secondary benefits, (i.e. Weather protection).
-  For non rated gates, they must be reinforced with webbing lashings to provide the strength to restrain the load.
-  When not using a rated system, you can not rely on only the gates for any form of load restraint.






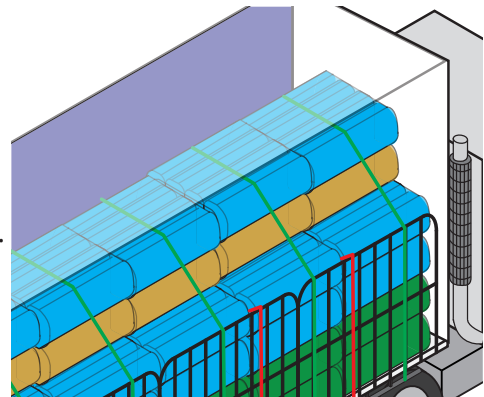
Lashed Gates



Braced Gates

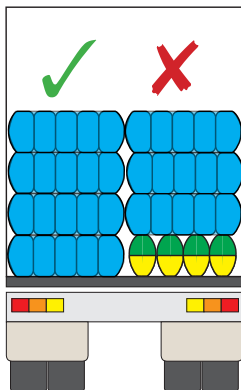
## Tie Down System

-  Tie down restraint involves attaching a webbing lashing over the load and utilising friction to provide sufficient restraint (lashed / strapped).
-  When the load is above a rated gate or lashed / braced non rated gate the load must be tied down.
-  If part of the load is above the rating of the containment system, they must be tied down separately.

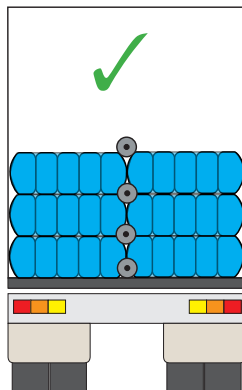


## Containment - General Loading (All containment systems - Rated Gates / Curtains or Pantech or non-rated Gates / Curtains)

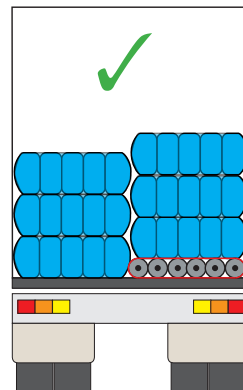
- ✓ This section is for containment systems only. This includes rated curtains, rated gates, pantech vehicles and non Rated Gates. Specific loading principals for each system and described in later sections.
- ✓ Loose items must be contained either through out the load between packs with no gaps or be packed and/or palletised to fit within the load. See the examples below.



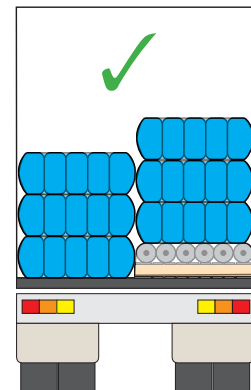
No loose packs on the bottom of a stack



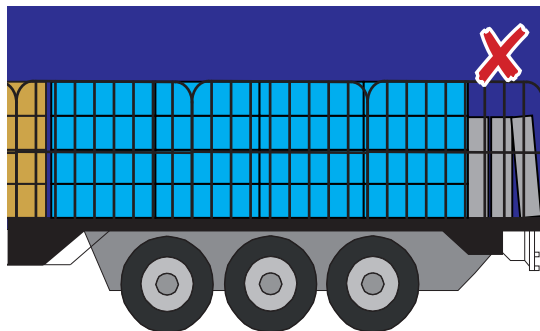
Insert loose items within the load with no gaps



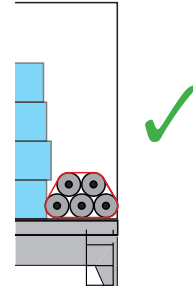
Package multiple items to uniteise them as one item



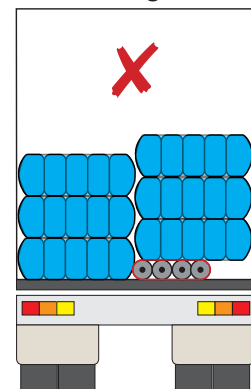
Securing to a pallet can increase packaging strength



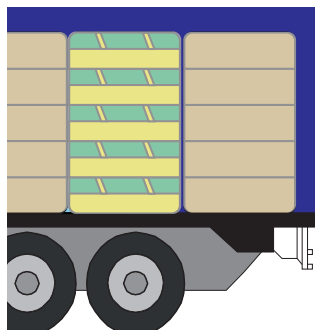
Do not stand loose item vertically at the back of the load



