WAGON TYPE	COMMODITY
FEA & KFA SALMON	CONCRETE SLEEPERS (New & Serviceable) TIMBER SLEEPERS (New) COMPOSITE SLEEPERS (New)

Carrying Capacity:
FEA Tare 20.7t Carrying Capacity 61.3t
3 x Load modules Tare 5010kg Carrying Capacity 54t
Gross Laden Weight 82t
KFA Tare 20.2t Carrying Capacity 61.8t
3 x Load modules Tare 5010kg Carrying Capacity 54t
Gross Laden Weight 82t

Load Positioning:

7 Sleeper spacing method.

Sleepers shall be spaced in blocks of seven as per Diagram 1 & 2 if using end loop straps or Diagram 3 & 4 if using end stanchions.
The measurements given are for guidance and may differ depending on the sleeper type being loaded.
The end sleepers shall be approx. 250mm from the load module end, if using end stanchions sleepers shall be positioned as close as possible or touching the stanchions.
The minimum gap between each pack of 7 shall not be less than 100mm.
The gap between the end pack of sleepers and the second pack of sleepers must align with the 3rd cargo winch from the end which is always utilised for securing. (either the end loop strap or a throw over strap)
Loads may consist of one, two or three tiers, with 56 sleepers per tier.
Part tiers are not permitted. Sleepers shall be of the same type in each tier. Different sleeper types may be loaded in separate tiers with the largest/heavier sleeper type being loaded in lower tiers.
Position longitudinal timbers on the wagon floor before loading commences, timbers shall be positioned so that they are in close proximity to the rail housing position of the first tier of sleepers. Position timbers in the rail housings between each tier and on top of the top tier. It is essential that timbers are positioned in the rail housings in the same way as rails are positioned.

60’ Lifting Beam spacing method

Load sleepers as above but instead of spacing in 7’s the sleepers are uniformly spaced throughout the length of the wagon as shown in Diagrams 5 - 7

The maximum amount of overhang permitted on each side of the wagon deck (taken from flat side of load module) is:

- 290 mm FEA Salmon
- 300 mm KFA Salmon

Stanchions:. 4 x 1000mm stanchions may be used to retain the end sleepers. Two stanchions shall be positioned at both ends using the 2nd pocket in.
Stanchions may be removed and stowed between the 20' load modules, ensure they are positioned behind the spigot base plate for retention. There is sufficient space to position 2 x stanchions in each space.
Stanchions must not be left loose on the wagon deck.

Bolsters: N/A

Dunnage:
All timber shall be one piece and in good condition.
Care shall be exercised when securing the load so as the timbers remain flat and do not become twisted.
Sleepers shall always be fully supported by timber.

Option 1: 4.6m x 75mm x 75mm timber
8 timbers shall be positioned straight along the wagon deck approx. 300mm inwards from the edge of the wagon.
8 x timbers shall be positioned in the rail housings between each tier of sleepers and on the top tier of sleepers.
Where longitudinal timbers adjoin, they shall either touch or overlap. Any gaps created during loading shall not exceed 12mm.

Option 2: 2.1m x 75mm x 75mm or 2.1m x 75mm x 100mm
Timbers shall be positioned straight along the wagon deck approx. 300mm inwards from the edge of the wagon, where timbers adjoin, they shall either touch or overlap, any gaps created during loading shall not exceed 12mm.
A total of 16 timbers with 2 timbers per 7 sleepers shall be positioned in the rail housings between each tier of sleepers.
Timber is to be positioned on its wide side and shall be of sufficient length to fully support the sleepers and provide a minimum 25mm overhang at the sleeper ends.
Timbers shall be a minimum length of 2.1m for this purpose.
8 timbers of 4.6m in length shall be used on the top tier as in option 1 above.
It is permissible to use different length timbers on the wagon deck.

Unsecured Loads: Not permitted.

