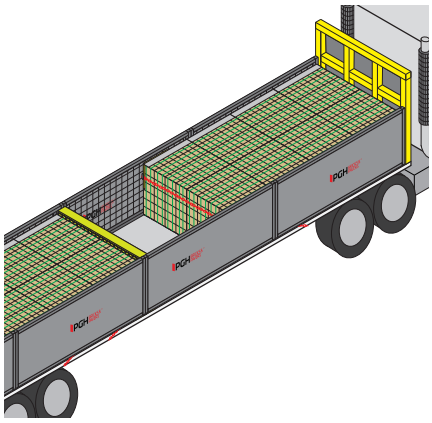
This Guideline



- Covers PGH brick and paver pallets loaded onto a truck or trailer with a rated blocking/containment system.
- The loader and driver guide to certification E01411-LRC2 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

✓ All Loads are to be fully contained by the front, rear and side blocking with potential for loose bricks or brick fragments falling out reduced as far as practicable. (ie mesh or solid infill required).

✓ Blocking/containment systems must be engineered for the applicable load restraint forces for the direction being blocked as per Schedule 7 of the Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2018.

✓ Equipment such as gates, latches and headboards must be in good working order.

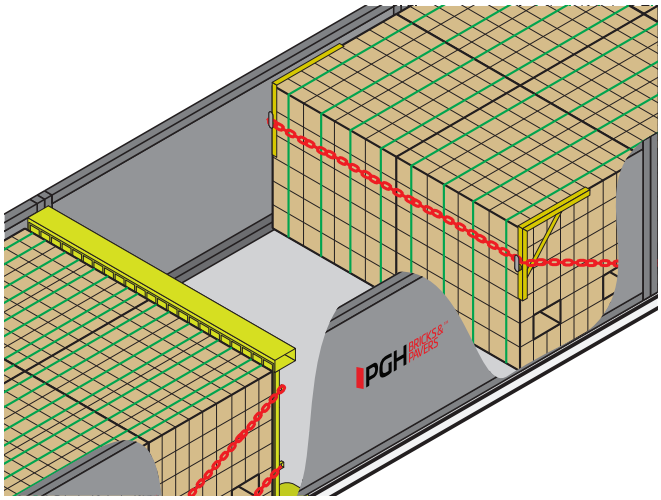
⚠ Capacities of rated headboards, tailboards and gates must be understood.

⚠ Damaged and unstable products/packs are not to be loaded. Correct the pack/repack.

⚠ Where this guideline cannot be followed due to gaps or capacity, follow the *Tie down of brick packs and loaded pallets* guideline, E01411-ELRG1.

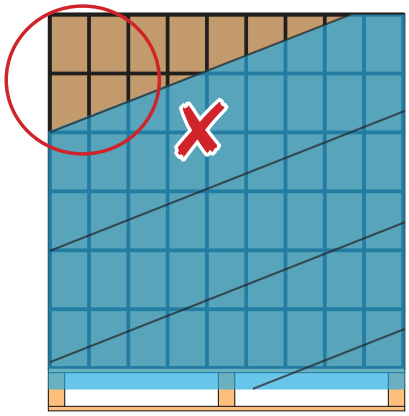
Table 1: Forwards Blocking System Capacity

Blocking System Capacity				Chain Angle to Horizontal 30˚ Max
Chain Type	Quantity	Size	Capacity	Maximum Total Mass of Blocked Load (kg)
Transport	One	8 mm	2850 kg	6,150
Transport	Two	8 mm	2850 kg	12,300
Grade 100	One	8 mm	3750 kg	8,100
Grade 100	Two	8 mm	3750 kg	16,200

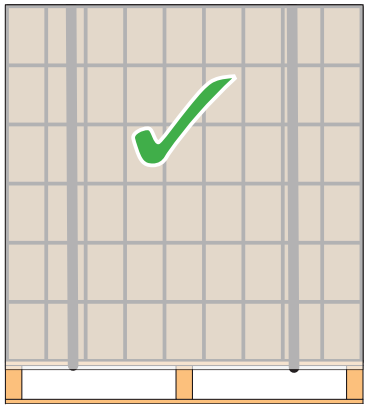


Packaging Requirements

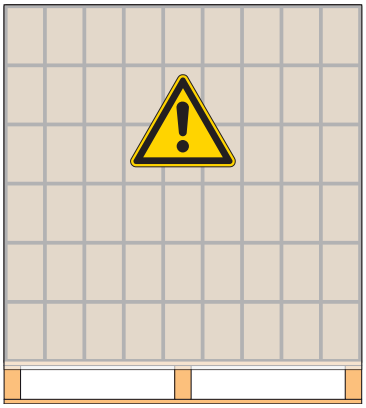
- ✓ Packaging should have sufficient strength for both sideways and rearwards restraint.
- ✓ Stretch and Shrink wrapping must cover the full height of bricks.