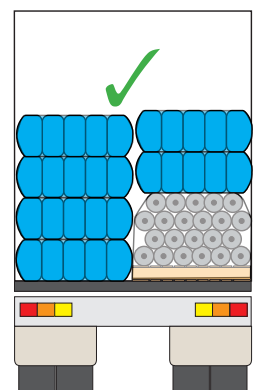
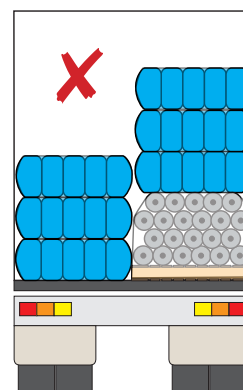
Package multiple loose items and load them at the rear of the



Do not load packed items at base of load if it will affect stability



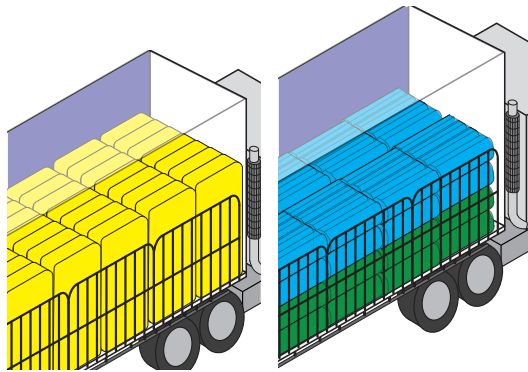
Load solid object such as multipacks or pallets in the last row to prevent the load falling during unloading



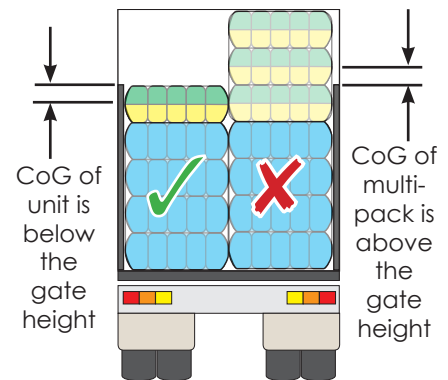
Ensure loads are even side by side

- ✓ When loading with pallets ensure they are evenly spread side by side where possible.

