



THE EXTRA STRONG SYSTEM.

street  
meets  
rail.



LEVEL CROSSING SYSTEMS *for highest demands*

# 1 | APPLICATION

## pontiSTRAIL, the heavy-load system.

For maximum load applications, we have developed the outer panel system by the name of **pontiSTRAIL**. Ideally, it is installed in combination with the new fiber-reinforced

1,200 mm wide **STRAIL**® inner panels. It is particularly well suited for crossings, which have an above-average frequency of heavy vehicles.



# 2 | ADVANTAGES

## pontiSTRAIL, for maximum loads.

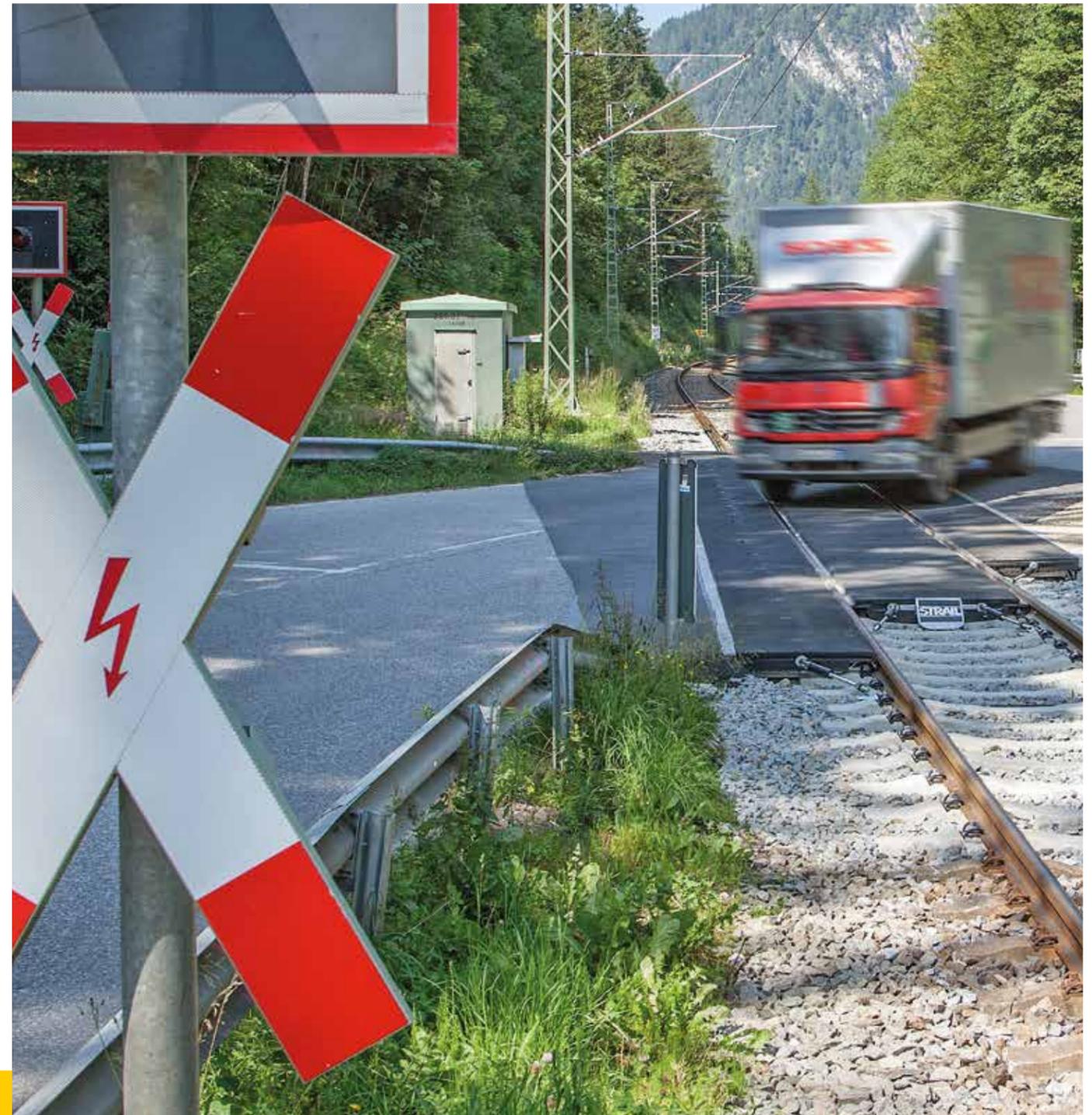
The **pontiSTRAIL** outer panel system comprises two materials > rubber and aluminium and thus, combines a number of advantages:

