

LOAD RESTRAINT GUIDELINE

Construction Engineering Products

1. This guideline applies to:

- The transportation of construction engineering products by road and sea.

*The friction factor for galvanised product on product, determined as per EN 12195-1:2010 Annex B.1.2, is $\mu=0.35$
and for galvanised product on timber dunnage, determined as per EN 12195-1:2010 Annex B.1.2, is $\mu=0.44$*

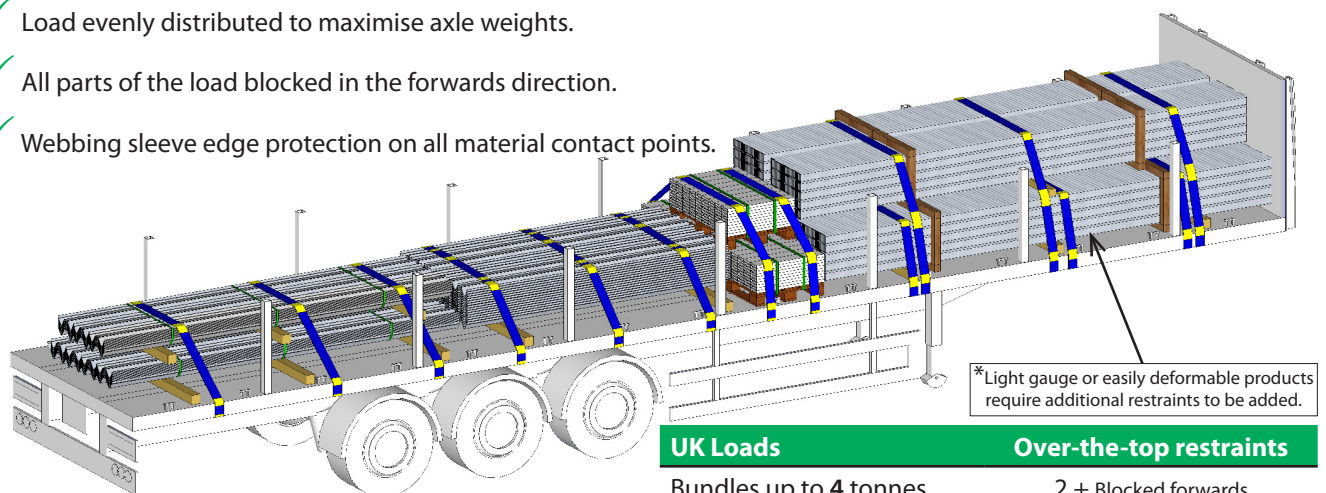
2. Essential requirements

- All webbing restraints must be compliant with EN 12195-2, with a minimum rating of LC 2000 daN.
- Webbing sleeve edge protection **MUST** be used on all unprotected corners and within 300mm of any banding.
- Semi-trailer headboards must be rated to a minimum load bearing capacity of 10t.
- Base timbers must have a minimum cross-section of 75 mm x 75 mm.
- Suitable dunnage must be used to control any load gaps across the load.
- Maximum gap between bundles of 50mm in the forwards direction.
- *Light gauge material must have additional restraints added due to the minimal STF that can be applied.

3. Restraint systems for UK loads

3.1 Flatbed trailers

- ✓ Load to a minimum 10t rated headboard.
- ✓ Load evenly distributed to maximise axle weights.
- ✓ All parts of the load blocked in the forwards direction.
- ✓ Webbing sleeve edge protection on all material contact points.



*Light gauge or easily deformable products require additional restraints to be added.

UK Loads	Over-the-top restraints
Bundles up to 4 tonnes	2 + Blocked forwards
Bundles up to 6 tonnes	3 + Blocked forwards
During severe winter weather advisory periods	+ Anti-Slip Matting

