

SATEBA 
PREFARAILS



PREFARAILS®

Embedded Rail Systems



2 PRODUCT RANGE

PREFARAILS® embedded rail systems are rails isolated with a jacket made of recycled car and truck tyres. They can be supplied in reinforced concrete beams or slabs.

Benefits of using PREFARAILS®:

- Long lifetime of system: 35 to 40 years before track renewal is needed
- Low lifecycle cost due to almost no maintenance needed and long lifetime
- Short construction time: 2 to 10 times faster than traditional rail construction
- Using the encapsulated system reduces vehicle movements, as all components are pre-assembled offsite
- Improving quality of life in cities: reduction of noise and vibrations up to -15dB, and even more . . .
- Sustainable solution for waste recycling, and recyclable again and again
- Electrical isolation of the rail up to 50 Ohms/km
- Direct and indirect economical benefits

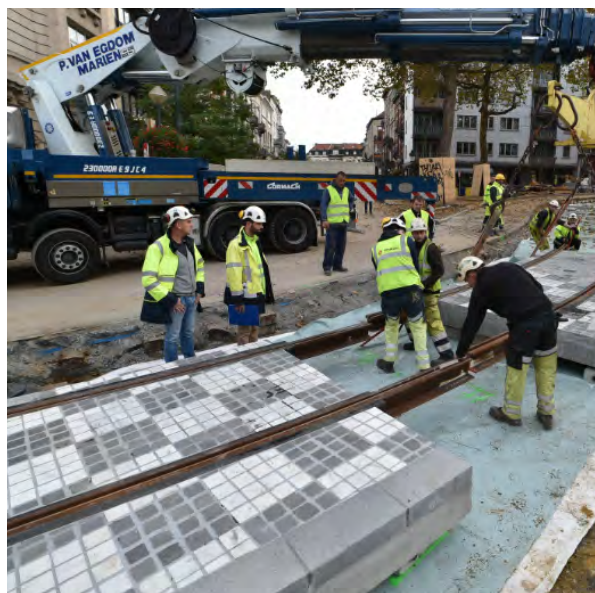
From its engineering and production site south-east of Brussels, the company has constantly developed and improved technologies since 1998.

SATEBA PREFARAILS continue this by supporting the client by taking care of the product development, engineering, production, installation and after-care. Clients can also choose a variety of esthetical finishes including concrete, asphalt, cobble stones and even artificial and natural grass.

We have served rail and urban transport infrastructure projects around the world, including Belgium, France, The Netherlands, Germany, Greece, Norway, Spain, Portugal, Morocco, Tunisia and Russia.

We are here to help you build transport solutions.

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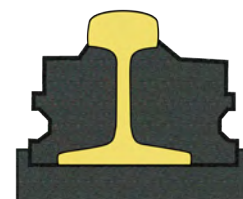
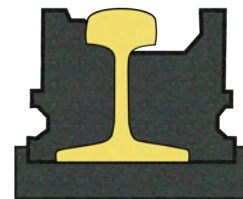
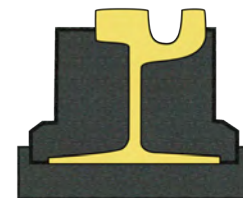
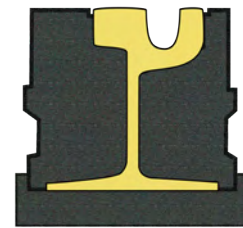
The 'Jacket' is incorporated into all our track systems.

The jacket is a rubber interface designed to hold the rail in a concrete groove and is made from rubber granules obtained by recycling used tyres.

The mixture, obtained by adding a binder to these granules, is compressed in special moulds to produce a jacket.

The external shape of the jacket is designed to provide solid anchoring of the assembly in concrete without any sleeper and any other fastening system.

SATEBA PREFARAILS supplies specific jackets for each type of rail and can meet any customer requirement.



Advantages

Ecological and environmental:

- = Recycling of used tyres
- = Reduction of noise pollution linked with rail traffic
- = Reduction of vibration transmitted to the superstructure



Technical:

- = The system provides continuous support by limiting fatigue in the rail
- = The Jacket fully replaces traditional fixing systems (clips, screws, ...)
- = The system improves the electrical insulation of the track

The GSF (Gauge Support Fixation) system is the easiest application for constructing embedded track with jackets.

The GSF jigs are used as support for laying rails equipped with a jacket and concreting the assembly.

The jigs must be installed at regular intervals so that the weight of the rail equipped with its jacket does not sag between two jigs. The recommended spacing is 3 meters.

