



THE PREMIUM SYSTEM.

street
meets
rail.



LEVEL CROSSING SYSTEMS *for highest demands*

1 | APPLICATION

STRAIL® is perfectly suited for the most common user profiles.

STRAIL® endures even heavy loads for a long time but is nevertheless fast and easy to install. The premium version of **STRAIL®** is the first choice e.g. for very high-frequented crossings and vehicles of all categories.



2 | ADVANTAGES

STRAIL® – the premium system.

STRAIL® is a high-strength and durable covering for level crossings. The modular system consists of individual full rubber panels, which are secured to a package using our lock tight system. **STRAIL®** can be delivered suitable for any form of rail and/or sleeper.

The highly wear-resistant surface, made of patented high-tech rubber mixes and vulcanized corundum, guarantees excellent skid resistance.

An additional feature is the rhombus design with pyramid tips, which has been optimised for wet conditions and is able to very quickly drain off rainwater.

Beveled edges protect the panel ends – especially under maximum loads (e.g. in case of turning traffic). Using this material reduces noise substantially, making crossing the level crossing more comfortable for traffic.

- ◆ fast & effortless installation, easy handling > saves costs
- ◆ quiet → the “silent” level crossing
- ◆ compact panel units 600 mm / 1,200 mm inner and 1,200 mm outer panels
- ◆ simple and cost-effective track maintenance > short assembly times during installation and removal



3 | DATA

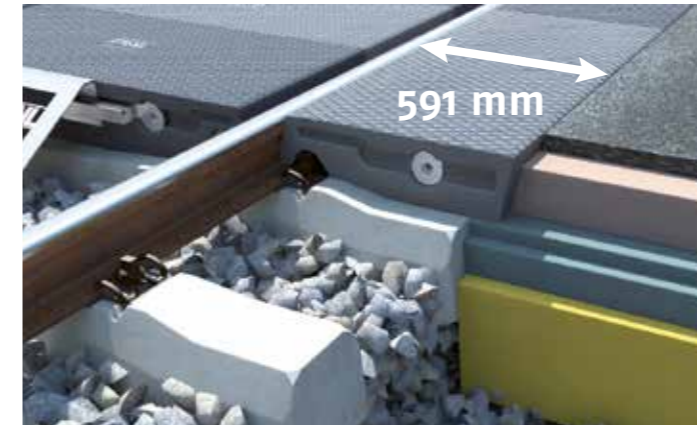
STRAIL® – the premium system.

- 1** STRAIL® inner panel 600 mm wide (also available in 1,200 mm), for 1,435 mm gauge (deliverable for all common gauges)
- 2** STRAIL® outer panel 1,200 mm wide, distance from outer side of rail > T-kerbstone: 713 mm
- 3** STRAIL® lock tight system (see page 9) > all parts heat treated steel and galvanised / rolled thread
- 4** STRAIL® road connection > version with long outer panel, T-kerbstone and prefabricated concrete subbase
- 5** T-kerbstone made of high-strength concrete C 70/85 (1,200 mm or 600 mm), special mortar and prefabricated concrete subbase 1,500 mm
- 6** Filler block > adapted to the respective track superstructure



In case of special types, an outer panel – distance from outer side of rail > T-kerbstone: 591 mm can be delivered (e.g. for short sleepers, concrete longitudinal beams)

STRAIL®-road connection:
version without T-kerbstone with short STRAIL® outer panel (1,200 mm wide) for distance from outer side of rail / T-kerbstone: 591 mm



wear-and-tear layer (possibly poured asphalt)
binding layer
bituminous supporting layer
substrate

mm in inches glossary:

1,500 mm = 59.06 inch	1,200 mm = 47.24 inch	600 mm = 23.62 inch
1,435 mm = 56.49 inch	713 mm = 28.07 inch	591 mm = 23.27 inch



4 | DIMENSIONS

STRAIL® – inner panel 600 mm and 1,200 mm.



