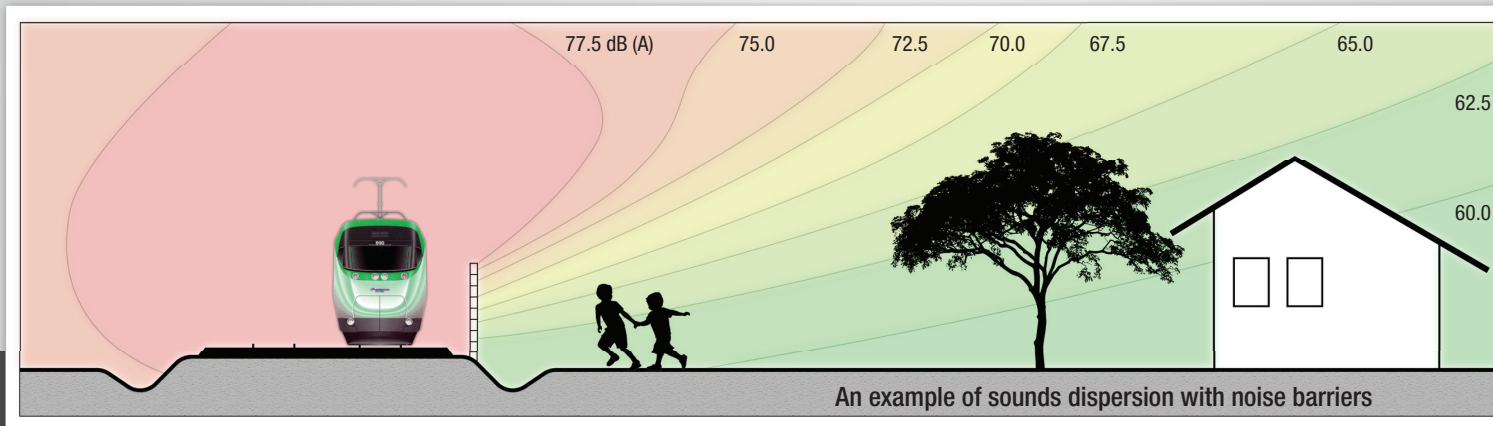
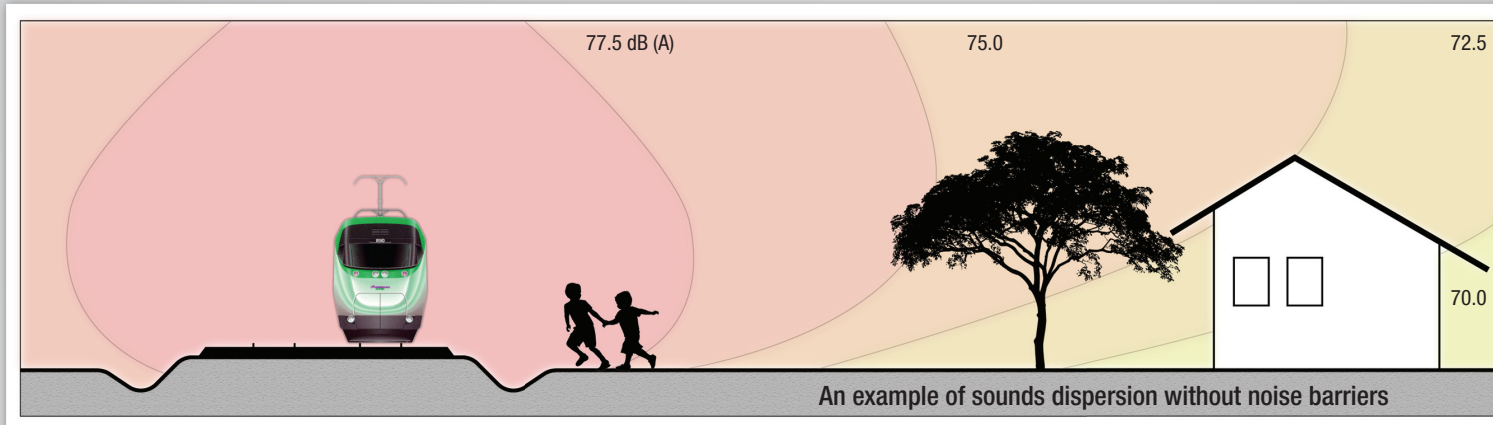