The light, corrosion-resistant aluminium bearer guarantees optimum load distribution. The **pontiSTRAIL** rubber panel is lighter than the **STRAIL**® outer panel, as well as elastic and extremely robust.

A groove in the panel makes it easier for installation. The lightweight aluminium bearer guarantees optimum load distribution and is resistant to corrosion. Rubber rail bearings enable the system to be adapted to the relevant rail type

Quick installation of the new **STRAIL**®/**pontiSTRAIL** system using an excavator.

- ◆ tolerates horizontal and vertical track position changes
- ◆ in combination with the 1,200 mm **STRAIL**® inner panels > increased position stability and suitable for maximum loads
- ◆ no bearing on the sleeper surface



# 3 | DATA

## pontiSTRAIL 910, the heavy-load system.

- 1 STRAIL® inner panel 1,200 mm wide, for 1,435 mm gauge (deliverable for all common gauges)
- 2 pontiSTRAIL outer panel 1,200 mm, distance from outer side of rail > kerbstone: 910 mm
- 3 pontiSTRAIL bearer (aluminium) 600 mm wide
- 4 pontiSTRAIL lock tight system (see page 11)  
> all parts heat treated steel and galvanised / rolled thread  
> STRAIL® end restraints are required for level crossings with diagonal traffic
- 5 Kerbstone made of high-strength concrete C 70/85 (1,200 mm or 1,800 mm), special mortar and prefabricated concrete subbase 1,500 mm and 2,500 mm

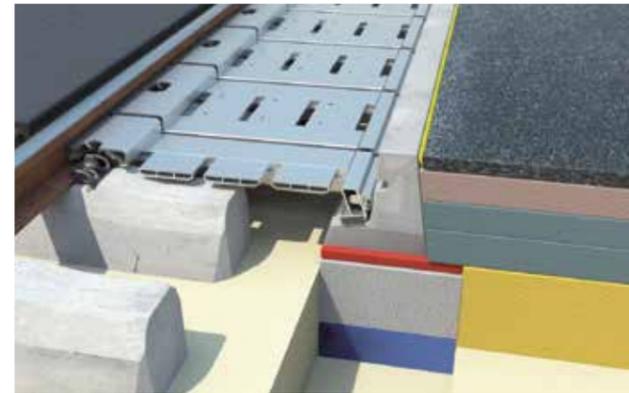
### mm in inches glossary:

2,500 mm = 98.45 inch  
1,500 mm = 59.06 inch

1,435 mm = 56.49 inch  
1,200 mm = 47.24 inch

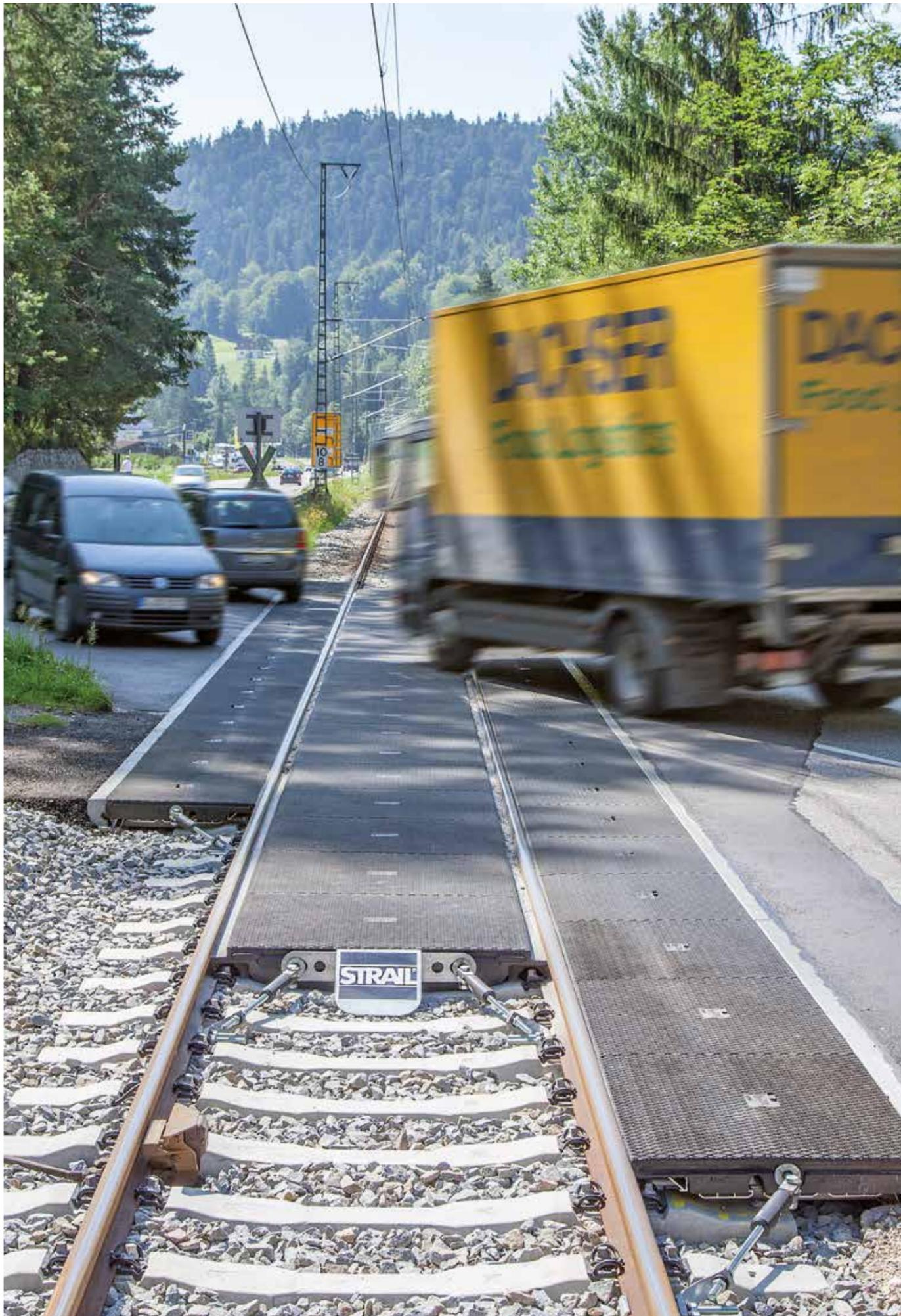
910 mm = 35.83 inch  
600 mm = 23.62 inch

pontiSTRAIL road connection > with kerbstone, special mortar and prefabricated concrete subbase



wear-and-tear layer (possibly poured asphalt) with TOK® tape  
binding layer  
bituminous supporting layer  
substrate





## 4 | DIMENSIONS

### pontiSTRAIL 713 panels and supports.

Since 2012 our **pontiSTRAIL** outer panels can also be manufactured for a distance of 713 mm outer side of rail > kerbstone. We developed **pontiSTRAIL 713** so customers could also take advantage of the benefits which **pontiSTRAIL 910** offers and apply them to existing level crossings which feature standard **STRAIL**® outer panels und T-kerbstones.

Replacing **STRAIL**® standard outer panels with the **pontiSTRAIL 713** system for highest loads is possible without any problems. Additional work e.g. regarding the road connection is not necessary. In addition, it is possible to further lower the outer panels, thus including more possible types of permanent way for installation.