Since 2008 it is possible to actually double the width of the previously manufactured inner panels of **STRAIL®** (width 600 mm) and produce inner panels with a width of 1,200 mm.

The advantages are obvious: on the one hand this doubles the area one can put down during installation, which helps to save time and thus reduce costs. On the other hand, position stability is greatly improved due to the expanded size of the surface. A smaller number of panels is required, which in turn significantly reduces the number of joints.

A major additional benefit of the „1,200 panel“ is its reinforced top- and underside, which is achieved with a stable layer of fiber-reinforced composite.

This gives the overall product higher stability and stiffness, which results in improved load distribution, as well as a wider load transfer into the foundation.

In addition to being available for all common rail tracks, the 1,200 mm **STRAIL®** inner panels are compatible with all existing **STRAIL®** products.

1,200 mm inner panel

- ◆ fiber-enforced, to address the issue of continuously growing strains
- ◆ even quicker to install with the help of an excavator
- ◆ improved position stability
- ◆ for maximum loads > 1,200 mm **STRAIL®** inner panel in combination with **pontiSTRAIL** 713 / 910 mm outer panels → strongly reduced load transmission in the track superstructure



5 | INTERESTING POINTS

Quality / Approval

Through our internal quality assurance, we are still able to trace back individual components of our products years after delivering them. All components are thoroughly tried and tested in a hands-on manner: raw materials in our pilot plant and innovations, as well as product changes using our test bench. Our products are inspected by different testing institute on a regular basis. We have been working with TÜV/LGA for years (external supervision according to German Industrial Standard DIN/ EN 18200). Additionally, we apply certified energy management according to DIN/EN/ISO 50001.

We closely examine our suppliers in so-called supplier audits to ensure documented process and product management.

Since 1994, we have been certified in accordance with DIN ISO EN 9001, in addition to being a Q1 supplier of the Deutsche Bahn AG, as well as an A1 supplier of the SNCF.

All products belonging to the **STRAIL®** family have been approved and installed in nearly all major railroad countries. We are happy to answer any specific questions you may have concerning this subject.

Recycling / Return Policy

Our return policy offers you a significant advantage → „old panels“ which were bought from **STRAIL®** or at one of our **STRAIL®** partners can be returned to **STRAIL®**. We then recycle the panels and reuse them in our production process.

Our motto >> **conservation of valuable raw material and energy resources!**

If you choose to, you may drop **STRAIL®** panels off at any disposal site > **STRAIL®** rubber panels are classified according to the European Waste Catalog EWC. The waste code according to EWC for **STRAIL®** rubber panels is 160103. In accordance with this code our panels may be dropped off at any waste disposal company.



6 | INSTALLATION

installing **STRAIL**® does not require substantial technical effort.

Once the track has been brought to the proper height and width, the position of the level crossing is determined and the track superstructure is prepared, ensure sleeper spacing is exactly 600 mm.

Afterwards, installation of the kerbstones can begin. The kerbstones are usually used in combination with a pre-fabricated concrete subbase.

After the T-kerbstones have been installed the road connection is completed. The bitumen road connection is made up of several layers. However, each one is easy to compact and to roll.

A permanently elastic joint compound or Tok®-tape needs to be installed between T-kerbstone and wearing layer.

Then the filler blocks and **STRAIL**® panels are inserted and secured longitudinally into one package by means of the patented lock tight system.

Basically no machines are required to install **STRAIL**® level crossing panels. Thanks to their low weight, the panels can be installed manually. For this purpose, we offer an

optional installation lever. Our 1,200 mm **STRAIL**® inner panels are easier and quicker installed with the help of an excavator. If the road connection is to be made with kerbstones, hoisting machines will be required for the concrete parts.

Detailed assembly instructions are included with delivery or available for download from www.strail.com.

