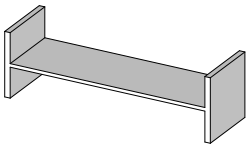
TECHNICAL ADVICE DOCUMENT

TAD-0139 Non-Bundled Sections using Webbing Straps

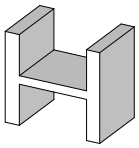
BUILDING STRONGER FUTURES 06/2025

1. This guideline applies to:

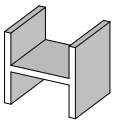
- Structural sections as listed below, loaded web horizontal in vertical tiers on timber dunnage.



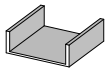
Universal beams



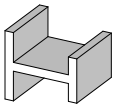
Universal columns



Universal bearing piles



Parallel flange channels



Asymmetric beams

- Mill finish steel-on-steel static coefficient of friction as determined as per *EN 12195-1:2010 Annex B.1.2 is μ=0.42*

Note: ***If steel is painted or galvanised it must be classed as low friction and additional restraint will be required.***

2. Essential requirements

- When loading to the headboard, check the headboard type to determine the restraint requirements for the load.
- Trailer headboards rated to EN12642 Code XL with a minimum height of 1500 mm (Code L restraint option available in Section 3.2).
- Anti-slip matting (minimum of 8mm thick) to be placed beneath ALL base timbers.
- A minimum 4-off full width base timbers with a cross section of 150 mm x 150 mm on standard loads and 5-off on extendable trailers.
- All restraints must be a minimum of LC 2000daN Webbing Straps and must be compliant with EN 12195-2.
- Webbing sleeve edge protection on all material contact points.
- Chain gaps must be controlled at all times as per *TIS-0007 Controlling chain gaps in loads*.
- Side pins fitted for loading and unloading safety on all loads.
- Refer to *TIS-0012 Axle weights and load distribution* for correct product positioning.

3. Overview of restraint system

3.1 UK Road & Export loads (up to 25 tonnes) loaded to a Code XL trailer headboard

For ALL loads up to 25 tonne loaded to Code XL headboard:

- Restraints are a minimum of 500 mm from front and rear of product.
- Load maximum of 100 mm from the headboard.
- ALL loads must be built in a pyramid configuration.

✓ Side pins fitted to all loads

✓ Load to Code XL headboard

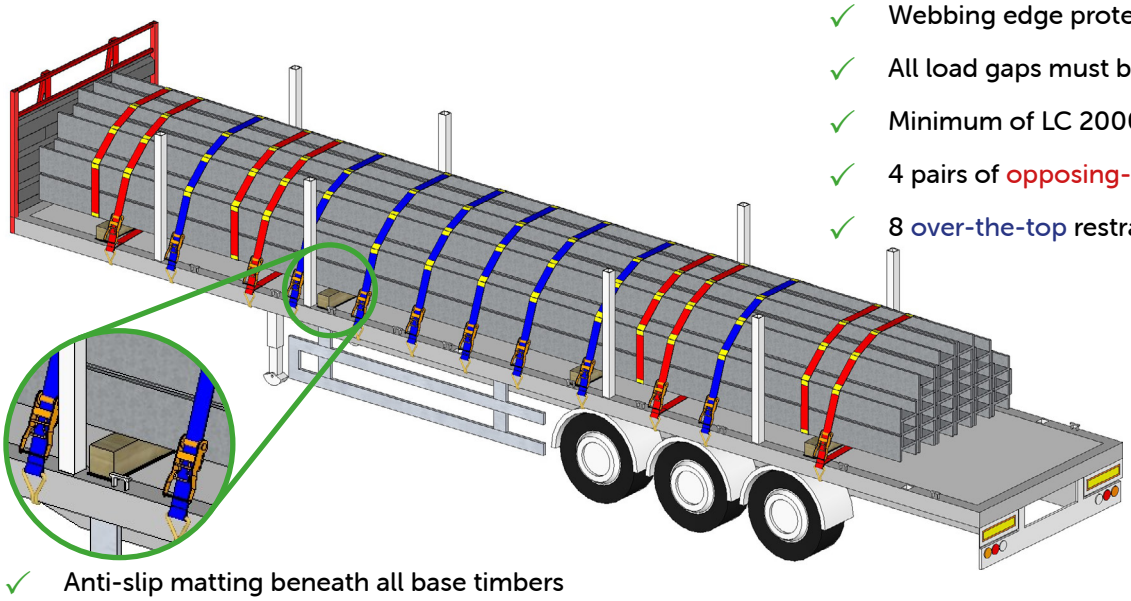
✓ Webbing edge protection where required.