Stretch and shrink wrap not full height of the pack

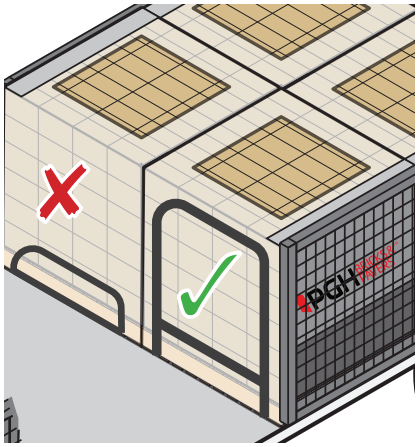


Stretch and shrink wrap with packaging straps

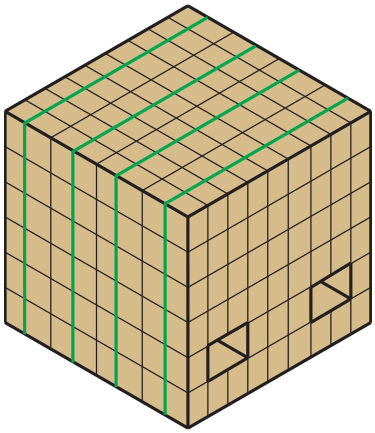


Stretch and shrink wrap must meet the performance standards

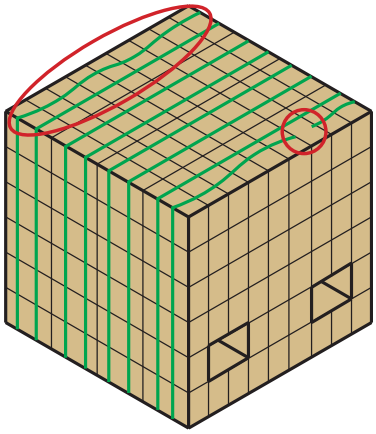
- ✓ Stretch wrap pallets must meet the performance standards and wrap around the entire pallet height or full height blocking is required.
- ✓ PET strapping must meet the performance standards and must unitise the pack. PET strapped packs have sufficient strength for rearwards and sideways forces.
- ⚠ Replace any missing or broken PET straps.



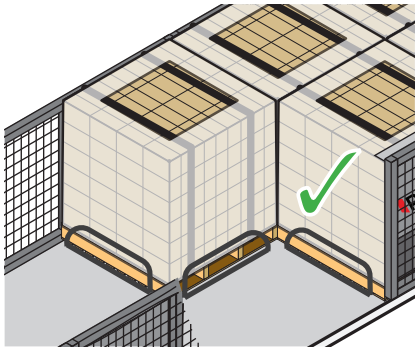
Shrink wrap pallets not meeting the performance standards must be full height blocked in all directions



PET strapped packs have sufficent strength



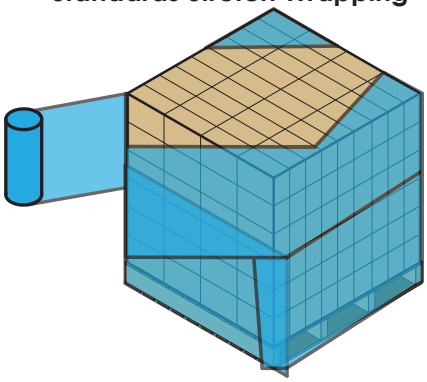
Replace broken and loose PET straps



Shrink wrapped pallets with PET straps have sufficient strength

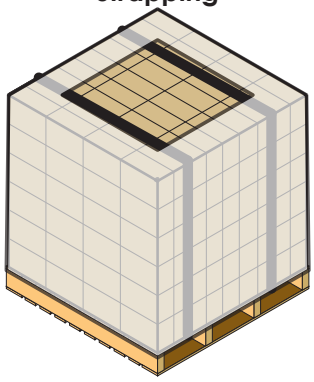
Minimum Restraint Required for Packaging Performance