FEAL'S NOISE PHALANX PANELS
AND OTHER COMPONENTS IN RAIL INDUSTRY

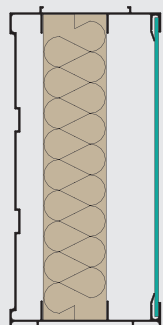
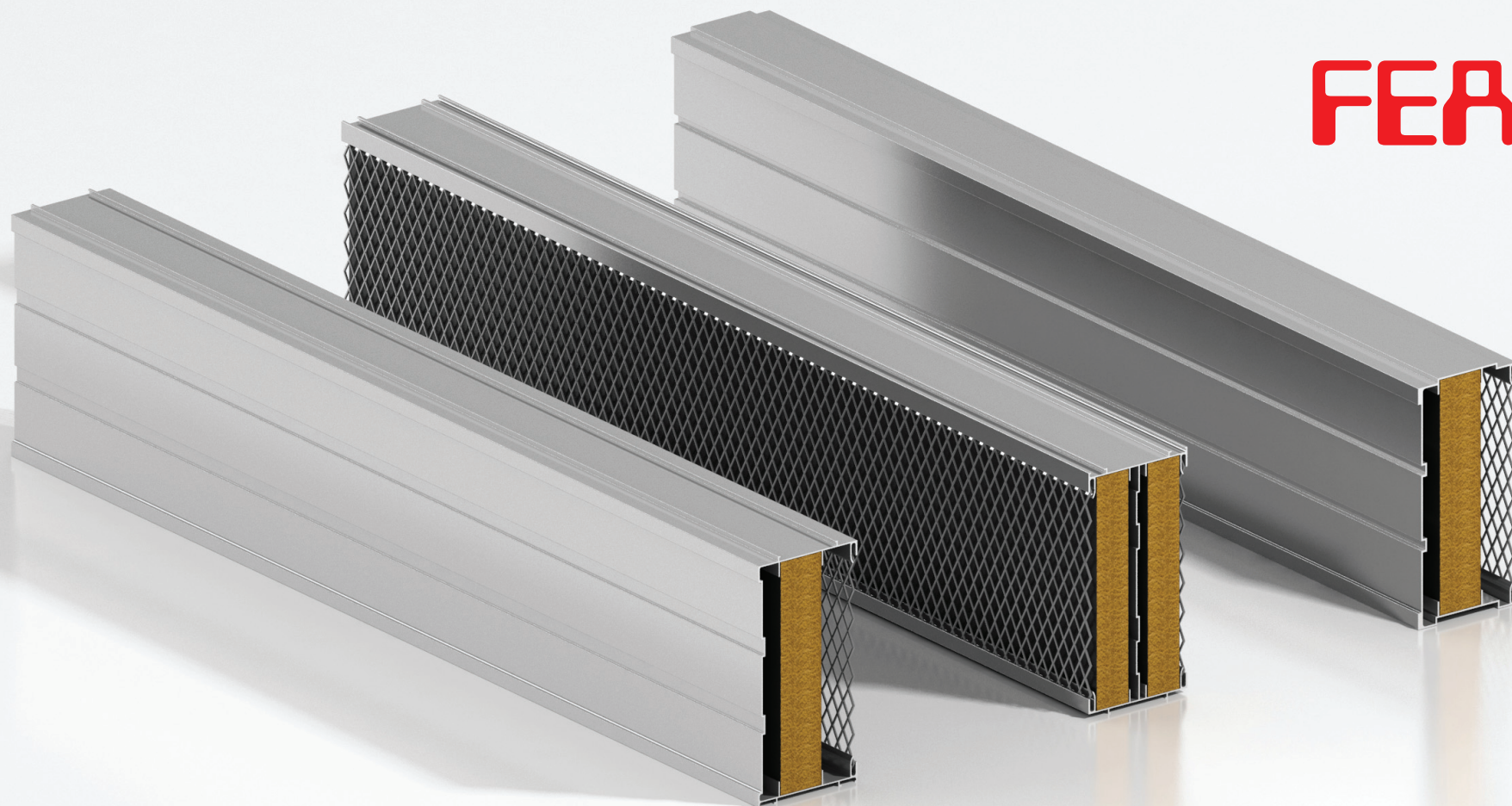
FEAL