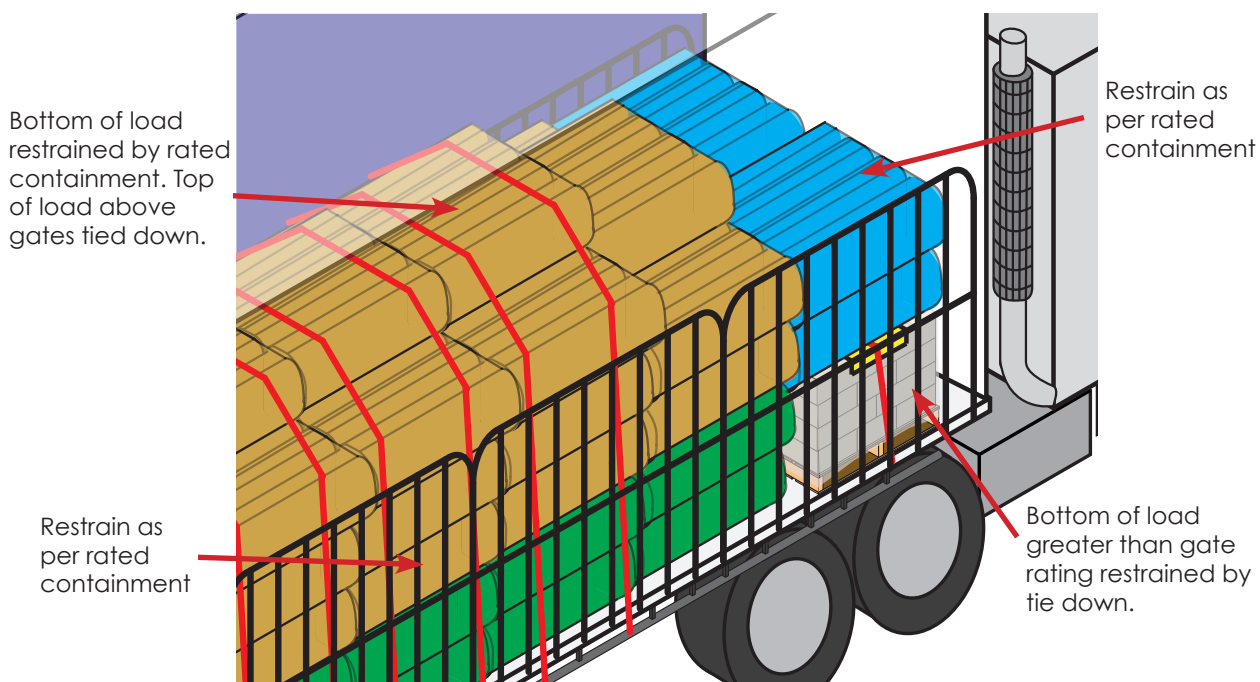
## Containment - General Loading






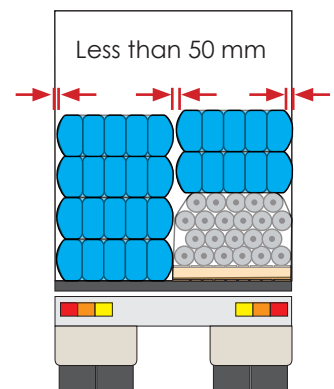
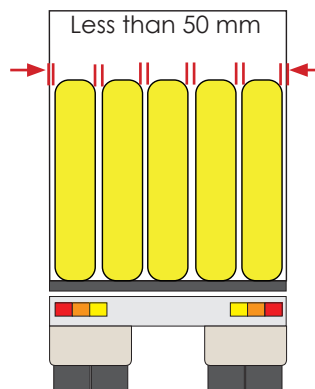
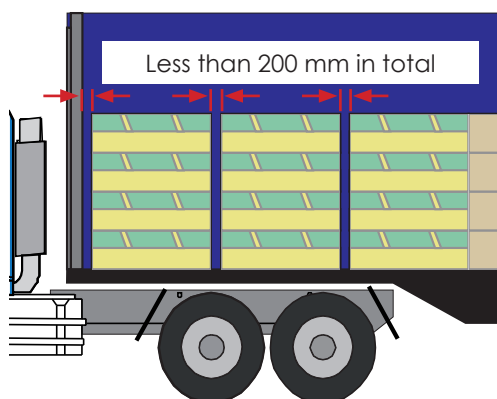
For **rated gates**, the centre of gravity (CoG) of units and multi-packs is to be below the gate



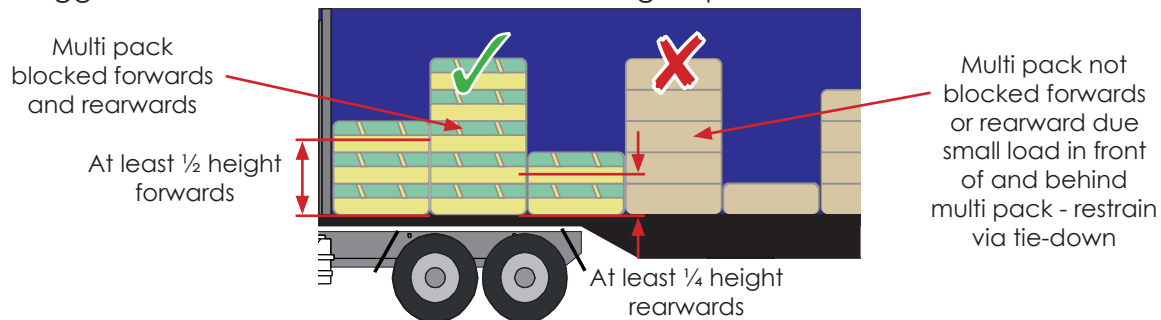
-  If part of the load is greater than the rating of the gates or curtain, apply tie down lashings as per tie-down section.



-  Gaps to the front must be less than 200 mm cumulative to be considered blocked..
-  Gaps to the side must be less than 50 mm cumulative to be considered blocked..
-  If the load does not meet these limits it will need to be restrained via tie down.



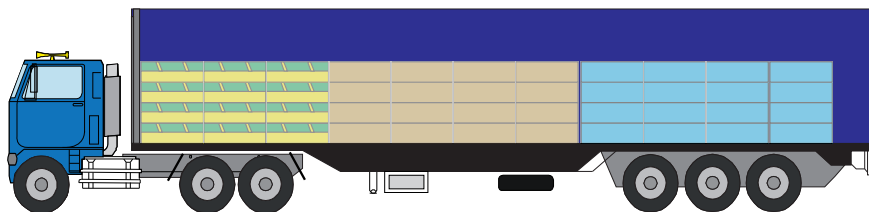
- ✓ To block something forwards, the item blocking must be at least half the height of the load. I.e. A pallet is blocked to a tower or loose rolls are blocked to a pallet higher than the rolls.
- ✓ To block something rearwards, the item blocking must be at least quarter the height of the load. I.e. A tower is blocked to a pallet higher than 25% of the height of the tower.
- ✓ Stagger items in the load to achieve blocking requirements, if needed.



## Containment - Rated Curtain or Gate Systems Specifics

### Gaps in loads - Tie Down

- ✓ For loads that have gaps of 1000 mm to the rear, the load will need to be restrained via tie down.

