

Innovative solutions for  
efficient noise control.



 **NOISE BREAKER**  
RAIL ACOUSTIC SYSTEM



Noise from Trains must be reduced at its source.

Environmental Noise Control alongside railway lines often is a sensitive topic of discussion between railway operators and residents. The innovative noise control system "Noise Breaker" provides new opportunities for the implementation of effective noise protection. Especially in areas of difficult accessibility or if space is limited, where conventional noise control systems can only be placed under high difficulties and with huge efforts, the new low and "close-to-track" barrier system provides new options.



#### Characteristics:

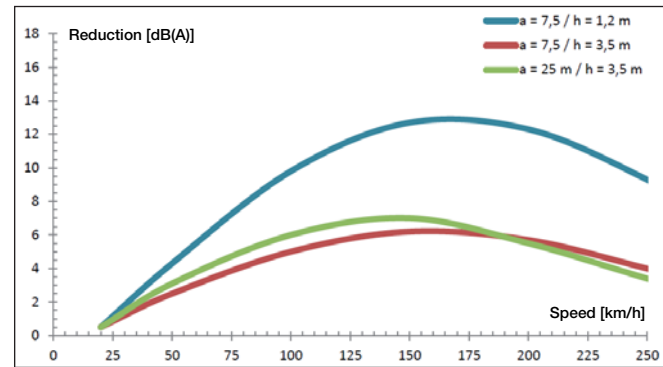
- Noise is absorbed as close to the source as possible
- High efficiency
- Preserves open view for passengers
- Low space requirements
- Easy logistics for upgrades
- Solutions for central barriers - between tracks - available
- Easy access for emergency- and rescue teams



High efficiency through noise protection near to the railway track.

Massive construction and high flexibility.

**Noise reduction**



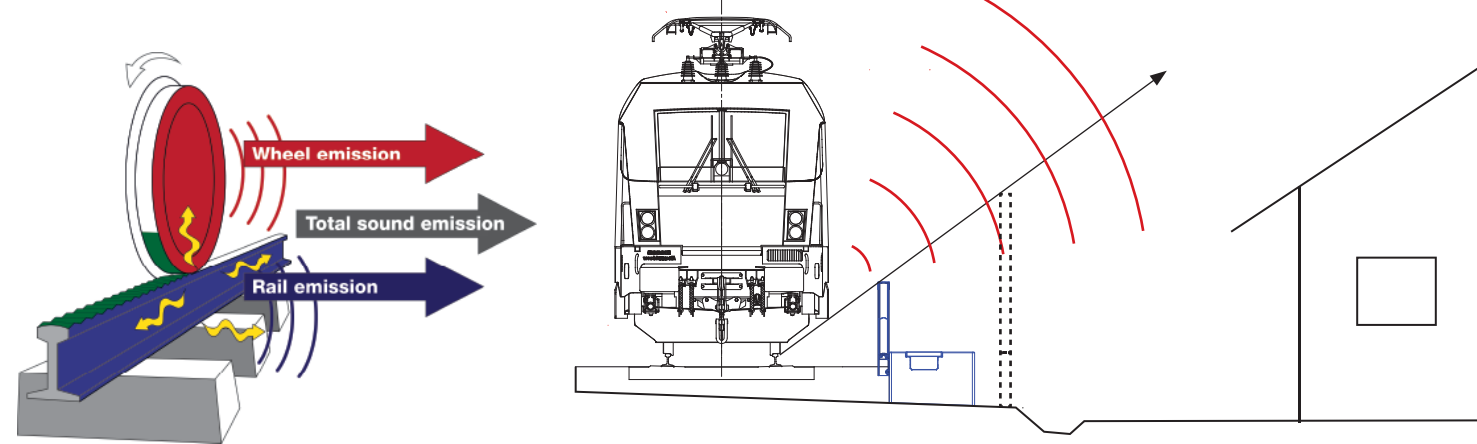
The newly developed noise control system reduces noise as close to the source as possible – the point of contact between wheel and track. This provides a maximum effect also at train speeds where the rolling noise prevails.

Acoustic surveys and measurements of dynamic loads next to passing trains have been carried out and confirm a lifespan of many decades.

