FAST System

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Beyond ballastless track

FAST is a ballastless track system that offers an **optimised solution** in every phase, from installation to maintenance.

As well as guaranteeing excellent performances, simplified installation and lower maintenance costs, the system overcomes some of ballastless track's usual limits.

In fact, **FAST** is a reliable, flexible solution, able to respond to all needs, from the construction of **railway and metro lines** to **renewal of a ballasted track** with only short, occasional railway traffic outages.

FAST is a slab track system designed around a prefabricated element to withstand railway loads and transfer them to the underlying surface by means of temporary support devices.

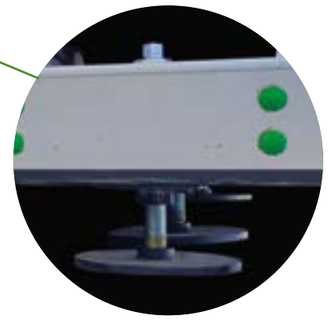
TECHNICAL SPECIFICATIONS	
Length	4,750 mm
Width	2,450 mm
Weight including fasteners	6,140 kg
Rail seats	8+8
Fastener spacing	600 mm
Distance between rail base and upper surface of slabs	60 mm

Stoppers

Reinforced concrete retainers cast in place to counteract actions on track surface, in both longitudinal and transverse directions.

Temporary supports

As well as enabling accurate adjustment of the slab's position, they distribute the loads and allow railway traffic to be resumed immediately during track renewal jobs.



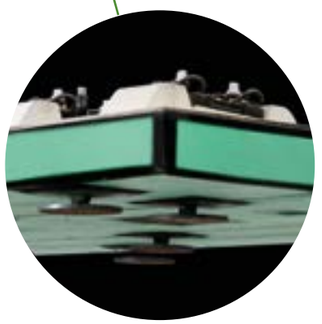
Reinforced shoulders

Non-tensioned reinforcement

Consisting of a cage covering the whole volume of the slab.

Post-tensioned slab

Post-tensioned in both longitudinal and transverse directions.