Guarantee / Maintenance

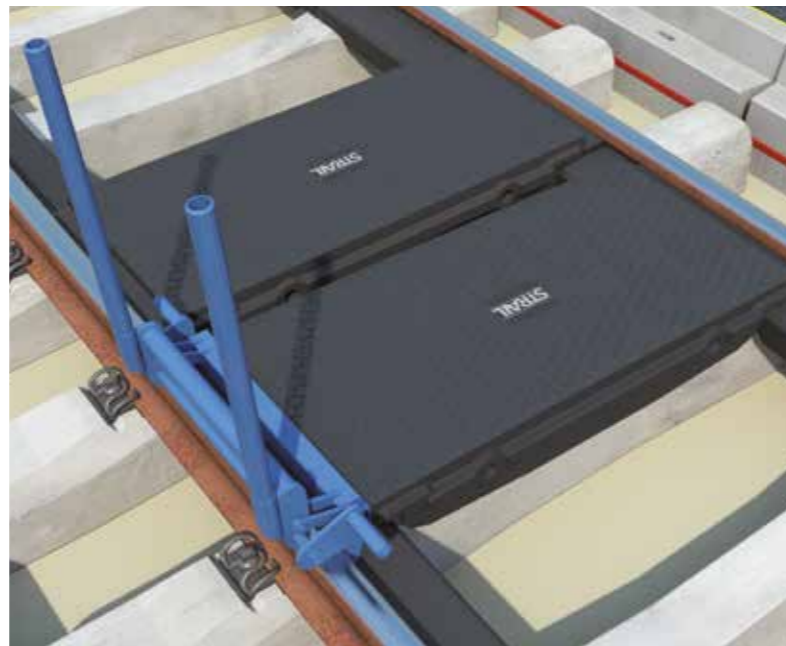
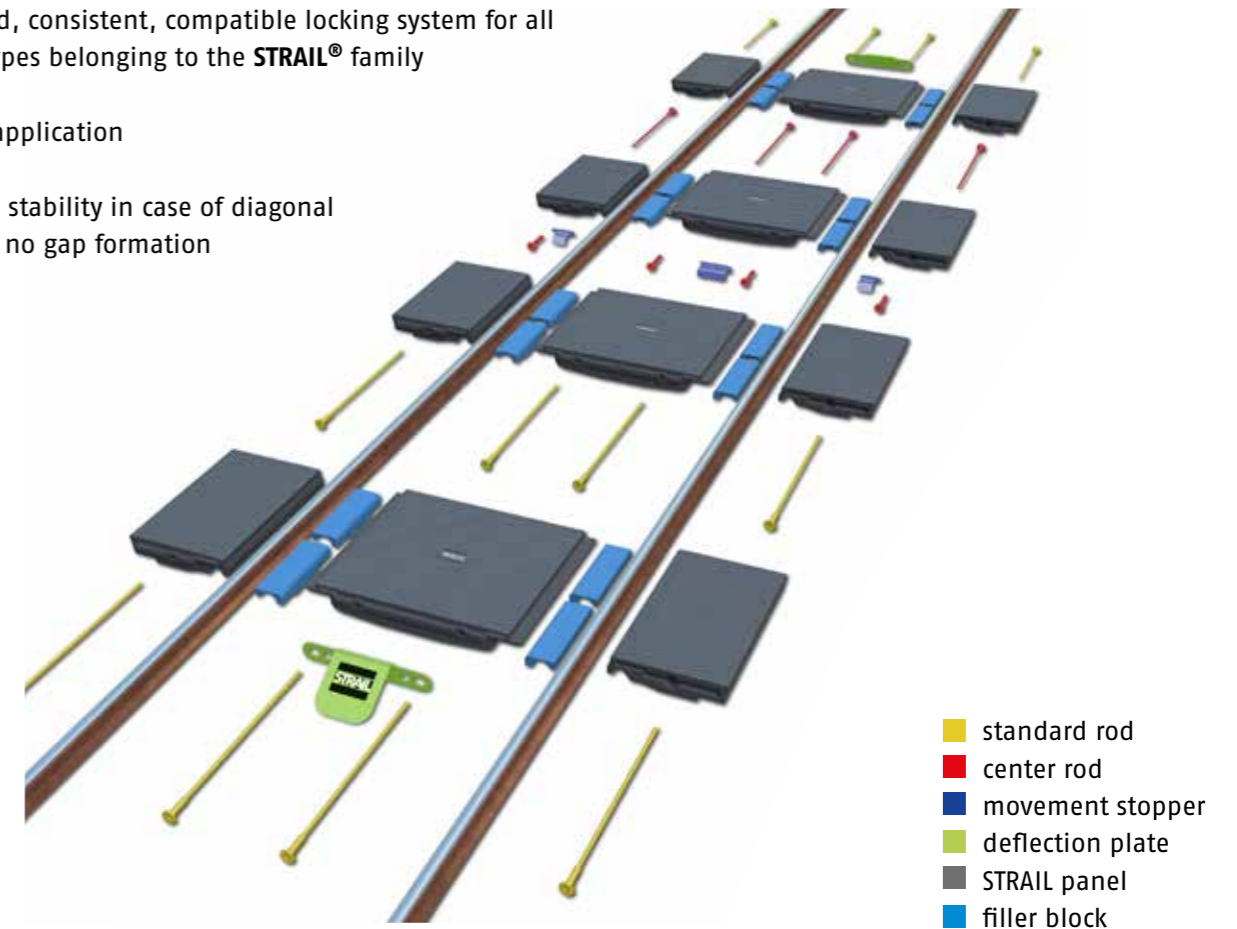
When properly installed according to installation instructions, we offer a guarantee on **STRAIL**® which goes beyond statutory warranty. **STRAIL**® requires no regular maintenance.

