



**STRAIL**<sup>®</sup> **STRAIL**<sup>lastic</sup> **STRAIL**<sup>WAY</sup>



# STRAILgrid Installation Instructions



Subject to technical changes / Rev.10 | 02.2022 / TWU



**KRAIBURG STRAIL**<sup>®</sup> GmbH & Co. KG | **STRAIL**<sup>®</sup> | **STRAIL**<sup>lastic</sup> | **STRAIL**<sup>WAY</sup>

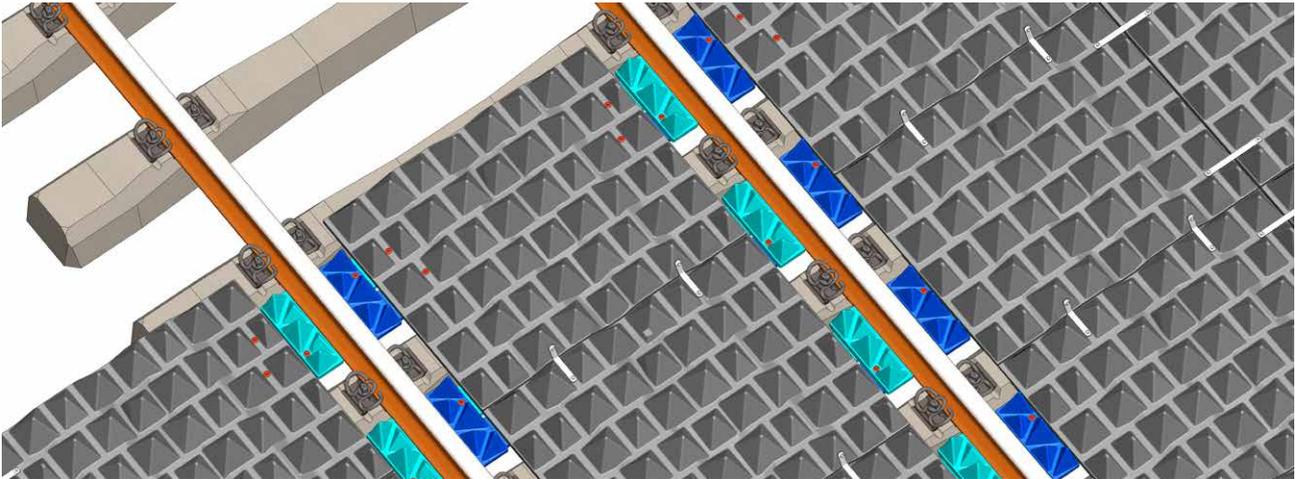
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Please find your responsible **STRAIL**<sup>®</sup> contact person at [www.strail.de](http://www.strail.de)

**STRAIL®** level crossings have been in worldwide use since 1976 and have certainly proven themselves. Our know-how as a rubber processor and our expertise for the special needs of railway operators have made us to one of the leading manufacturers of level crossings of this kind. By choosing **STRAILgrid** you can be sure to get technically mature system which is suitable for everyday use and will provide protection against trespassing on tracks for many years to come.

**If these installation instructions are not observed and if materials are used which have not been supplied by the manufacturer as accessories, the warranty granted by the manufacturer will become void.**

## The STRAILgrid - System



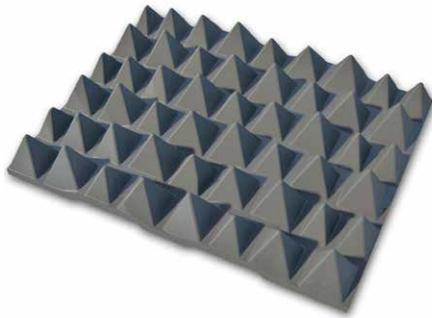
In special cases such as installations on platform edges, always contact the responsible person at **STRAIL®** !