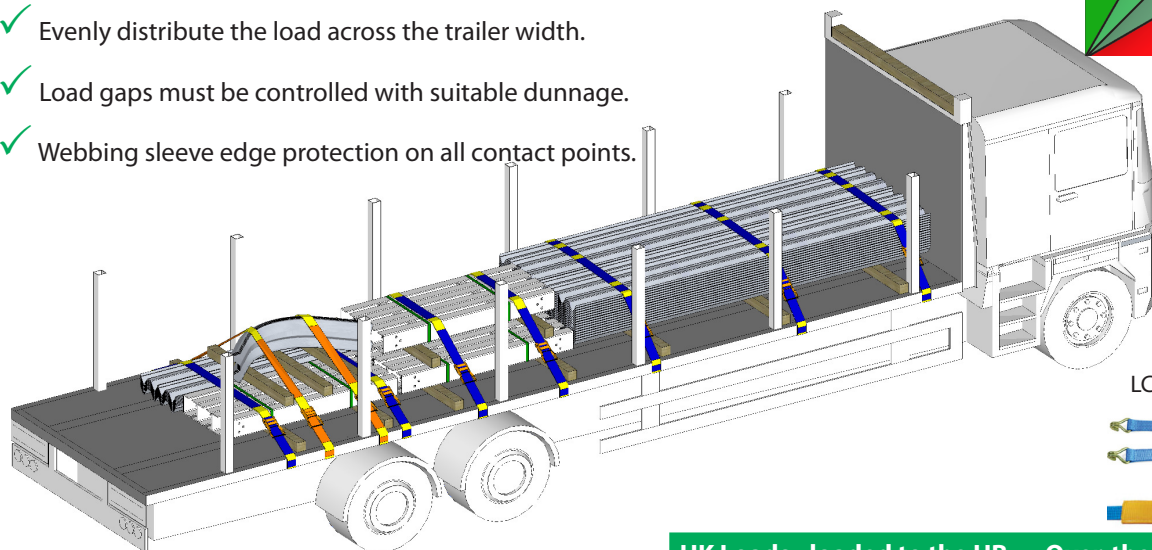
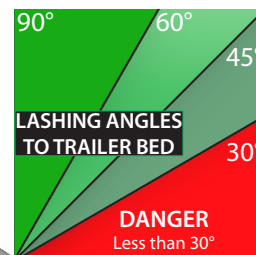
Side pins must be fitted to loads where possible.

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3.2 Rigid vehicles

- ✓ Ensure adequate lashing angles can be achieved on all loads.
- ✓ Load to the headboard and maximise the use of the trailer length.
- ✓ Evenly distribute the load across the trailer width.
- ✓ Load gaps must be controlled with suitable dunnage.
- ✓ Webbing sleeve edge protection on all contact points.



Side pins must be fitted to loads where possible.

LC 2000 daN straps

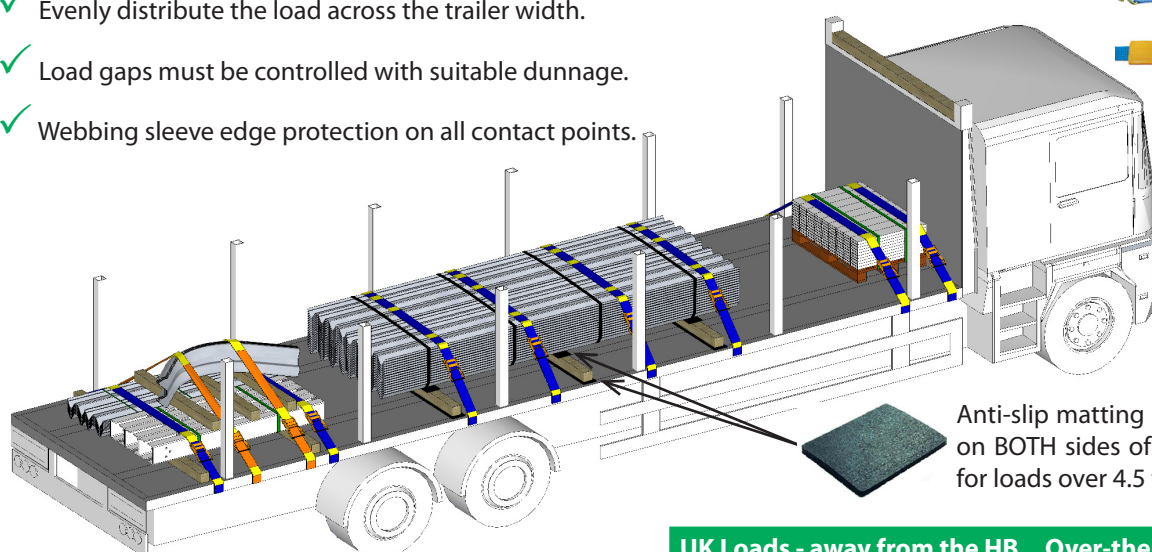


UK Loads - loaded to the HB	Over-the-top restraints
Bundles up to 3 tonnes	2
Bundles up to 4.5 tonnes	3
During severe winter weather advisory periods	+ Anti-Slip Matting