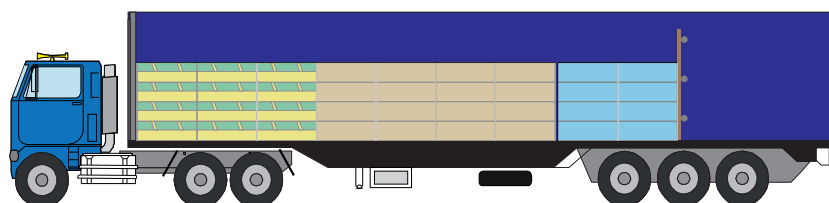


Gaps less than 1000 mm to the rear are suitable for containment restraint in rated curtains and rated gates

## Containment - Pantech Specifics

### Gaps in loads - Pogo Sticks and Plywood Sheet

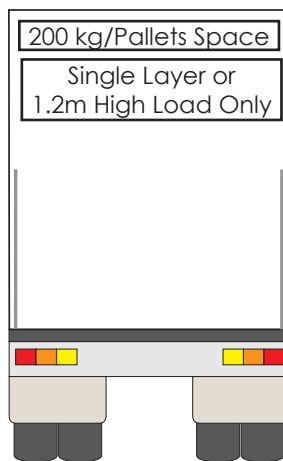
- ✓ For loads that have gaps of 1000 mm to the rear, the load will need to be secured by containment with pogo sticks and plywood.
- ✓ Depending on the mass of the load pogos, may need to be placed throughout the load. With loads blocked against the headboard the maximum mass restrained by a single pogo stick is 450 kg.
- ✓ Always use two or more pogo sticks for blocking a load.



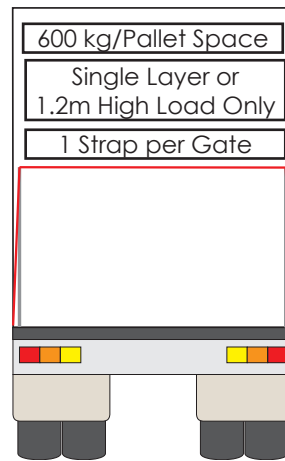
Gaps larger than 1000 mm in pantech must be restrained via pogo bars

## Containment - Non Rated Gates Specifics

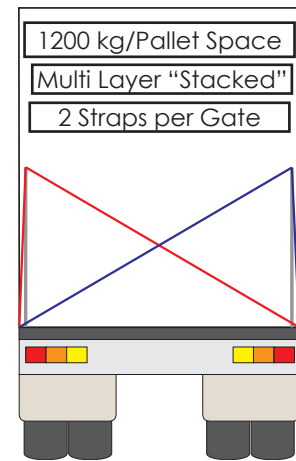
- ✓ Trucks and trailers with curtains and gates are preferred for secondary benefits, (i.e. Weather protection).
- ✓ For non rated gates the load limits (see below) must be used in conjunction with specific gate restraint method.
- ✓ Any product loaded above the gate must be restrained via tie down.



Unlashed Gates

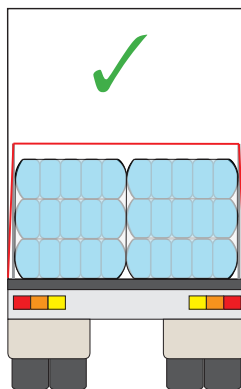


Lashed Gates

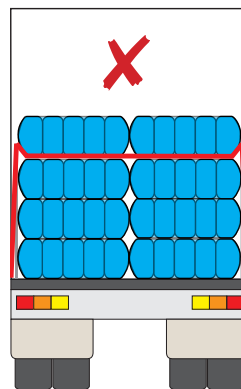


Braced Gates

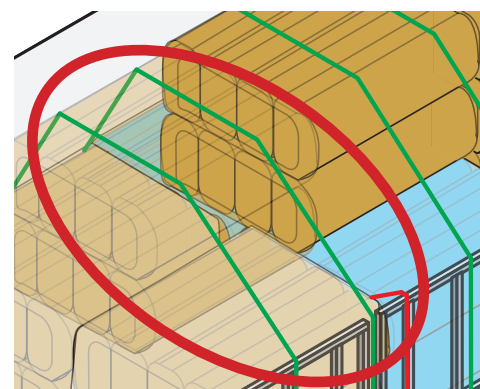
- ✓ Heavy items (i.e. pallets of foil, pallets exceeding ) must be secured separately before light insulation packs are loaded on top. See table 1 for number of straps.
- ✓ If round items are not packaged or palletised then insert through the load.
- ✓ Product must sit under lashings not on them.
- ⚠ Heavy items must be loaded on the base with crushable items on top.
- ✓ Where product is stacked & restrained above gates the gate lashings must not have product sitting on top of these. Secure gates between packs on the trailer.



