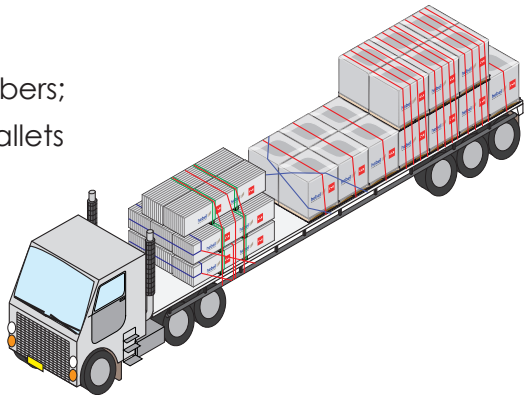
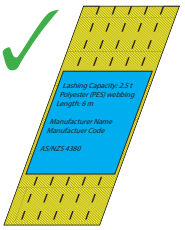
This Guideline is:

- For Hebel *panels* strapped vertically to 750 mm timbers;
- For Hebel *Blocks* and palletised goods on timber pallets (approximately 1165×1165) and suitably unitised.
- The loader and driver guide to certification E00754-LRC1 to meet the loading performance standards listed in Schedule 7 of the Heavy Vehicle (Mass, Dimension and Loading) National Regulation (1 November 2024).

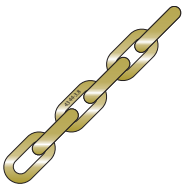


Key Common Elements

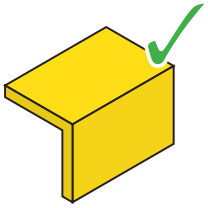
- ✓ Minimum 50 mm webbing straps fully tensioned.
- ✓ Minimum 8 mm transport chains (where used with a load racks) fully tensioned.
- ✓ Corner protection may be required for product protection. Corner protection is installed on panel packs.
- ✓ Freight must be suitably packaged to meet the performance standards.
- ✓ All restraint equipment must be in good working order.
- ✗ Do not leave items loose within the truck. Always secure within a box or crate.
- ✓ Loads should be blocked against a suitably engineered headboard/surface wherever possible.



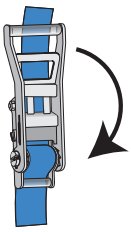
50 mm webbing straps



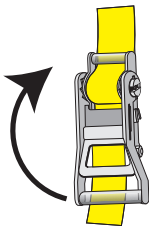
8 mm transport chain may be required



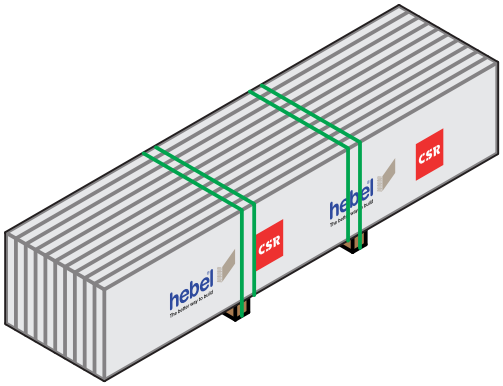
Corner protection



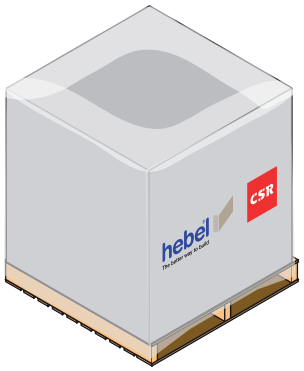
Pull Down Ratchet (600kgf)



Push Up Ratchet (300kgf)



For Hebel Panels, see pages 2 to 6.



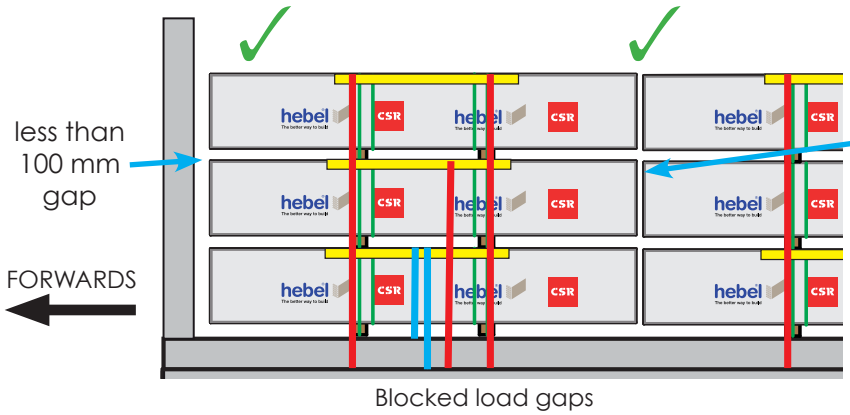
For Hebel Blocks, see pages 7 to 9.

Mixed loads of Panels and Blocks, follow relevant rules for each product (see page 10 for examples of mixed loads).

Hebel Panel

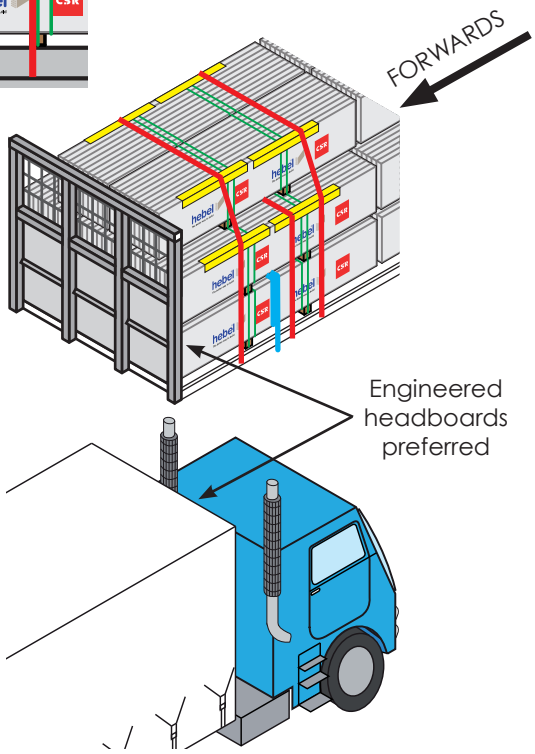
Blocking the Load Forwards with Rated Headboards or Chained Pipe Gate

- ✓ Panels should be "blocked" to within 100 mm from the primary blocking device (eg headboard) or within 50 mm of other product stacks already blocked forwards.