Impact with average material in dependency of the rail speed.

FCP: acoustic modeling concept; purchaser ART; 201

**Rolling noise**



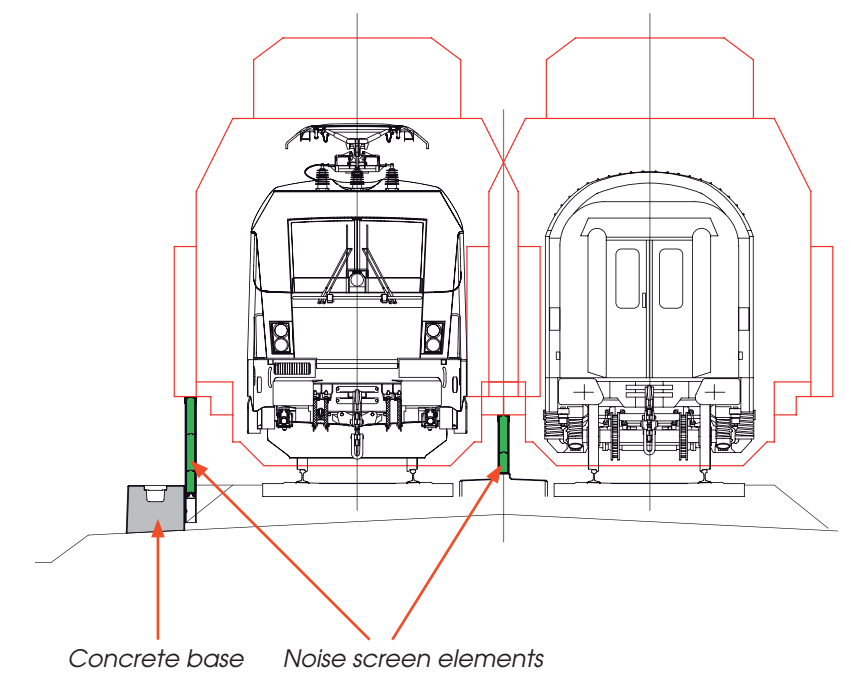
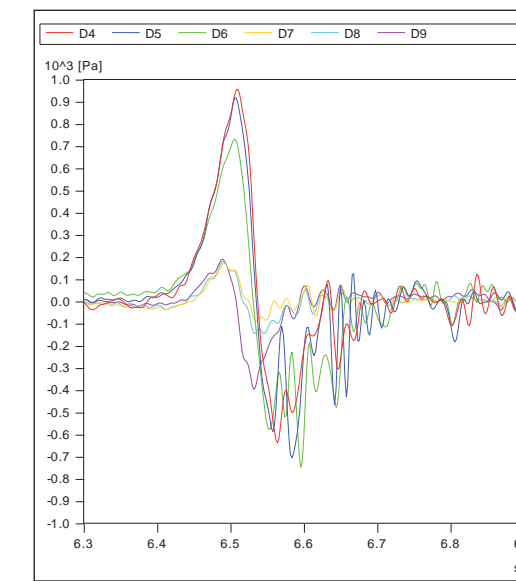
The construction consists of a self-supporting concrete block with an integrated cable channel - to be placed without further construction activities on a prepared formation level - and high absorbing aluminium noise barrier elements, to be slid into steel posts of required dimensions. The whole system is tested with regards to static loads and dynamic requirements due to passing trains (pressure and suction loads), both by field and laboratory testing and analysis.

Neither security areas nor areas for track drainage are affected by the system.

The flexible but still positive connection of the concrete blocks allows the system to be deployed alongside straight as well as curved tracks.

Earthing requirements have been integrated into the system in a proven and certified way.