Not Meeting Performance Standards Stretch Wrapping



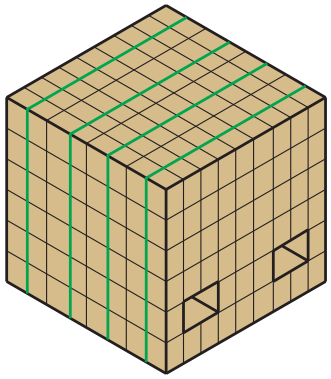
- ✓ Tie-down
- ✓ Rated Headboard
- ✗ Reinforced Pipe Gate
- ✓ Intermediate Headboard
- ✗ Chain Carrier Angles

Meeting Performance Standards Stretch Wrap with Strapping



- ✓ Tie-down
- ✓ Rated Headboard
- ✓ Reinforced Pipe Gate*
- ✓ Intermediate Headboard
- ✓ Chain Carrier Angles*

Meeting Performance Standards

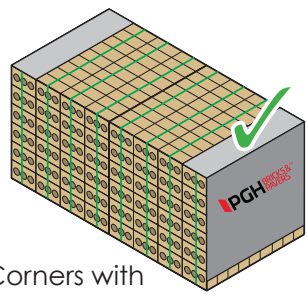


- ✓ Tie-down
- ✓ Rated Headboard
- ✓ Reinforced Pipe Gate
- ✓ Intermediate Headboard
- ✓ Chain Carrier Angles

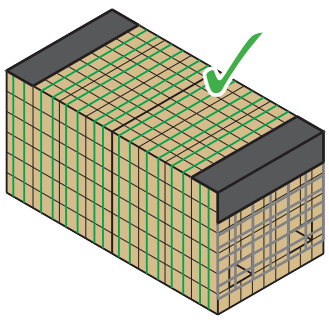
* Reinforced Pipe Gate and Chain Carrier Angles require a solid infill.

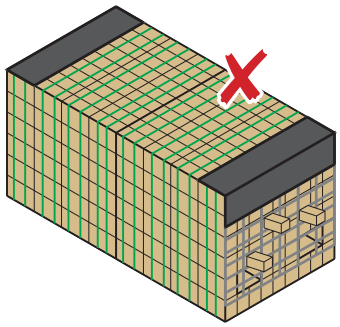
Corners with Solid Infill/Angles with Mesh Infills

- ✓ Packs with PET packaging or damaged shrink wrap must have corners with solid infills or angles with mesh infills.
- ✓ Corners with solid infills or angles with mesh infills reduce the overall risk of the transport task by minimising the likelihood of bricks seperating from packs.
- ✓ Where angles with infills are used, they must have sufficient coverage, strength and a small enough aperture to prevent bricks coming off of the vehicle.
- ✗ Angles with mesh infills must not be used where bricks (or part thereof) are likely to damage the mesh or pass through it.



Corners with solid infill installed on brick pallet



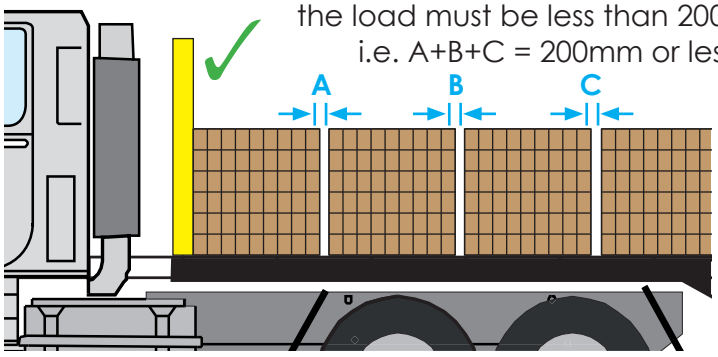


⚠ Angles with mesh infills must have sufficient strength and small enough aperture to prevent bricks from coming off the vehicle.

