



STRAIL[®]lastic **STRAIL[®]WAY**



STRAILlastic System TOR simplex

Installation instructions



Track damping system for continuous support

Subject to technical changes / 02_2020



KRAIBURG STRAIL[®] GmbH & Co. KG | STRAIL[®] | STRAILlastic | STRAILWAY

D-84529 Tittmoning | Gölßstraße 8 | Tel. + 49 / (0) 86 83 / 7 01-0 | Fax + 49 / (0) 86 83 / 7 01-126
info@strailastic.com | www.strail.de | www.strailastic.de | www.strailway.de

These installation instructions describe the installation of the STRAILastic System TOR simplex into a track section of grooved rails and tie bars with 1,500 mm spacing on a supporting concrete slab.

PLEASE NOTE

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1 / PREPARE INSTALLATION

The damping system will always be installed into the finished track. Ideally, several track sections are already welded together to a lengthier section. This way, the number of joints that have to be considered is minimized.

Approx. 750 mm should be kept free at the end of the rails for the welding joints in order to adjust the rails prior to the welding.

Tools needed

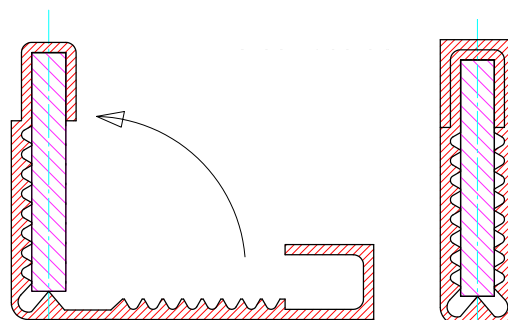
- Hammer 1 – 3 kg plastic
- Band or compound miter saw
- Electric tenon saw
- Hexagon wrench (size 36)
- Hexagon wrench (size 46)
- Drilling machine
- Drill bit
- Putty knife
- Manual applicator gun

2 / PARTS OF INSULATION

- Chamber filling elements (CFEs) inside and outside (length each approx. 150 cm)
- Rail foot profiles (length approx. 170 cm)
- Tie bar covers
- Adjustable retainer clips
- Sealing adhesive
- Insulating mats for boxes/other fittings (optional)

3 / INSTALL TIE BAR COVERS

Mount the tie bar covers to the centre of the tie bars. The run strip has to be on the top. Cover the run strips appropriately during installation and protect them against any opening or damage.



4 / SET UP AND ADJUST TRACK SECTION

Set up the track section and adjust it on supports below the insulated tie bars. The distance between the rail foot and the supporting concrete slab has to be at least 3 cm. With a shorter distance, the rail foot insulation would be much harder to install and the remaining height would not suffice for the bottom casting mortar/bitumen.

A greater distance (exceeding 3 cm) would increase the calculated quantity of bottom casting material. Theoretically, the bottom casting could reach up to 12 cm in thickness but then the anchorage length of the track fastening would decrease inadmissibly.



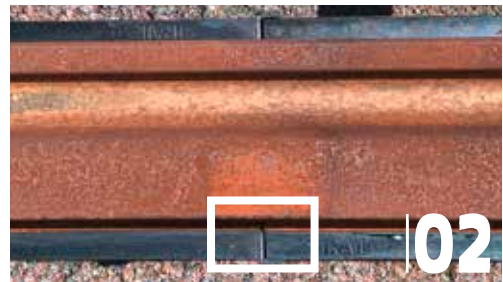
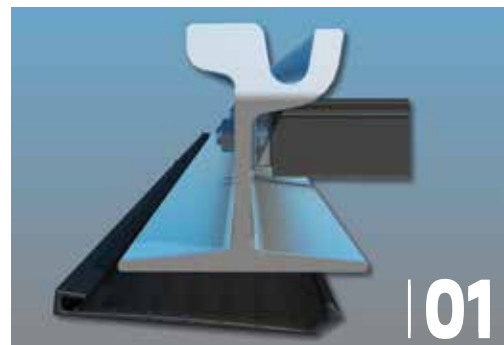
5 / INSTALL ELASTIC RAIL FOOT PROFILES

Push the one-piece rail foot profile over the rail foot on one side.

On the other side bend up the fold and let it snap in place over the rail foot. (01)

Rail foot profiles should be installed end-to-end and overlapped each-other. (02)

Incorporate welding joints and other fittings.