### 713 mm outer panels

- ◆ **pontiSTRAIL 713** tolerates changes of the track level
- ◆ greater height flexibility compared to **pontiSTRAIL 910** > can be used for various types of permanent way
- ◆ installation is possible without any machinery



# 5 | DATA

## pontiSTRAIL 713, the heavy-load system.

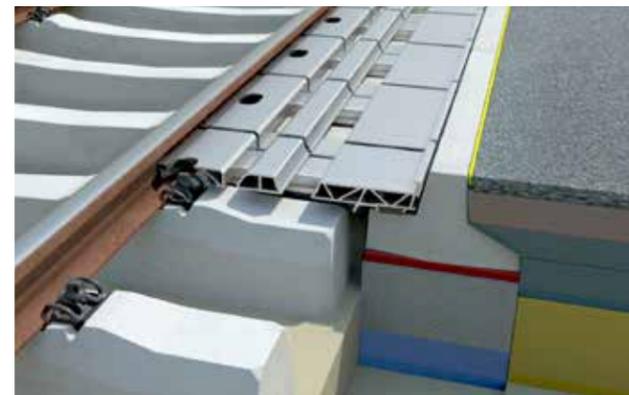
- 1** STRAIL® inner panel 1,200 mm wide, for 1,435 mm gauge (deliverable for all common gauges)
- 2** pontiSTRAIL outer panel 1,200 mm, distance from outer side of rail > kerbstone: 713 mm
- 3** pontiSTRAIL bearer (aluminium) 600 mm wide
- 4** pontiSTRAIL lock tight system (see page 11)  
> all parts heat treated steel and galvanised / rolled thread  
> STRAIL® end restraints are generally required
- 5** Kerbstone made of high-strength concrete C 70/85 (1,200 mm or 1,800 mm), special mortar and prefabricated concrete subbase 1,500 mm and 2,500 mm

STRAIL® end restraint:



mm in inches glossary  
713 mm = 28.07 inch

pontiSTRAIL road connection > with kerbstone, special mortar and prefabricated concrete subbase



wear-and-tear layer (possibly poured asphalt) with TOK® tape  
binding layer  
bituminous supporting layer  
substrate



## 6 | INSTALLATION

simple and effective.

Additional equipment (machinery) is required to install **pontiSTRAIL 910/713** with foundations and kerbstones. Machinery is not required when replacing existing **STRAIL®** outer panels with **pontiSTRAIL 713** outer panels.

Once the track has been brought to the proper height and width, the position of the railway crossing is determined and the track superstructure is prepared. Afterwards, one can begin moving the kerbstones. The kerbstones are ideally used in combination with a prefabricated concrete subbase. The road connection is completed after the kerbstones have been installed.

The road connection is created layer by layer. It is important to ensure that each individual layer is well compacted.

Now one can start with the installation of the **pontiSTRAIL 910/713** aluminum supports. Position the bearer along the rail and gently settle them onto the kerbstone. The first bearer is installed in the middle of the level crossing.

Afterwards, the remaining bearers are placed right and left along the rail. After brushing the rubber panels with the **STRAIL®** lubricant, the **pontiSTRAIL 910/713** outer panels are installed with the help of the removal tools and transport tools (e.g. by hand). Then the panels are secured longitudinally into a package using the patent-registered lock tight system

Detailed assembly instructions are included with delivery or available for download from [www.strail.com](http://www.strail.com)