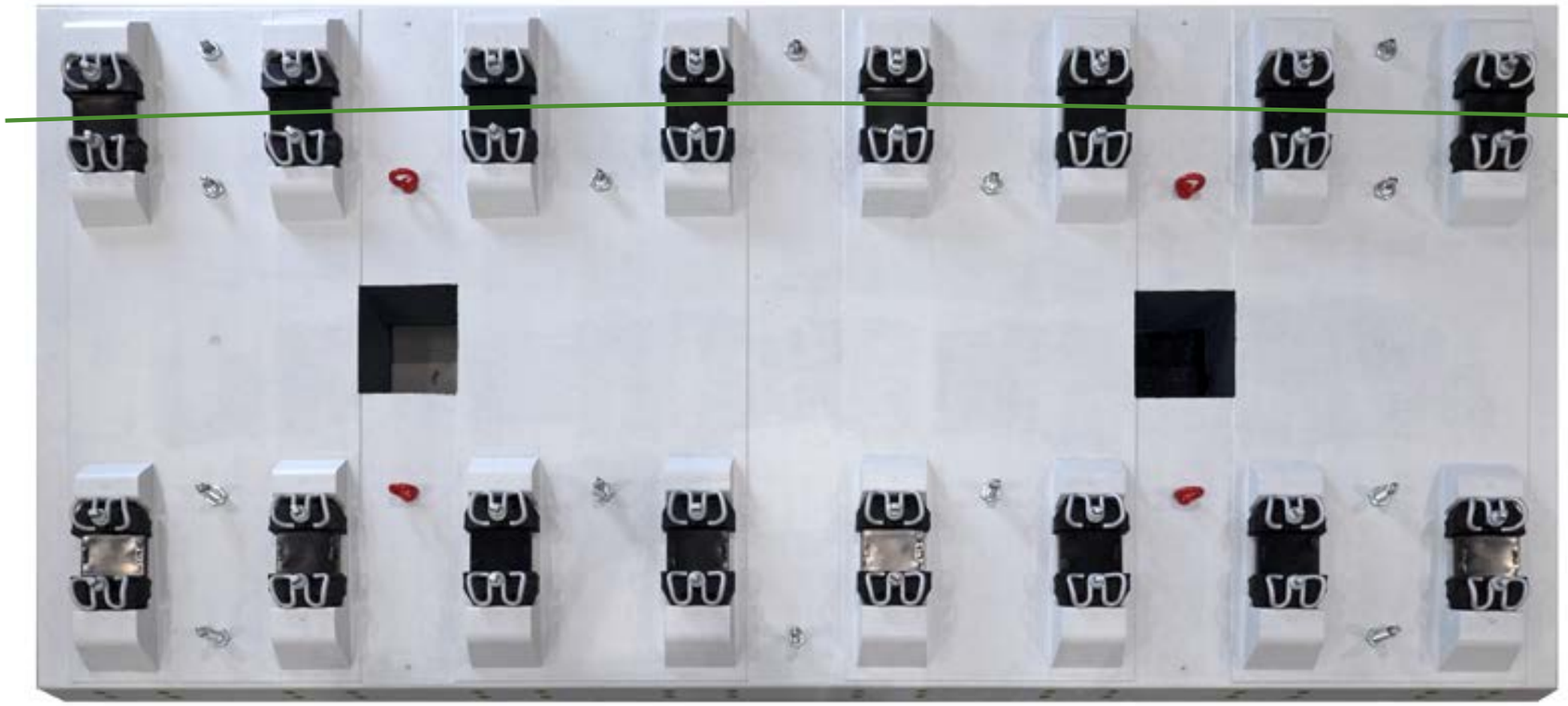
Removal mat

Provides disconnection between the slab and the concrete casting for easier replacement of the prefabricated element.

Key advantages

Minimal service interruption

Slabs can be installed during temporary or partial track possessions by means of a patented laying system. They enable railway traffic to be resumed before the concrete is cast in place, thanks to temporary supports able to withstand railway loads.



Correct position of rail seats

FAST slabs, produced using a variable geometry system developed and patented by Overail, enable correct positioning of rail seats on bends.

Compliance with alignment tolerance

During installation, the temporary supports and variable geometry system enable complete compliance with design tolerances, with no need to use the corrections permitted by the adjustable fastening system.

Easy slab replacement

Thanks to the removal mat, prefabricated slabs are easily replaced further to any exceptional event by refitting the temporary supports in their original seats.

Maintenance over time

The fastening system's intrinsic adjustment range is left entirely at the disposal of the infrastructure manager, for use for any maintenance required over time.

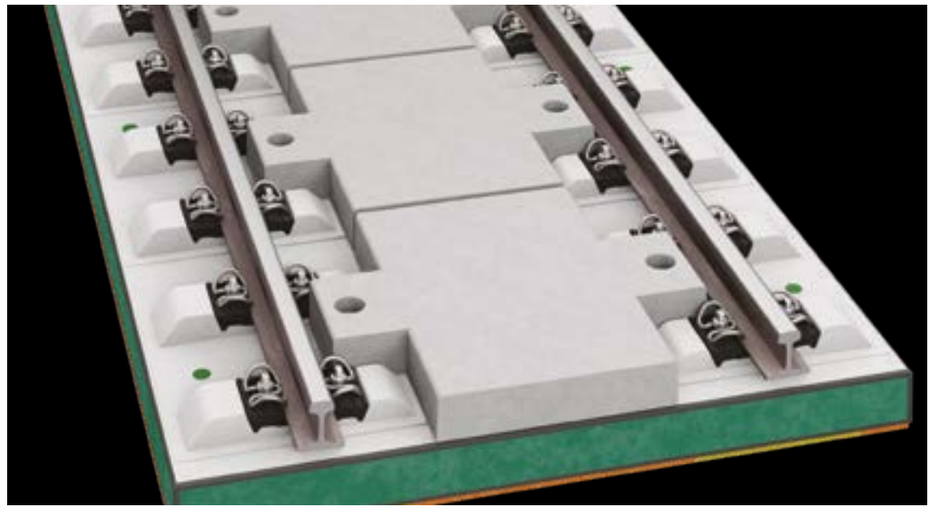
Customisation

The system is available in multiple configurations able to meet different requirements, such as vibration and noise mitigation, emergency vehicle access or installation of a third rail.

Configurations and additional elements

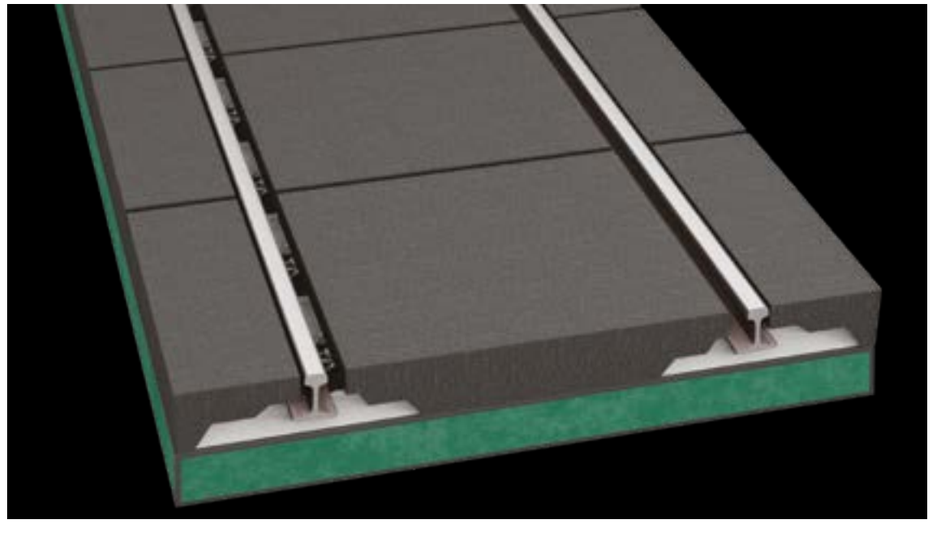
Mass-spring system

The mass-spring configuration enables **effective filtering of the vibrations** produced by the passage of rolling stock. This solution is created by installing additional reinforced concrete elements to increase the mass and the use of a vibration-damping elastomer mat.



