# TATA STEEL



# LOAD RESTRAINT GUIDELINE AFL Sheet Packs

#### 1. This guideline applies to:

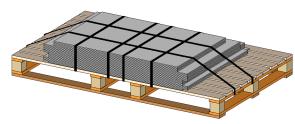
- Sheet packs generated on the Automotive Finishing Line:
  - Banded securely to wooden pallets
  - Centralised longitudinally on the pallets
  - Stacked flush to one edge of the pallets

The friction factor for this product within the pack is taken as  $\mu$ =0.25, and that between wooden pallet and trailer deck is taken as  $\mu$ =0.45.

#### 2. Essential requirements

- Sheet material must be secured to the pallets with at least **6 steel bands**, tensioned to at least **175 daN**.
- All restraints must be web lashings compliant with EN 12195-2, minimum lashing capacity LC 2000 daN.
- Edge protection MUST be used on every contact point between the straps and the sheets or any other sharp edges.

### 3. Overview of restraint system - road transport



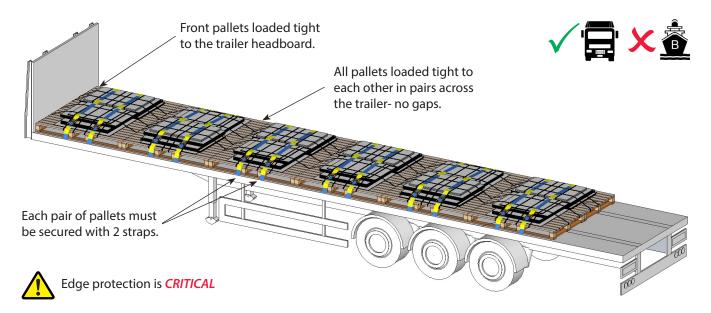
Maximum stack weight: 1.5 tonnes

LC 2000 daN minimum webbing straps: up to 14 may be required.



Edge protection: as required.

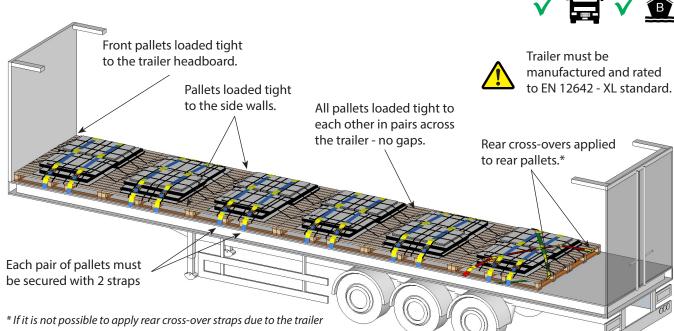




This Load Restraint Guideline has been designed and tested to meet the forces for road and sea transport as stated in EN 12195-1:2010 and VDI 2700.

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#### 4. Overview of restraint system - export loads

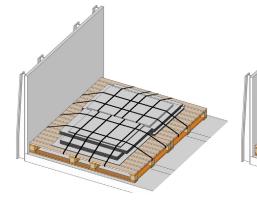


type straps can be applied round the pallets instead.

#### 5. Material stacking

There are two acceptable options for loading the pallets in pairs across the trailer.

Note: The main disadvantage of Option 2 is that the stack of sheets may move towards the centre of the trailer as the load restraint straps are tightened. The degree of movement will depend on the tension in the steel banding and the shape of the stack. If the movement is significant the lateral steel bands may become loose and they will need to be replaced.



Loading Option 1 PREFERRED OPTION:

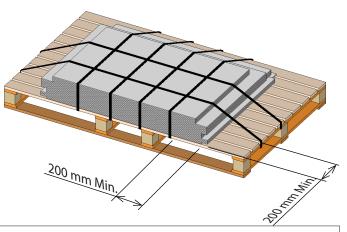
Flush faces of the sheet stacks at the centre of the trailer

Loading Option 2:

Flush faces of the sheet stacks at the outside of the trailer

### 6. Stack banding requirements

- Minimum of 6 steel bands per pack.
- Fit 2 longitudinal bands and 4 lateral bands.
- Fit bands near pallet cross members where possible.
- Fit bands at least 200 mm from sheet edges.
- Steel bands must be a minimum of 19 mm wide and 0.58 mm thick.
- Bands should be tensioned to 175 daN minimum.



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