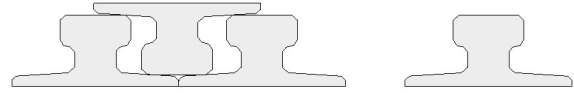


## 1. This guideline applies to:

- All crane rail sections produced at British Steel, Special Profiles.
- Road transport and sea transport to mainland Europe by North Sea or English Channel ferry crossings.



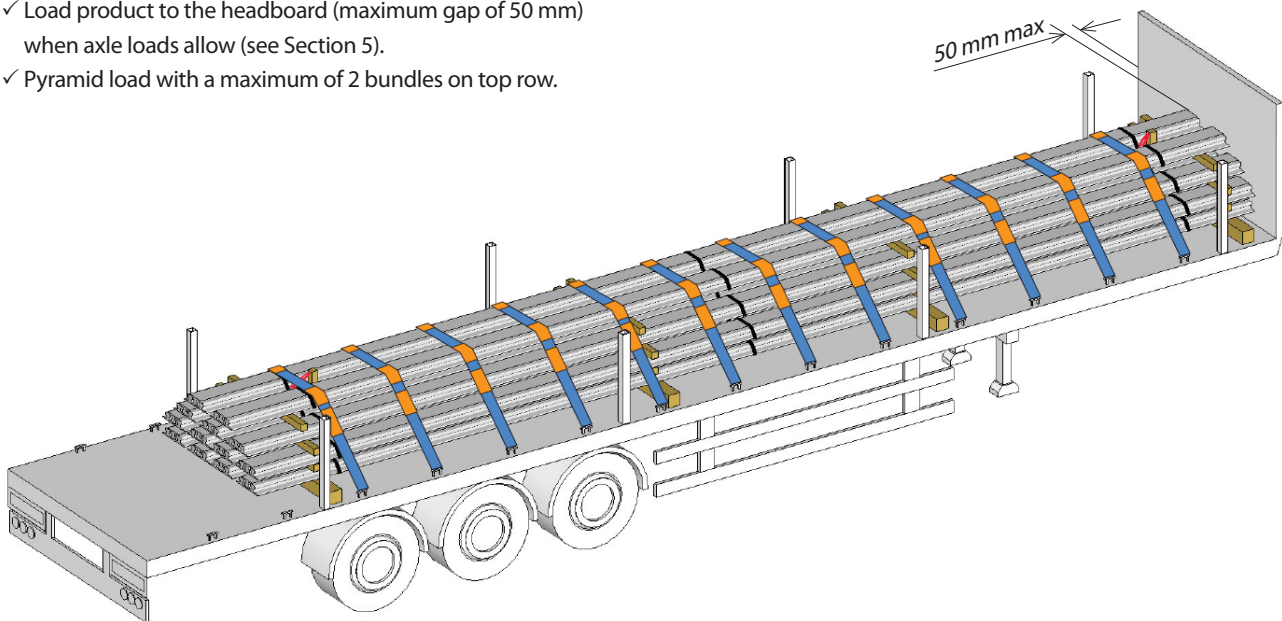
The lowest friction factor for crane rail on crane rail, determined as per EN 12195-1:2010 Annex B.1.2, is  $\mu = 0.45$ .

## 2. Essential requirements

- All restraints must be web lashings compliant with EN 12195-2:2001, minimum lashing capacity LC 2000 daN.
- Webbing straps must be protected from all abrasive surfaces and sharp edges, including side raves.
- Base dunnage must be a single layer consisting of 4 square section timbers, 75 x 75 mm minimum.
- Bundles to be banded with minimum of 2 bands per bundle.

## 3. Overview of restraint system

- ✓ Load product to the headboard (maximum gap of 50 mm) when axle loads allow (see Section 5).
- ✓ Pyramid load with a maximum of 2 bundles on top row.



Up to 26 tonnes loaded to the headboard (3 axle tractor unit).



Edge protection must be used to protect all webbing straps in contact with steel.

Table 1: Number of restraints

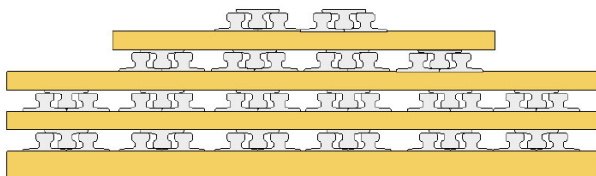
Load	LC 2000 daN
0 - 10 t	5
10 - 15 t	7
15 - 20 t	9
20 - 25 t	11
25 - 28 t	12

## 4. Load configuration

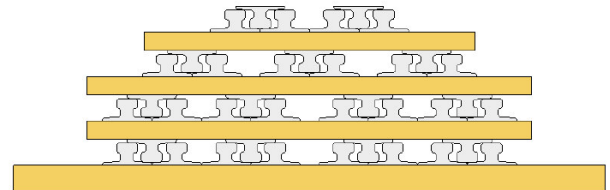
### 4.1 Pyramid load build

- All product in each tier must be the same section size.
- Maximum of 2 bundles on top tier.

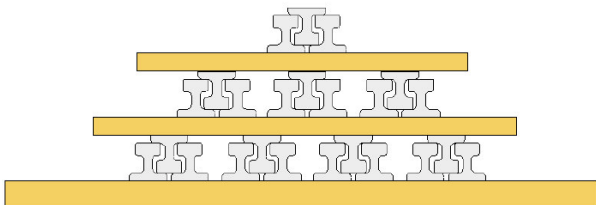
Diagrams below show example load configurations for different crane rail sizes to achieve full loads with 12 m long rails.



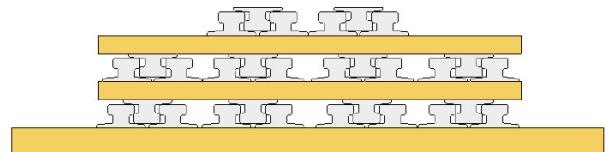
CR65 (6-6-4-2)  
27.9 tonnes



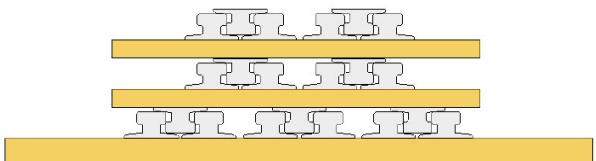
CR75 (4-4-3-2)  
26.3 tonnes



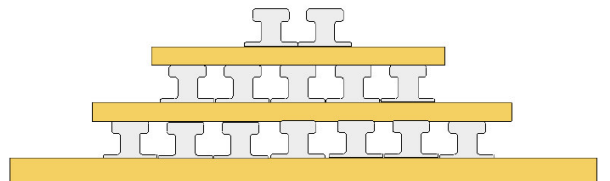
CR87 (4-3-1)  
25.0 tonnes



CR100 (4-4-2)  
26.8 tonnes

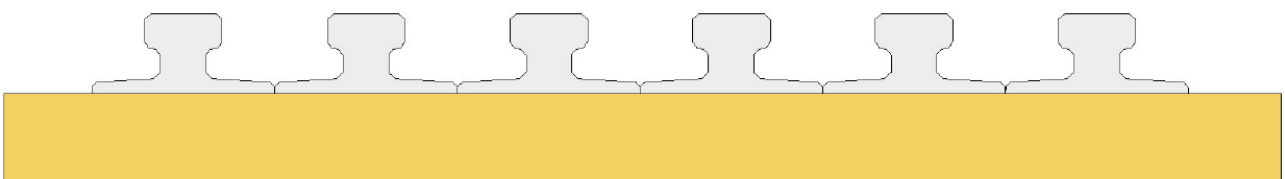


CR120 (3-2-2)  
25.2 tonnes



CR150 (7-5-2)  
25.2 tonnes

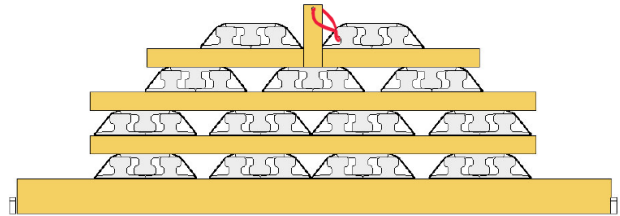
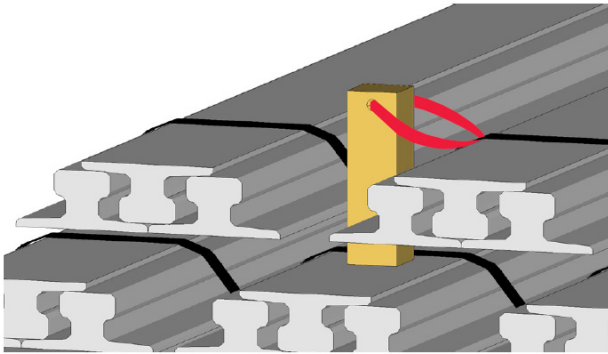
### 4.2 Single crane rails



- When single bars or small quantities are to be loaded, the bundles must be split and the crane rails arranged individually and loaded to the headboard.

#### 4.3 Controlling gaps in top row

- When gaps between bundles are required for loading/unloading, then suitable means of controlling the gaps must be implemented.
- Vertical dunnage must be securely fixed in place to prevent this coming loose in transit.



#### 5. Weight distribution

Product may be loaded away from the headboard to achieve correct axle loadings.

Below are examples showing maximum payload which can be loaded to the headboard for 2 and 3 axle tractor units.



Examples are based upon typical tractor and trailer combinations and should only be used for guidance.

Example: 2 axle tractor unit.

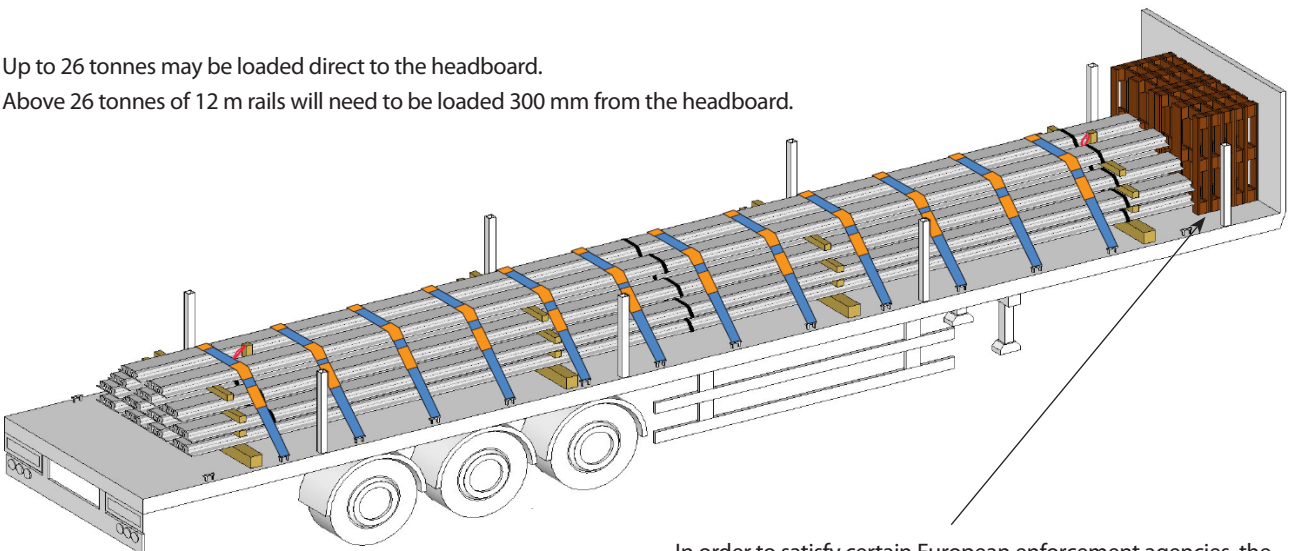
Up to 20 tonnes may be loaded direct to the headboard.

Above 20 tonnes of 12 m rails will need to be loaded 600 mm from the headboard.

Example: 3 axle tractor unit.

Up to 26 tonnes may be loaded direct to the headboard.

Above 26 tonnes of 12 m rails will need to be loaded 300 mm from the headboard.



In order to satisfy certain European enforcement agencies, the gap between product and headboard may be filled with timber dunnage for example Europallets.

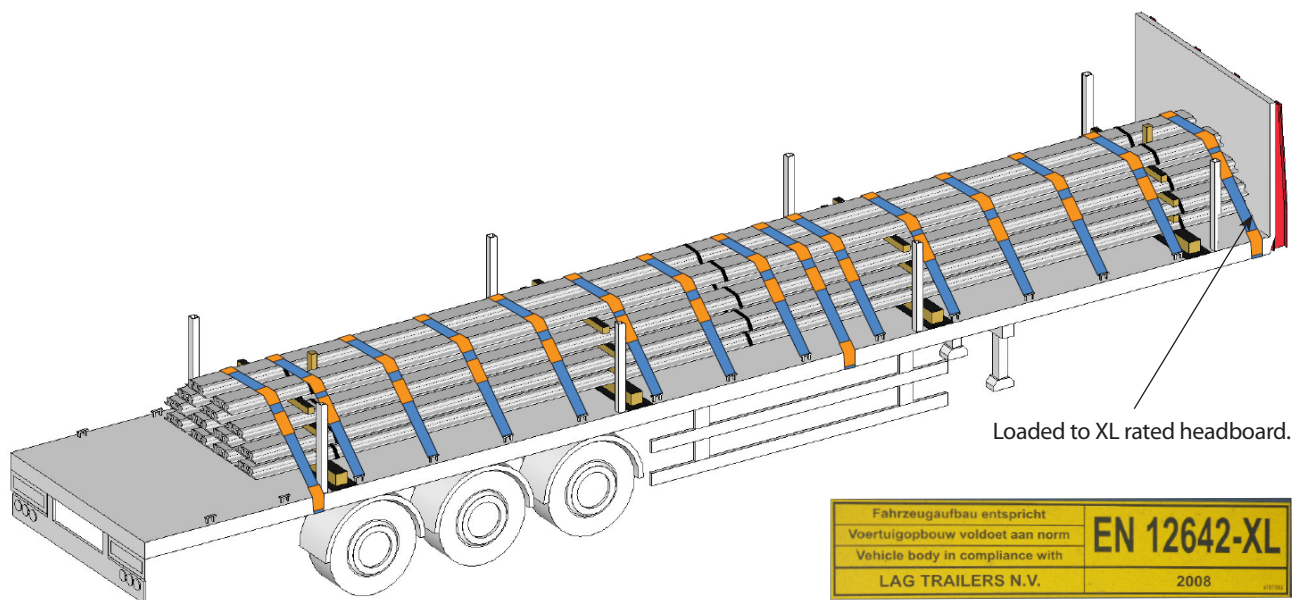
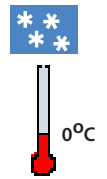
Typical full load of crane rails loaded in pyramid formation away from the headboard and restrained with 12 over-the-top web lashings.

## 6. Severe winter weather advisory periods

### 6.1 Overview of winter weather restraint

During severe winter weather advisory periods additional restraints are required.

- EN 12642-XL trailer headboard is required to block against forward forces.
- Non XL rated headboards must be robust and lashed back.
- Material must be loaded to the headboard, maximum gap of 50 mm.
- Headboard height must cover height of load.
- Anti-slip matting must be applied to both sides of all timber dunnage (see below).
- 15 over-the-top restraints to secure against rearward forces.



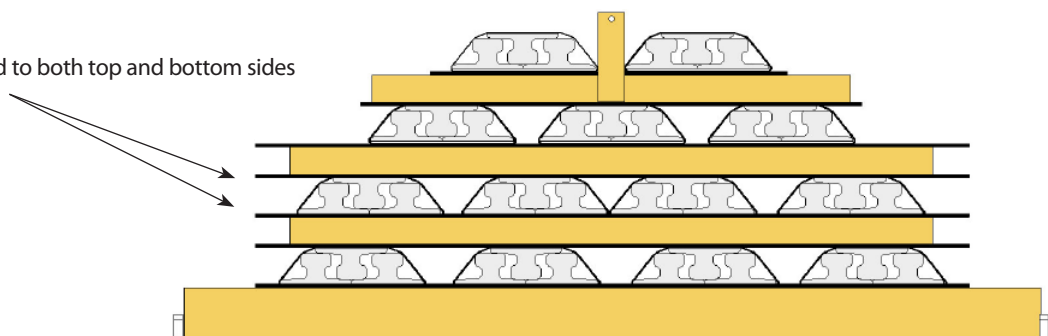
Fahrzeugaufbau entspricht	<b>EN 12642-XL</b>
Voertuigopbouw voldoet aan norm	
Vehicle body in compliance with	
LAG TRAILERS N.V.	
2008	

Typical trailer label to display EN 12642-XL conformance.

15 over-the-top restraints to secure 26 t maximum, loaded to XL rated headboard during winter weather conditions.

### 6.2 Anti-slip matting

Anti-slip matting applied to both top and bottom sides of all timber dunnage.



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