

## IMPORTANT NOTICE - DISCLAIMER AND EXCLUSION - PLEASE CAREFULLY READ

- The information in this guide is not a product of warranty. To the maximum extent allowed by law, none of Omni-tuff Group Pty Ltd, all companies related to it, and the officers, employees and agents of any of them ("**Omni-tuff Parties or Engistics Parties**") will be liable for any act or omission that is said to give rise to any form of damages or loss of profit or interest or cost claims for any form of personal injury, property damage or consequential loss or claims arising from a death made by any person or entity arising from use of this Guide or any product displayed in it.
- All readers and users of this Guide are responsible for the correct use of the products displayed in it according to the individual conditions and requirements of any piece of equipment or other thing placed on them.
- No Omni-tuff Parties will be liable for any loss or damage of any form arising from use of the products displayed in this Guide which use does not comply with/or falls outside the scope of this Guide.
- This Guide is certified to comply with the requirements stipulated in the Performance Standards specified in Schedule 7 of the Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2018. Certification provided by RPEQ 21522, for Omni-tuff Group Pty Ltd. Compliance can only be achieved when all aspects of this Guide are adhered to in full by a user. Additional requirements may be necessary under some conditions that are outside the scope of this certification. In those circumstances you must contact Omni-tuff Group Pty Ltd before using any product displayed in this Guide.
- No changes to that certification are permitted unless first approved in writing by both Omni-tuff Group Pty Ltd and Engistics Pty Ltd.
- Any deviation from this Guide must first be approved in writing by Omni-tuff Group Pty Ltd and Engistics Pty Ltd.
- Copyright in the entirety of this document and any modifications or adaptations or variations to it at any time in the future remains the sole property of Omni-tuff Group Pty Ltd. It must not be reproduced in any material form and whether in hard copy or electronically except as permitted in writing by Omni-tuff Group Pty Ltd.

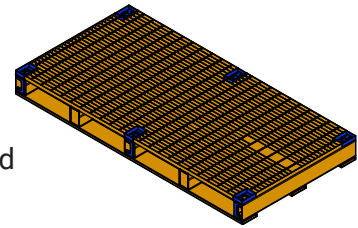
*Assess the condition of each Daywalk bolt before use. Discard bolts with visible signs of damage, including (but not limited to):*

- *Bending, damage or deformation of the threaded rod, washer plate or base plate*
- *Missing or damaged roll pins or spring washer*
- *Cracked or damaged welds, base plate or thread body*
- *Damaged or stripped threads on the bolt or nut*
- *Galvanisation or coating peeling off or exposed base metal*
- *Variation in the thread pitch in diameter or width for the nut or thread body*
- *Sharp or flaky threads on the nut or thread body*

*Bolts are recommended by the manufacturer to be single use only.*

## This Guide

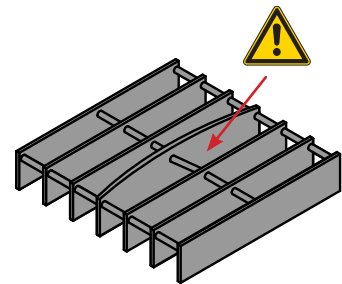
- Covers singular items secured to a Daywalk 3t rated steel pallet (SKU 13-PSGG2320) by Daywalk securing bolts, transported by road in Australia
- Meets the requirements of the Performance Standard forces specified in Schedule 7 of the Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2018