Noise is one of the main causes of degradation of life quality, especially in urban environments where it is constantly present and affects on many aspects of everyday life. The purpose of implementation of protective walls against noise is to alleviate the consequences of noise pollution in urban areas and create a positive environment for people's lives. The designer chooses location of the protective walls, the height of the walls and the noise absorption quality, based on the noise calculation model.

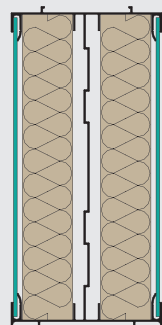


Noise barriers placed directly on the roads (road or rail) are the most common and safest way to reduce the noise distribution. By applying a sufficient height and adequate length barrier, immediately after the installation, the effect of reducing the noise level at the projected level is achieved. Appropriately selected barriers can reduce the noise level up to 15 dB, while transparent elements can go according to the requirements. In addition to noise protection, the noise barriers are also a safety barrier between the railway line and the surrounding area (providing protection from uncontrolled passage across the rail). On request, FEAL's panels that is a noise control system can be provided with a special layer of anti-graffiti coating that facilitates easier removal of graffiti. Elements are developed according to German standards: RIL804.4101 / DBS 918005 / DBS 981002-02 and for all elements FEAL has an EBA (Eisenbahn BundesAmt) approval. The panels are assembled without any connective materials and with their construction they provide maximum elasticity while retaining the function.

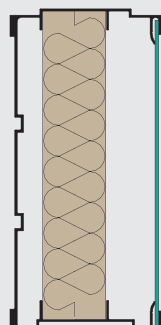
FEAL



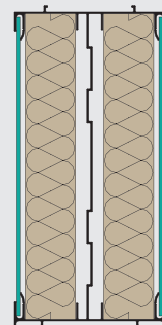
Single Noise PhalanX
panel for speeds up to
160 km/h



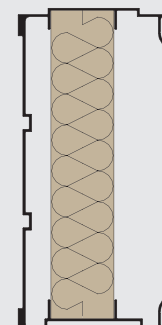
Double Noise PhalanX
panel for speeds up to
160 km/h