## # 1 / PROPERTIES

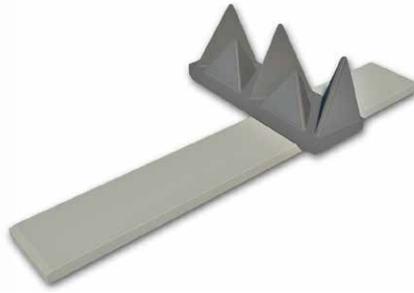
- |   |  |
|---|--|
| → Dimensions of the universal panel:          | approx. 1,114 x 900 x 174 mm (L x W x H)   |
| → Weight of the universal panel:              | approx. 74 kg  |
| → Weight of the intermediate element:         | approx. 5.3 kg (incl. standard mounting element)   |
| → Weight of the short mounting element:       | approx. 2 kg   |
| → Material universal panel:                   | vulcanised rubber  |
| → Material intermediate element:              | vulcanised rubber  |
| → Material mounting element:                  | recycled plastic   |
| → Resistance:                                 | resistant against chemicals and environmental influences   |
| → Geometry of surface:                        | pyramid points in three different heights, staggered in rows, very rough, uneven, irregular surface. No weep holes necessary due to the geometry of the universal panel. |
| → Height of pyramid points (universal panel): | approx. between 11 and 14.5 cm (measured from the lower edge of the respective pyramid point)  |
| → Colour:                                     | black  |

## Components

- Universal panel
- Intermediate element with mounting element
- Mounting element
- Angled panel connector (stainless steel)
- Flat panel connector (stainless steel)
- Self-tapping screws with hexagon heads (HILTI tapping screws S-MP 73 S – 6,5 x 88)



Universal panel



Intermediate element with mounting element



Angled and flat panel connectors

## Necessary tools

- Cordless screwdriver with socket wrench size 3/8"
- Ballast fork

## # 2 / INSTALLATION IN THE TRACKS



**CAUTION > There is risk of falling due to uneven surface!**  
Be careful and make sure to have a firm stand during all work steps!

### Installing the intermediate elements

- When the intermediate elements are supplied, the mounting elements are already pre-assembled to it.
- Place one intermediate element on the outer side and one intermediate element on the inner side of the sleeper bay. Slide the intermediate element through under the rail (the long side of the mounting element must face forward). **(picture 1)**  
If necessary, remove some ballast (approx. 30 mm) from the sleeper bay to properly place the intermediate elements.
- Push the elements through under the rail until they lie against the rail foot. **(picture 2)**
- Connect the elements with two screws.
- If necessary, shift the ballast under the elements to allow them to lie against the rail foot.
- Repeat those steps for the entire length of the section to be covered. **(picture 3)**



## # 3 / INSTALLING THE UNIVERSAL PANELS

### PLEASE NOTE:

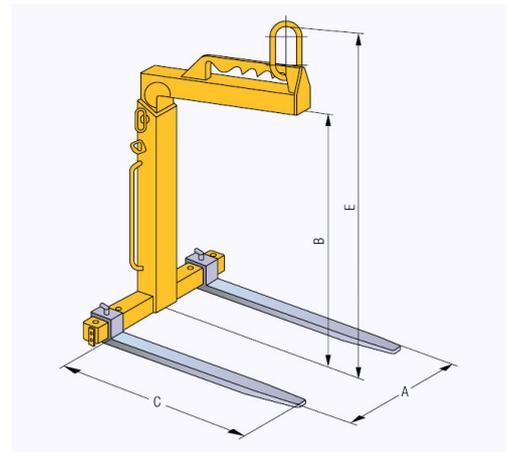
The universal panels have 4 integrated recessed grips so that they can be easily carried by hand. (2-4 persons)

Optionally, the panels can also be transported mechanically. For this purpose, there are two full-length caverns on the underside of the STRAILgrid universal panel.