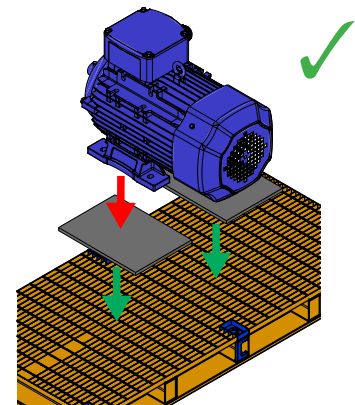
Daywalk 3t Rated Pallet

## Key Elements

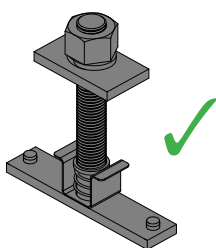
- ✓ Equipment must be in good working order
- ⚠ Damaged pallets should be inspected by a competent person to confirm their structural capacity before use
- ✓ Ensure all pallet bearers are in contact with the deck of the truck
- ✓ Place rubber with minimum coefficient of friction of 0.6 and minimum load capacity of 6.0 N/mm<sup>2</sup> between the item and pallet.
- ✓ Rubber must have capacity to withstand load without failing (i.e. crushing, tearing or disintegrating etc.)
- ✗ No low friction surfaces (i.e. steel on steel)
- ⚠ Rubber may be required between the pallet and the deck of the truck to permit application of adequate restraint
- ✓ Use Daywalk securing bolts to attach the item to the pallet
- ✓ Bolts must be tightened to the required torque specified in Table 5
- ✓ Mounting points on the item must be strong enough to withstand the applied forces (Performance Standard + bolt torque)
- ✗ Do not apply lashings over the item - this will apply additional load to the pallet and may overload it
- ✓ Use spreader plates where required to increase the load capacity of the pallet



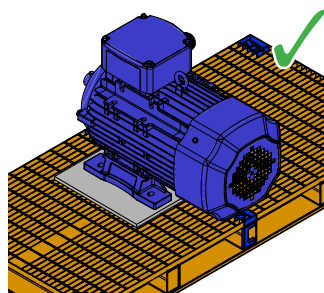
Damaged load bars



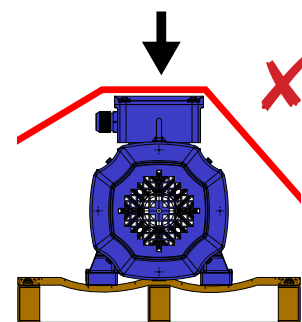
Rubber between pallet and item



Daywalk securing bolt



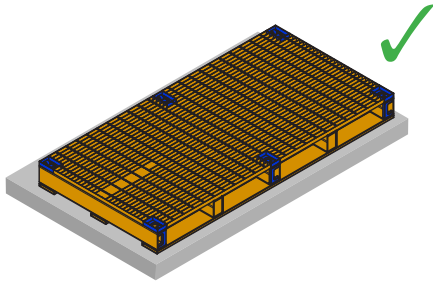
Spreader plate



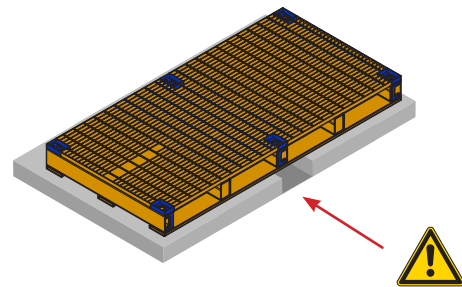
Do not lash over item

## How to Use

- ✓ Place the pallet on a rigid surface and ensure all bearers of the pallet are supported

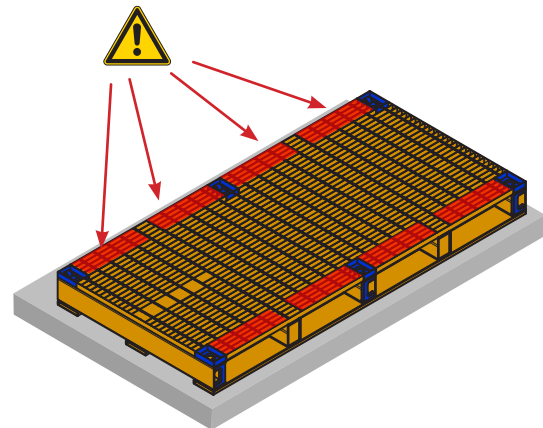
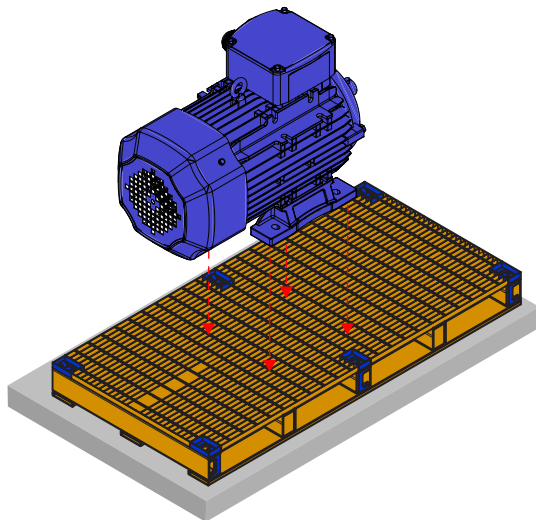


