

SECTION 23 TRACK MATERIALS

- 23.1 Securing Sleepers in Bundles
- 23.2 Loading Used sleepers
- 23.3 Loading New Sleepers
- 23.4 Concrete Sleepers
- 23.5 ETC wagon loading

23.1 SECURING SLEEPERS IN BUNDLES

Some methods of securing sleepers in bundles have proved to be suspect.

BUNDLING WOODEN SLEEPERS

DO...

- ✓ Place into bundles of **25 maximum**.
- ✓ Band with **two metal strapping bands** placed 300 mm from each end of the sleepers.

DO NOT...

- ✗ DO NOT use a **single metal band**
- ✗ DO NOT use single or double **No. 8 wire**.
- ✗ DO NOT use **plastic/nylon (blue) strapping**.

Single banding and No. 8 wire may allow sleepers to work loose. Plastic / nylon strapping wears against the sleepers and can break in transit.

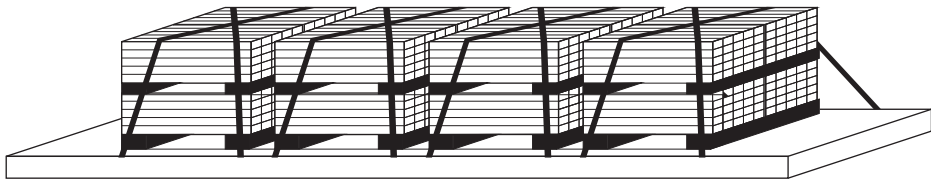
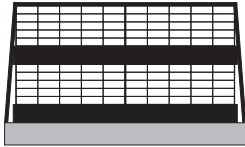
23.2 LOADING USED SLEEPERS

TPR sleepers are more uniform in section than recovered hardwood sleepers, so different stacking methods are employed. These are shown in Diagram 23.1.

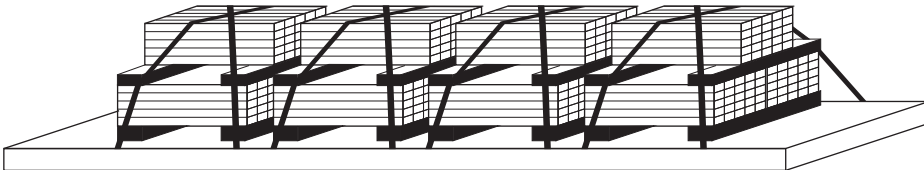
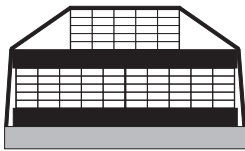
DO...

- ✓ **TPR SLEEPERS:** Load in stacks of **four** to the wagon (US & EST).
- ✓ **HARDWOOD SLEEPERS:** Load in stacks of **three**, with **four** stacks to the wagon (US Wagon). Two bundles form the base of the stack with one bundle on top in the centre of the wagon. Refer to Diagram 18.2
- ✓ Use good quality dunnage on the wagon floor and between layers. Dunnage must **extend completely** across the load with no short lengths.
- ✓ Load up to **4 stacks** per wagon on wagons with **8 or 10 bond chains**. Load up to **3 stacks** per wagon on wagons with **7 bond chains**.
- ✓ Ensure **stanchions** and **headboards** are in place.
- ✓ Secure the load by **double cross chaining** (two chains per stack crossing over the load).
- ✓ Lace unused chains across the wagon deck.

DIAGRAM 23.1 METHODS OF LOADING USED SLEEPERS



TPR Sleepers



Hardwood Sleepers

23.3 LOADING NEW WOODEN SLEEPERS (EX STORES)

All new sleepers range in length from 2.1 m (7 feet) to 5.76 m (19 feet) and are packed in bundles varying from 20 to 34. Bundles are to be banded with two metal strapping bands placed approximately 300 mm from each end of the sleeper.

DO...

- ✓ Load bundles of **25 or less** in stacks of **up to three bundles** in **two layers**, with two bundles on the bottom and one bundle on the top.
- ✓ Load bundles of **26 to 34** in stacks of **two bundles** in **one layer**.
- ➔ **Another bundle** on top of these means the wagon **chains will not secure** the load correctly.

