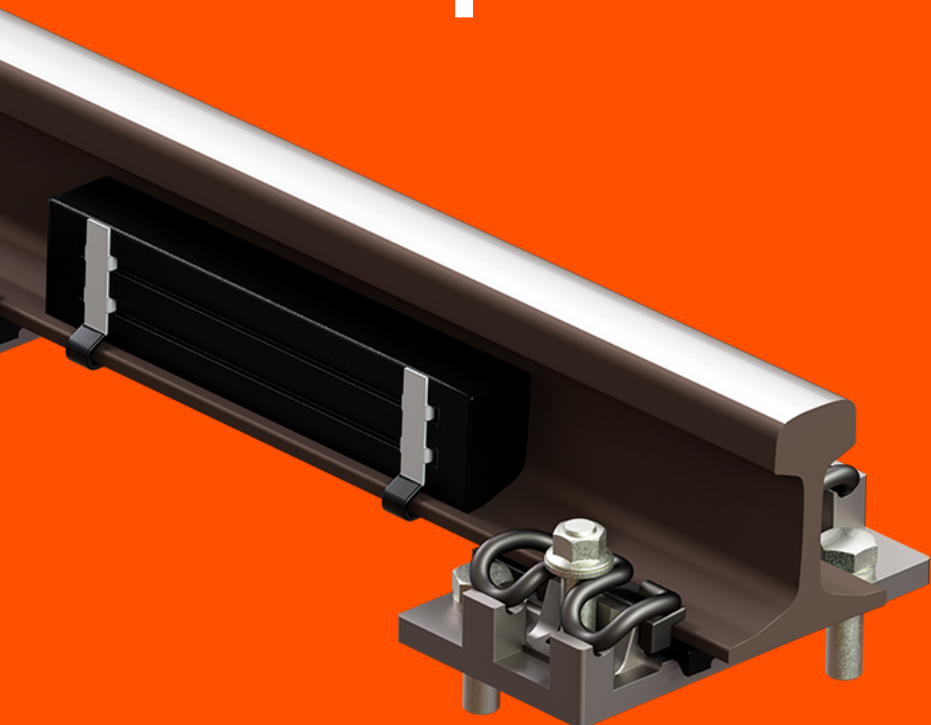


Rail Dampers



Metro
Commuter
Main Lines
High-Speed Lines

Applications

Rail Dampers

Steel reinforced rail dampers are highly effective in reducing broadband railway noise and vibration. In addition, they help to extend the overall rail service

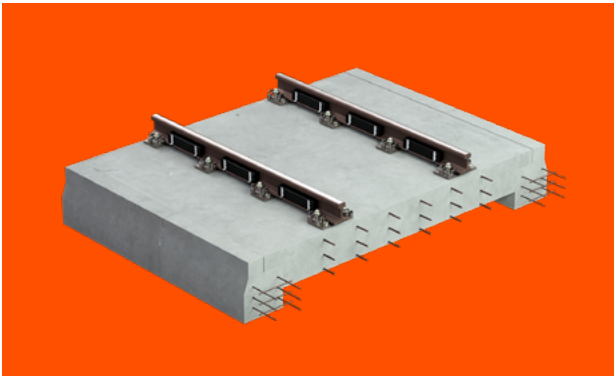
life. Rail dampers have also shown to minimize corrugation growth, resulting in reduced rail wear and lower maintenance cost.

Technical Product Information

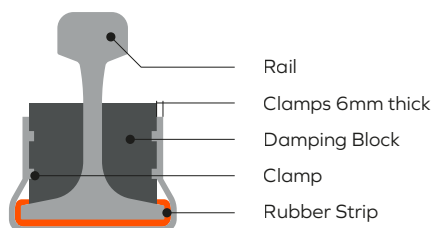
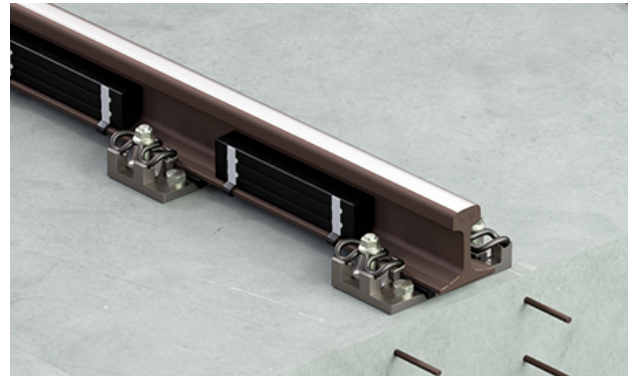
Rail dampers are installed on both sides of the rail, by means of fitted metal clamps. Zhejiang Tiantie rail dampers meet the specifications of all Vignol rail profiles. Based on their design and the materials used, rail dampers are maintenance-free, and have a long service life. When they do reach their 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.