Gates are lashed with no product loaded on lashing.



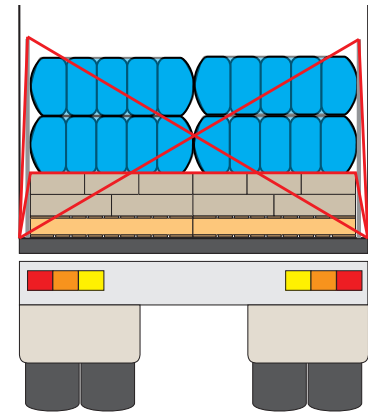
Lashed gates with product loaded on lashing.



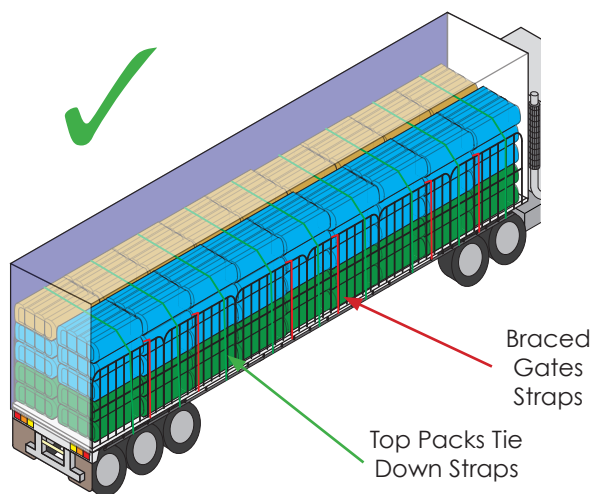
Lashing for gates in between bundle of insulation



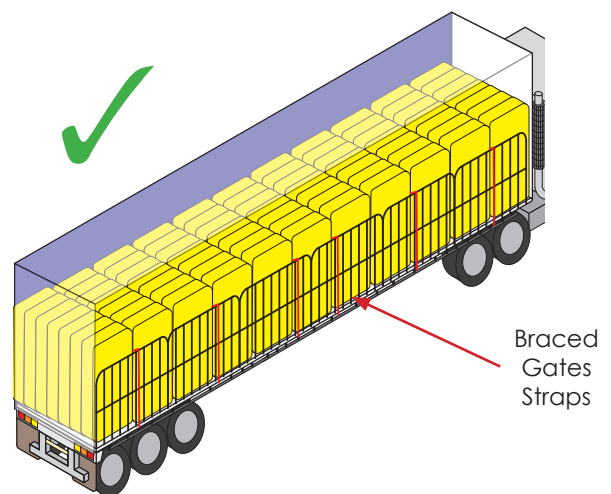
- ✓ Webbing straps must go across multi-packs/packs, not along them.
- ✓ Lashings used to lash gates must be between bundles of products.
- ✓ If packs are loaded above reinforce gates they must be restrained by tie down. Refer to tie down section for further details.
- ⚠ Tie-down lashings over the insulation packs and heavy items will not secure the heavy item due to the compressibility of insulation packs.



Heavy items must be restrained prior to loading light insulation packs.



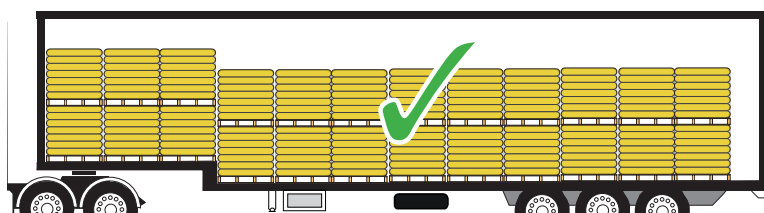
Gates are braced and top load is tied down and blocked forward.



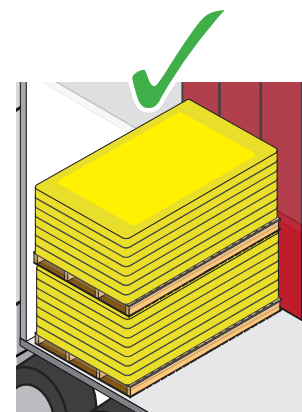
Gates are braced with product centre of gravity loaded below gate

## Containment in Rated Curtain/Gate – Palletised Boards

- ✓ Palletised boards must have suitable packaging.
- ✓ Palletised boards must be loaded single file only across the trailer.
- ✗ Do not load two abreast
- ✓ The load must have no gaps forwards and less than 1000 mm rearwards. If gaps exist the load must be tied down.