3.3 Loaded away from the headboard (Unitised products on rigid vehicles only)

- ✓ Evenly distribute the load across the trailer width.
- ✓ Load gaps must be controlled with suitable dunnage.
- ✓ Webbing sleeve edge protection on all contact points.

LC 2000 daN straps



Side pins must be fitted to loads where possible.

Anti-slip matting must be used on BOTH sides of base timbers for loads over 4.5 tonnes.

UK Loads - away from the HB	Over-the-top restraints
Bundles up to 3 tonnes	2
Bundles up to 4.5 tonnes	3
Bundles up to 12 tonnes	4 + Anti-slip matting
During severe winter weather advisory periods	+ Anti-slip matting



All non-unitised, and multiple bundled materials must be blocked in the forwards direction.

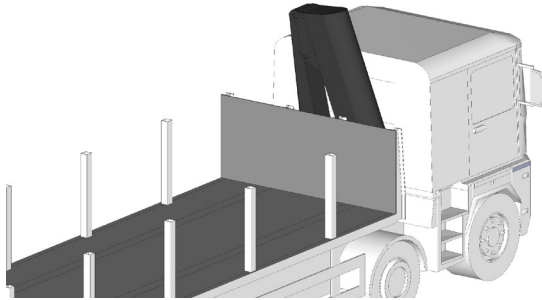
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4. Rigid vehicle mounted cranes

4.1 Forward blocking

- Any forward blocking must cover the height of the load.

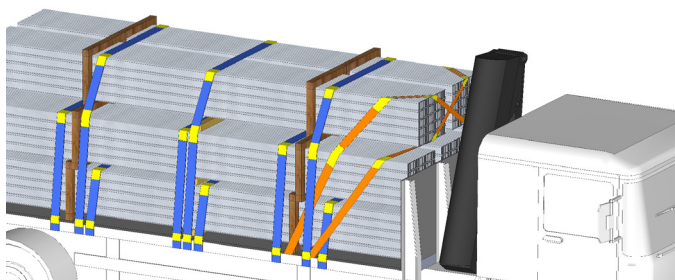


X Under **NO** circumstance should the vehicle mounted crane be used for forwards blocking.

4.2 Forward cross-over restraint

- Multiple bundled products must be blocked in the forwards direction at all times.

- Cross-over restraints with edge protection must be added if the load is higher than the headboard.



LC 2000 daN straps

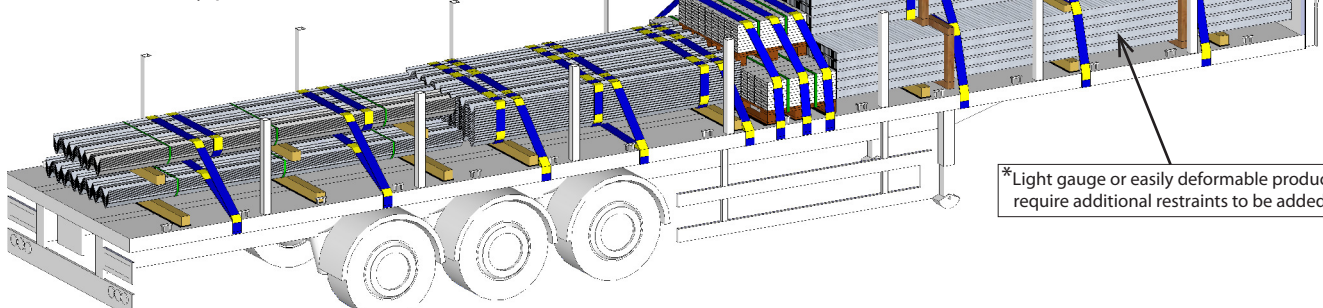


5. Export load requirements

5.1 Opposing-loops restraints

- Opposing-loop restraints must be added to Export Loads.
- Where opposing-loops are unable to be used (such as palletised goods), additional over-the-top restraints must be applied.

