WAGON TYPE	COMMODITY
KRA FEA (Balfour Beatty Rail - fitted with special load modules)	Concrete sleepers Steel sleepers Wooden sleepers with furniture attached.

Carrying Capacity:	**FEA**	**KRA**
Gross Laden Weight	82 tonnes	78.9 tonnes
Carrying Capacity	61.3 tonnes	53.9 tonnes
Tare	20.7 tonnes	26.42 tonnes

FEA wagons are fitted with three x 6.1 m (20') load modules; the weight of these load modules shall be included with the weight of the sleepers. Each load module weighs 3.3 t.
These load modules replicate the KRA wagon tops and provide the loading area for the sleepers.
For exact loading limits, see individual wagons on TOPS

Concrete sleepers
KRA & FEA wagons may be loaded with up to three tiers. The maximum amount of sleepers in a full tier shall be 54. Make up each tier of three packs of 18 sleepers. Part tiers are permitted if the load is evenly distributed on the wagon – see load distribution panel. Part loaded packs are not permitted.
The maximum permitted amount of sleepers shall be 162.
(If additional sleepers need to be loaded, obtain special authority from NDS Loading Standards.)

Steel sleepers
KRA wagons may be loaded with up to four tiers. The maximum amount of sleepers in a full tier shall be 39. Make up each tier as three packs of 13 sleepers. Part tiers are permitted providing the load is evenly distributed on the wagon – see load distribution panel. Part loaded packs are not permitted. The maximum amount of sleepers shall be 156.
FEA wagons may be loaded with up to five tiers. The maximum amount of sleepers in a full tier shall be 39. Make up each tier as three packs of 13 sleepers. Part tiers are permitted providing the load is evenly distributed on the wagon – see load distribution panel. Part loaded packs are not permitted.
The maximum permitted amount of sleepers shall be 195.

Wooden sleepers
KRA & FEA wagons can be loaded with up to three tiers. The maximum amount of sleepers in a full tier shall be 54. Make up each tier as three packs of 18 sleepers. Part tiers are permitted providing the load is evenly distributed on the wagon – see load distribution panel. Part loaded packs are not permitted.
The maximum permitted amount of sleepers shall be 162.
(If additional sleepers need to be loaded, obtain special authority from NDS Loading Standards).

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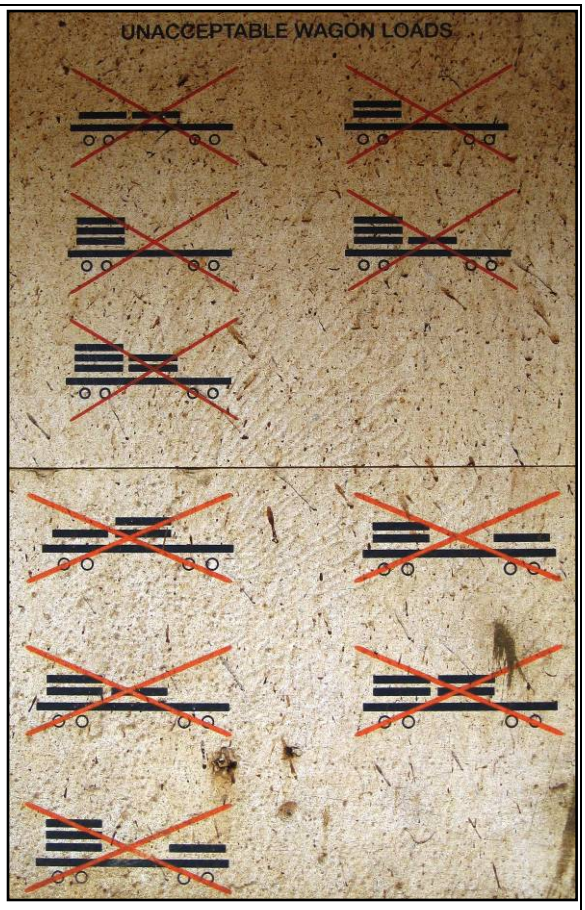
Load Positioning:
Load sleepers centrally across the width of the wagon and sit them on the two longitudinal bolster sections running the length of the wagon. The longitudinal timber bolsters shall be in good condition before loading is permitted.
Each wagon has three loading areas that are separated by stanchions These areas have been specially designed to accommodate all plain line sleeper types: wood, steel or concrete.
The stanchions shall be present at the extreme ends of the wagon as they prevent longitudinal movement of the end sleepers.
Part-loaded wagons are permitted if even weight distribution is maintained along the wagon. Only full packs of sleepers are permitted in each loading area. The weight shall be spread evenly across the wagon.
Sleepers may never extend beyond the centre of the gantry rail that runs down each side of the wagon. This will become foul and prevent the safe movement of the gantry vehicle during the unloading process.



Stanchions: KRA has eight fixed stanchions. FEA has 12 fixed stanchions with four per load module

Bolsters: Two longitudinal bolsters divided into three loading areas by the stanchions.

Dunnage: Timber shall be 5.5 m (18') x 75 mm x 75 mm and in good condition.
2 x pieces of timber shall be positioned per pack of sleepers per tier with the timbers being positioned within the rail housing. For each full tier, a total of six pieces of timber shall be used.

Returned Timber
FEA wagon – Position the timbers on the inside of the wagon winches along the wagon sides in a uniform fashion. Timbers shall not be higher than the special basket end plates. Secure the timbers by two throw-over straps positioned at each end of the timbers.
KRA wagon – Position the timbers in a uniform fashion on the inside of the wagon winches along the wagon sides at each end of the wagon. Timber shall not be higher than the profiled wagon end. Timbers shall be secured by two throw-over straps positioned at each end of the timbers. It is also possible to position timbers in between the longitudinal timber bolsters in the centre loading area of the wagon. Timbers shall not be higher than the longitudinal bolsters. Secure them with two throw-over straps positioned at each end of the timbers.

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