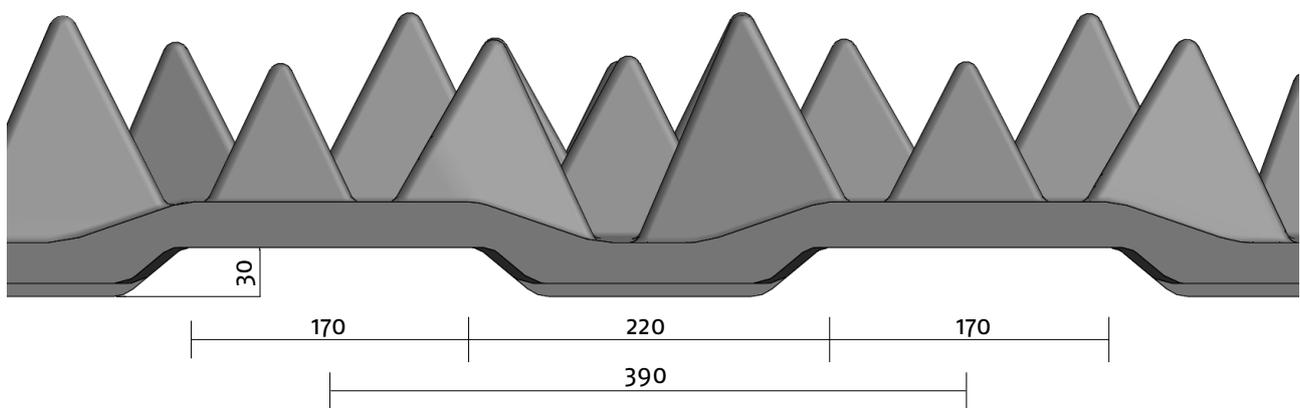
A standard pallet fork / loading fork can be slid into the caverns.

No special STRAILgrid installation tools are needed.

A standard crane fork (see picture) can be used for transport with a crane or an excavator.



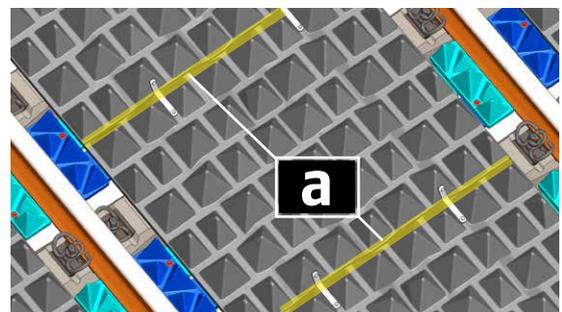
example crane fork



### # 3.1 / WITH PANEL CONNECTOR

#### Installing the universal panels on the inner side

- After all intermediate elements are installed, the universal panels can be placed.
- Place the universal panels according to the laying plan. Make sure that the outer edge of the outermost universal panel lies on the centre of the sleeper.



The STRAILgrid universal panels must be installed centrally and parallel to the rail.

The distance between the intermediate element and the universal panel is always the same.

The STRAILgrid universal panel and STRAILgrid intermediate element never touch each other.

**PLEASE NOTE:** Place the next panel only after screwing the previous one in place (this prevents the panels from shifting).

**PLEASE NOTE:** In order to ensure an easy installation of STRAILgrid, it is recommended to install the universal panels in a way that the logos always point in the same direction.

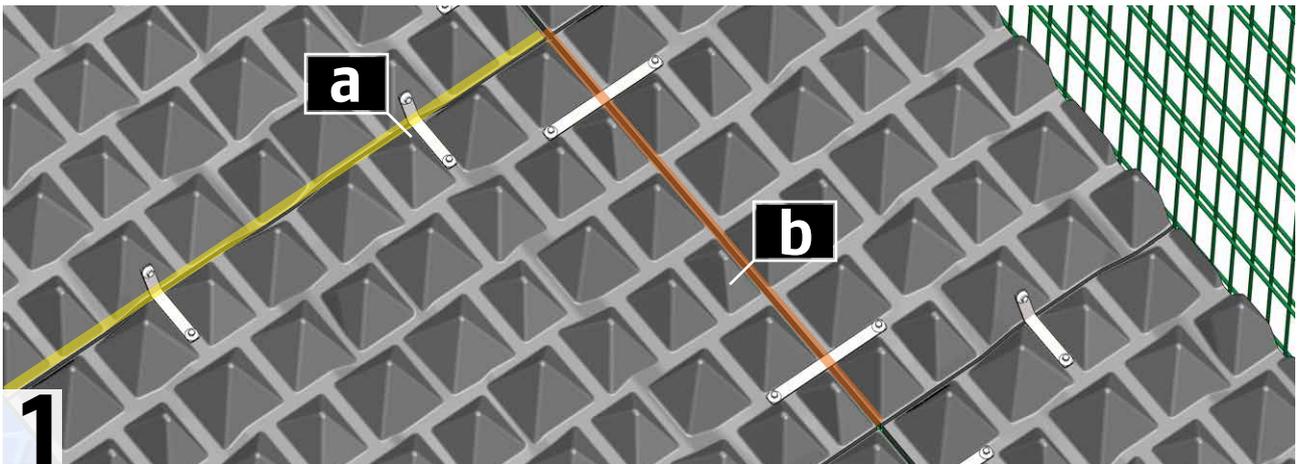
- To interconnect the individual panels, use two angled panel connectors for each panel joint.
  - > Use the angled panel connectors on the long side. (item a)