All bearers supported

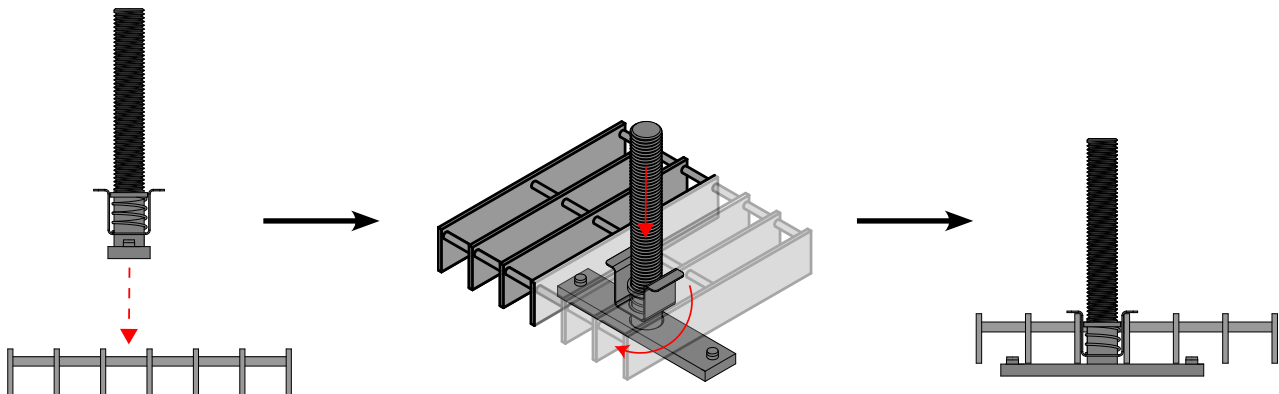


Middle bearer unsupported

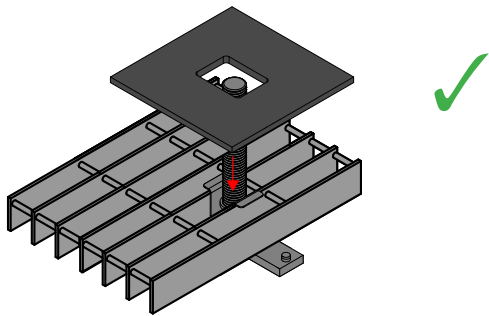
- ✓ Identify locations where securing bolts can be placed to secure the item to the pallet. The item should be placed such that the centre of gravity is centred on the pallet.
- ⚠ The load capacities identified in this document do not apply to the load bars adjacent to the lashing points - contact Daywalk for more information



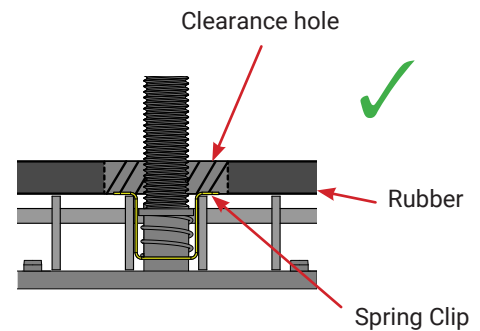
- ✓ Insert bolt between mesh, rotate and hold in place with the spring clip at each location



- ✓ Place rubber over bolt at each location
- ✓ Rubber must have a hole cut in it to clear the spring clip