### Guarantee / Maintenance

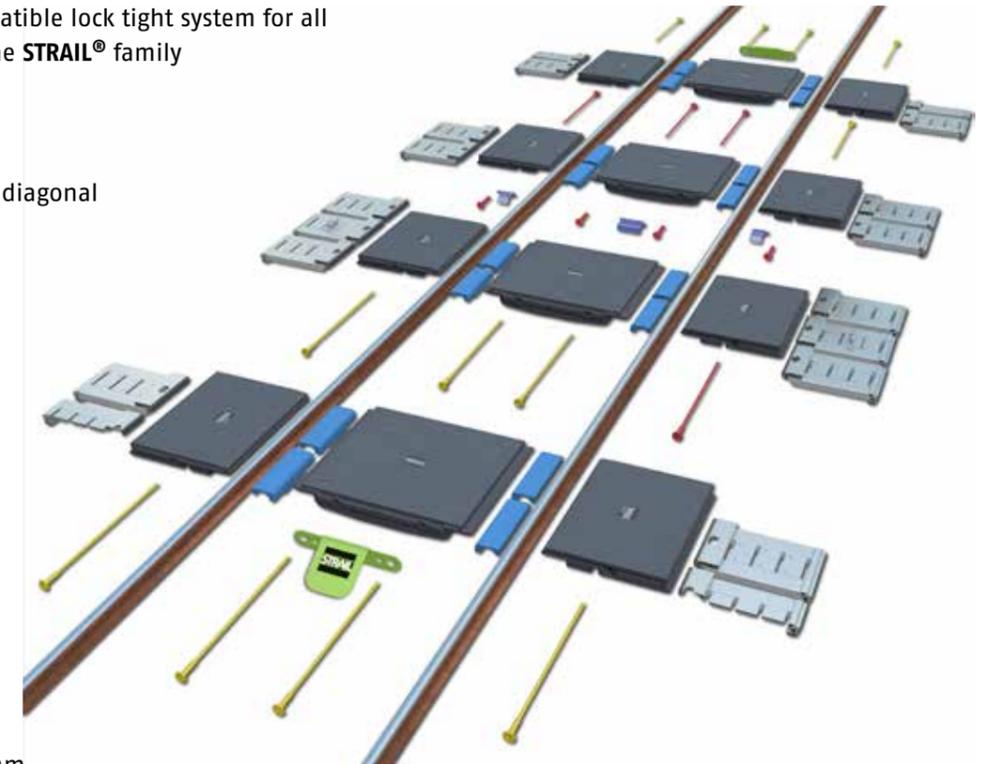
When properly installed according to installation instructions, we offer a guarantee on **pontiSTRAIL 910/713** which goes beyond statutory warranty. **pontiSTRAIL 910/713** requires no regular maintenance.

Service life of the level crossing depends on the respective traffic load. Extreme increases or reductions in traffic can affect service life.

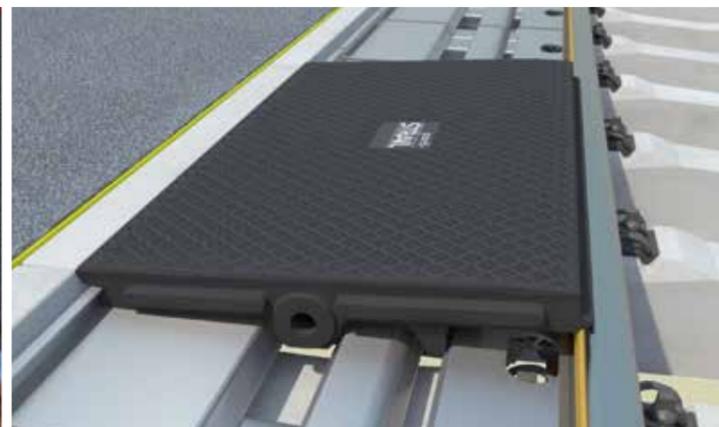
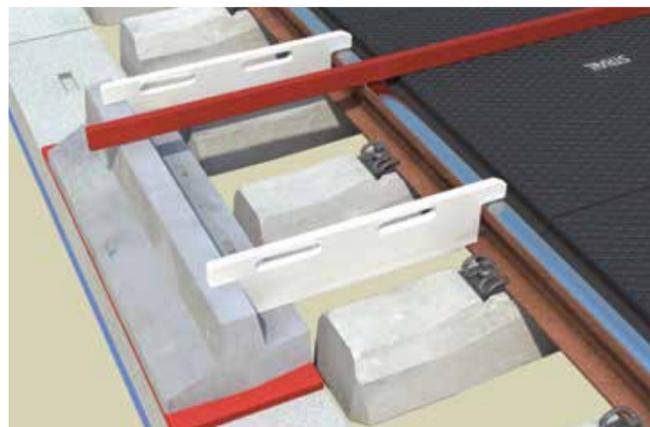
## 7 | LOCK TIGHT SYSTEM

simple, intelligent, patented.