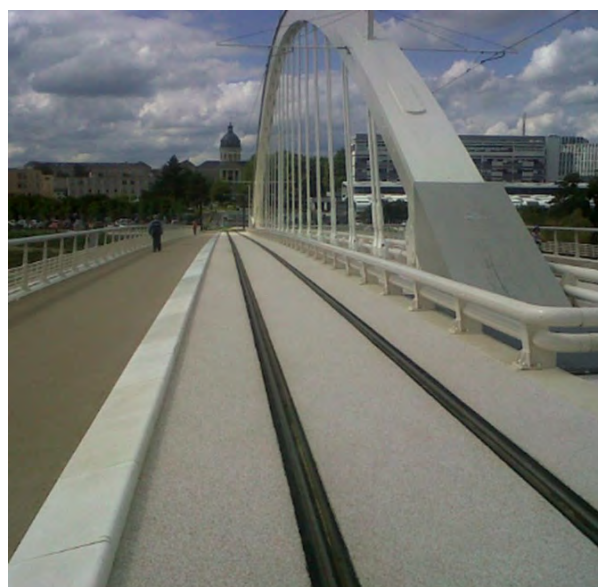
The purposes of the jigs are:

- Maintaining the nominal gauge of the track
- Levelling the track vertically using threaded rods
- After installation, fine-tune the track according to the route survey, using a transverse threaded rod for straightening

After these adjustment procedures, the track is clamped and concreted up to a certain level in order to be able to remove the clamps and the GSF jigs.

Advantages

- Can be laid at a low levels (Engineering Structures)
- Helps support accuracy of line and levels



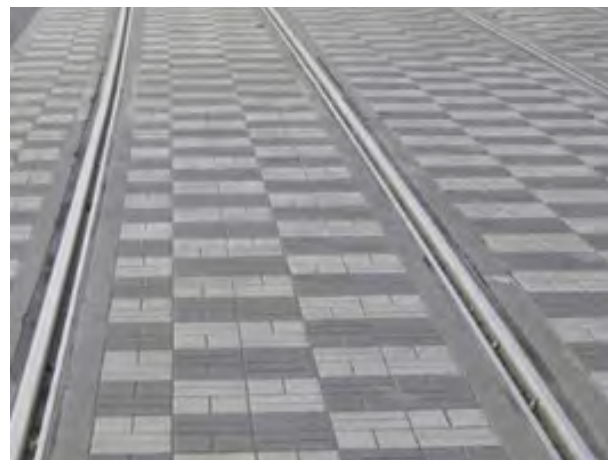
The STERO system is prefabricated offsite, and consists of a reinforced concrete beam incorporating the rail with its jacket.

The beams are then transported to the building site. The track is built on site by laying the 2 beams at the defined spacing on support blocks. Track laid in this way already allows low-speed tram traffic.

Advantages

In addition to the Jacket advantages:

- Track can be replaced at night during normal traffic disruption
- Offsite production ensures high quality, robust prefabricated track
- Concrete maturity before laying
- Delivery: more than 300m of single track delivered per day
- Installation Speed: 50m of single track per team and working period
- Finishing includes any type of road surface with a constant thickness foundation
- Prefabricated tiles can also be used



PREFARAILS® GREEN TRACK

The ladder design enables integration into green spaces.

The principle involves installing a module with openings that connect the lawn and topsoil to the platform, ensuring hygrometric continuity between soil and grass while significantly reducing the need for watering during hot weather.

Advantages

In addition to the Jacket advantages:

- A green track without a special sprinkler system
- Optimum preservation of the grass owing to the system design
- No risk of corrosion of the rail and its fastening system

STERO LADDER



The MODULIX system consists of a reinforced concrete slab including the rails equipped with their jackets, and any track accessories.

This principle can also be applied to track turnouts, and switches and crossings.

The complete track is assembled in the factory shop.

All types of road pavement can be incorporated during the prefabrication process.

This solution greatly reduces site time in public areas and principally when crossing main roads.

Using this encapsulated system significantly reduces installation time onsite as well as vehicle movements, as all components are pre-assembled offsite.

Advantages

In addition to the Jacket advantages:

- Offsite production ensures high quality, robust prefabricated slab track
- Curing of the concrete before laying
- Speed of laying (complete construction of a crossing in one weekend)
- Any type of road pavement can be applied with cobblestones offering the longest service life



The X MODULIX system integrates a Modulix slab (see previous page) into an outer reinforced concrete case to create a floating slab.

The technique of isolating the upper slab from its base by means of an anti-vibration mat reduces vibration by an average of 20 dB.

Advantages

In addition to the Jacket advantages:

- Vibration reduced approximately -20dB
- High quality prefabricated floating slabtrack



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