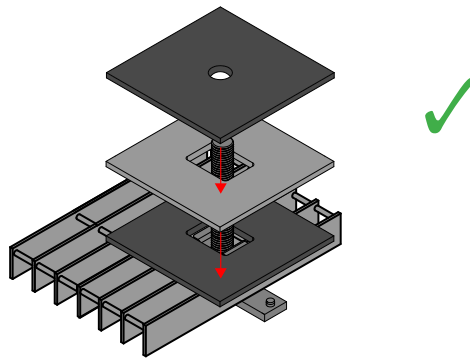


Rubber strip over bolt



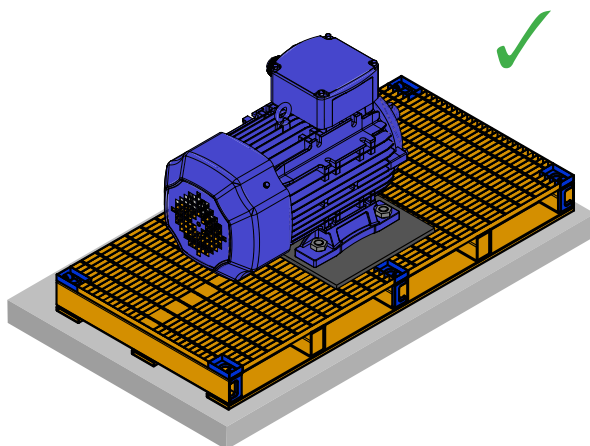
Rubber clearance

- ✓ If spreader plates are required, place spreader plate followed by another piece of rubber over bolt at each location

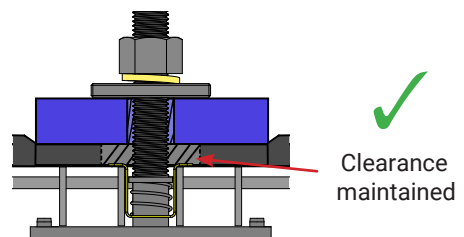


Spreader plate

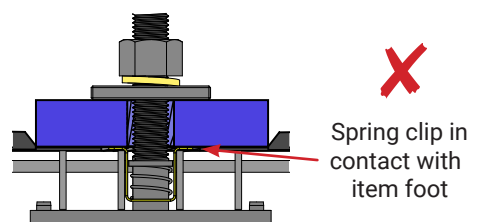
- ✓ Load item onto pallet and secure by tightening bolts to the required torque
- ✓ Rubber must have capacity to prevent contact between the item (or spreader plate) and the spring clip under the applied load



Item secured to pallet



Clearance maintained



Spring clip in contact with item foot



## Load Capacity - Forklift Lift

- ✓ The load capacity of the pallet depends on the total number of the area contact points and of each
- ⚠ Load capacity is also affected by the stability of the item - Table 1 must be read in combination with Tables 2 and 3
- ✓ The capacity of the pallet is determined by identifying the relevant value from each Table (1, 2 and 3) and taking the lesser of the three