Securing Equipment:
As per diagrams 2 or 4.
Loads shall be secured by 12 throw over straps using 3 straps per 4.6m length of timber.
Straps shall be positioned at each end and central to the timber.
Securing straps shall be positioned as detailed in diagrams 2 & 4 depending on the end sleeper securing method.
It is acceptable to mix and match both methods throughout the load.
It is not permitted to use hand ratchet tensioner type securing straps.
Protect the strap against any direct points of contact.
Unused securing straps are to be coiled up and stowed in the strap box.

End sleepers shall be secured as follows:

Option 1 (Diagram 3 & 4)

2 x 1000mm stanchions positioned in 2nd pocket in from wagon edge at both ends of the wagon.
The end sleepers shall be loaded as close as possible to the stanchions.
Up to 50% of the top tier sleeper may be above the height of the stanchion.

Option 2 (Diagram 1 & 2)

Cross-braced looped straps shall be positioned round the end column of sleepers. Keeping the loop on the inside of the end sleeper the strap end goes across the top of the load to a suitable winch on the opposite side of the wagon.
Place loops tight across the timbers prior to positioning the throw over straps. Protect the strap against any direct points of contact.

Voids: Equal spacing between each sleeper as shown in the diagram applicable for the method of loading/securing being used.

Doors/ Sides: N/A

Special Equipment:
The FEA & KFA wagon are fitted with 3 x 20’ load modules, each secured on 4 twistlock (to be in locked position with handle parallel with wagon) or UIC spigots. Load modules secured by spigots have additional retention bolts fitted to either all four corners or two opposite corners,

Competence Level: Load Examiner

Remarks: Each 20’ load module is detailed for a maximum loading of 17t however they have been approved for 18t
Wagons have strap stowage boxes positioned at opposite corners at each end of the wagon.

