KAMPA
Innovative railparts

RailDampers

INNOVATIVE NOISE MITIGATION ON RAILWAYS

Rail dampers reduce railway noise by damping rail vibrations and minimizing corrugation. They are customized to fit specific rail profiles (e.g., UIC 60) and tested on simulated tracks to ensure maximum noise reduction across various track types, including ballasted, ballastless, and high-speed tracks.

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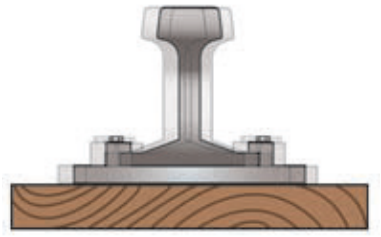
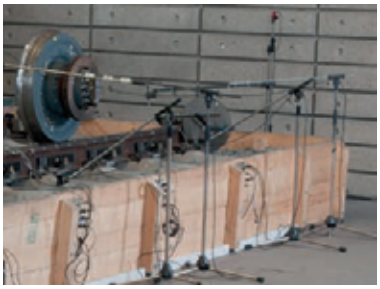
RAIL DAMPERS

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



Vibration of rail

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



Test track in our laboratory

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

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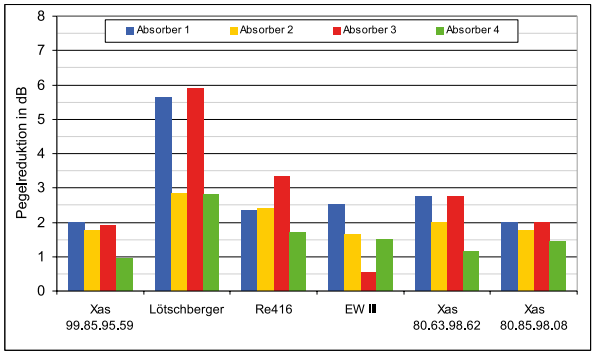
Tuned Dampers assembled on ballast track

Performance of different rail dampers during various passing trains

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

Tuned Dampers on ballastless track



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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. When installed on ballasted track only, on DF track this step can be skipped.

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.

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MAINTENANCE AND LCC

At the end of life, the rail dampers can be easily dismounted and recycled.

In case of a rail replacement the dampers can be de-installed quickly, put aside the track and reinstalled on the new rail.

Installed systems: > 600.000, worldwide
Test tracks: > 10,000 (Switzerland, Belgium, Denmark, France, USA , Australia)

Regular maintenance vehicles can operate without any interference with the raildampers.

Tamping machine

Rail grinding