Service life of the level crossing depends on the respective traffic load. 15 years are the rule. Extreme increases or reductions in traffic can affect service life. In the meantime, installation lifetimes of 25 years are no longer uncommon.

7 | LOCK TIGHT SYSTEM

simple, intelligent, patented.

- ◆ patented, consistent, compatible locking system for all panel types belonging to the **STRAIL**® family
- ◆ simple application
- ◆ position stability in case of diagonal traffic > no gap formation



8 | THE STRAIL PRINCIPLE

we connect street and rail.



fast.

Traffic needs to flow, freely and quickly. With **STRAIL®** you simply are fast – for planning, building and maintenance. Our offers are typically drawn up within 48 hours. Your level crossing leaves our factory as early as two weeks after placing your order. Using a crew of 4-6 people and no additional machines, you can install a 9 m long crossing in merely three hours.

In case of track maintenance, **STRAIL®** can be removed and reinstalled quickly and without much effort. In addition, our experts are available virtually around the clock.

STRAIL® is profitable. From the outset.



safe.

Wherever safety is concerned, we accept no compromises. **STRAIL®** is different – ranging from its technically simple, yet fast and safe installation, to its ability to bear continuous loads on a daily basis without any gap formation.

The tongue and groove connection prevents – especially in case of diagonal traffic – the dreaded “sudden collapse” effect, well-known from other single-panel systems.

Products which are part of the **STRAIL®** family have the smallest, permissible flange groove. **veloSTRAIL** eliminates this gap entirely.

STRAIL®. Safety for your level crossings and for your investments.



reliable.

Building level crossings is one thing. Keeping them in excellent condition is quite another. “Fit & Forget” is our motto; as a result: maintenance-free level crossings. Over 30,000 crossings under varying climatic conditions on five continents form the basis of our reliable technology and materials. Besides, your experiences help us to continuously perfect **STRAIL®**.

You benefit from the long service life of our products and with the support of the worldwide operating **KRAIBURG** group we have been your reliable partner for over 40 years.

STRAIL® fulfills your expectations.



www.strail.com




made
in
germany 

-/ level crossing systems / Bahnübergangssysteme

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