### PLEASE NOTE:

The outermost panels of the covered area (beginning and end of the covered area) must be additionally screwed together with the mounting elements of the intermediate elements underneath (see picture 2, page 5). Use two screws for joining those panels to the fastening elements. This ensures that the STRAILgrid universal panels are not only safely connected to each other but also to the track.

## Installation of the universal panels on the outer side

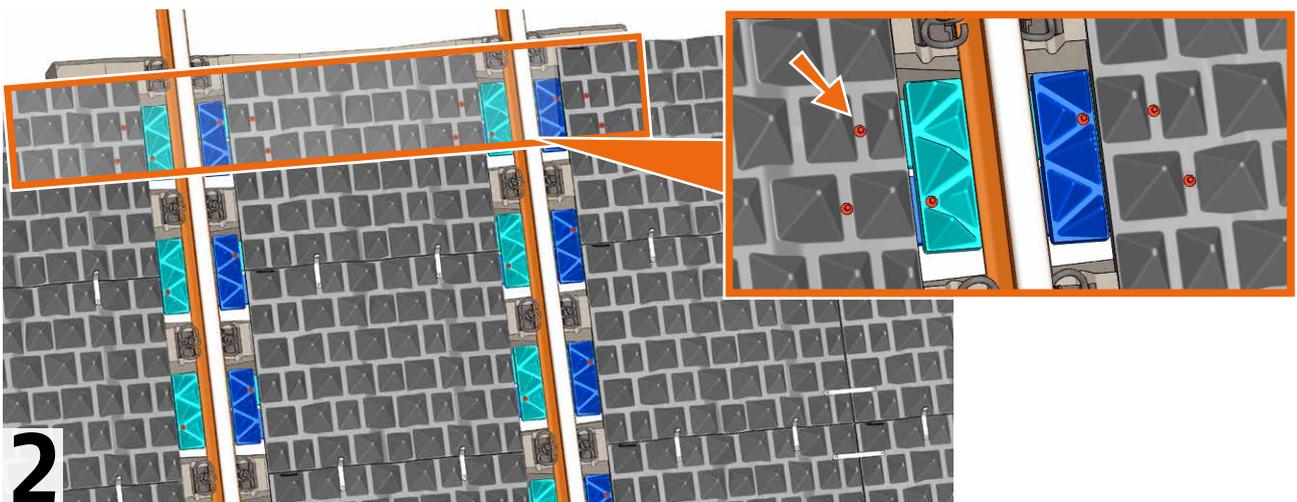
- Place the universal panels according to the laying plan.  
Make sure that the outer edge of the outermost universal panel lies on the centre of the sleeper.  
**PLEASE NOTE:** Place the next panel only after screwing the previous one in place (this prevents the panels from shifting).  
**PLEASE NOTE:** In order to ensure an easy installation of **STRAILgrid**, it is recommended to install the universal panels in a way that the logos always point in the same direction.
- To interconnect the individual panels, use two panel connectors for each panel joint.
  - > Use the angled panel connectors on the long side. (*see picture 1, item a*)
  - > Use the flat panel connectors on the short side. (*see picture 1, item b*)



### PLEASE NOTE >

The two outermost panels must be additionally screwed together with the mounting elements of the intermediate elements underneath (see picture 2). Use two screws for joining those panels to the mounting elements. This ensures that the STRAILgrid universal panels are not only safely connected to each other but also to the track.

