Rail Dampers

Rail Dampers to reduce noise generated by railway rolling stock

Field of Application

Steel reinforced rail dampers are highly effective in reducing broadband railway noise and vibration. In addition, they help to extend the overall rail service life. Rail dampers have also shown to minimize corrugation growth, resulting in reduced rail wear and lower maintenance cost.

Description

Rail dampers are installed to both sides of the rail, by means of fitted metal clamps. The rail dampers meet the specifications of all Vignol rail profiles. Based on their design and the materials used, rail dampers are maintenance-free, and have a long service life. When they do reach their wear limit, rail dampers can easily be replaced and old ones recycled.
Rail grinding does not affect rail dampers, as components are made from heat-resistant materials. Installed rail dampers do not interfere with tamping machines.
To obtain the most effective noise and vibration mitigation effect, the tuning frequency can be adjusted and customized for each rail profile. The rail damper's main materials are EPDM & steel.

Product data

SPECIFICATIONS

Rail type	Sleeper spacing	Dimensions		
		Length (mm)	Width (mm)	Height (mm)
50 kg / M Rail	500 ~ 600 mm	380	47	84
		400		
		440		
60 kg / M Rail		380	56	87
		400		
		440		

MATERIAL PROPERTIES

Item		Test Standard	Values
Hardness (Shore A)		DIN 53505	Standard value ± 5
Tensile strength		DIN 53504	≥ 9.0 N/mm²
Elongation at break		DIN 53504	≥ 250 %
Resistance to ageing (100°C × 168 h)	Tensile strength	DIN 53508	≥ 8 Mpa
	Elongation at break		≥ 200 %

PRODUCT PROPERTIES

Frequency (Hz)	630	800	1000	1250	1600	2000	2500
Vertical decay rate (third octave band)	≥ 1.0 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m	≥ 2.5 dB/m	≥ 2.5 dB/m	≥ 2.5 dB/m
Lateral decay rate (third octave band)	≥ 1.0 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m	≥ 1.5 dB/m
Frequency (Hz)	500 ~ 2500						
Average vertical attenuation rate	≥ 3.0 dB/m						
Average lateral attenuation rate	≥ 2.6 dB/m						

Note: Test standard for product properties is DBS 918 290

Calenberg Ingenieure GmbH | Am Knübel 2-4 | 31020 Salzhemmendorf | Germany | info@calenberg-ingenieure.de | www.calenberg-ingenieure.de