DO...

- ✓ Use good quality **dunnage** on the wagon floor and between layers. Dunnage must extend **completely across** the load with no short lengths.
- ✓ Load up to **4 stacks** per wagon on wagons with **8 or 10 bond chains**. Load up to **3 stacks per wagon** on wagons with **7 bond chains**.
- ✓ Ensure **stanchions** and **headboards** are in place.
- ✓ Secure the load by **double cross chaining** (two chains per stack crossing over the load).
- ✓ Lace unused chains across the wagon deck.

23.4 LOADING NEW CONCRETE SLEEPERS (EX STORE)

Concrete sleepers are arranged in bundles of 24—four layers of six. The layers are separated by 75 × 100 mm wooden dunnage.

➔ It is essential that the bundles are evenly spaced.

The maximum loading for different classes of wagon is shown in Diagram 23.2.

DIAGRAM 23.2 MAXIMUM LOADING OF WAGON CLASSES WITH CONCRETE SLEEPERS

Wagon Class	Sleepers per Bundle	Bundles Bundles	Sleepers per Wagon	Sleeper Lay on Wagon	Strapping per Bundle	Tare (kg)	Gross (kg)
ECS	24	6	144	Across	nil	17 600	42 000
EST	24	5 max.	120	Along	2	12 200	42 000
US	24	5 max.	120	Along	2	14 980	55 980

LOADING ECS WAGONS

DO...

- ✓ Ensure sleeper ends are clear of the gantry running rail on both sides.
- ✓ Spread odd sleeper layers evenly along the wagon if it is less than half full.
- ✓ Place wagons only on freight trains (55 km/h max.) when loaded. They may be placed on express freight trains (80 km.h max) when empty.
- ✓ Place wooden dunnage correctly on the empty wagon deck (between the wagon fixed dunnage) so that it will not come loose when travelling.

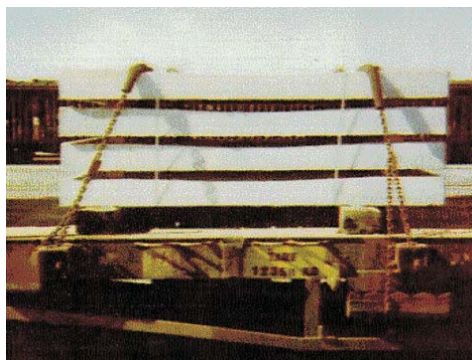
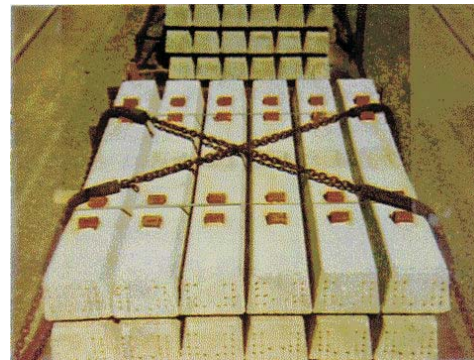
LOADING EST and US WAGONS

Stanchions are not required on EST and US wagons loaded with concrete sleepers. These wagons may be placed on express freight trains (80 km/h max.).

DO...

- ✓ Thread rubber brake hose onto chains to corners of the concrete sleeper packs.
 - ✓ Ensure sleeper packs are banded with a minimum of two steel bands.
 - ✓ Tighten chains from both sides of the wagon using the chain winches provided.
 - ✓ Wagons with 8 sets of chains (maximum of 4 packs per wagon): Run chains straight over the sleeper packs through the pandrol shoulder area.
 - ✓ Wagons with 6 sets of chains (maximum of 3 packs per wagon): Run chains diagonally over the sleeper packs.
 - ✓ Load sleepers on sound TPR sleepers as dunnage.
- ➔ Stanchions are not required on wagons loaded with concrete sleepers.
 - ➔ Wagons with only one chain securing any sleeper pack will NOT be accepted for transit.

DIAGRAM 23.3 SECURING CONCRETE SLEEPER PACKS



Top left: Chains running straight over sleeper packs.

Top right: Chains running diagonally over sleeper packs.

Left: Side view: two chains per sleeper pack.