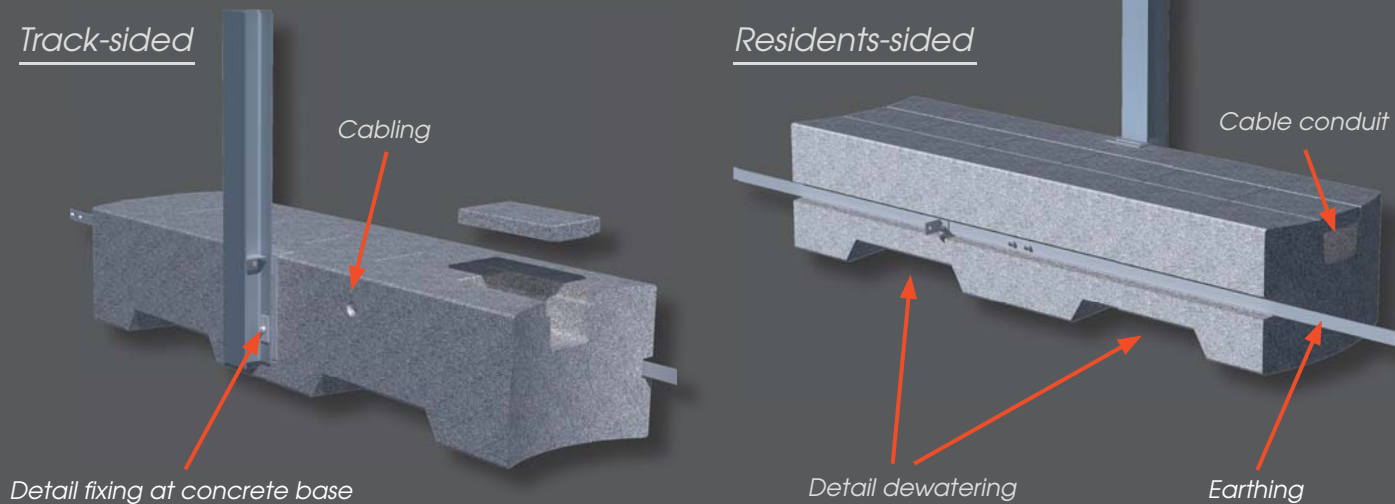
**Pressure and suction loads (of passing train) over time**



**Technical construction.**

Track-sided

Residents-sided



Measurements of pressure and suction loads



Sealing as an integral acoustic component



Cover cap as a design feature



## A railway specific development.

Refurbishment of existing railway lines (noise control upgrades) or newly built corridors – the Noise Breaker convinces especially with high flexibility during its installation.

The low barrier, located close to the track, is set up directly on the formation level, without any additional foundation. As a consequence, the space requirements are very low – hence simple logistics during installation are guaranteed.

A hassle-free environment for maintenance work at the railway tracks has of course been considered during development of the solution.



Accessories – Service exit

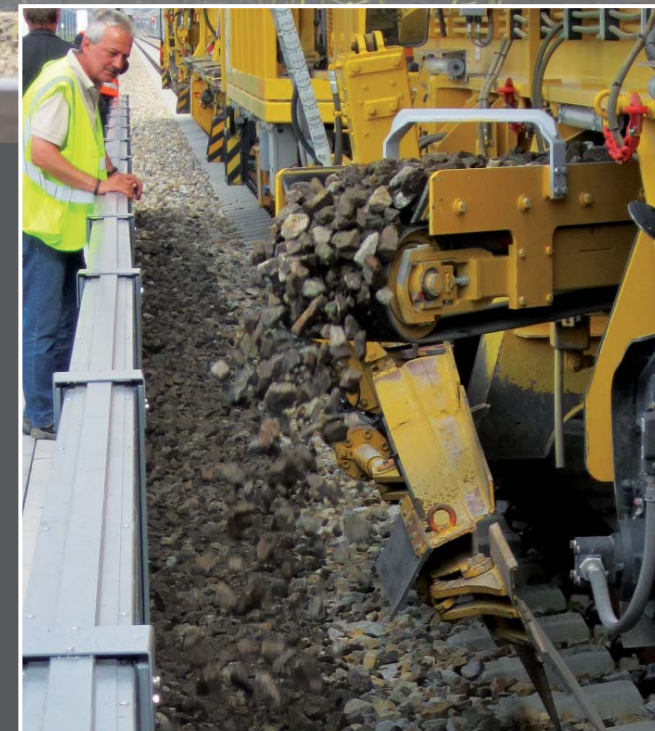
NOISE BREAKER Rail Acoustic System



Setting of the concrete base



Installation of the posts



To gravel with broken stones



Noise Breaker after installation



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