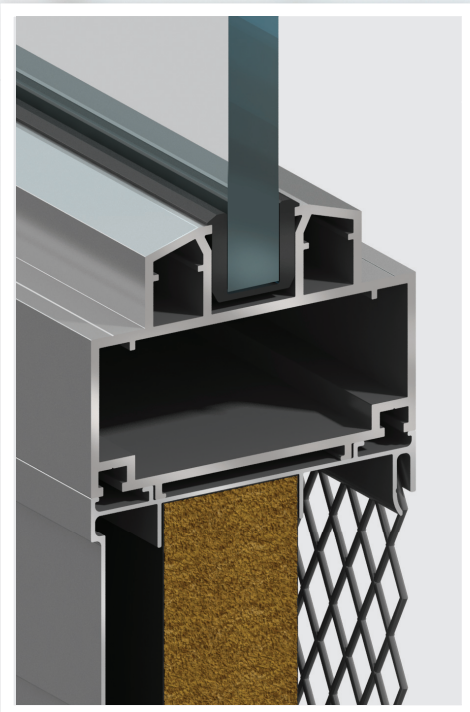
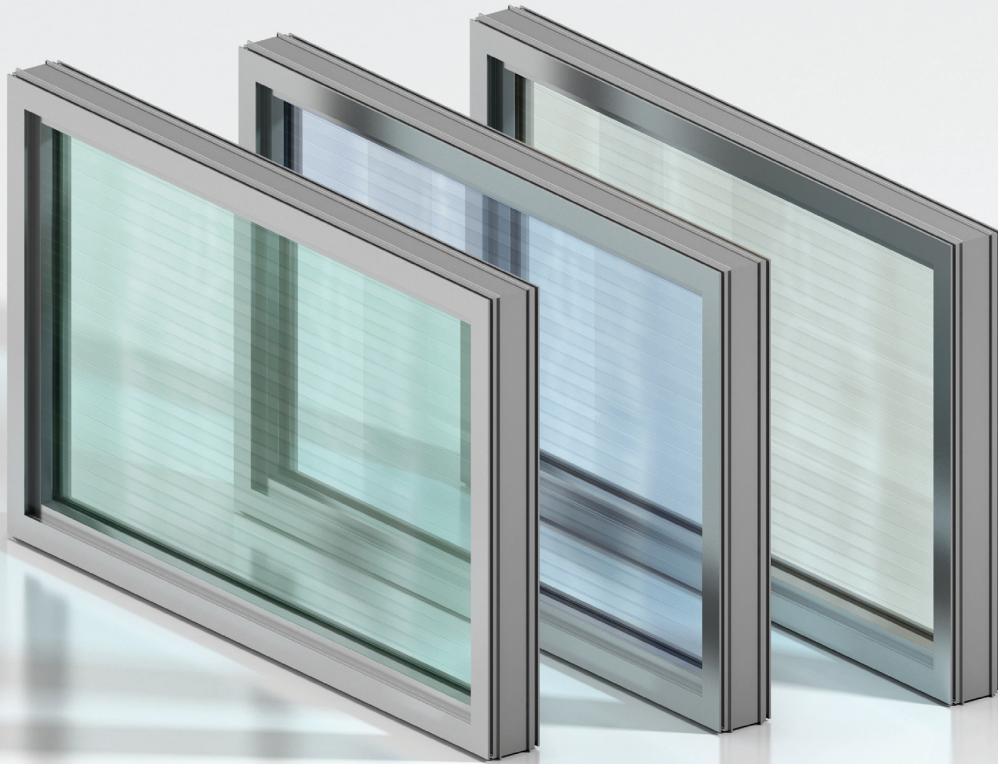
Single Noise PhalanX
panel for speeds up to
200 km/h



Double Noise PhalanX
panel for speeds up to
200 km/h



Single Noise PhalanX
panel for speeds up to
300 km/h



YOUR KEY BENEFITS:

- High stability
- Individual design
- Can be combined with transparent elements
- Simple to install
- Protect privacy
- Improves quality of living
- Suitable for high-speed lines

Using digital printing we apply images, graphic designs directly into the noise control elements.

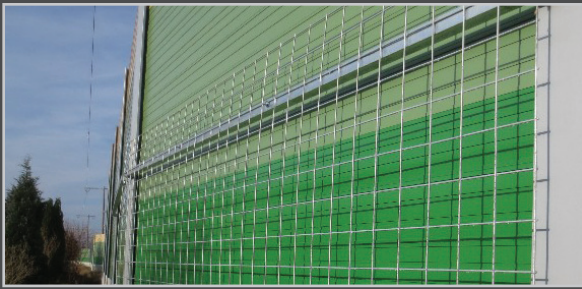
TRANSPARENT RAIL NOISE CONTROL ELEMENT



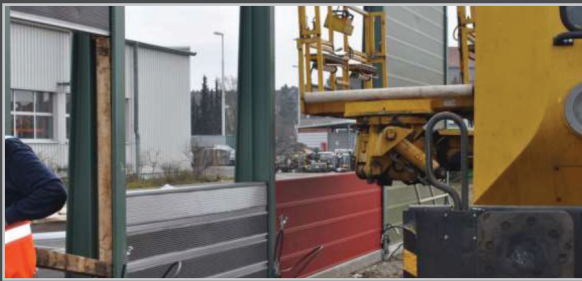
ESCAPE AND SERVICE DOORS

For the purpose of maintenance, we produce service (access) doors that are an integral part of our offer and are compact with the noise barriers. We offer single and double-wing doors tested on the speed of trains up to 300 km/h.