**CAUTION!** Always make sure to tighten the screws in the mounting element as centrally as possible.



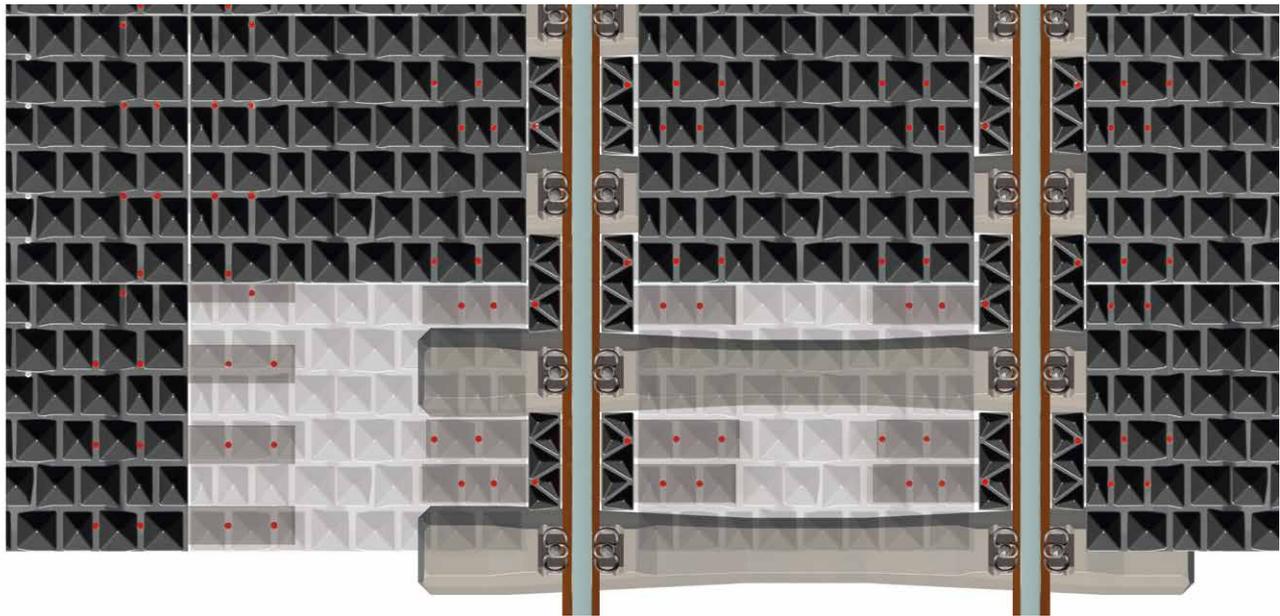
- To cover further areas next to the tracks use
  - > the angled panel connectors on the long side (*see picture 1, item a*) and
  - > the flat panel connectors on the short side (*see picture 1, item b*) to interconnect the panels.

All panel connectors are screwed together at the designated positions (= holes in the panel connectors).

## # 3.2 / WITH FIXING ELEMENT

### Installing the universal panels on the inner side

- The first panel is placed on one side of the area that should be covered. It must be ensured that the edge lies on the centre of the sleeper.
- The universal panel is installed with 2 screws per fixing element (12 screws in total).  
**NOTE:** Place the next panel only after screwing the previous one (this prevents the panels from shifting).
- After screwing the previous panels, the next panel can be placed end-to-end and installed with 12 screws.  
**CAUTION!** Make sure that the screws are positioned and fastened in the middle of the fixing element.



### Installing the universal panels on the outer side

- Place the panel on the outer side of the intermediate elements. Make sure that one edge lies against the middle of the sleeper.
- Fix the panel with two screws per fixing element (see picture for correct position).
- For covering further areas next to the tracks, use three fixing elements each but no intermediate element for connection. However, they are also screwed together with two screws per element.

## # 4 / DISASSEMBLY / MAINTENANCE WORK

- Dismantling is carried out in the reverse order to installation.
- Careful handling and storage with the pyramid tips facing upwards must be ensured.
- ATTENTION: **STRAILgrid** is **NOT** suitable for driving on. When using 2-way vehicles, it is essential to dismantle the **STRAILgrid** panels to avoid damaging the pyramid tips.