Full loads with no gaps. If gaps exist see tie down section

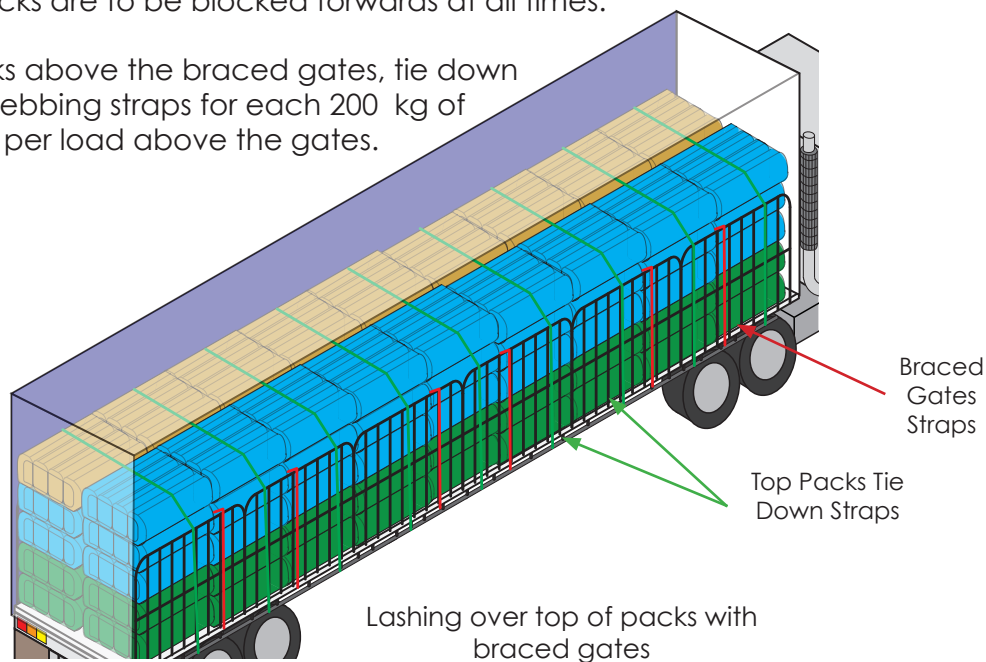
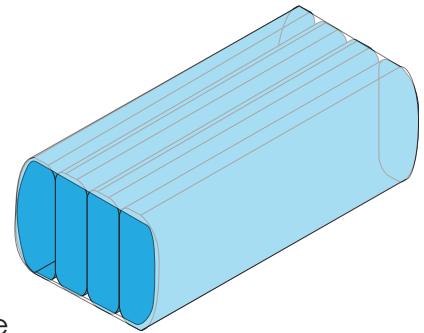


Palletised boards loaded across the trailer double stacked

## Tie Down Specifics

### *Unit-packs or Multi-packs of insulation batts and other semi-rigid non gloss packs*

- ✓ Fully tension webbing straps (ie don't stop for concern of compressing the pack. Only stop if bag packaging begins to break).
- ⚠ Do not tie down whole stack of loose individual bags. Use a containment with braced gates.
- ✓ Multi-packs are to be blocked forwards at all times.
- ✓ For packs above the braced gates, tie down with a webbing straps for each 200 kg of product per load above the gates.



## Tie Down - Palletised loads

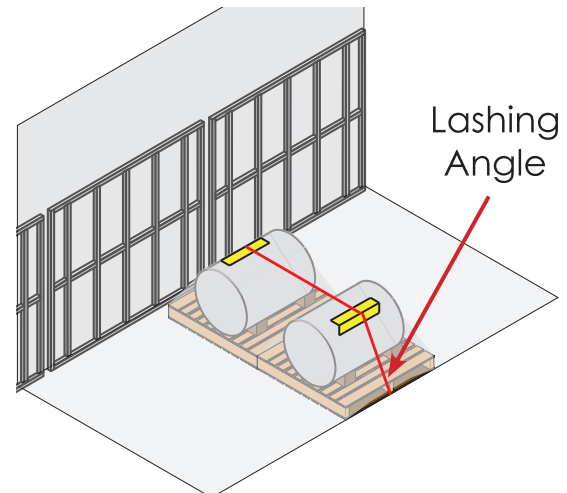
- ✓ Items on pallets are to be secured to the pallet and capable of withstanding the forces applied by road transport.
- ✓ Palletised goods should be placed at the front of the truck against a headboard, where possible. If palletised goods must be placed behind insulation packs then the pallets will need to be restrained as an unblocked load.
- ✓ For the load to be considered blocked it must be within 200 mm of the headboard or other blocked loads.
- ✓ Packaging must be of sufficient strength to meet the forces expected during transport.
- ⚠ Caution is to be taken when tightening straps on sensitive freight. Corner protectors should be used to distribute the lashing force. If full tension cannot be applied then additional lashings required.
- ✓ Tie down lashings must be 50 mm webbing straps, fully tensioned with standard binders.