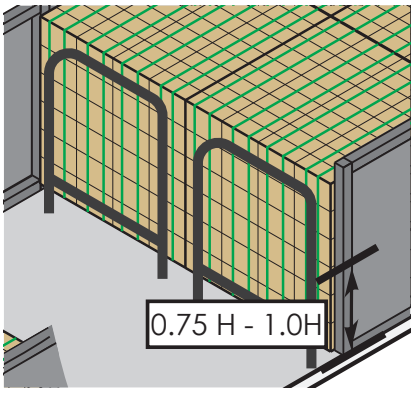
Rated Containment - Front and Rear Blocking

- ✓ All loads and sections of loads are to be blocked to the front, rear and side.
- ✓ Maximum cumulative gaps within the load from headboard to tailboard must be kept to less than 200 mm, unless the structure is certified for a larger gap.
- ✓ Rated headboard must be capable of restraining 80% of weight of the load section.
- ✓ Rated tailboards capable of 50% of weight for gap size (see table 2).
- ✓ In absence of rated headboard or tailboard use reinforced pipe gates, chain carrier angle, blocking hoops or intermediate headboard blocking methods.
- ✓ Refer to table 1 on the previous page for blocking capacity for reinforced pipe gate, chain carrier angles and intermediate headboard blocking methods.
- ⚠ Infill systems must be sufficient to contain and distribute the load evenly across the headboard to the forces in the performance standards.
- ✓ Chains must be at least 8 mm transport chains.
- ⚠ Chain must be situated ½ to ¾ height of pallet/pack but not above.
- ✓ Chains may be used with load rack, chain carrier bracket and chain carrier angles.
- ⚠ For other blocking devices, refer to document certifying the structure.
- ✓ Blocking hoops must be at least ¾ full height of the pack forwards, and cover the base layer of bricks for rearwards.

Forwards Blocking: Maximum cumulative gap along the load must be less than 200 mm. i.e. A+B+C = 200mm or less

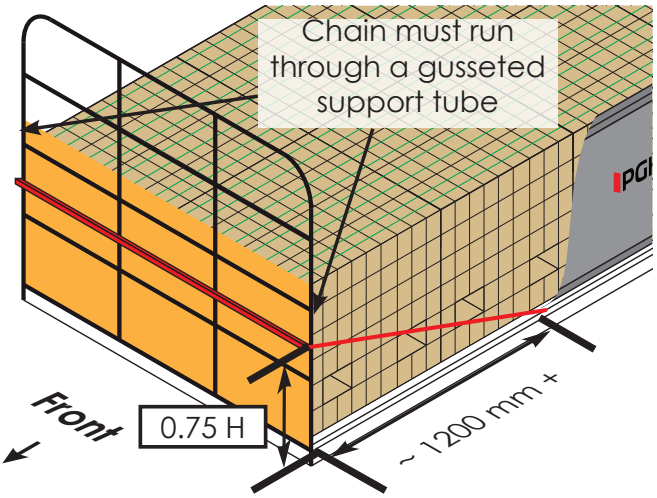


Blocking Hoops



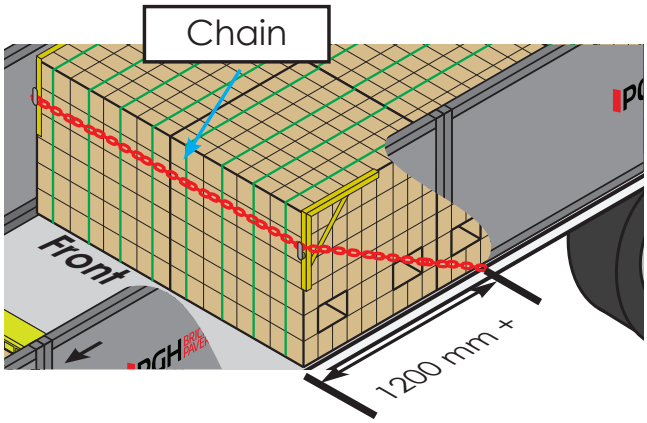
Blocking hoop must be at least ¾ the height of the pack forwards