6 / INSTALL CHAMBER FILLING ELEMENTS (CFEs)

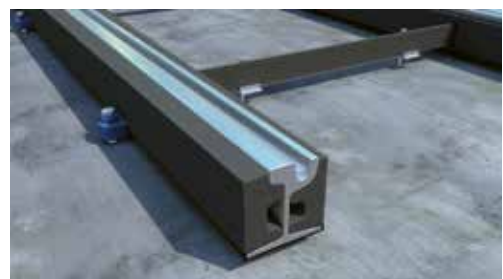
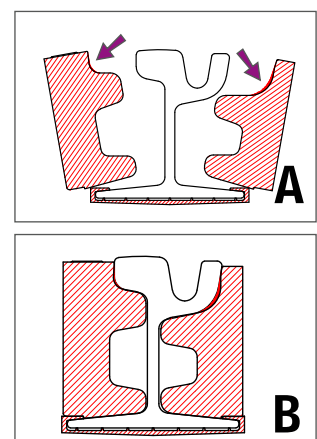
The chamber filling elements are coated with sealing adhesive in the area of the contact surfaces to the rail head (Figure A) and then driven in with a hammer until they are flush with the rail web (Figure B). The chamber filling elements remain in the rail web due to their self-clamping effect. Any sealing adhesive leaking from the surface must be removed with a spatula. The elements must close the rail chamber as a whole and should be installed end-to-end. Adjustments have to be made at curves, turnouts and other fittings.

For this purpose, CFEs can be cut with band, compound miter or electric tenon saw.

PLEASE NOTE >>

Saws with fast-turning chains are not recommended.

Close recesses in the CFEs as well as installation gaps which are not used with a sealing adhesive.



7 / INSULATE DRAINAGE AND CONTROL BOXES

Drainages boxes and any other fittings are to be insulated with suitable (elastic) mats. The bottom sides of the boxes are to be insulated in order to guarantee the vertical deflection of the track.



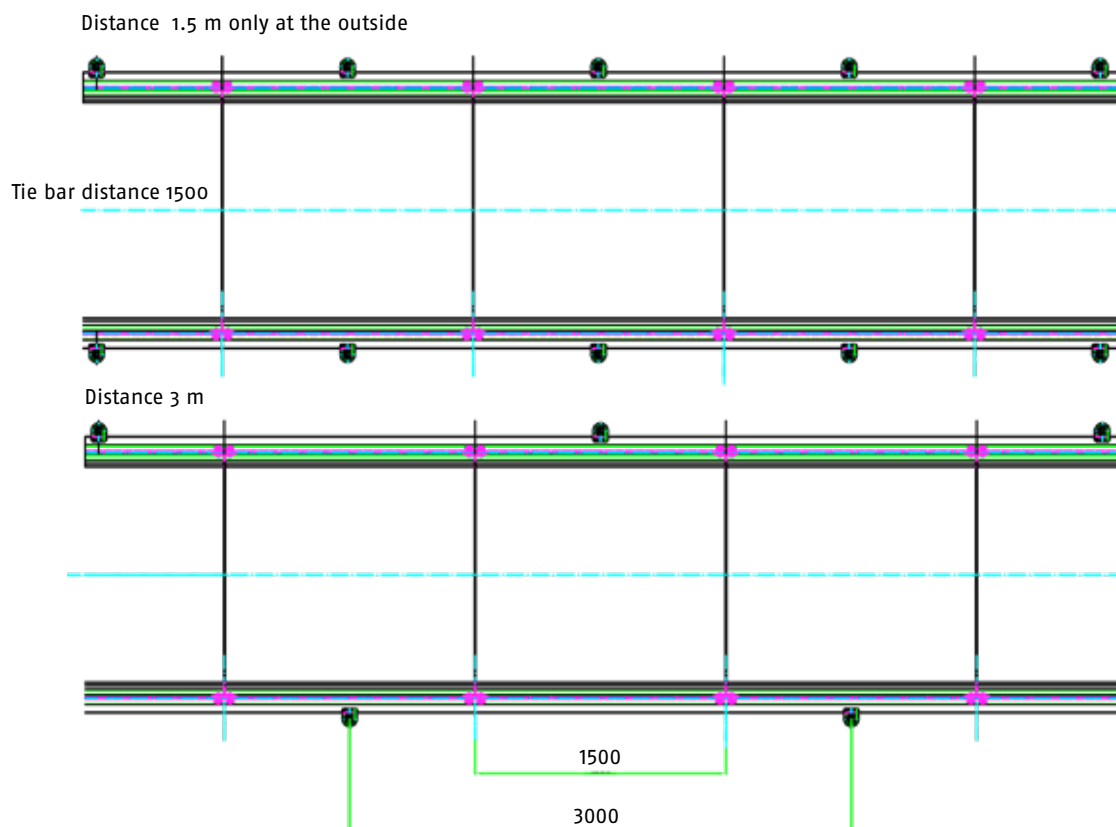
8 / SET ADJUSTABLE RETAINER CLIPS FOR TRACK FASTENING

Insert the adjustable retainer clips (2-parts) for track fastening according to the distances required by the client. Depending on the requirements, they can be set into the recesses on the inside and/or outside of the chamber filing elements at a distance of 3,000 mm or 1,500 mm (drawing).