For its rail products, FEAL has transferred the high technological standard reached by its transparent systems, noise barrier panels and service access doors.



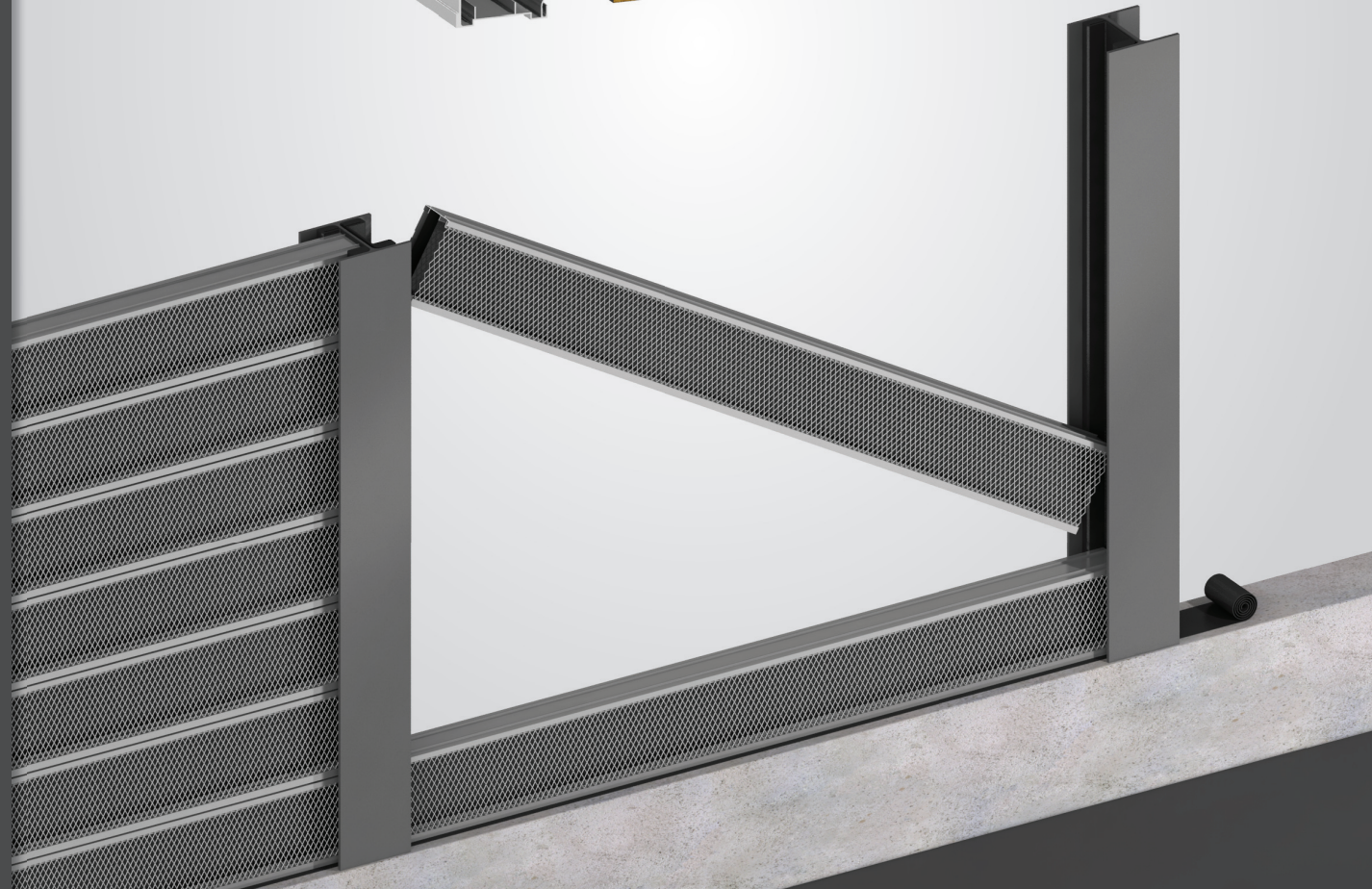
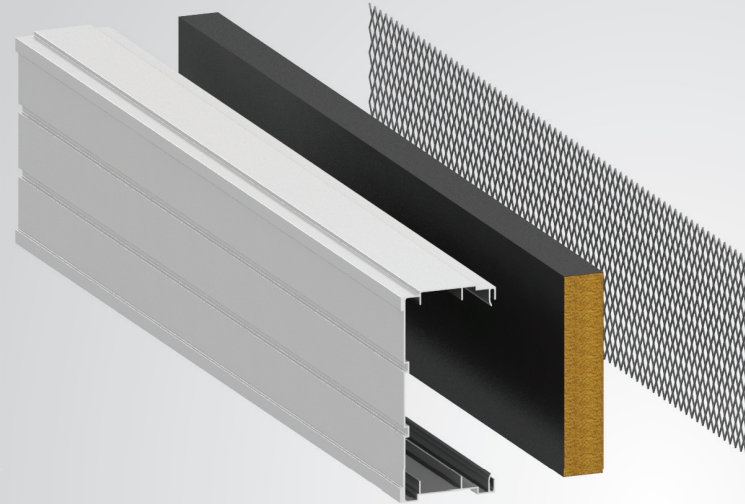
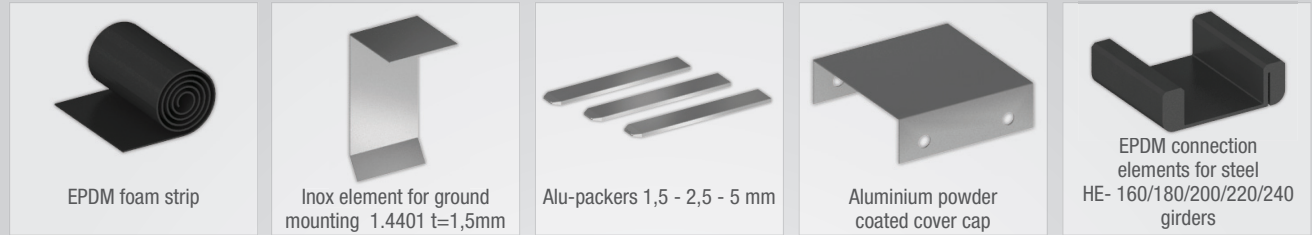
Trellises are also part of the supply and can be an integral part of the partition wall and serve for climbing plants and in this way the partition wall is much easier to fit into the environment.