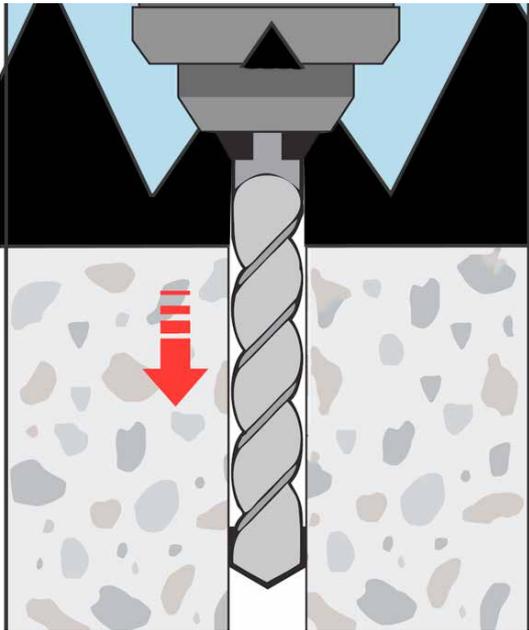
## # 5 / INSTALLATION ON A CONCRETE SUB BASE

Alternative fastening method > for installing the system on a concrete sub-base (e.g. non-ballasted tracks, platforms, etc.)

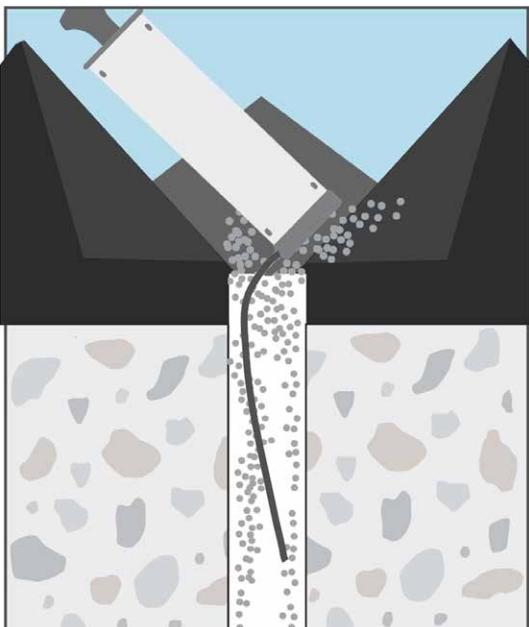
In this case, four heavy-duty anchors are needed for each **STRAILgrid** universal panel (those are included in delivery).

### Installation procedure

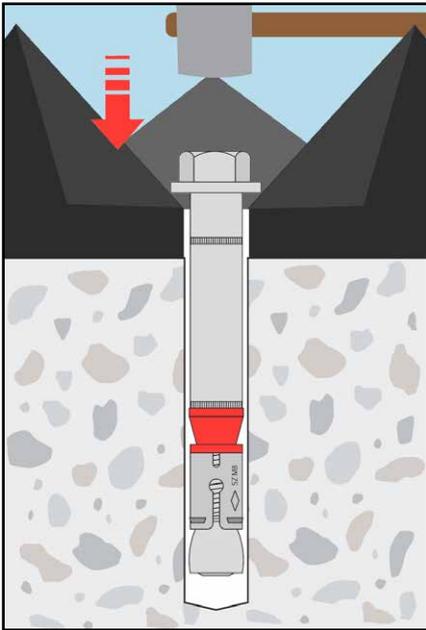
1. Place the **STRAILgrid** universal panels on the desired position on the concrete.
2. For each uncut universal panel, drill four holes directly through the rubber panels into the concrete sub-base (drill diameter 15 mm).



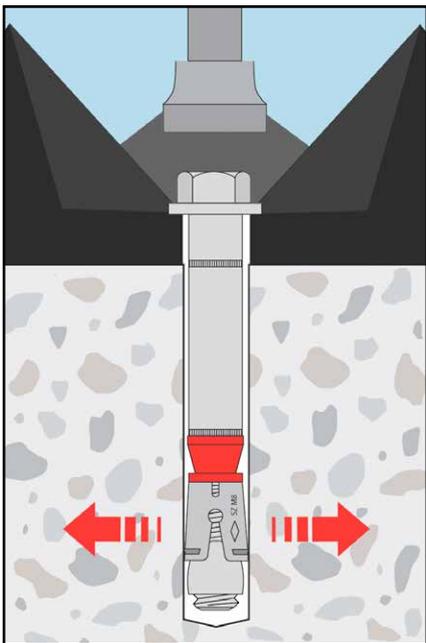
3. Blow out the drilling dust.



4. Insert the heavy-duty anchors into the holes and beat them in with a hammer



5. Tighten the screw with a ratchet.



**PLEASE NOTE**

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