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



- ◆ standard rod
- ◆ center rod
- ◆ movement stopper
- ◆ deflection plate
- ◆ **STRAIL** inner panel 1,200 mm
- ◆ **STRAIL** filler block
- ◆ **pontiSTRAIL** outer panel
- ◆ **pontiSTRAIL** aluminium bearer



## 8 | 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.

## 9 | FAQ

### What you have always wanted to know.



#### ◆ What are the STRAIL® products made of? (difference to other rubber panels)

All level crossing panels belonging to the STRAIL® product family are made of recycling and virgin rubber, while having the smallest, permissible flange groove. A special feature is that the entire panel is fully vulcanized, according to a special production process. On the basis of this complex production process it is possible to achieve outstanding product features and a significantly longer service life.

#### ◆ Where does the name pontiSTRAIL come from?

„Pontis“ comes from Latin and means „bridge“. Since the aluminium supports only rest on the rail base and the kerbstone they thereby form a bridge over the ballast bed.

#### ◆ Which areas are suitable for pontiSTRAIL?

pontiSTRAIL is particularly suitable for level crossings with a high percentage of heavy vehicle traffic on the street. Likewise, pontiSTRAIL is advantageous for level crossings with cant, since the supports do not rest on the sleeper. pontiSTRAIL can be adapted to the street gradient.

#### ◆ pontiSTRAIL - the silent level crossing

Using this rubber material reduces noise substantially and makes crossing the level crossing more comfortable

for traffic. Additionally, STRAIL® / pontiSTRAIL is making a considerable contribution to environmental protection.

#### ◆ Can STRAIL® outer panels 713 mm simply be replaced with pontiSTRAIL 713?

Yes, replacing STRAIL® outer panels 713 mm can be carried out without much effort. Remove the STRAIL® outer panels and clear away the ballast. Clean the rail base and supporting kerbstone, afterwards install pontiSTRAIL 713.

#### ◆ What simplifies the installation of the new pontiSTRAIL 713 panels?

The entire system can be installed by hand, without the aid of any additional machinery. Furthermore, central supports are no longer required.

#### ◆ Application of STRAIL®, pontiSTRAIL, innoSTRAIL, pedeSTRAIL and veloSTRAIL

Depending on road and rail load, as well as individual local conditions, a perfectly suited product can be undoubtedly found within the STRAIL® portfolio. It is generally recommended to consult the responsible STRAIL® representative, who will gladly assist you in finding the right product for your respective area of application.



# 10 | THE STRAIL PRINCIPLE

we connect street and rail.



fast.

Traffic needs to flow, freely and quickly. With **STRAIL**<sup>®</sup> 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**<sup>®</sup> can be removed and reinstalled quickly and without much effort. In addition, our experts are available virtually around the clock.

**STRAIL**<sup>®</sup> is profitable. From the outset.



safe.

Wherever safety is concerned, we accept no compromises. **STRAIL**<sup>®</sup> 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**<sup>®</sup> family have the smallest, permissible flange groove. **veloSTRAIL** eliminates this gap entirely.