7 SLEEPER METHOD WITH END LOOP STRAP

Diagram 1

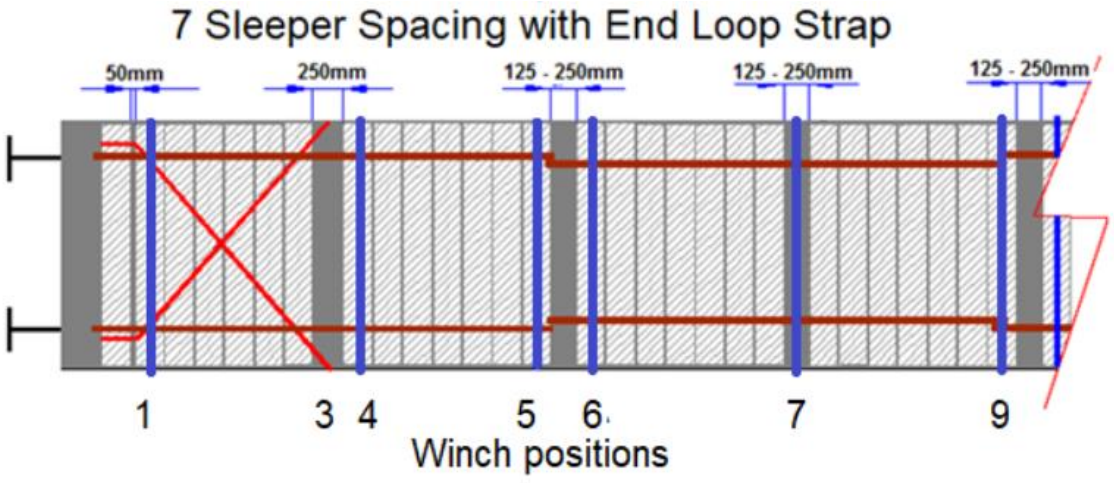

Diagram 2

7 Sleeper Spacing with End Stanchions

Diagram 3

Diagram 4

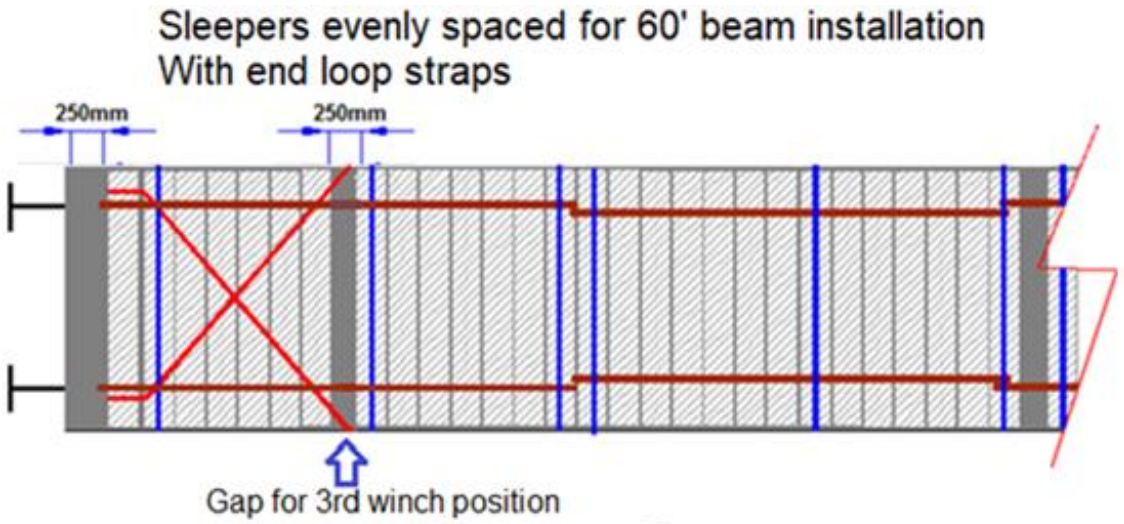

Diagram 5

Sleepers evenly spaced for 60’ beam installation with end loop straps.

Diagram 6

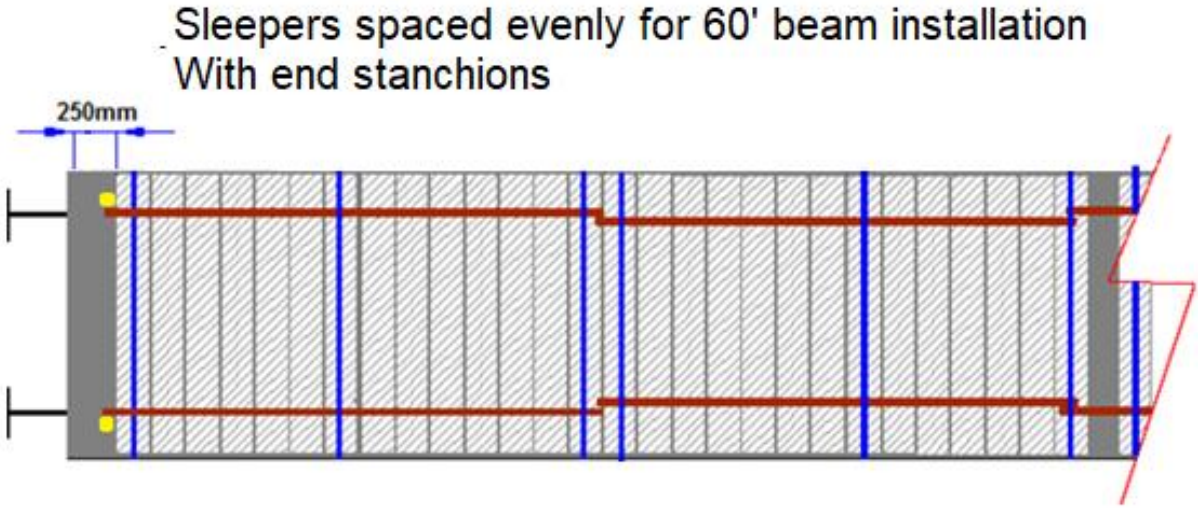

Diagram 7