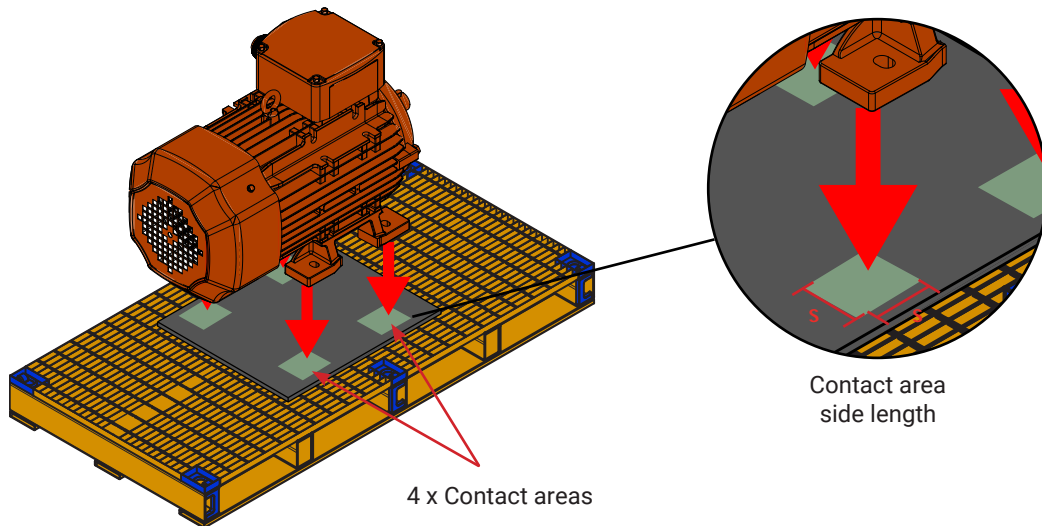
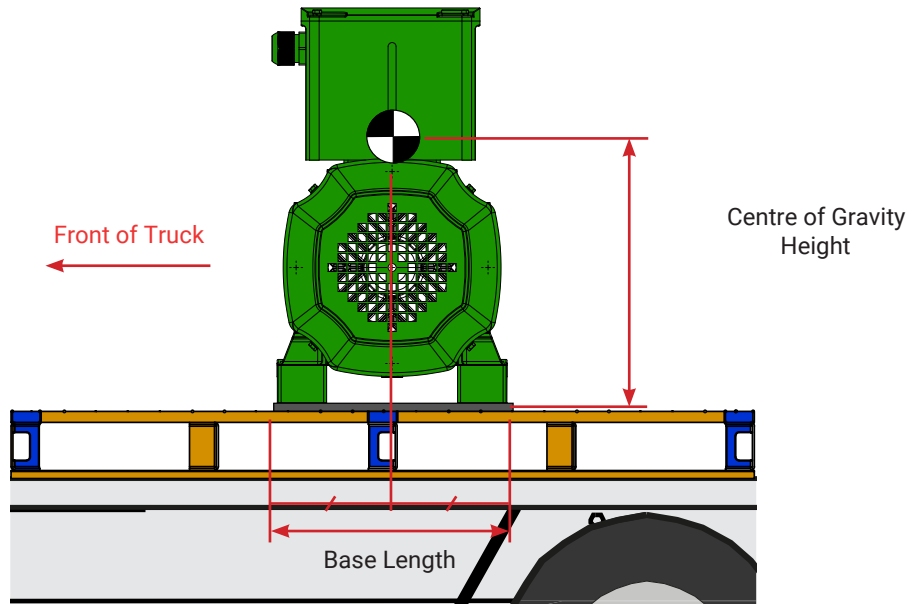


Table 1: Maximum Load Capacity (not for crane lift)

Contact Area Side Length (S)	Number of Contact Areas			
	2	3	4	6
100 - 125mm	95kg	140kg	190kg	285kg
126 - 150mm	145kg	220kg	295kg	445kg
151 - 175mm	215kg	320kg	430kg	645kg
176 - 200mm	290kg	435kg	585kg	875kg
250 x 250mm spreader plate	580kg	875kg	1170kg	1760kg
400 x 150mm spreader plate	560kg	845kg	1125kg	1690kg
400 x 400mm spreader plate	1500kg	2255kg	3000kg	3000kg
500 x 350mm spreader plate	1645kg	2465kg	3000kg	3000kg

## Load Capacity - Load Stability

- ✓ The maximum load capacity of the pallet is also dependent on the stability of the item in the forwards and sideways directions (i.e. the base width, base length and centre of gravity height)
- ✓ Tables 2 and 3 specify the maximum pallet capacity based on load stability in the forwards and sideways directions respectively
- ⚠ Items may topple **forwards** if they have a narrow **base length**