✓ All load gaps must be controlled

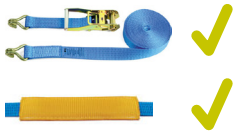
✓ Minimum of LC 2000daN webbing straps

✓ 4 pairs of opposing-loops

✓ 8 over-the-top restraints



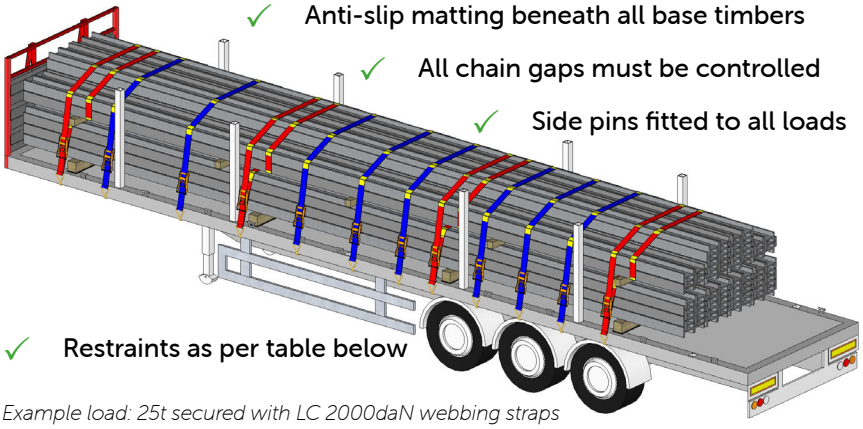
LC 2000 daN straps



✓ Anti-slip matting beneath all base timbers

This Technical Advice Document has been designed to meet the forces for road transport as stated in EN 12195-1:2010 and VDI 2700.

3.2 UK Road & Export layered loads blocked to the headboard



- ✓ Anti-slip matting beneath all base timbers
- ✓ All chain gaps must be controlled
- ✓ Side pins fitted to all loads
- ✓ Restraints as per table below

Example load: 25t secured with LC 2000daN webbing straps

Opposing loops can be applied around the entire load, or around the top layer as shown.

Table 1: Loaded to Code XL headboard

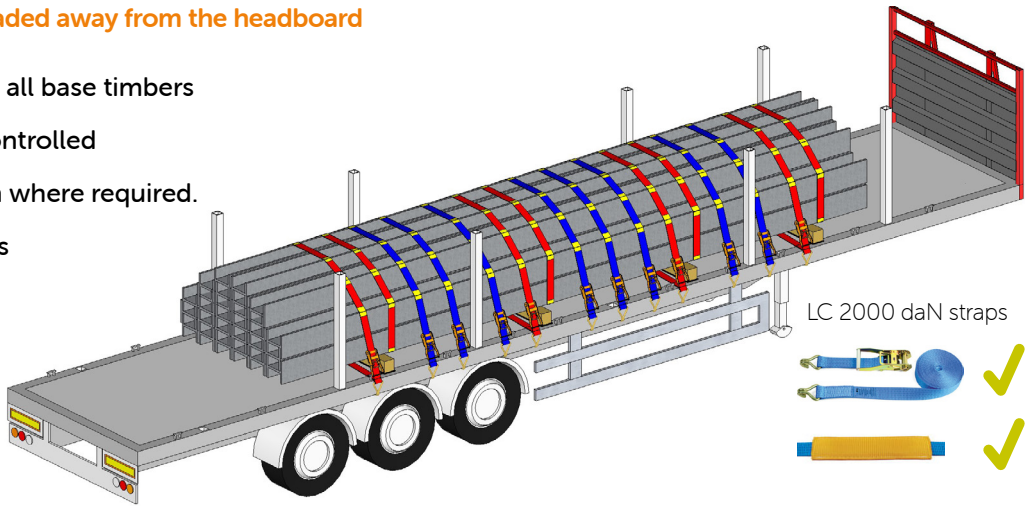
Load	Opposing Loops		Over-the-top		Total
0-15 t	3 pairs	+	1	=	7
15-20 t	3 pairs	+	3	=	9
20-25 t	4 pairs	+	5	=	13
25-28 t	4 pairs	+	8	=	16

Table 2: Loaded to standard Code L headboard

Load	Opposing Loops		Over-the-top		Total
0-15 t	3 pairs	+	4	=	10
15-20 t	3 pairs	+	7	=	13
20-25 t	4 pairs	+	10	=	18
25-28 t	4 pairs	+	15	=	23

3.3 UK Road & Export loads loaded away from the headboard

- ✓ Anti-slip matting beneath all base timbers
- ✓ All chain gaps must be controlled
- ✓ Webbing edge protection where required.
- ✓ Side pins fitted to all loads



LC 2000 daN straps

Table 3: Loaded away from the headboard

Load	Opposing Loops		Over-the-top		Total
15-20 t	3 pairs	+	4	=	10
20-25 t	4 pairs	+	4	=	12
25-28 t	4 pairs	+	8	=	16

- ALL parts of the load must be fully secured at all times.
- Additional restraints must be applied for winter weather advisory periods.

4. Pyramid load build

A pryamid load will consist of a maximum of 2 tiers of product in the middle of the load and must have good lashing angles between all tiers.

- The restraint must deflect by a minimum of 20 degrees from one tier to the next.
- Where mixed section sizes are loaded in tiers, all product must be able to be restrained.
- Beams and columns must not be loaded together in the same tier.
- Multi-layer loads must maximise the trailer width on lower layers to form a pyramid load build.
- Intermediate timber dunnage must be 100 mm x 100 mm square section, and span the full width of the product below.

**Painted or galvanised products will require 2 additional over-the-top restraints to be applied to the load in addition to the tables above.*

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