Chained load racks

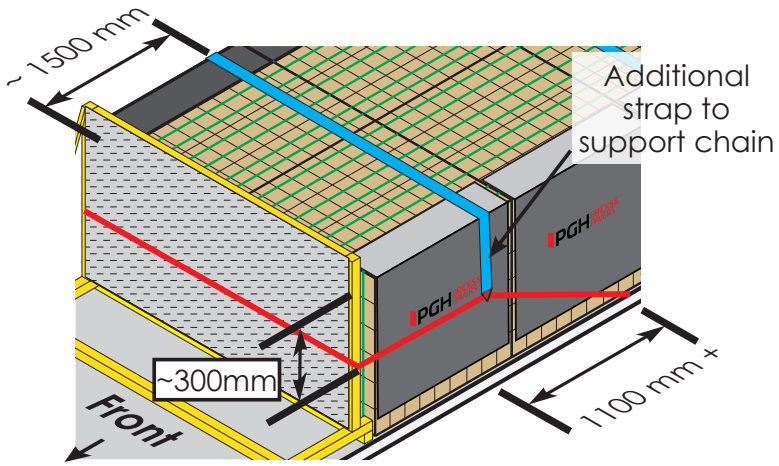


Reinforced pipe gate with single 8 mm transport chain through support tube located **at 3/4 height (H)** of brick packs/pallets

Chain carrier angle



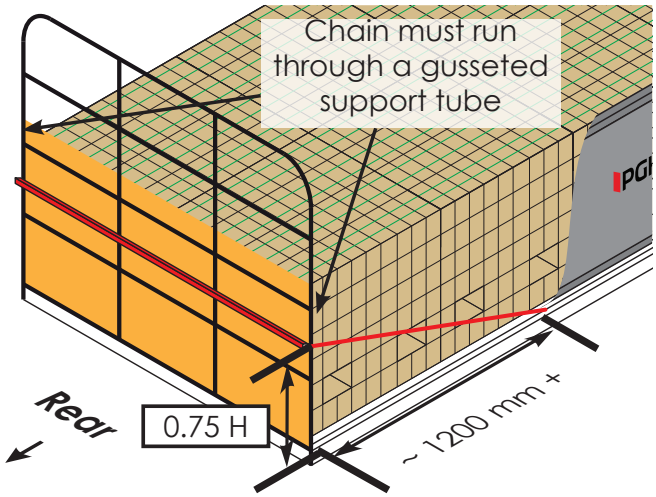
Intermediate Headboard



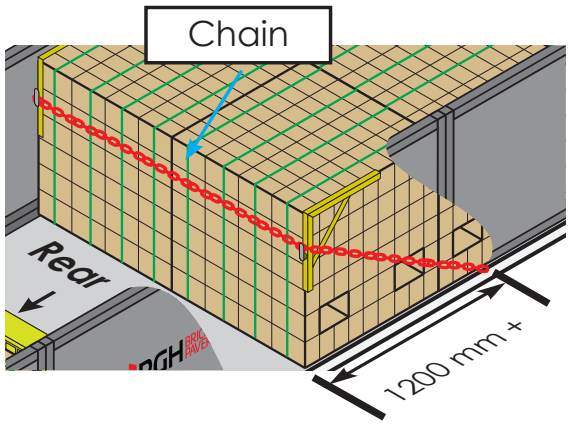
A movable headboard braced with a minimum of a single 8 mm transport chain can be used for blocking. Refer to table 1 for capacity.

Rearwards Blocking:

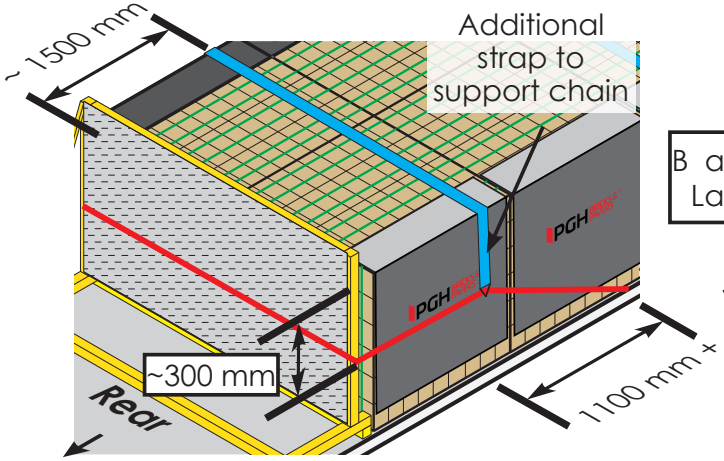
Chained load racks



Chain carrier angle

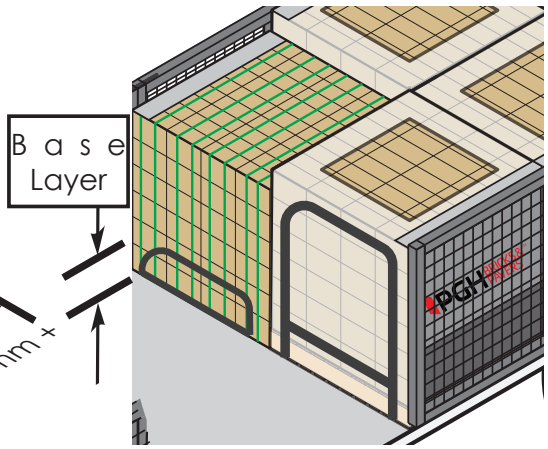


Intermediate Headboard



A movable headboard braced with a minimum of a single 8 mm transport chain can be used for blocking. Refer to table 1 for capacity

Blocking Hoops



Packaged packs with sufficient strength can be blocked with small blocking hoops. Shrink and Stretch Wrapped must be blocked full height.

Table 2: Maximum gap (mm) to rear tailboard

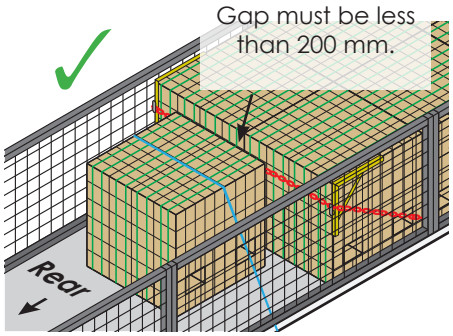
		Tailboard Rating (kg)							
		1000	2000	3000	4000	5000	6000	7000	8000
Payload (kg)	1000	200	400	600					
	1500	100	200	400	500	600			
	2000	N/A	200	300	400	500	600		
	2500		100	200	300	400	400	500	600
	3000		N/A	200	200	300	400	400	500
	3500			100	200	200	300	400	400
	4000			N/A	200	200	300	300	400
	4500				100	200	200	300	300
	5000				N/A	100	200	200	300
	5500					N/A	200	200	200
	6000						200	200	200
	6500						100	200	200
	7000						N/A	200	200
	7500							100	200

Single Packs/Pallets

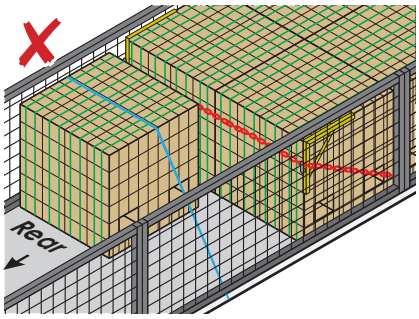
⚠ Single packs/pallets cannot be restrained by containment.

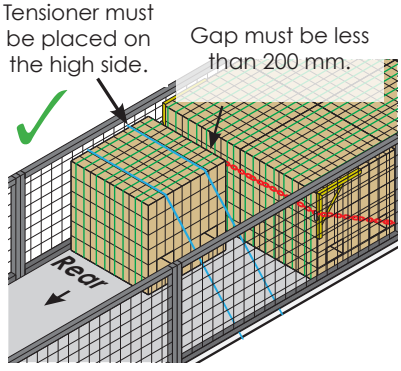
⚠ Place any single packs/pallets at the rear of a fully contained/blocked load and restrain them with tie-down

✓ Single packs/pallets placed centrally on deck require a minimum of one x 300 kg pre tension strap. (max allowable mass 1500 kg)

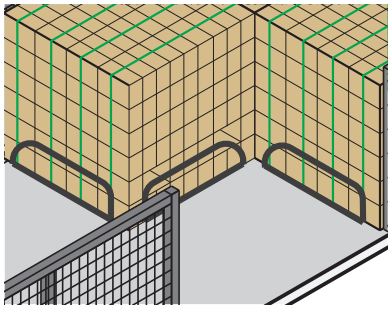


⚠ Single packs/pallets placed off centre require a minimum of two straps.