- ✓ The pallets must be packaged to meet the requirements of the performance standards and expected on-road forces. These can include packaging straps, chocks for round objects, stretch wrap, etc.

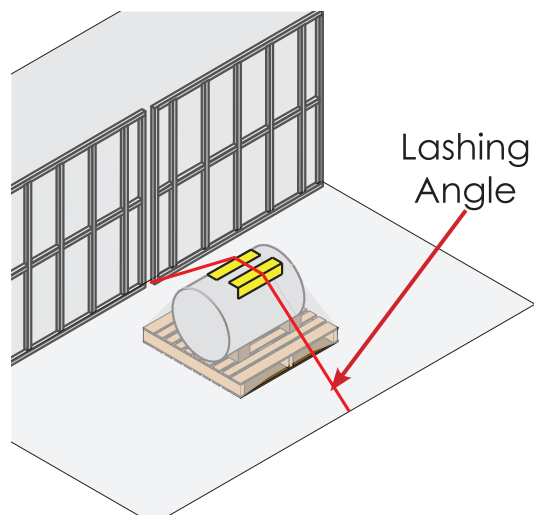
### Loading Pallet Row - 2 Abreast

- ✗ No gaps between pallet.
- ✓ Refer to the table 1 below for weight limits per strap.



### Loading Pallet Row - Single File

- ✓ Refer to the table 1 below for weight limits per strap.
- ✓ Pallet is to be centrally loaded on deck.
- ⚠ Caution is to be taken with tall and top heavy loads due to toppling.

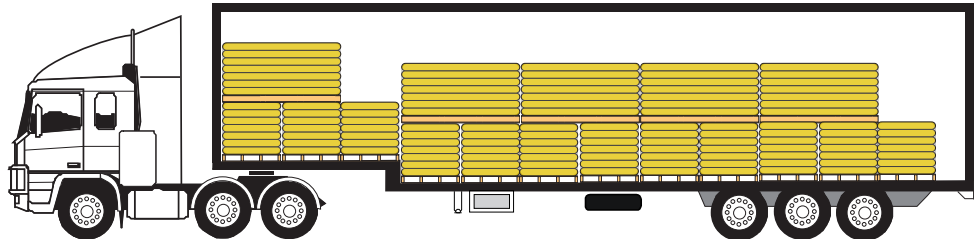


**Table 1: Pallet row - Tie down weight per strap**

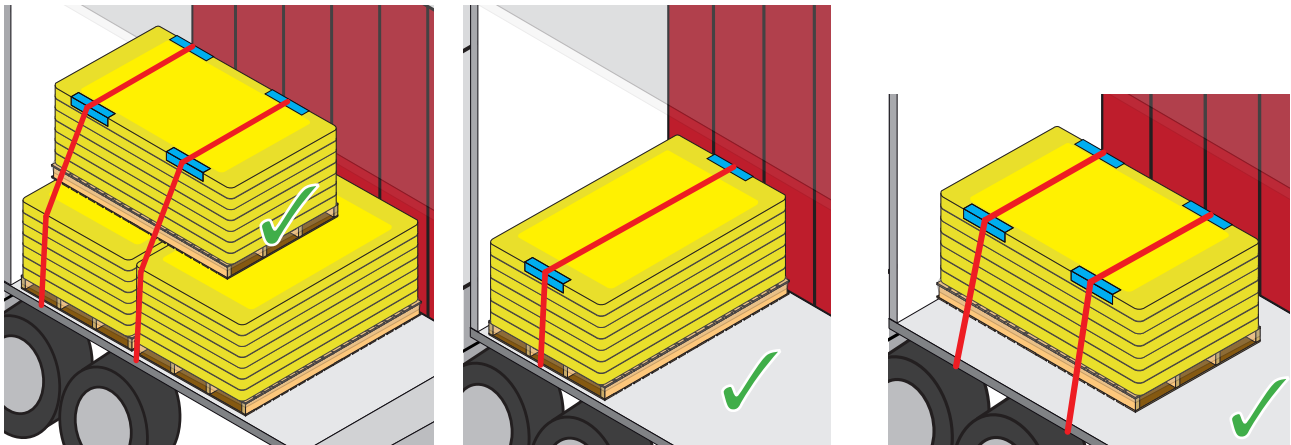
Tensioner Type	Lashing Angle			
	30° - 44°	45°-59°	60° - 74°	75° - 90°
Unblocked	300 kg	420 kg	510 kg	570 kg
Blocked	1200 kg	1600 kg	2000 kg	2300 kg