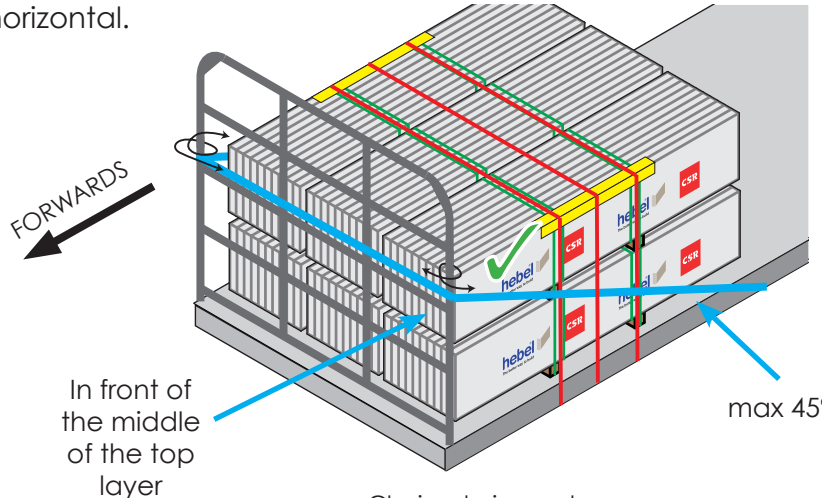
Blocked load gaps

- ✓ Suitably engineered headboard/surface are preferred. This includes tautliner bulkheads and sturdy steel headboards (typically 4 off 100×100 SHS uprights and cross members and lower section plate infill).



- ✓ The blocking capacity of an 8 mm transport chain wrapped around both outer poles of a pipe gate (and across the front of the load) is **10.6 t** with the chain at a maximum angle of 45° from the horizontal. This chain must be in front of the top panel layer (not in a gap or below it).

- ✓ A second chain can be used to double the blocking capacity with this chain at the middle of the row below the top and a maximum angle of 45° from the horizontal.

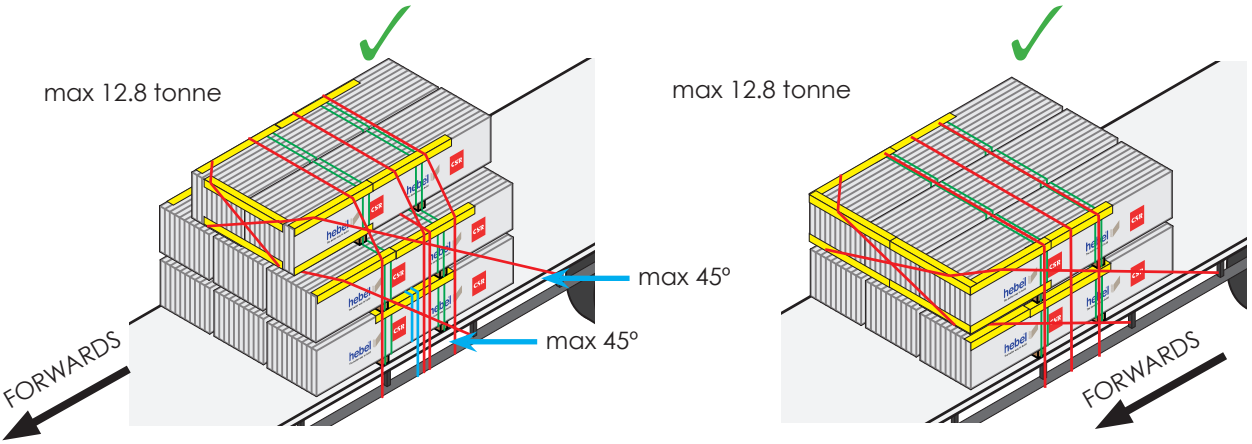


Chained pipe gate

Hebel Panel continued

Blocking the Load Forwards with Cross Over Strap

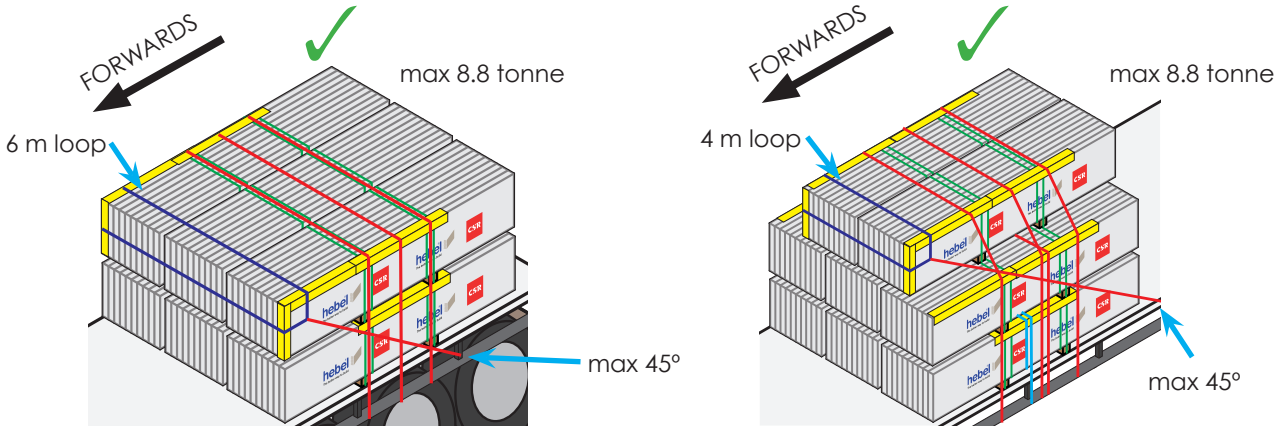
- The blocking capacity of a set of 50 mm webbing cross over straps is **12.8 tonne** with the webbing lashing at a maximum angle of 45° from the horizontal.
- For the top layer to be considered blocked by a cross over strap, the webbing crossover must go over it and cover the middle packs on the top layer.
- Avoid cross over straps getting caught on timber dunnage.
- Blocked layer must be 25% or more of total blocked load mass.