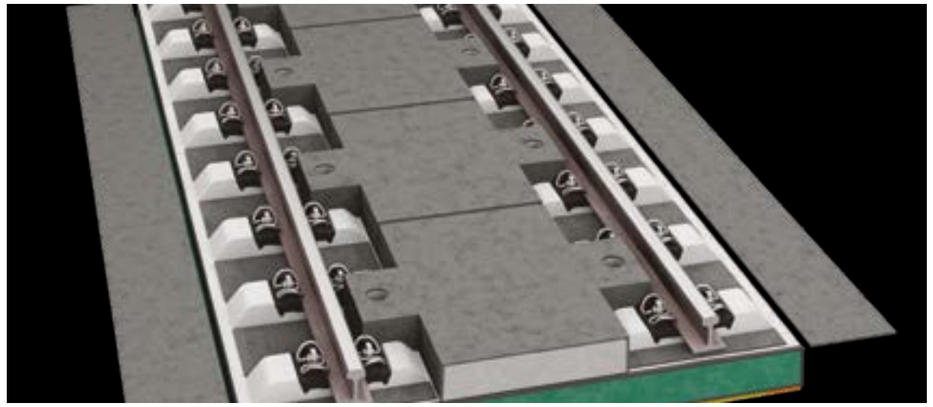
Road-vehicle access system

Removable fibreglass elements enable the construction of a road-vehicle access for **emergency vehicles**. These elements are lightweight, impact resistant and in flame retardant material.



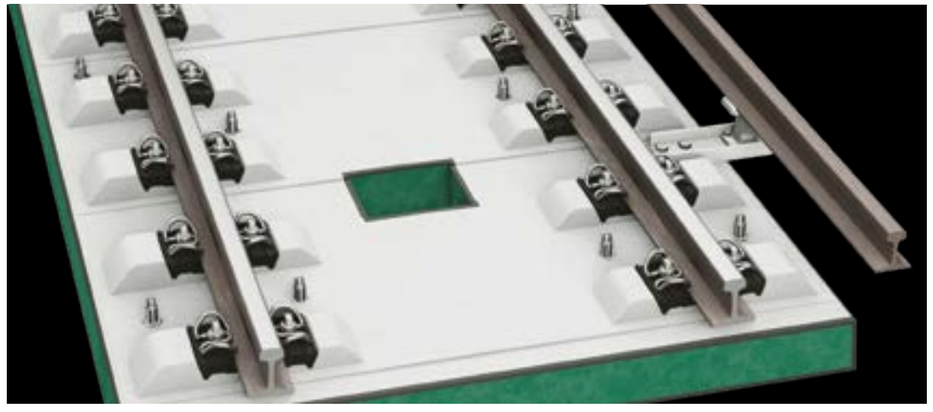
Sound deadening mat

The application of sound deadening mat on the upper surface of the slab **reduces the noise** produced by railway traffic.



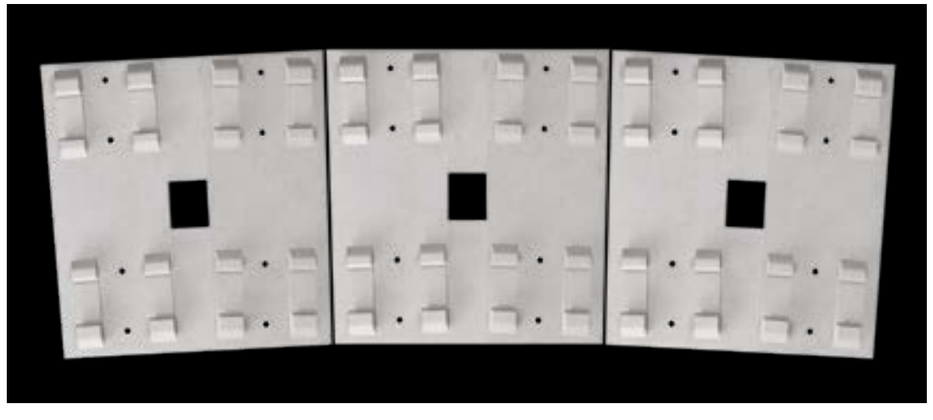
Third rail arrangement

The **FAST** system can be fitted with anchor points for the installation of third rail supports.



Tight bend slab

Solution designed for lines with bends having radius of **less than 150 metres**. It is smaller-sized and tapered.



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