**STRAIL**<sup>®</sup>. Safety for your level crossings and for your investments.



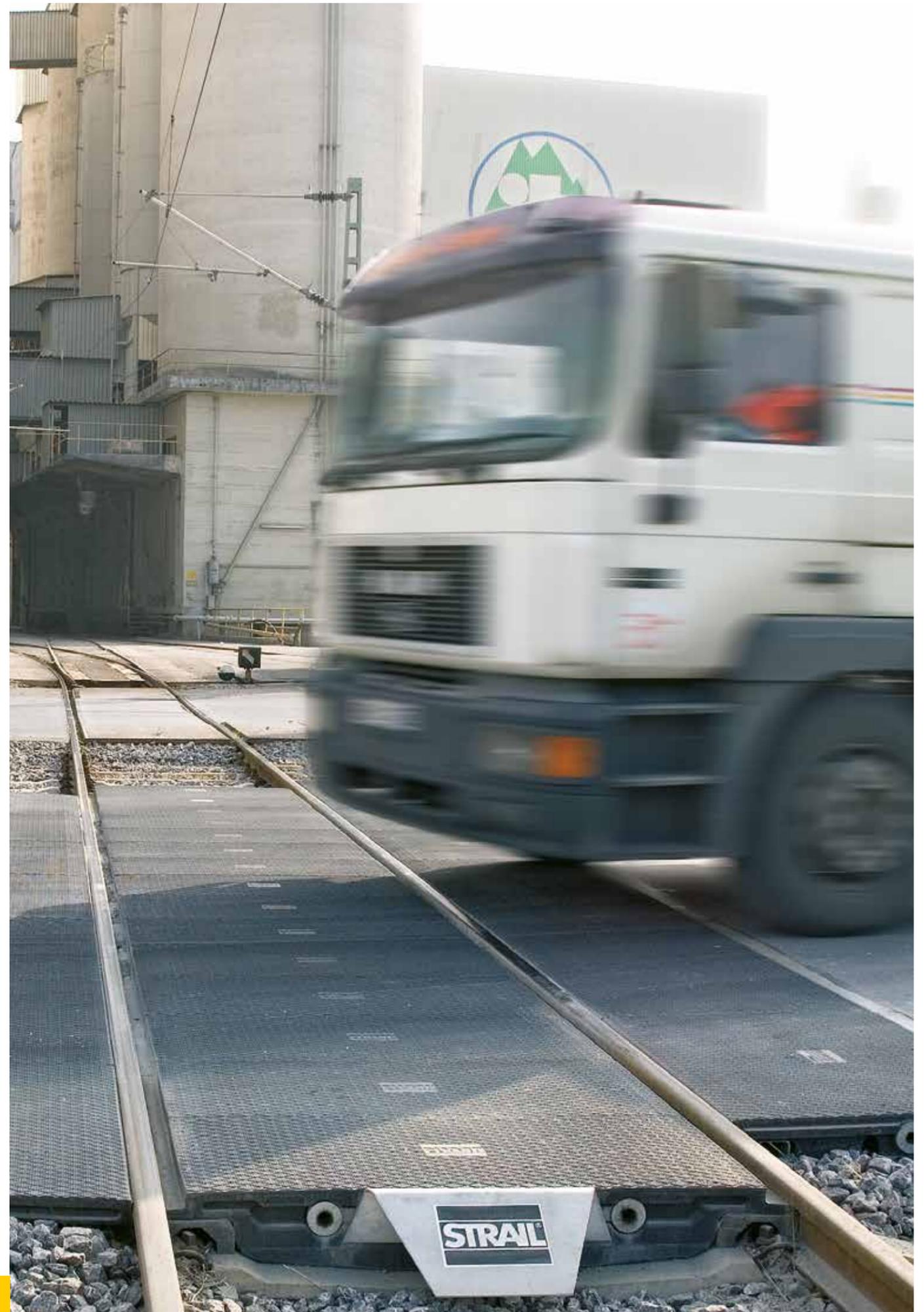
reliable.

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**<sup>®</sup>.

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**<sup>®</sup> fulfills your expectations.



www.strail.com



made  
in  
germany

A vertical bar to the right of the text 'made in germany' contains the colors of the German flag: black, red, and gold.

*-/ level crossing systems / Bahnübergangssysteme*

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STRAIL | STRAILastic | STRAILway are brands of the  group.