Top layer blocked with webbing cross over

Blocking the Load Forwards with Webbing Bridle Strap

- The blocking capacity of a webbing Bridle straps is **8.8 tonne** with the webbing lashing at a maximum angle of 45° from the horizontal.
- Bridle loop is to be 6 m for a layer of 3 packs wide and 4 m for a layer of 2 packs wide.
- The loop of the bridle must have a minimum lifting capacity of **3.0 tonne** and the restraint lashings 2.5 tonne (50 mm webbing straps).
- Blocked layer must be 25% or more of total blocked load mass.

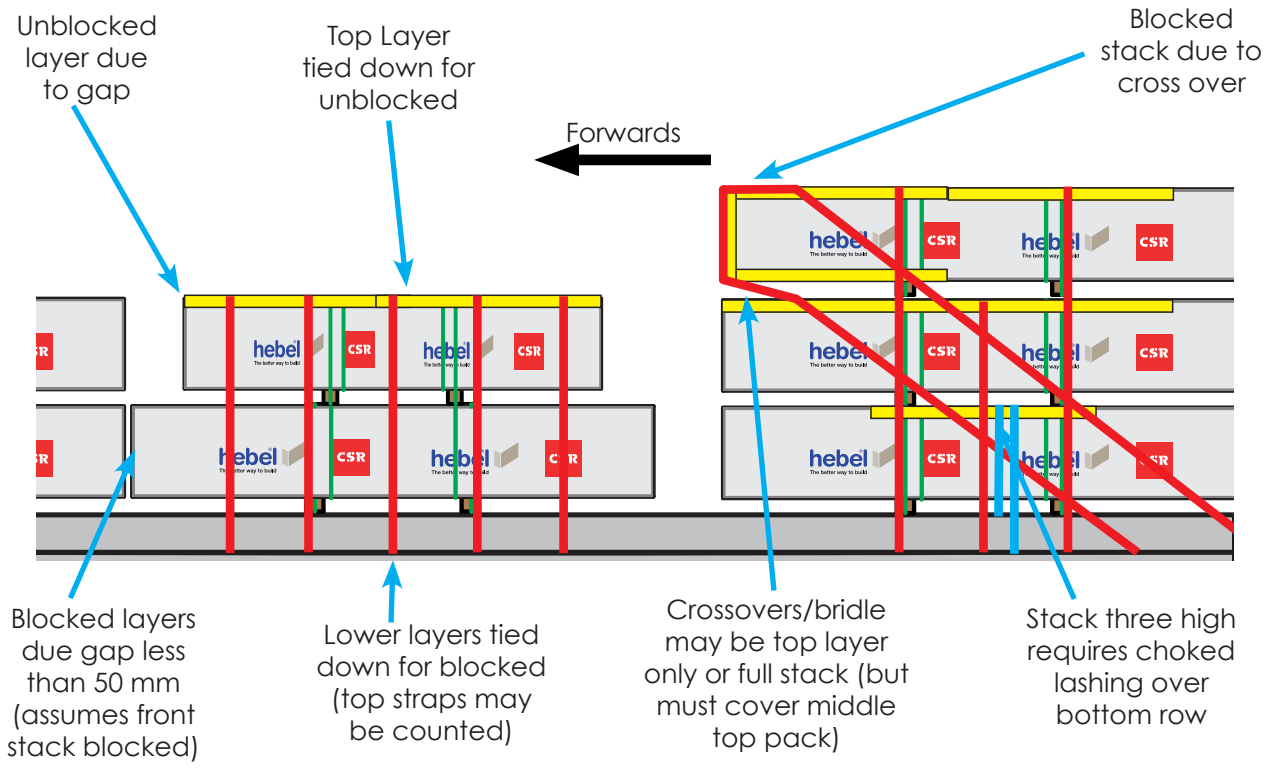


Top layer blocked with webbing bridle strap

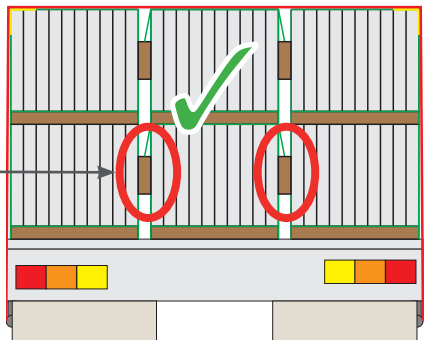
Hebel Panel continued

Tying Down the load

- ✓ Webbing straps are to be used to tie down the stack. Use 50 mm wide straps conforming to AS/NZS4380.
- ⚠ Minimum of two (2) webbing straps on the top layer of every stack. Sometimes more than two may be required, so check the top layer has sufficient. Apply additional over lower layers.
- ⚠ If the horizontal longitudinal gap between panels is greater than 50 mm, (eg shorter product stacked on longer product) tie down such layers as unblocked unless a webbing cross over or bridle strap is installed to the top layer.
- ✓ Refer to table 1 and 2 on the following page for required number of tie down straps per specific situation.



⚠ If gaps between panel packs across the truck deck are required, use timbers connected by packaging strap across the middle pack.



Hebel Panel continued

Tying Down the load

⚠ Stacks 3 high require additional lashings on top of the tie down lashings to prevent the panel packs from racking over during transport.

✓ The middle layer of the stack will require a single belly lashing to be installed.

✓ The middle layer belly can be counted as tie down lashing within the tables on the following pages.

