

**Solutions
for Silence**

We make the world a bit more quiet

RAIL DAMPERS



Innovative noise mitigation on railways



Schrey & Veit

Shock, Vibration & Noise Control

www.sundv.de

INNOVATIVE NOISE MITIGATION ON RAILWAYS

RAIL DAMPERS

Rail dampers are based on the latest technologies to reduce broadband railway noise at its source. The vibration level within the rail during a train passing by will be damped. The formation of rail corrugation will be reduced significantly.

To achieve maximum noise reduction, dampers need to be adapted to the individual shape of a rail at first (e.g. UIC 60).

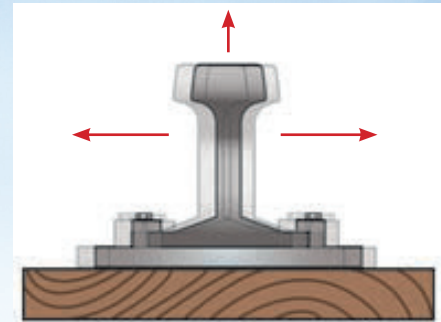
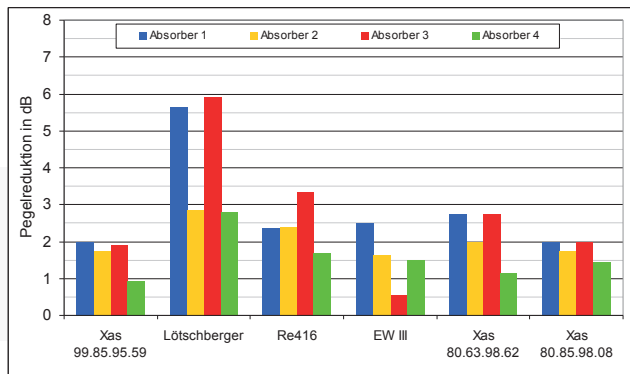
Different measurements on various tracks including > 600.000 assembled rail dampers worldwide proved an average noise reduction of 2-8 dB(A).

In the next step dampers are mounted on a test track in our laboratory. A passing train is simulated by exciting the rail with a special shaker.

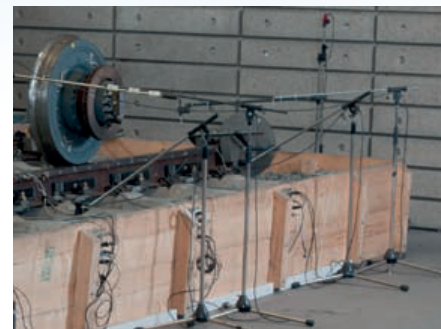
Finally dampers are tuned to reduce emitting noise best possible at corresponding frequency range. The individual tuning of dampers enables application on all kinds of tracks such as ballasted track, ballastless track and high speed tracks.

Performance of different rail dampers during various passing trains

Source: Stieglitz/Czolbe: „Effectivity of rail dampers“, Speech DAGA 2012, Prose AG



Vibration of rail



Test track in our laboratory



Tuned Dampers assembled on ballast track



Tuned Dampers on ballastless track

ASSEMBLY OF RAIL DAMPERS

First a minor quantity of ballast will be removed with a ballast clearing tool controlled by a road rail excavator at front side.



At the same time the excavator draws a supply unit of rail dampers for distribution on the track and assembly can start right away.



The mounting of the rail dampers is done with special designed clamps and the fixation with a simple assembly tool. Since the rail dampers are not glued they can be dismantled without problems when changing rails.



It takes an average manpower of 18 track workers to assemble 300 m/hour (track). By deploying 3 teams of that size an average output of 1,000 meters/hour is possible.



MAINTENANCE AND LCC

Based on their components, rail dampers have a long life cycle and need no maintenance. After the wear limit dampers can be easily dismantled and recycled.

In case of a track replacement the dampers can be dismantled quickly, put aside the track and reinstalled on the new track.

Installed systems: > 600.000, worldwide

Test tracks: > 10,000 (Switzerland, Belgium, Denmark, France, USA , Australia)

Rail grinding does not interfere with rail dampers since their components are heat resistant.

Tamping machines can also operate without interference.



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Tamping machine



Rail grinding