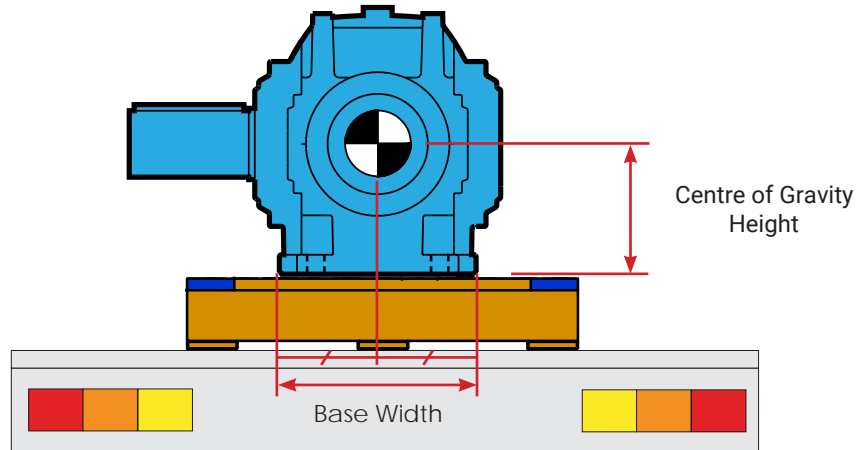


- ✓ The maximum **forwards** toppling load capacity for items with a centre of gravity at the mid point of the base length is shown in Table 2

Table 2: CoG Limitations - Forwards Toppling

Base Length	Centre of Gravity Height (mm)				
	200 - 400	401 - 600	601 - 800	801 - 1000	1001 - 1200
400 - 500mm	90kg	35kg	20kg	15kg	10kg
501 - 600mm	190kg	55kg	30kg	20kg	15kg
601 - 700mm	805kg	90kg	45kg	30kg	20kg
701 - 800mm	3000kg	145kg	65kg	40kg	30kg
801 - 900mm	3000kg	270kg	90kg	50kg	35kg
901 - 1000mm	3000kg	810kg	125kg	65kg	45kg
1001 - 1100mm	3000kg	3000kg	190kg	90kg	55kg
1101 - 1200mm	3000kg	3000kg	325kg	115kg	70kg

 Items may topple **sideways** if they have a narrow **base width**




 The maximum **sideways** toppling load capacity for items with a centre of gravity at the mid point of the base width is shown in Table 3

Table 3: CoG Limitations - Sideways Toppling

Base Width	Centre of Gravity Height (mm)				
	200 - 400	401 - 600	601 - 800	801 - 1000	1001 - 1200
400 - 500mm	3000kg	105kg	50kg	35kg	25kg
501 - 600mm	3000kg	270kg	90kg	50kg	35kg
601 - 700mm	3000kg	3000kg	160kg	80kg	50kg
701 - 800mm	3000kg	3000kg	375kg	125kg	75kg
801 - 900mm	3000kg	3000kg	3000kg	215kg	105kg
901 - 1000mm	3000kg	3000kg	3000kg	485kg	160kg
1001 - 1100mm	3000kg	3000kg	3000kg	3000kg	270kg
1101 - 1200mm	3000kg	3000kg	3000kg	3000kg	590kg

## Required Bolt Torque

- ✓ The required bolt torque for Daywalk bolts is shown in Table 5
- ⚠ Exceeding the bolt torques specified below may damage the rubber between the item and the pallet
- ✓ A spring washer must always be placed between the nut and washer plate to prevent loosening during transport

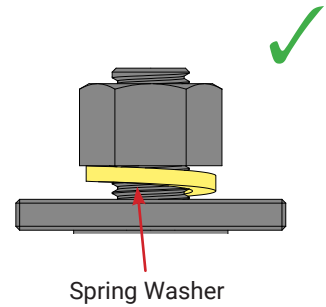
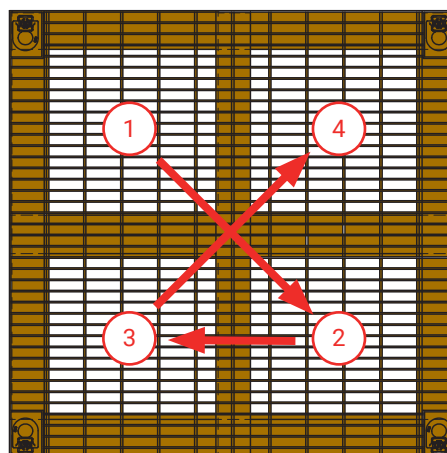