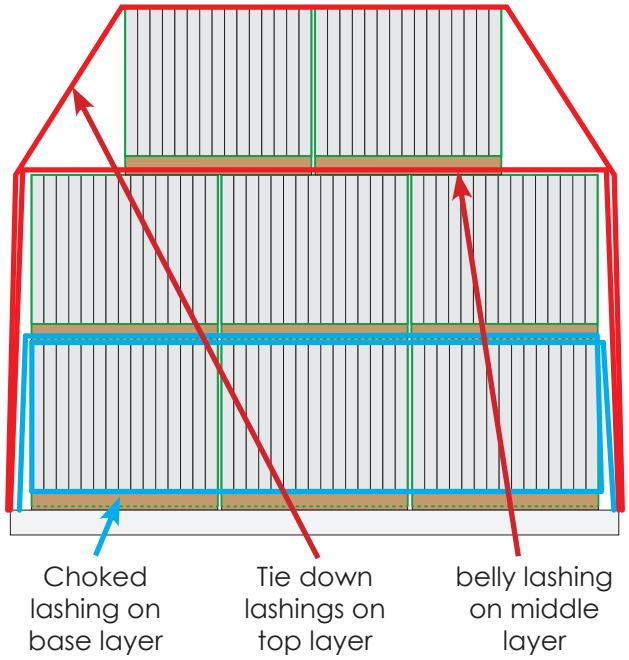
⚠ The **base layer** of the stack will require **one** of the following **three (3) options**:

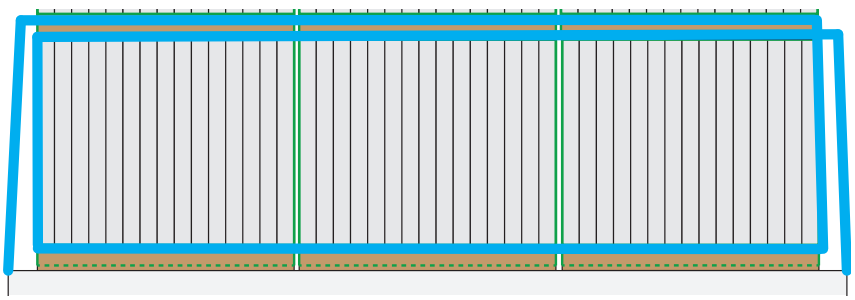
Option 1: Choked Lashing

✓ The base layer of the stack will require a single choke lashing to be installed to unitises the base layer together.

✓ The base layer choke can be counted as tie down lashing within the tables on the following pages.

Loading and lashing arrangement for choked 8 pack stack





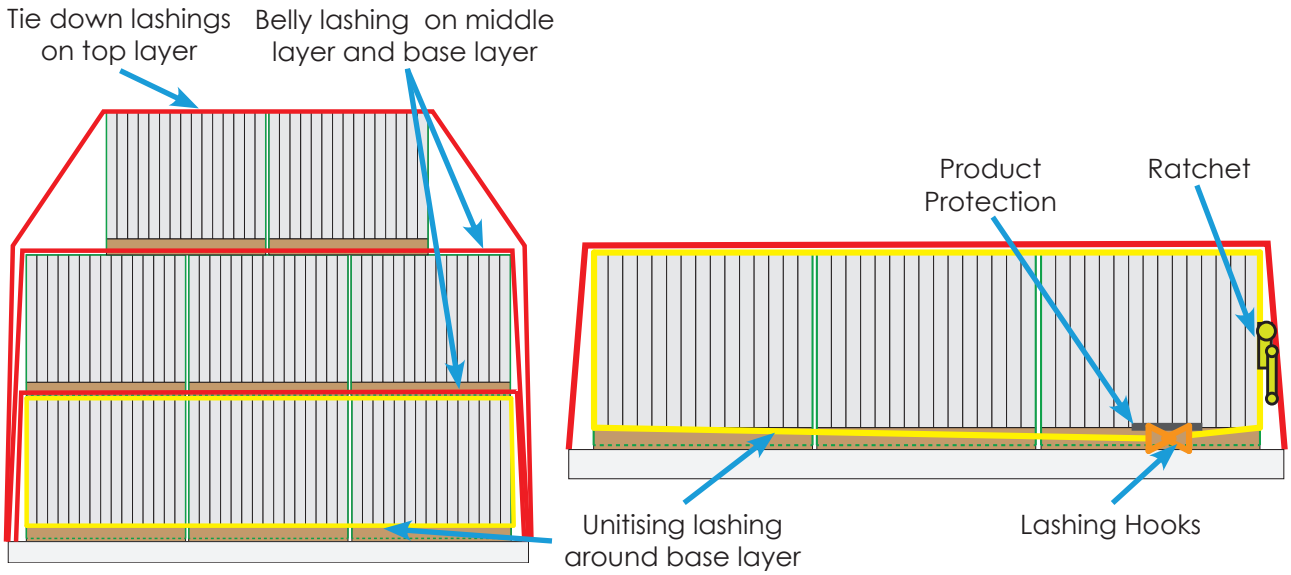
Chocked lashing are to be installed on the base layer

Hebel Panel continued

Option 2: Unitising and Belly Lashings

✓ The base layer of the stack will require a unitising lashing around the base layer AND a belly strap lashing over the base layer.

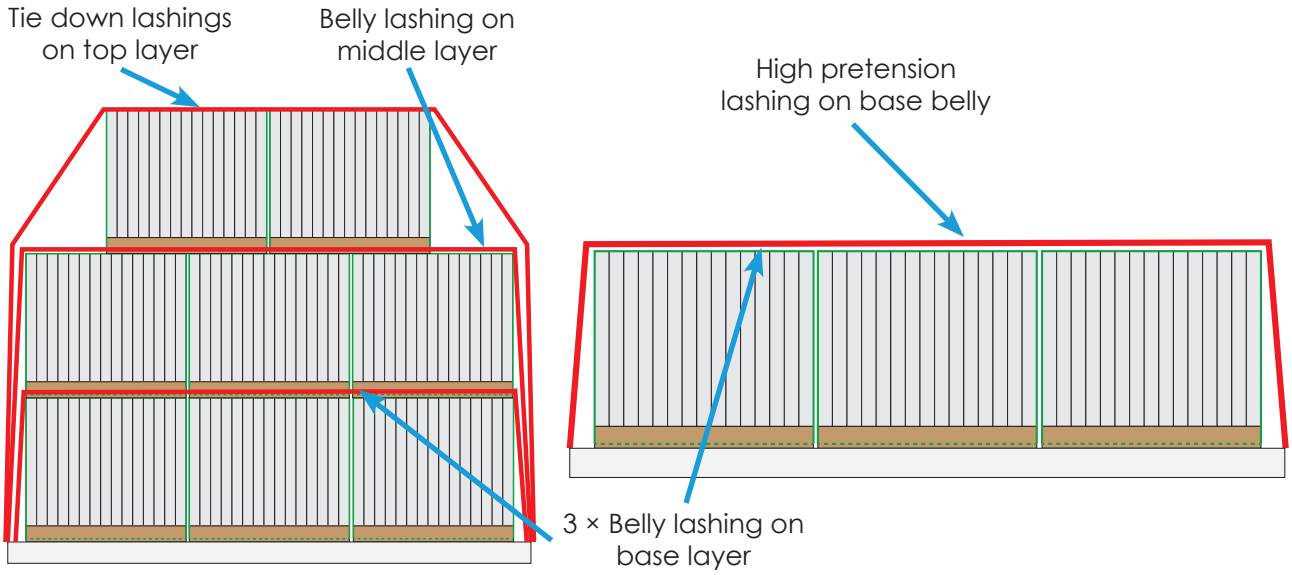
✓ The base layer belly can be counted as tie down lashing within the tables on the following page.