## **Tie Down – Palletised Boards**

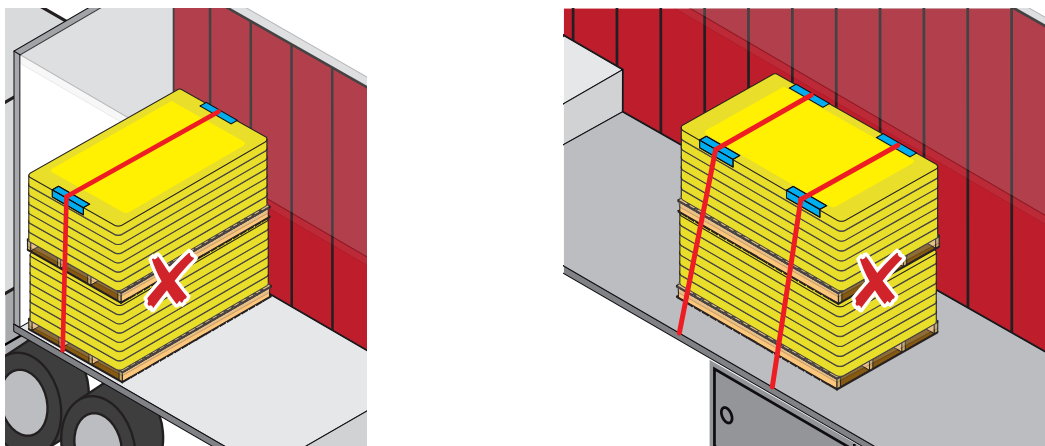
- ✓ Palletised boards must have suitable packaging.
- ✓ Palletised boards must have corner protectors between the lashing and boards.
- ✓ Palletised boards must be blocked forwards to a suitable blocking device, or other blocked product.



- ✓ Palletised boards can be pyramid stacked with the base layer across the trailer and the top layer along the trailer.



- ✗ Do not column stack palletised boards with tie down restraint as it is unstable.
- ✓ Apply corner protectors between lashings and boards.



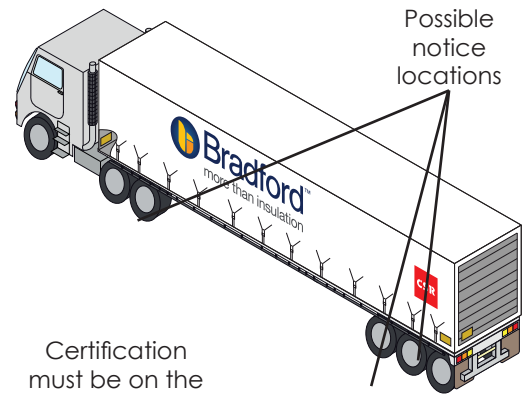
- ✓ Apply 2 × webbing lashings over each row of pack of palletised boards.

## Appendix 1: Rated System Details

### Rated Curtains

#### Are all curtains load restraint rated?

- No! Curtains are only rated for load restraint if they have a certification on the curtain, vehicle body, or the manufacturer supplies a letter certifying them (normally with truck/trailer serial number).
- In all cases, the certification will list what they are rated to hold.
- In the case of a letter, it must be carried by the driver in the cab of the truck.



Certification must be on the vehicle or with the driver.

### Rated Gates

#### Are all gates load restraint rated?

No! Most gates do not have a rating. They typically rely on two or three flat metal tongues to stop the gate from moving/bending.

#### How to tell if gates are load restraint rated?

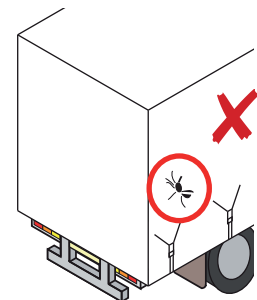
Either:

- The trailer has a certificate explaining the rating; This may be found on the gate or vehicle body.

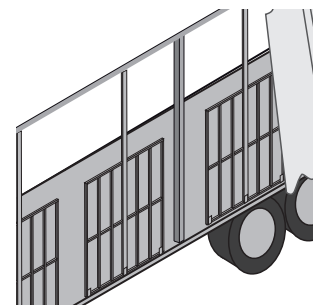
OR

- The driver must carry and produce a letter of certification from the body vehicle builder explaining the rating and serial number of the body covered.

Such gate systems will typically have a central locking column in the gate or be fixed to a full height vertical post.



Do not rely on damaged load rated curtains (or gates)



Rated gate with centre support

### Understanding the rating of curtains or gates

Ratings typically are stated as either:

- Allowable weight per pallet width (So mass of pallet A + pallet B must be less than Rating).

OR

- Allowable weight per pallet footprint (So each individual mass of both pallet A and B, must be less than Rating)

