

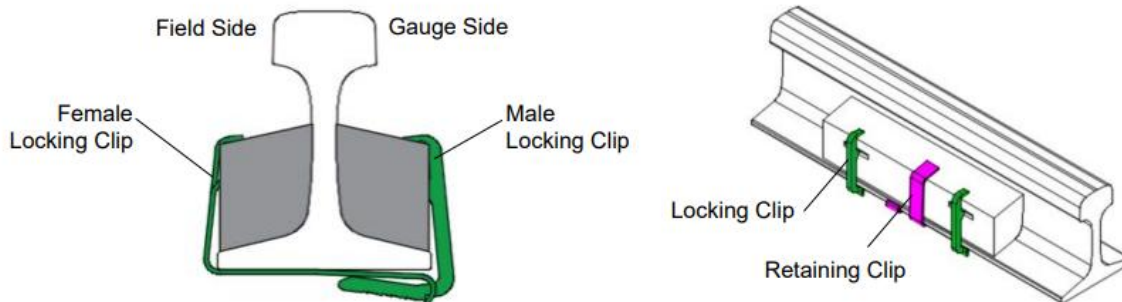
## Tuned Mass Dampers – Field Proven Engineered Noise & Corrugation Controls for Rail

*Polycorp provides engineered elastomeric systems for both light and heavy rail that reduce vibration, control noise, and protect infrastructure from heavy loads and environmental stress. Transit authorities, freight operators, engineers, and contractors rely on our solutions to enhance rail constructability, extend track life, minimize maintenance and related downtime, and keep rail networks safe, quiet, and cost-effective.*

## Rail Dampers - Noise Control for Community and Rider Comfort

Communities generally accept noise-control barrier walls for trains despite limited results as simple line-of-sight obstructions and relative to the considerable installation costs. Polycorp's Tuned Mass Damper (TMD) solution proves an effective on-track and at-source engineered control alternative.

### TMD Rail Damper System



TMDs are custom-engineered, adaptable to any open track construction, and quickly installed without mechanical fasteners or adhesive, to enhance structure protection and to reduce vibration and radiated rolling noise generated from trains.

## How Rail Dampers Create Value for Your Rail Network

Community members and riders alike will appreciate the immediate noise reduction benefit and enhanced ride experience at installation.

Polycorp's on-track solution is a field-proven and effective energy management tool that is well-suited for retrofit applications and new projects.



FM 64466

## **Project Partnership for Réseau Express Métropolitain (REM) Application**

Polycorp's Rail Dampers were installed on-track to support various phases of Quebec's REM light rail project. REM is the largest public transit infrastructure project since Montréal metro was formed in 1966 according to CDPQ Infra.

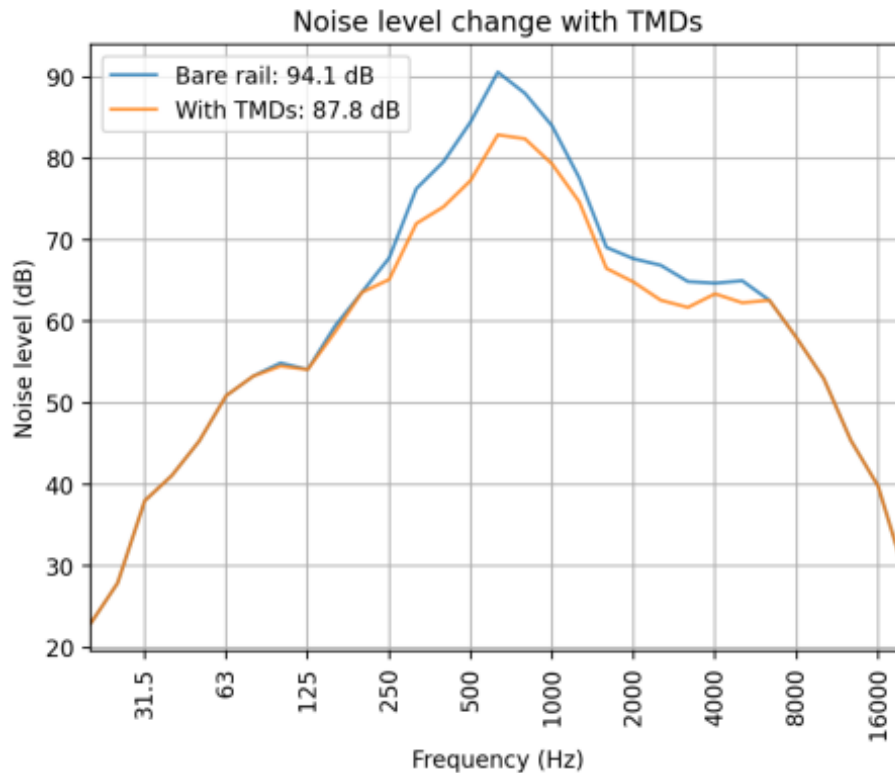
The project has undergone independent third-party engineering review several times to validate Rail Dampers as an effective noise control measure that meets the project design requirements. For further information on this project – please visit: [Noise Mitigation Measures - REM](#)

### ***Rail Dampers support the following project objectives:***

1. **Quieter Communities** – effective noise control at source and for immediate community benefit
2. **Long-lasting track construction** – protection for rail assets, fasteners and track construction
3. **Optimized Maintenance** – reduce maintenance spend by controlling track corrugation before it starts and extend maintenance intervals while minimizing service interruptions and operational downtime
4. **A Better Ride Experience** – a notably quieter in-car experience for passengers

## Case study: reducing in-car noise levels with TMDs

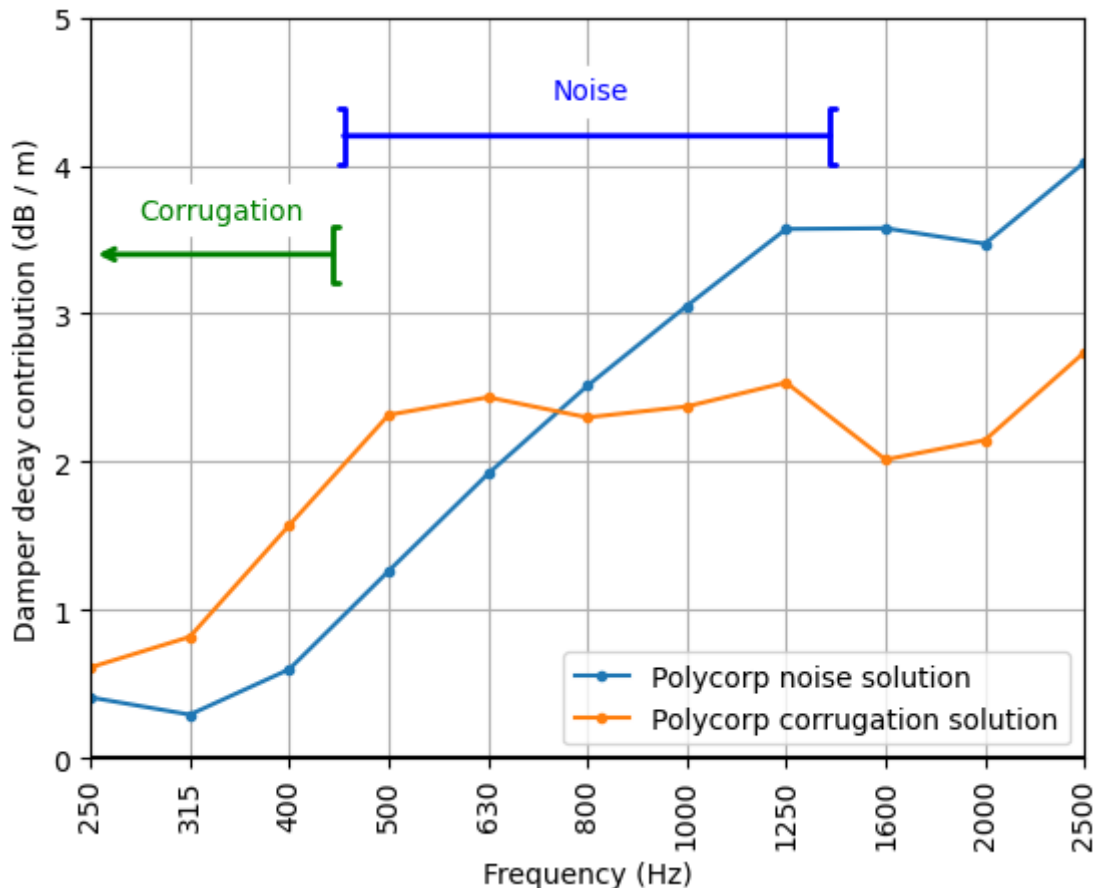
A North American transit system had received complaints about in-car noise levels in a heavy rail subway system. Polycorp evaluated the noise spectra and levels using a proprietary method based on ISO 3381, then evaluated the track decay rate (TDR) of the untreated track using a proprietary method based on EN 15461. Both sets of measurements were performed without interrupting scheduled revenue service. Polycorp proposed mitigating the noise using a 3-series model TMD, which is designed to target the frequencies at which the highest noise levels were measured. Evaluation of this solution showed the highest in-car noise levels being reduced by more than 6 dB.



## Rail Dampers – A Field-Proven Solution Available to Transit Owners & Rail Network Operators

Polycorp’s solution offers custom-tuned applications that are unique to noise or corrugation control challenges that are experienced on-track.

### Energy Management Graph



### Effective Management Tools for Distinct Energy Profiles:

- **Noise** – Impact to rider experience, affects speech intelligibility, environmental nuisance to community (500 to 2k Hz)
- **Corrugation** – Damage to track structure, maintenance and shutdown costs for milling and grinding rehabilitation works (50 Hz to 1,250 Hz)

**For additional technical information or project support – please Contact Us!**