Option 3: Additional Belly Lashings

✓ The base layer of the stack will require three (3) **high pretension** belly strap lashings over the base layer.

⚠ A single base layer belly can be counted as tie down lashing within the tables on the following pages.



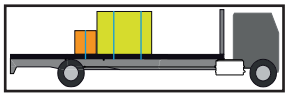
Hebel Panels continued

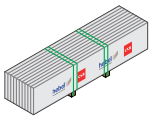
Tie Down Lashing Requirements

Push Up Ratchet (300kgf)

Pull Down Ratchet (600kgf)

Table 1: Tie Down Restraint for Unblocked Panels

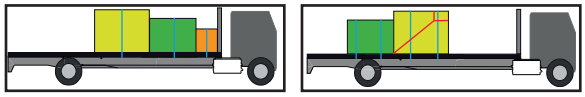


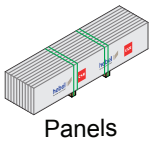


Panels

Payload	Required Number of Tie Down Lashings (Tie Down Angle)					
	(80 - 90°)		(60 - 80°)		(30 - 60°)	
	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet
0 - 2,000 kg	4	2	4	2	7	4
2,001 - 4,000 kg	7	4	8	4		7
4,001 - 6,000 kg	N/A	6	N/A	6	N/A	N/A
6,001 - 8,000 kg		7		8		
8,001 - 10,000 kg		9		N/A		
10,001 - 12,000 kg		N/A				

Table 2: Tie Down Restraint for Blocked Panels



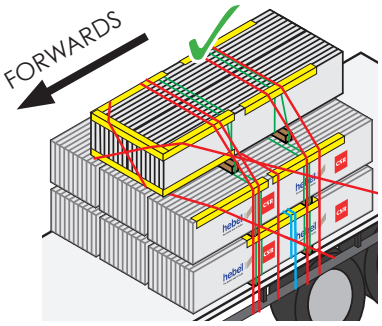


Panels

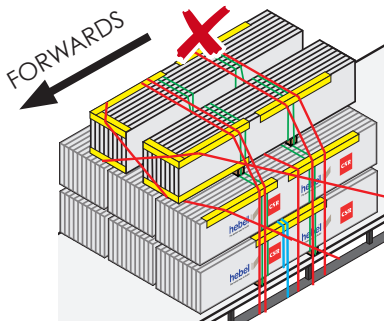
Payload	Required Number of Tie Down Lashings (Tie Down Angle)					
	(80 - 90°)		(60 - 80°)		(30 - 60°)	
	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet
0 - 2,000 kg	2	2	2	2	2	2
2,001 - 4,000 kg	2	2	2	2	4	2
4,001 - 6,000 kg	3	2	3	2	5	3
6,001 - 8,000 kg	4	2	4	2	7	4
8,001 - 10,000 kg	5	3	5	3	9	5
10,001 - 12,000 kg	6	3	6	3	N/A	5

Hebel Panel continued

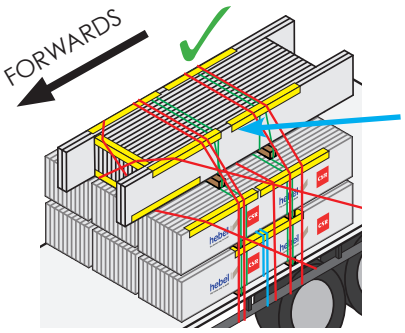
Examples of Load Configurations



No gap between the packs

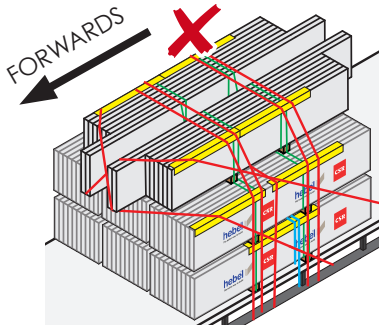


Potential for timber dunnage to slip past each other and remove tension from tie down straps - No gaps

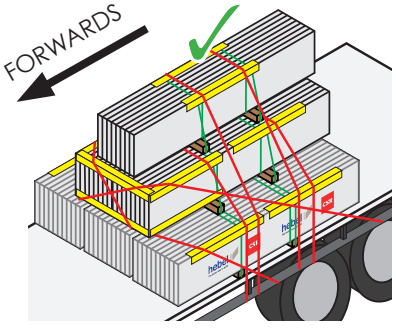


Blocked layer mass greater the 25% of blocked load mass

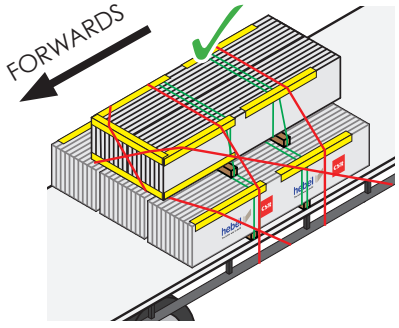
Cross over adequately blocking the top layer (and in turn lower layers)



Cross over not effectively restraining the top layer



Top pack restrained as unblocked while the rest of the stack is restrained as blocked