UK Loads - Block to HB	Pairs of opposing loops
Bundles up to 4 tonnes	2 + ASM
Bundles up to 6 tonnes	3 + ASM
During severe winter weather advisory periods	+ 1 Pair of opposing-loops + ASM



* Light gauge or easily deformable products require additional restraints to be added.

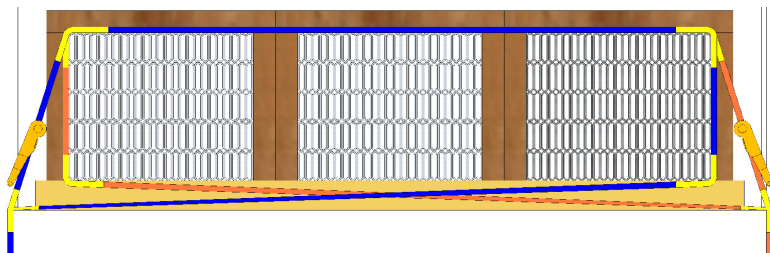
Note: Should lashing points not be available, the restraints must be secured in such a way that prevent the hooks sliding along the side rails.

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5.2 Opposing-loops application

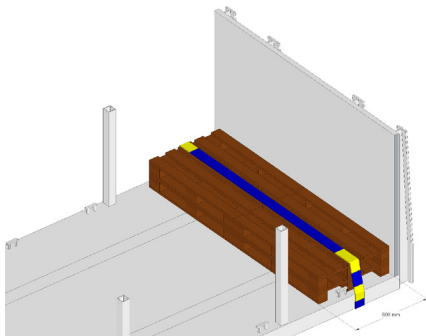
- ✓ Lashing points rated to a minimum of 2 tonnes.
- ✓ Minimum of 2 pairs of opposing-loops per bundle length.
- ✓ If product is blocked to the headboard, restraints can be attached to the side rails.



- ✓ Two webbing straps and 2 tensioners to make up one pair of opposing loop restraints.
- ✓ Webbing sleeve edge protection must be used on all contact points.

5.3 Forward blocking on export loads

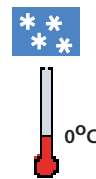
- To satisfy axle weights, refer to *TIS-0012 Axle weights and load distribution*.
- ALL export loads must be blocked in the forwards direction.



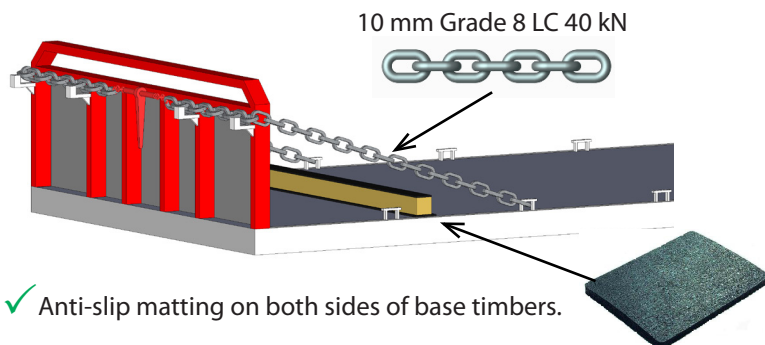
- ✓ If using pallets: trailers must have a minimum of a 10 tonne rated headboard.
- ✓ Any false headboard must be at least the same width as the product.

6. Severe winter weather advisory periods

- Anti-slip matting to be placed **on both sides** of ALL base timbers for ALL loads.
- Semi-trailers with headboards rated to 10 tonnes or above, or approved by Tata Steel Load Restraint Engineers, or trailers with headboards manufactured to EN 12642 Code XL, can be loaded with product blocked to the trailer headboard to provide forward restraint.
- If the headboard strength cannot be verified, the headboard will require lashing back with a minimum 10 mm Grade 8 LC 40 kN (as shown)



- ✓ Lash back the headboard.



OR



- ✓ Anti-slip matting on both sides of base timbers.

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