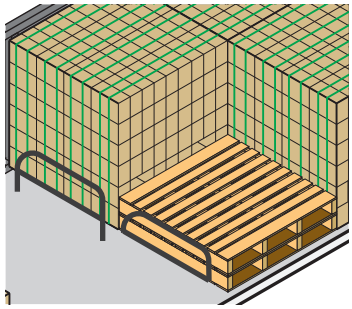




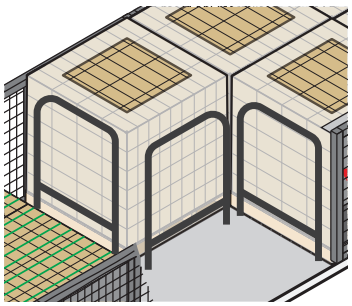
Example of sideways blocking:



Blocking hoops used to block gaps (side gates cut away for visibility)



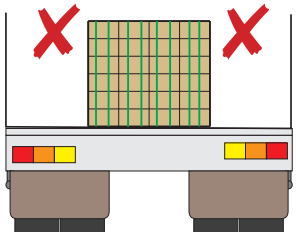
Empty pallets used to block side, hoops to block rear.



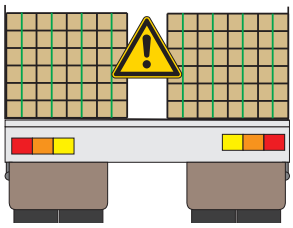
Shrink and Stretch Wrapped not meeting the performance standards must be blocked full height.

Rated Containment - Side Blocking

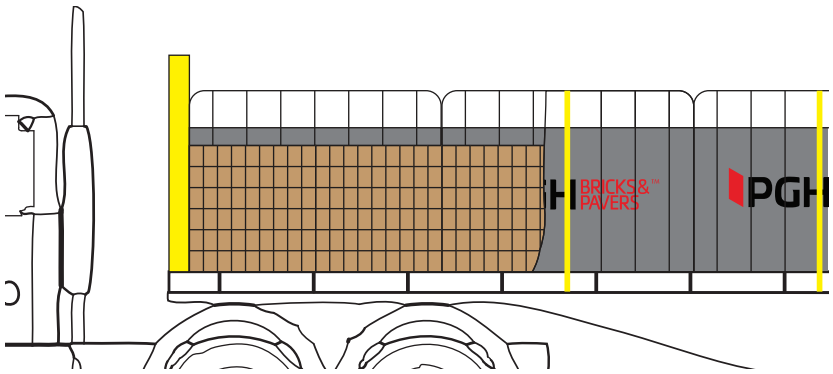
- ✓ All packs/pallets within a section should be butted together, (maximum 50 mm gaps) unless certified otherwise.
- ✓ Loads must be blocked using gates or drop-in hoop with a rated capacity of 50% of the load being blocked.
- ✓ Larger gaps (greater than 50 mm) must be filled by blocking hoops or other suitable methods.
- ✓ Blocking hoops must be at least the base layer of bricks rearwards.
- ✓ Blocking hoops must cover the base layer of bricks for sideways.
- ✓ When gaps along the truck are necessary for axle mass limits, front blocking of that section is required.
- ✓ When side blocking with drop in side gates, secure the side gate with strap. (Minimum 3 tongues per gate spaced max 900 mm, 25 SHS outer frame with 20 SHS internals or other certified gates).



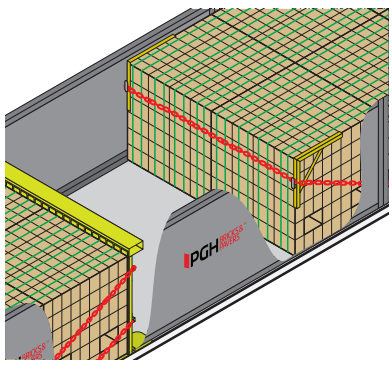
No sideways gaps greater than 50 mm without tie-down.



No gap greater than 50 mm



Side blocking by strapped drop-in gate. Tongues must be in slots to achieve blocking standards.



Blocking by mobile headboard (front), hinged gates (side) and chain carriers (rear)