Load Restraint Guideline
TRU-SPEC® steel

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1. This Guideline applies for:

- TRU-SPEC® steel, with a minimum sheet width of 800 mm and a maximum sheet width of 1800 mm.
- TRU-SPEC® steel that is covered with VCI-paper wrapping or mixture of wrapped and unwrapped TRU-SPEC® steel in the same stack or completely unwrapped TRU-SPEC® steel.
- TRU-SPEC® steel that is transported by road and restrained to this certified minimum standard which is designed to meet the Australian Load Restraint Performance Standards.

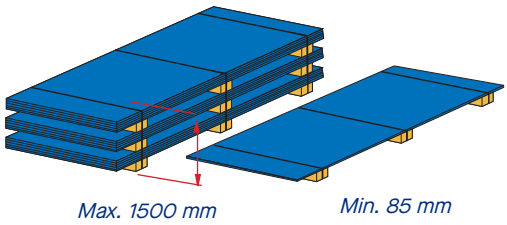

Fig.2.1: TRU-SPEC® steel packs are covered with a low friction plastic paper.

2. Essential Requirements

- Position the packs single file on the centre line of the vehicle. (Fig.2.2)
- **Base Dunnage - Use the rubber covered dunnage** supplied or place rubber between the top of the base dunnage and the pack.
- **All intermediate dunnage is to be rubber covered dunnage only.** Rubber is to be attached to the timber & covering at least 90% of two opposing faces. (Fig.2.3)
- Align dunnage vertically when packs are stacked on top of one another. (Fig.2.5)
- Product stacks are to be a minimum of 85 mm and a maximum of 1500 mm above the vehicle deck. (Fig.2.1)
- All restraints must be 8 mm transport chain with a minimum 3.0 tonnes lashing capacity to Australian Standard AS/NZS4344.
- **The minimum number of chains required MUST comply with Table 1 and include 2 belly wrapped chains.**
- All belly wrapped chains must be secrured with two binders per chain (one each side).
- Place edge protectors between the plate packs and the chains.
- **For uneven length packs in a single stack either:**
  - Place all required chains over the top of the highest pack and add an extra chain over the longest pack if the difference between the pack lengths is greater than 1.5 m. (Fig.3.1) or;
  - Treat each pack size as an individual load and restrain as per the requirements of Table 1. (Fig.3.4)
- Load Chokers may be used in place of belly wrapped chains and secured with one binder per chain.
- **Do NOT** load packs if the packaging has visible faults such as broken or loose straps. Contact local loading staff if in doubt.

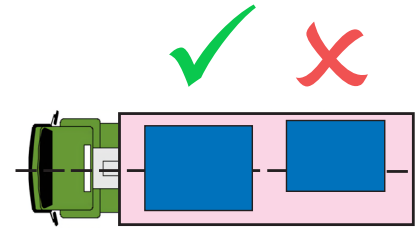

Fig.2.2: Place packs on the centre of the vehicle.

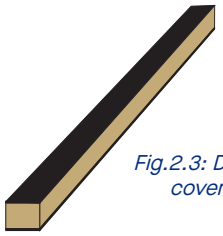

Fig.2.3: Dunnage must be covered in rubber.

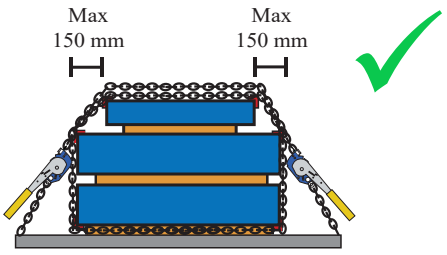

Fig.2.4: Maximum pack width difference within a stack must not exceed 300mm. i.e. Max 150mm gap on either side.
Wider packs must be on the bottom.

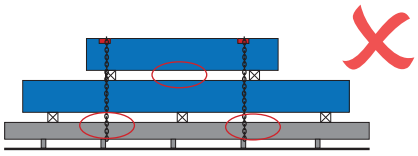

Fig.2.5: Do NOT misalign bearers and chains, as the packs may bend and become damaged.

3. Chain & Loading Configurations

- The following figure show examples of the correct loading methods. Note: Binders not displayed for clarity.
- Belly wrapped chains may be split between layers, as long as all packs have a minimum of 2 belly wraps.