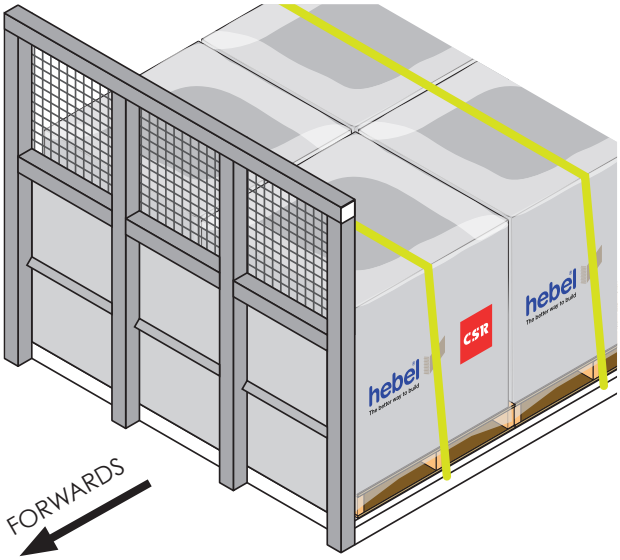


Total stack restrained as blocked

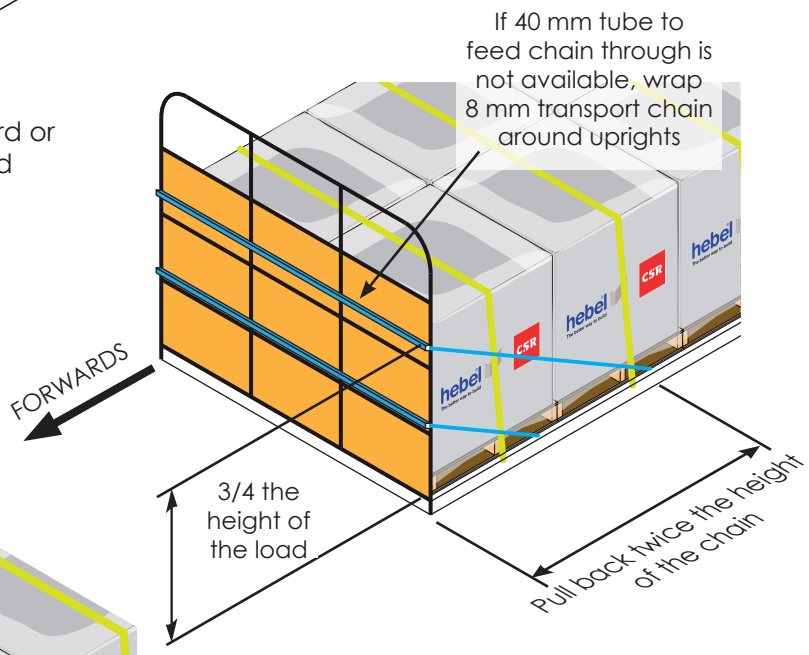
Hebel Blocks and Pallets

- ✓ The Hebel Blocks must be packed on a timber pallet.
- ✓ For the number of webbing straps required, refer to Table 3 and Table 4 on page 9 for unblocked and blocked pallets respectively.

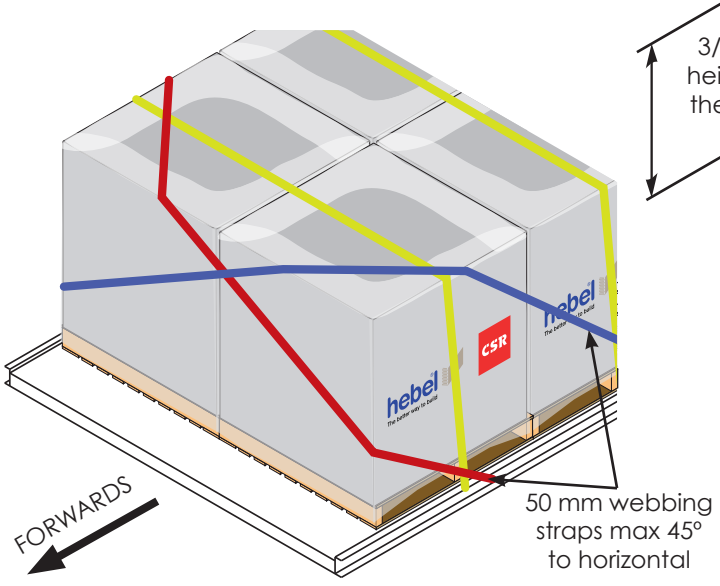
Blocks must be packed for road transport on a timber pallet



Rated (engineered) headboard or tautliner bulkhead preferred



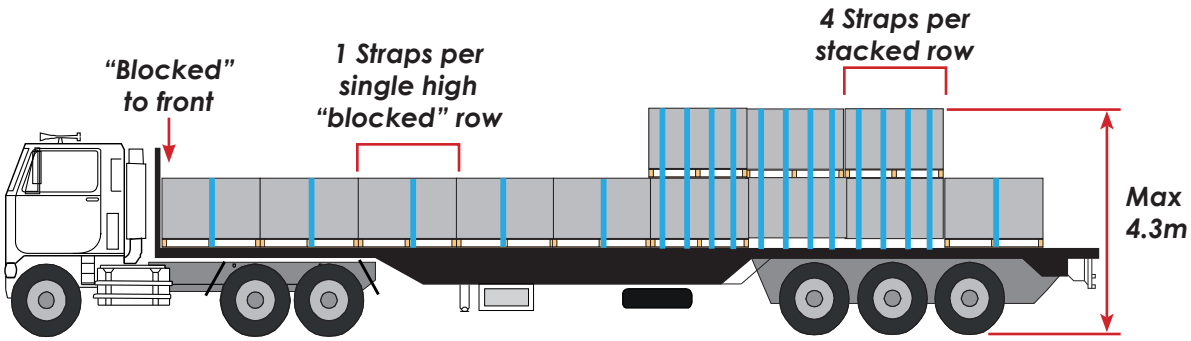
Load rack per NTC Load Restraint Guide 2018, page 152

