Shallow depth sleepers for urban track (tramways and metros)
Consolis has provided twin block embedded systems for LRT rail tracks for more than 50 years. In response to new market trends, a shallow depth sleeper has been developed.

Main characteristics of the TW System

- Minimum 120 mm height under rail seat
- Steel tie-bars
- Reinforced concrete base areas
- Symmetrical design of the sleeper
- Reinforced structure
PRODUCT APPLICATIONS

Grass track

City centre
Concrete slab track
Cars/pedestrians & trams all on same level (asphalt, pavement, concrete, etc.)

Suburbs
Ballasted track
Tram and cars on different tracks
Cheaper infrastructure

Tunnel track
BENEFITS

1 High level of geometrical performance is ensured:

- Precast molding process
- Optimized monitoring of process and aggregates
- Sleeper statistical testing (geometrical & test bed)
- Design with twin tie bars
BENEFITS

2 Solution can accommodate all fastening systems

Tie bar ensures track gauge and sleeper design ensures rail inclination

Direct fastening system can be used
3 An adaptative solution

- System thickness

Design of the non-embedded part of the sleeper can be changed according to network’s specific needs.

- Third rail systems or check rail

TW sleepers can be equipped with additional inserts to support the third rail or a check rail fixation system.

TW with 3rd Rail

TW with Check Rail
BENEFITS

A convenient solution for track laying

- Lifting screws

- Protection cap for fastening systems

If required, fastening system can be covered with protection caps that resist temperatures of up to 200°C and vertical loads of 30kN.

These inserts enable the height of the rail track to be adjusted precisely using lifting screws before concreting.
BENEFITS

A convenient solution for track laying

- Construction cost savings

As minimal stress is passed on to the surrounding concrete slab track, no reinforcements are needed in the slab itself.

Lower sleeper thickness will reduce excavation works for construction of the platform.

- Integrated cant

The design of the non-embedded part of one of the blocks can be modified to create the cant. This leads to significant savings on the amount of concrete that needs to be poured on site.
A convenient solution for track laying

- Track laying stages

Stage 1: Sleeper & rail laying
Stage 2: Track levelling
Stage 3: Concreting