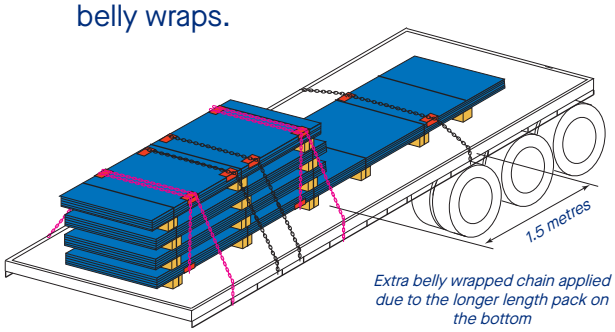

Fig.3.1: Total load 12 tonnes with uneven length packs:
- Total stack height is 1100 mm.
- Four (4) chains are required (including 2 belly wrapped).
- Extra Over the Top chain over the base layer as the product length is more than 1.5 m longer than the main stack.

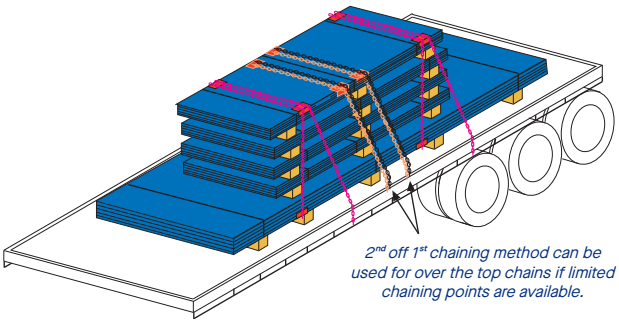

Fig.3.2: Total load 18 tonnes with front of packs staggered:
- Total stack height is 900 mm.
- Six (6) chains are required (including 2 belly wrapped).
- Chains need to be placed over the top layer.
- Extra chain over the bottom pack is not required as lengths are less than 1.5 m either side of the main stack.

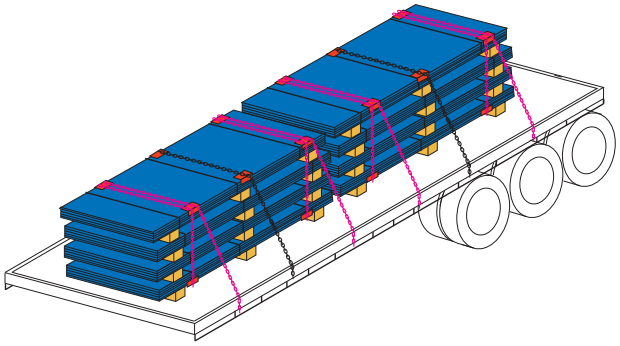

Fig.3.3: Two 8 tonne stacks loaded one behind the other:
- Two individual loads with a total stack height of 600 mm
- Three (3) chains are required (including 2 belly wrapped) per stack.

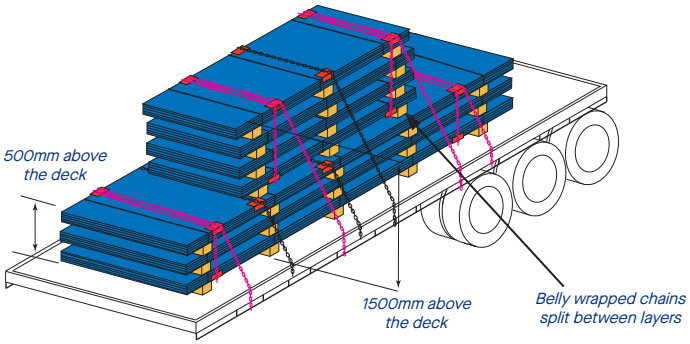

Fig.3.4: Total load 22 tonnes treated as two individual loads:
- Long stack 12 tonnes, Four (4) chains are required (including 2 belly wrapped).
- Short stack 10 tonnes, Three (3) chains are required (including 2 belly wrapped).

4. Load Restraint Requirements

Table 1. TRU-SPEC® steel on Rubber Covered Dunnage

Stack Weight (Tonnes)	No. of Chains Required - Minimum 2 Belly Wrapped Chains		
	Stack Height 85 - 499mm	Stack Height 500 - 999mm	Stack Height 1000 - 1500mm
5	3	2	2
10	4	3	3
15	6	4	4
20	8	6	5
25	10	7	6

Design Parameters: Restraint System - Combined (tensions with load shift to 3T), Friction - Static = 0.398 / Dynamic 0.318