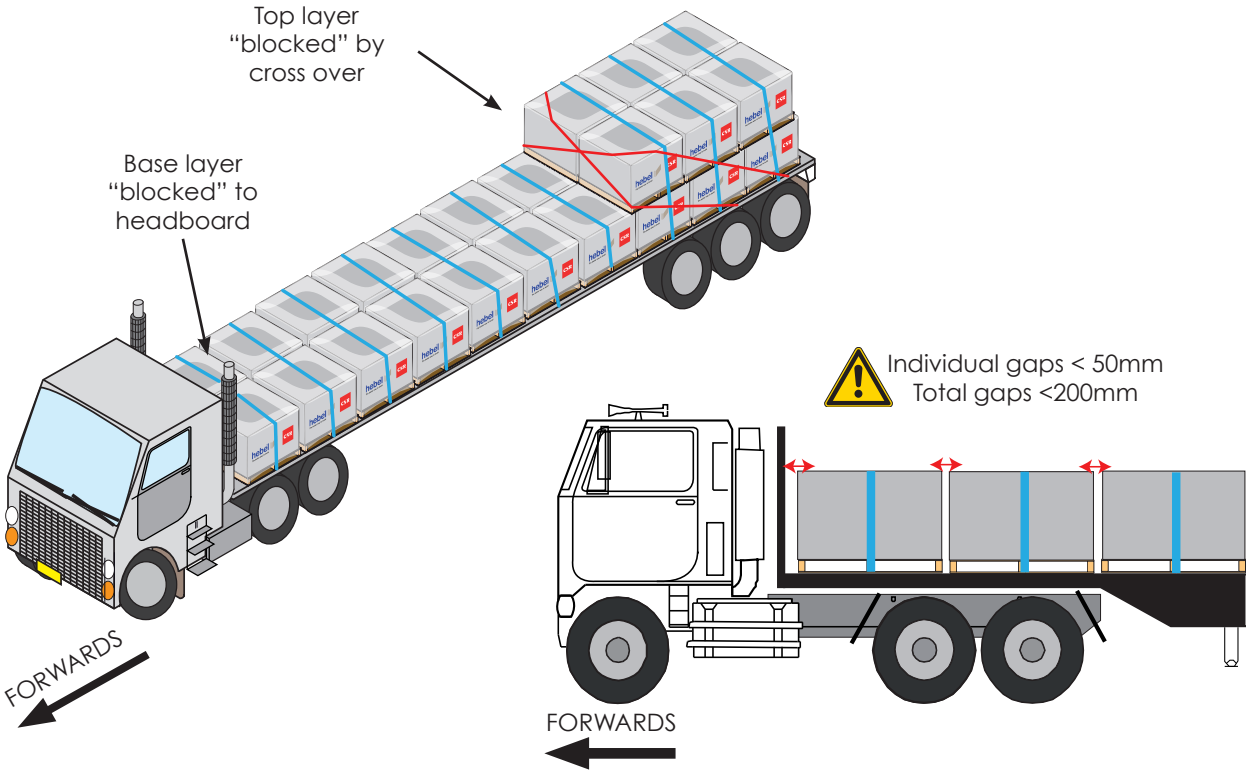


Crossover webbing straps
Suitable for 12.2 tonnes of Blocks

Hebel Blocks and Pallets continued

- ✓ To be considered blocked, the sum of total gaps must be less than 200 mm.
- ✓ For the number of webbing straps required, refer to Table 3 and Table 4 on page 9 for unblocked and blocked pallets respectively.
- ✓ Stacked rows with only the bottom row being "blocked" require a minimum of four webbing straps (If the bottom row is not blocked, eight straps will be required).
- ✗ Do not stack loads higher than 4.3 m legal height limit.
- ✓ Refer to table 3 and 4 on next page for required number of tie down straps per specific situation.





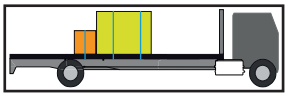
Hebel Blocks and Pallets continued

Tie Down Lashing Requirements

Push Up Ratchet (300kgf)

Pull Down Ratchet (600kgf)

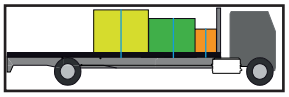
Table 3: Tie Down Restraint for Unblocked Pallets

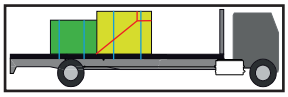


Pallets

Payload	Required Number of Tie Down Lashings (Tie Down Angle)					
	(80 - 90°)		(60 - 80°)		(30 - 60°)	
	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet
0 - 500 kg	1	1	1	1	2	1
501 - 1,000 kg	2	1	2	1	4	2
1,001 - 1,500 kg	3	2	3	2	N/A	3
1,501 - 2,000 kg	4	2	4	2		4
2,001 - 2,500 kg	N/A	3	N/A	3		N/A
2,501 - 3,000 kg		3		3		
3,001 - 3,500 kg		3		4		
3,501 - 4,000 kg		4		4		

Table 4: Tie Down Restraint for Blocked Pallets





Pallets

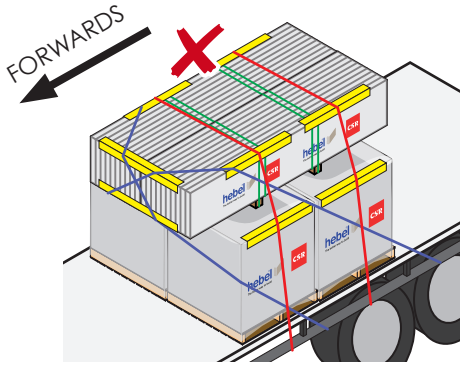
Payload	Required Number of Tie Down Lashings (Tie Down Angle)					
	(80 - 90°)		(60 - 80°)		(30 - 60°)	
	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet	Push Up Ratchet	Pull Down Ratchet
0 - 500 kg	1	1	1	1	1	1
501 - 1,000 kg	1	1	1	1	1	1
1,001 - 1,500 kg	1	1	1	1	2	1
1,501 - 2,000 kg	1	1	1	1	2	1
2,001 - 2,500 kg	2	1	2	1	3	2
2,501 - 3,000 kg	2	1	2	1	3	2
3,001 - 3,500 kg	2	1	2	1	3	2
3,501 - 4,000 kg	2	1	2	1	4	2

Mixed loads

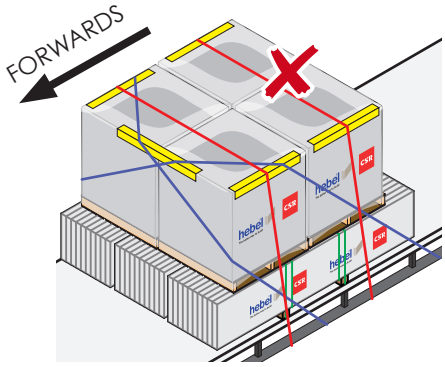
Loads with both Hebel Blocks and Hebel Panels

- ✓ Each product type must be loaded in accordance with the relevant section.
- ✓ "Blocking" of one product behind the other is permissible provided relevant weight limits are not exceeded.
- ⚠ Never stack Hebel Blocks on panels or vice versa. Each product must be stacked separately.
- ✓ Other palletised items may also be loaded infront of or behind Blocks and Panels.