Rail Dampers installed



Rail Damper



Rail Damper Design

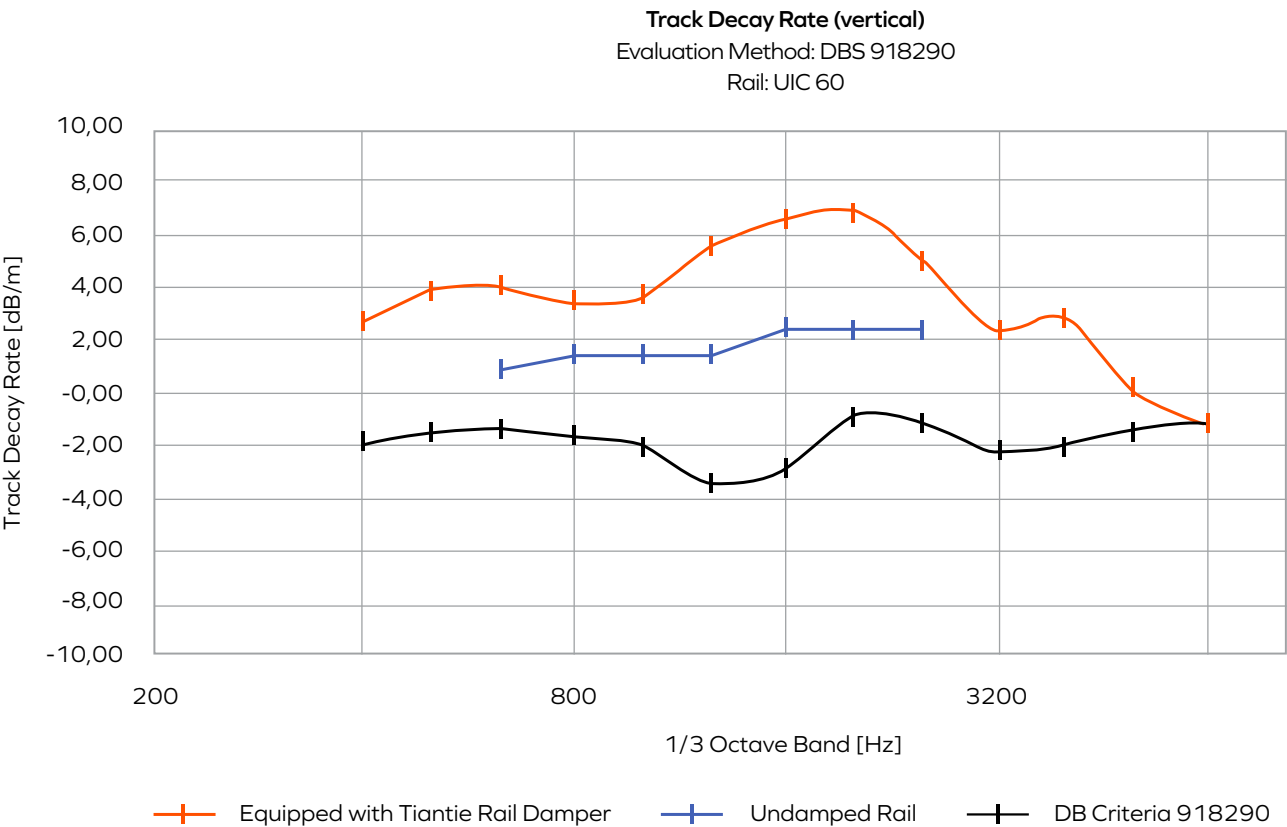
Product Range Specification

Rail type	Sleeper spacing	Dimensions		
		Length (mm)	Width (mm)	High (mm)
50 kg/m rail	500~600mm	380	48	84
50 kg/m rail	500~600mm	400	48	84
50 kg/m rail	500~600mm	440	48	84
60 kg/m rail	500~600mm	380	57	85
60 kg/m rail	500~600mm	400	57	85
60 kg/m rail	500~600mm	440	57	85

Features and Benefits

- Average Decay Rate > 3 dB/m
 - Adjustable Tuning Frequencies
 - Available for all Vignol Rails
 - Robust, steel-reinforced design
 - Easy to Install
- (No Acoustic Contact Material needed)

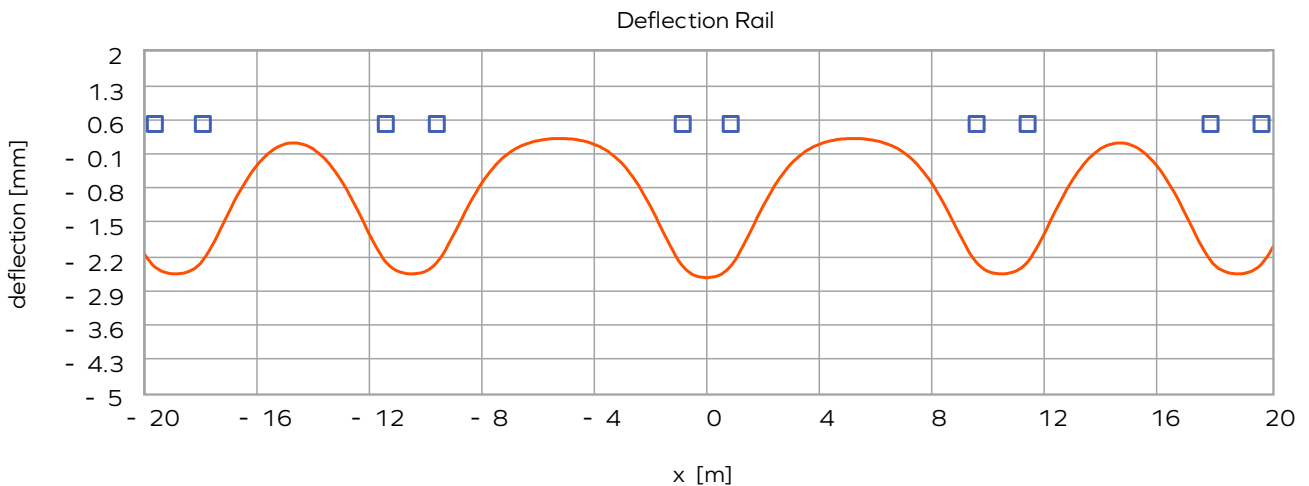
Noise mitigation effects were measured at multiple track points. Effects are most noticeable in between 1 kHz and 2.5 kHz



Engineering Services

At Tiantie, track dynamics such as rail deflection under various loads, are carefully studied and analysed. Engineers use highly specialized computer

modelling, to reliably predict an optimum achievable reduction in vibration.



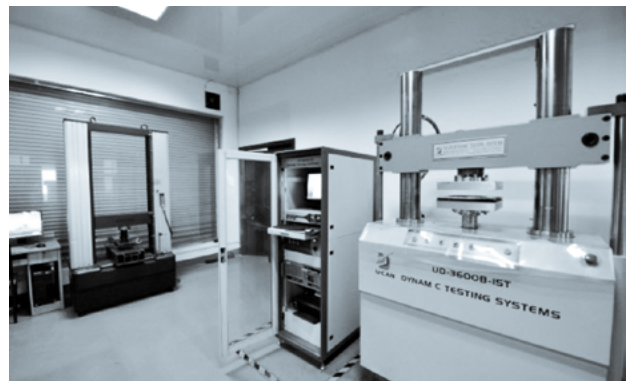
Dynamic Analysis of Railway Tracks

In addition to Tiantie's wide range of noise and vibration mitigation products, the company also provides expert installation services and/or supervision. Experienced engineers are

available for installation and commissioning of all our products, including on-site monitoring and adjustments. Installation reports confirming "asbuilt" characteristics can also be provided.



Installed Rail Dampers



Inhouse Test Lab

New product development is the essence of Tiantie's corporate philosophy. Our engineering experts are actively participating in national and international committees. Tiantie's commitment to innovation, along with close collaboration with universities, design consultants and end-users, provide a solid basis for the development of next generation state-of-the-art products.

Continuously changing market conditions, evolving technology and new technical requirements, demand timely responses and action. Tiantie's extensive in-house laboratories and testing facilities are well equipped to perform application testing or performance verification testing quickly and effectively.

Production

Wholly-owned Zhejiang Tiantie production plants are large scale manufacturing facilities. State-of-the-art production equipment and processes ensure highest quality products that meet customer needs,

as well as regulatory requirements for the protection of the environment. The rail damper production plant has an annual capacity to cover a track distance of 44 km.



Production Plant, rail damper division



Production Plant

Quality Control

Global markets require compliance with a variety of different standards. Tiantie's Quality Management System ensures that product and process standards are consistent and in compliance and documented in accordance with standards. Test reports, certifications and customer testimonials are

available on request.

Building on continuous product improvement, Tiantie engineers collaborate with technical institutes and design consultants, to conduct product performance assessments, on an ongoing basis.



Environmental Management System according to ISO 14001



Quality Management System according to ISO 9001



Occupational Health and Safety System according to ISO 45001

References

Based on the proven product features, benefits and performance, Tiantie has successfully installed rail dampers at High-Speed lines, Main lines, Commuter,

and Metro lines, covering a track distance of over 40 km.



Changchun Light Rail



Nanjing Metro Line 4



Shenzhen Metro

Selected Projects

Rail Line	Type	Installed Length [m]
Foshan New Public Transportation	Metro	25752
Shenzhen Metro Line 11	Metro	375
Changchun Light Rail Line 4	Light Rail	2780
Shenzhen Metro Line 11	Metro	2390
Beijing Metro Line 8	Metro	1153



Corporate Offices, Tiantai Zhejiang

Company

Zhejiang Tiantie Industry Co Ltd.

Founded

2003

Revenue

\$ 140 Mio. USD (Group)

Employees

918 (Group)

Competences

Noise and Vibration Control, Rubber Technology

Industries

Railway, Buildings, Industry

Headquarters

Tiantai, China

Affiliates

10

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