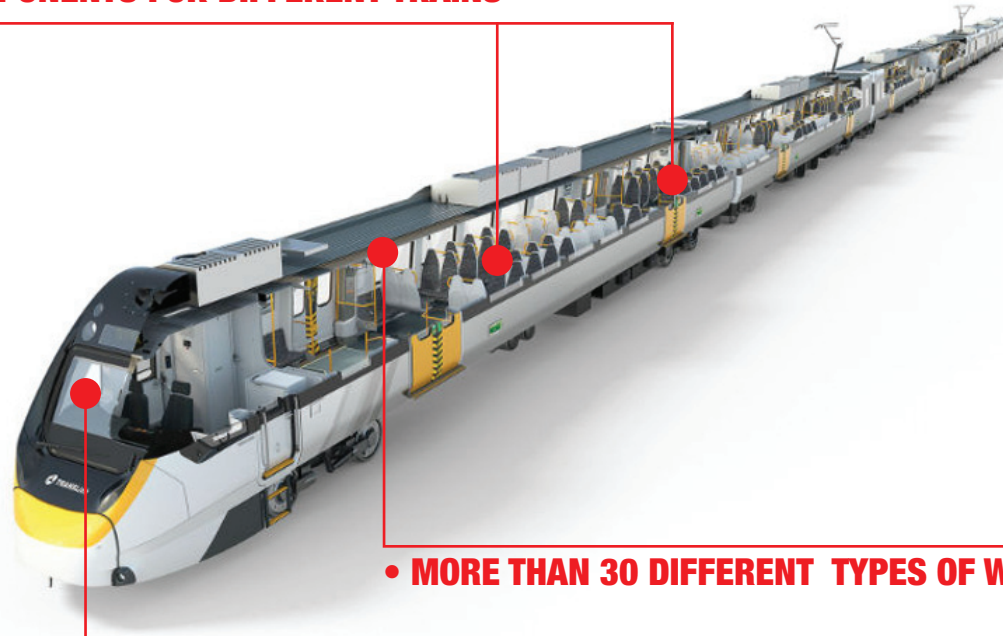
HOW TO INSTALL THE NOISE BARRIER

The noise barrier assembly is made on already set up foundation of the beam and between the positioned steel girder.

Prior to assembly, the concrete foundation must be clean and on it a foamed EPDM strip is placed, that serves as a distancer between aluminium panels and concrete girder. At the ends of the aluminium panels the assembly EPDM connection elements are installed. The circuit of panels and connection elements are inserted between the two steel H-girder, followed by setting of alu-packers for the fixture of the elements. Alu-packers or levelers are inserted into the assembly EPDM elements. With their insertion a fixed position of the element is ensured while maintaining its elasticity. The same procedure applies to the following panels, and after a certain number of installed panels (depending on the project) a inox ground elements are placed, which are placed reciprocally-side by side. When the installation panels are completed, the protective alu-caps are installed on steel H-girders.

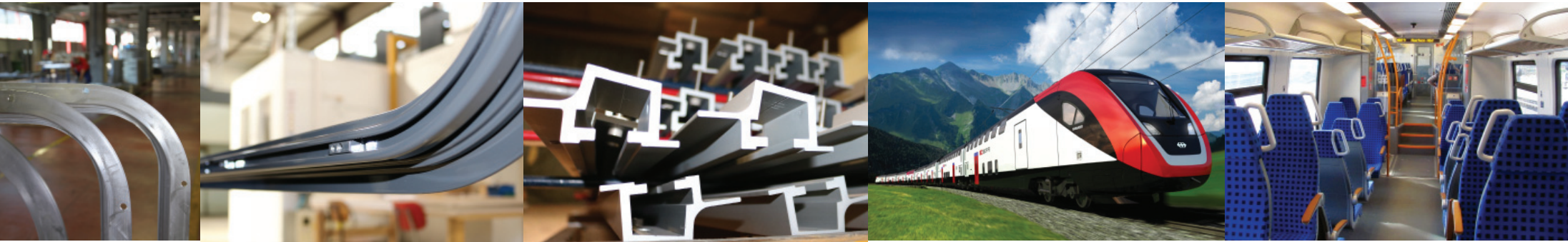


- **MORE THAN 4000 DIFFERENT ALUMINIUM COMPONENTS FOR DIFFERENT TRAINS**



- **MORE THAN 30 DIFFERENT TYPES OF WINDOWS**

- **MORE THAN 10 DIFFERENT TYPES OF WINDSHIELDS**



Within its business of the industrial profile segment, FEAL has focused its interest in car, truck and rail industry. We are a well known manufacturer of aluminium profiles and solutions for the industry, including rail transportation, where we are specialized for the production of finished windows, and wide range of interior components made of aluminium profiles with a specific machining and surface protection requirements, that are incorporated into the most modern trains. We are focused on cooperation with large and demanding customers that resulted with numerous projects with companies like Bombardier, Siemens and Alstom with whom we work directly or as component manufacturers for their other suppliers. (Saint-Gobain, Lipik Glas, Flachglas Wernberg GmbH..)

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