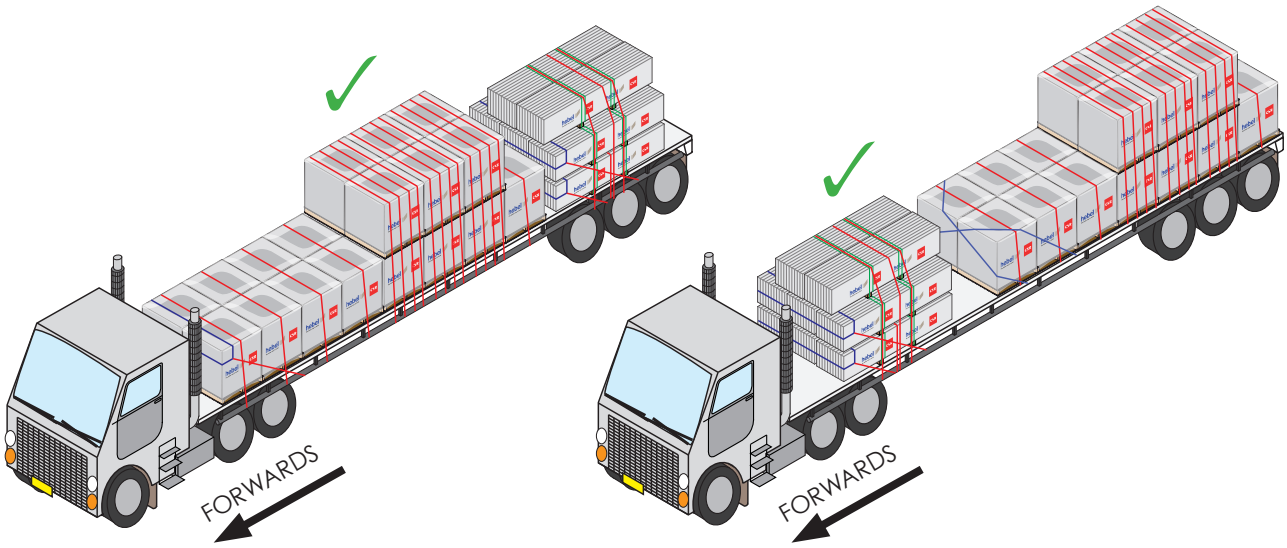
Examples of mixed loads



Do not load Panels on Blocks



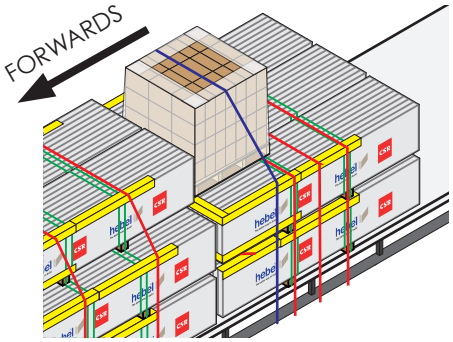
Do not load Blocks on Panels



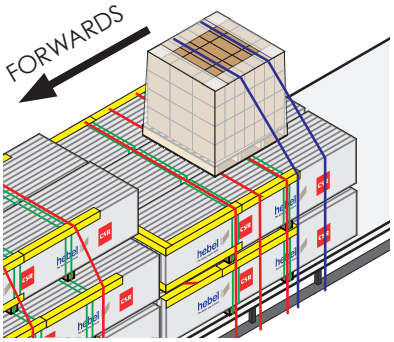
Load Blocks and Panels in separate stacks. Blocks may be used to "block" Panels (and vice versa) provided the "blocking" method has sufficient strength

Accessory Pallets

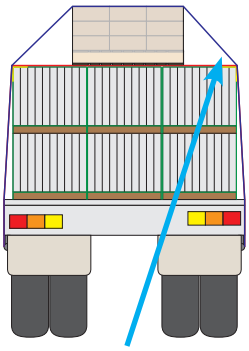
- ✓ To be considered blocked, the sum of total gaps must be less than 200 mm.
- ✓ Centrally load pallets across the trailer / panels.
- ✓ The lashing angle must be at least 30°.
- ✓ Blocked accessory pallets require one webbing strap, up to a maximum 1200 kg.
- ✓ Unblocked accessory pallets require two webbing strap, up to a maximum 600 kg.
- ⚠ Accessory packs must have restraint applied separately to other product.



Blocked pallets require 1 webbing strap up to 1200 kg

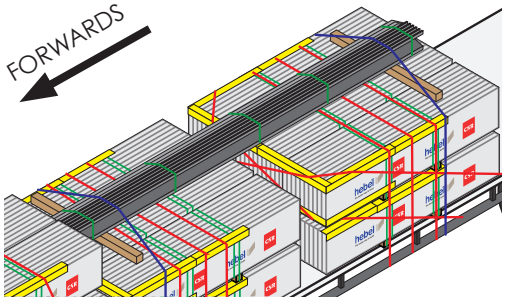


Unblocked pallets require 2 webbing strap up to 600 kg

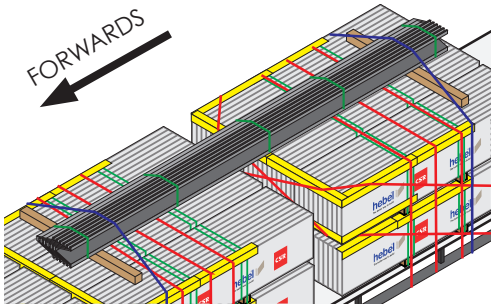

Lashing Angle for top pallets

Top Hats

- ✓ Top hats must be packaged together to withstand the transport forces experienced.
- ✓ Load packs of top hats on timber dunnage.
- ✓ Top hats must have a minimum of two webbing straps over the load.
- ✓ The lashing angle must be at least 15°.
- ✓ Top hats require two webbing straps, up to a maximum 300 kg.
- ⚠ Top hats must have restraint applied separately to other product.



To hats require a minimum of two webbing straps over the load



Two webbing straps are suitable for 300 kg of top hats