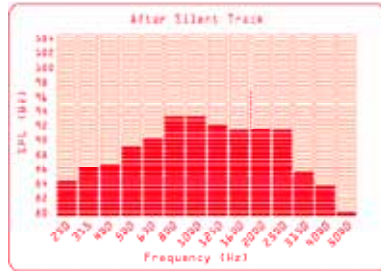
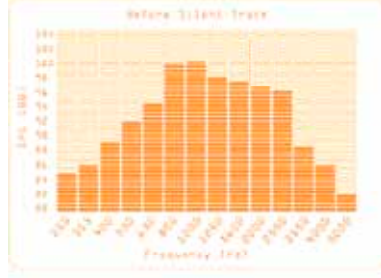


The SilentTrack® tuned rail dampers system has significant benefits for all stakeholders:



- A proven noise damping system for railways – reducing peak track noise levels by 3 – 7dB.
- A wide frequency response over the important acoustic range for rail noise.
- A system that can be tuned for optimal performance on specific track forms.
- No maintenance requirement.
- Advanced installation techniques mean minimal possession times; therefore less downtime.
- Flexible installation methods; can be fitted into rail in factory conditions or installed on track already in service.
- Long life – once fitted it will continue to perform throughout the rail's life.
- No effects on other elements of the existing rail infrastructure.
- No interference with other track maintenance activities.
- Visually unobtrusive.
- Provides cost savings by reducing the need for acoustic barriers.



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TATA STEEL



SilentTrack®



SilentTrack® is the innovative and environmentally-friendly solution to railway noise

Led by innovation

Growing public concern about noise nuisance, particularly in urban areas, is resulting in the introduction of noise related legislation. This is compelling the railway industry to act. Tata Steel anticipated this move a decade ago and began to develop a solution to reduce excessive railway noise.

After extensive research and development Tata Steel's rail team produced SilentTrack®; a complete system of tuned rail dampers.

Developed by experts

In its search for a cost-effective and enduring solution to railway noise, Tata Steel teamed specialist railway engineers with acoustic experts at the world-renowned Institute of Sound and Vibration Research at the University of Southampton in the UK. In-depth research was undertaken into the sources of railway noise. The team went on to develop a system to reduce noise at its source concentrating on the wheel/rail interface.

In 2000, the first SilentTrack® prototypes were produced. These were subjected to extensive and rigorous trialing, which proved that the SilentTrack® system achieves a significant reduction in peak track noise levels.

SilentTrack® went on to win the 2001 noise abatement innovation award in The Netherlands.



SilentTrack® offers a flexible solution for tackling isolated 'noise hot spots'

Optimised performance

Advanced acoustic modelling techniques enable Tata Steel to optimise the standard SilentTrack® design for maximum effectiveness on any track configuration.

The system's patented 'Tuned Rail Dampers' comprise two or three resonant masses of steel embedded in elastomer with a high damping factor. The dampers are attached to either side of the rail with sophisticated spring clips. The type and mass of the component materials ensure that SilentTrack® can reduce noise across the wide frequency spectrum associated with rail noise.

Target on noise hot spots

SilentTrack® can be optimised for any type of rail profile (UIC54, 60E1, 56E1 etc.) fastening type (Vossloh, Pandrol, Nabla etc.) or sleeper (concrete mono-block or bi-block, concrete slab, steel, timber etc).

With Tata Steel's unique knowledge of rail and track behaviour, the SilentTrack® system can be adapted to suit track configurations anywhere in the world. This makes it an ideal, flexible solution for tackling isolated 'noise hot spots' where noise levels are particularly high.



The effectiveness of SilentTrack® is proven. The system is delivering noise reduction in a number of countries

Customer choice

A key benefit of the SilentTrack® system is the choice of installation methods available to customers. The system can be fitted in factory conditions to suit rail renewal or rebuild programmes. It can also be fitted on-track where rail is already in service. Tata Steel has worked closely with its installation partners to ensure SilentTrack® can be fitted fast and effectively. Advanced installation techniques mean it is possible to install up to 1,000 metres in a 5 hour single track period thereby keeping possession times to a minimum.

A permanent solution

High performance in the fight against noise is just one advantage of the SilentTrack® system. Once installed, SilentTrack® will function throughout the life of the rail.

The system is maintenance-free and does not interfere with normal track maintenance activities.