Table 5: Required Bolt Torque

Item Weight	Number of Bolts			
	2	3	4	6
0 - 500kg	20 Nm	20 Nm	20 Nm	20 Nm
501 - 1000kg	30 Nm	20 Nm	20 Nm	20 Nm
1001 - 1500kg	45 Nm	30 Nm	25 Nm	20 Nm
1501 - 2000kg	55 Nm	40 Nm	30 Nm	20 Nm
2001 - 2500kg	70 Nm	50 Nm	35 Nm	25 Nm
2501 - 3000kg	85 Nm	55 Nm	45 Nm	30 Nm

## Bolt Torque Sequence

- ✓ Bolts should be torqued in a 'criss-cross' sequence over multiple passes to ensure all bolts achieve the required torque
- ✓ Incrementally increase the applied torque with each pass until the required torque is achieved



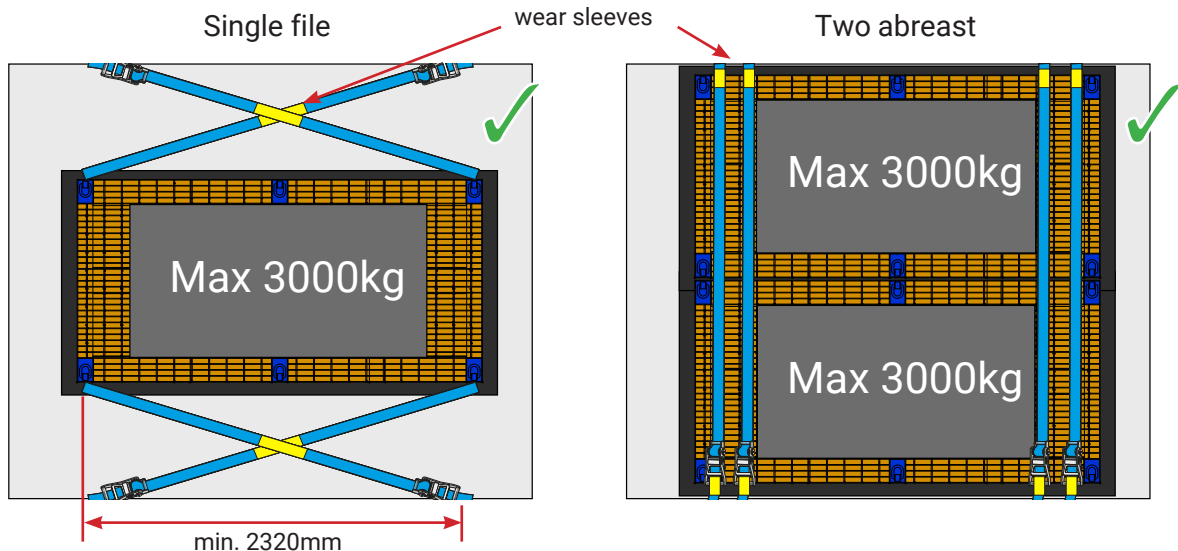
(A) Bolt Location

Example Bolt Torque 'Criss-Cross' Sequence

## Restraint of Pallet on Vehicle

- ✓ Restraint of the pallet to the vehicle should be per the options below
- ✓ Place rubber with minimum coefficient of friction of 0.6 and minimum load capacity of 6.0 N/mm<sup>2</sup> between the pallet and the deck
- ✓ Lashings must be prevented from wear
- ⚠ All items on the pallet must be adequately secured to the pallet to meet the Performance Standard forces
- ✓ Webbing straps must be min. 50mm with a minimum lashing capacity of 2500kg.f, conforming to AS/NZ 4380 and tensioned to a minimum pre-tension of 300kg.f
- ✓ Chains must be min. 8mm transport chain with a minimum lashing capacity of 3600kg.f, conforming to AS/NZ 4344 and tensioned to a minimum pre-tension of 750kg.f

### Webbing Straps:



### Chain:

