

WAGON TYPE	COMMODITY
KFA FEA (W) (Fitted with 3 x 20' flat top load modules)	Track panels consisting of: Wooden sleepers Concrete sleepers Composite sleepers

Carrying Capacity:

Wagon Tare Weight – 20,700kg (see individual wagon details)

Wagon Carrying Capacity – 61.3t (see individual wagon details)

Wagons are loaded with 3 x 20' load modules.

Load Module Tare - 1670kg (3 x 1670kg = 5010kg)

Load Module Carrying – 18t* (3x18t = 54t)

*Although load modules show 17t carrying capacity they have been approved for 18t

For exact loading limits see individual wagon on TOPS.

Loading Position:



FEA wagon loaded with 18.288m track panels.

Approximate Panel Weights at 28 sleepers per 18.288m (60') panel.

Soft wood/composite	4t
Hardwood	7t
Concrete (G44)	11t
S&C Bearer (001E/NR1)	11t

Plain line panels may be loaded up to 5 tiers high.

Panels containing bolt through sleepers may only be loaded up to 4 tiers high.

Panels containing LRP (Lateral Resistance Plates) may be loaded up to 4 tiers high.

Panels containing S&C may only be loaded 3 tiers high.

Plain line panels in association with S&C constructed of the larger type bearers may need to be reduced in tiers due to the extra weight.

Pre curved panels may be loaded up to 3 tiers high.

Panels shall be loaded level and be supported throughout its length.

Mixed loads of concrete and wooden panels are permitted providing that the wooden panels are loaded on the top.

It is not permitted to load panels constructed with a mix of concrete and/or wooden

sleepers due to their different height profiles and weight differential. It is permitted for panels in association with S&C to have up to 2 shallower depth sleepers fitted together at the panel ends.

Maximum permitted panel length is 18.288m (60 ft)
 Minimum permitted panel length is 9.1m (30 ft)
 Where panels have been cut into 9.1m (30') lengths there is an acceptable tolerance of +/- one sleeper at the panel end depending on the position of the rail cut.
 Panels shorter than 9.1m (30 ft) shall be dismantled and conveyed in a separate wagon.

A single short panel (between 9.1m – 17.67m) may be conveyed with 60 ft panels provided it is loaded on the top and to one end. (Diagram 1)
 Single Short panels loaded on their own may be either loaded centrally or to one end. (Diagram 1)



Multiple short length panels of varying lengths are not permitted in the same load.
 9.144m (30ft) panel lengths may be loaded into two separate stacks with the stacks kept as even as possible. (Diagram 2)

Track panels may overhang the wagon load modules by up to 300mm with rail only. The end sleepers of each panel shall always be fully supported either by the wagon floor or by the rail of a panel below.

Sleepers may overhang the wagon sides by a maximum of:

Wagon Type	Overhang
FEA (W)	290 mm
KFA	300 mm

Sleepers that exceed the above overhangs will require cutting back or removing.

Any fish plated joints that form the length of the panel shall be robust.

A short length panel under 9.1m (30ft) may be temporarily joined to another panel to form a longer length panel for loading purposes, providing approved type rail clamps have been fitted and fixed in the correct manner. (Refer to NR/L3/TRK/013)



***Pre curved panels**

Pre-curved panels shall be loaded up to a maximum of 3 tiers high.
 Pre curved panels shall not be loaded with other types of track panels.
 Special care is to be taken during loading at the ends and centre of the panel where the extreme widths are evident.

***Panels fitted with check or guard rails**

Panels fitted with such rails may only be loaded if the running rail is higher than the check or guard rail.
 If the check or guard rail is higher than the running rail, then such panels can only be loaded either as a single tier or be positioned to form the top tier.

***Bolt Through Sleepers**

Some types of Bullhead Rail Panels have a chair bolting system that goes right through the sleeper resulting in the steel fastenings being in contact with the wagon floor.

Longitudinal timber dunnage, minimum 75mm x 75mm) is required as a base layer. The timber needs to be placed on the wagon bed in two lines so as it supports the panel under the rails of the panel it will support. The bolt/nut fastenings keep these timbers in place. Timber shall not be loose underneath a load.

***Panels fitted with LRP bracket (Lateral Resistance Plates)**

Panels fitted with LRP's have a steel plate that protrudes below the sleeper which will come into contact with the wagon floor.

Longitudinal timber dunnage, minimum 100mm x 75mm is required as a base layer. The timber needs to be placed on the wagon bed in two lines so as to support the panel under the rails of the panel it will support.

Stanchions: N/A

Bolsters: N/A

Dunnage: N/A

Unsecured Loads: Not Permitted

Securing Equipment:

Panel Length	Minimum wagon winch straps
Up to 18.3m (60')	6
Up to 15.2m (50')	5
Up to 12.1m (40')	4
Up to 9.1m (30')	3

Cargo winch straps are to be spaced evenly along the panel length. Ratchet type straps are not permitted for use on this type of wagon.



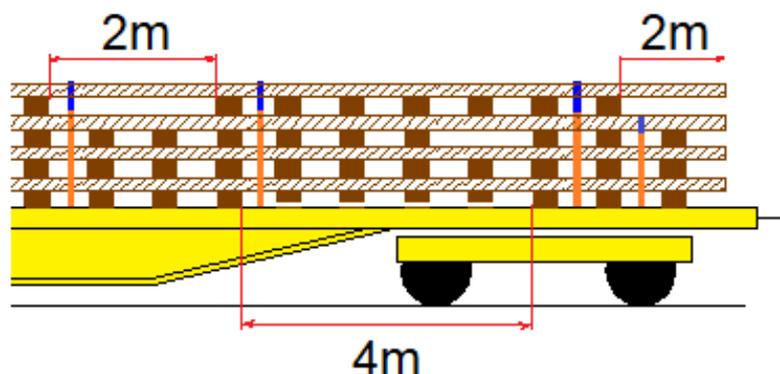
A strap shall be placed within the first 4 sleepers at each end of the panel. Do not place straps directly over sleeper ends.
 Straps shall be 7m long and fitted with a 3m wear sleeve. Position the sleeve protection over any direct points of contact.
 Straps shall be tensioned from both sides of the wagon.
 It is not permitted to position straps between the rail ends and the first sleeper.

All unused securing equipment is to be either secured across the bed of the wagon from winch to winch or coiled up neatly and placed in the strap box which is positioned at each end of the wagon.



Voids:

The maximum permitted unsupported rail span is 2m.
 Unsupported sleepers are permitted providing the sleepers are securely attached to both rails.
 A 2m unsupported rail end span is permitted providing it is on the top tier only.



A void on the wagon floor is permitted up to 4m providing the distance from the wagon floor to the bottom of the unsupported sleeper does not exceed 30mm.

If the sleeper is showing signs of rot and can be pulled apart by hand, it shall be removed. Sleepers shall be firmly attached to the base plates/rail.

Doors/Sides: N/A

Special Equipment: N/A

Competency Level: Load Examiner

Remarks:

The 20' load modules are primarily secured upon the intermodal spigots at each corner, secondary securing is provided using fitted bolts through the spigot holes at diagonally opposite corners of each module.

Check prior to loading that wagon floors are free from loose material.

Check panels are clear of ballast and any other loose items that could fall from the loads.

Check bonding wires are removed or tied back.

Loose rails/S&C on or within track panels is not permitted.

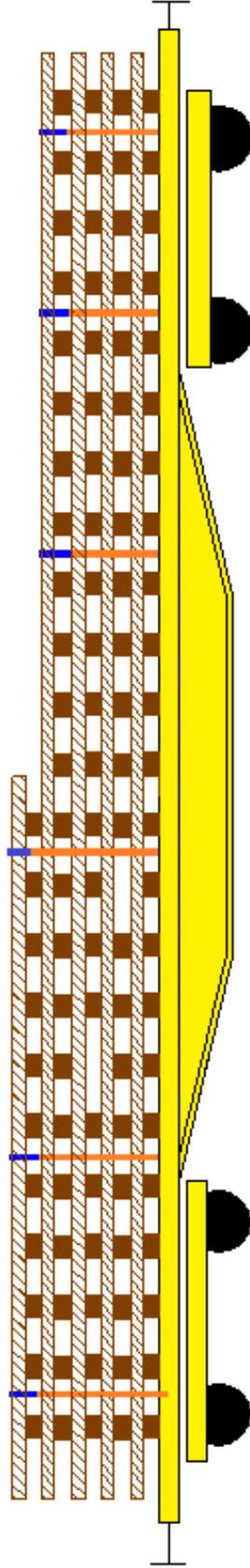
The use of hand ratchet tensioner type securing straps is prohibited.

End stanchions used for securing sleeper loads (refer to LP 2.1) are to be stowed between the load modules when not required. The stanchions do not form any securing for track panel loads.

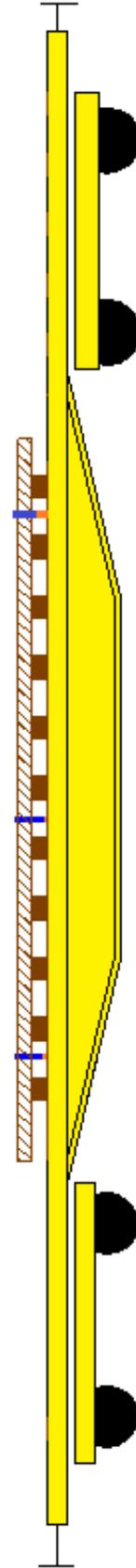


Diagram 1

FEA/KFA Wagon



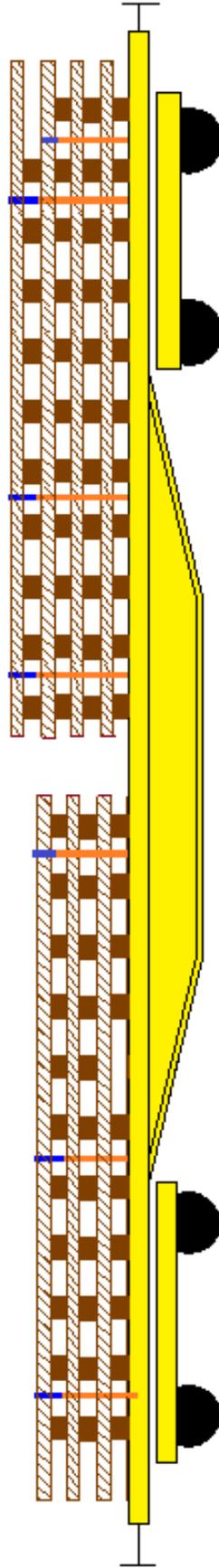
Mixed length panel loading



Short panel loaded as a single panel

Diagram 2:

FEA/KFA Wagon



Multiple panels of 9.144m (30')
+/- one panel