The inner part has a drill hole (eccentric by 4 mm) and an outside form that allows being turned with an open-end wrench size 46 sitting in the outer part.

Some of the possible versions:



9 / SET ANCHOR BOLT FOR TRACK FASTENING

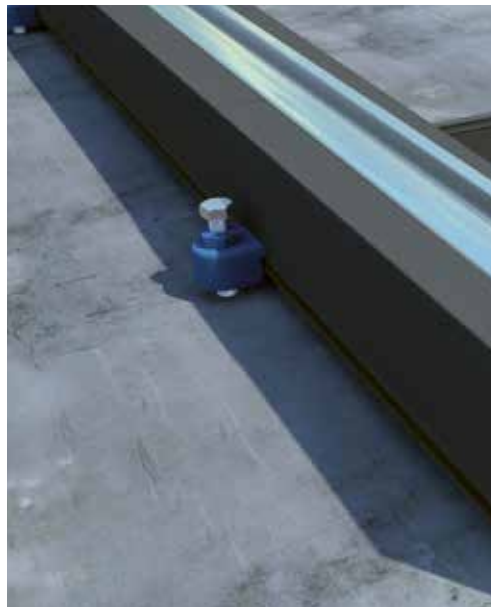
Drill holes into the supporting concrete slab below the adjustable retainer clips. Impact hammers without drilling functions are not allowed for this.

Set the adjustable retainer clip onto the supporting concrete slab and stick the clamps into the recess of the CFEs. The inner part of the clip should be turned to '12 o'clock' (hole near the rail) (see data sheet: it shows the white one being set to '6 o'clock and the blue one to '4 o'clock'). The retainer clip is now used as a drilling template. The hole should be spot-drilled centrally (drilled rather in the direction of the rail).

Remove the clip and complete the drilling. Blow or suck the hole clean (use oil-free compressed air). Now insert a chemical capsule (glass capsule or 2K composite mortar) into the hole. Set the clip into the recess, put the anchor bolt through the hole in the clip and burst the capsule by hitting the head of the anchor rod.

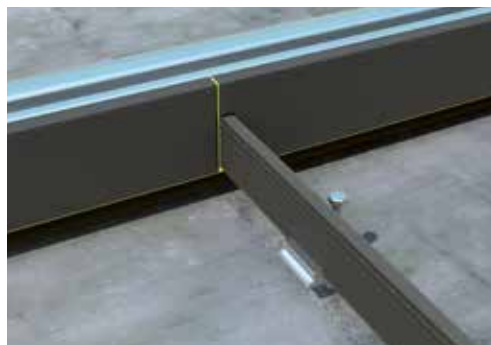
Now push the anchor bolt in until the two-component adhesive flows out from the sides of the drill hole (picture). Make sure that the screw is not touched/moved until the glue is set (observe manufacturer's instructions). After the 2K adhesive is set, turn the inner part with an open-end wrench size 46 until the lower part of the outer part lies firmly against the rail foot profile with its side.

Then, the washer and the upper nut should be put on the bolt and turned a little.



10 / SEAL DAMPING SYSTEM

Seal the entire damping system with sealing adhesive at all joints, gaps, fittings and tie bar covers. Processing of the sealing adhesive requires a temperature of min. 5° C.



11 / CHECK TRACK SECTION FOR HEIGHT AND POSITION

Check track section once again for height and position before pouring the bottom casting. If necessary, readjust the track section.

12 / UNDERPOUR RAIL WITH SHRINK-FREE MORTAR

Begin by cleaning the respective areas of the supporting concrete slab. Then, make walls for the bottom casting, so that there is at least one opening at one side of the rail foot profile big enough to fill in the mortar.

The minimum height of the finished bottom casting is the top edge of the rail foot profile. A thickness of the bottom casting between 12 and 120 mm is possible.

The bottom casting has to be installed in a way that the rail is underpoured over its entire length and space. Air bubbles have to be eliminated. Remove the walls and supports after the mortar has set.

Alternatively, a bituminous or synthetic bottom casting is possible.



13 / TIGHTEN NUT OVER THE ADJUSTABLE RETAINER CLIP

After the bottom casting has set, tighten the nut on the anchor rods with a torque of 70 – 90 Nm and put a cover cap on the nut if necessary.

Now, the track is ready for tramway traffic; position stabilizers can be removed when the filling concrete (or similar) has been poured.