

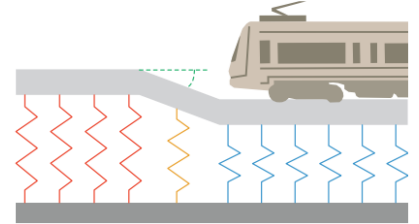
MODULUS CONTROL FOR TRANSITION ZONES

using GenieMat® RAIL

Patents: US 8240430 US 8556029 CA 2500956 CA 2503420

CAUSE

Bridge, tunnel, specialty track work, and road crossing transitions are common locations for rapid changes in superstructure stiffness. When a wheel moves over a track section with constant stiffness, the track deflection remains constant under the vehicle weight. However, rapid changes in track stiffness can lead to rapid changes in track deflection, and therefore leading to increased track load due to impact effects.



EFFECT

Bridge transition zones experience a **4-8x increase** in track maintenance compared to open track due to accelerated track degradation. In addition to the track effects, vehicles and overall service are also impacted.

Track Impacts:

- Rapid ballast degradation
- Pumping ballast, hanging or swinging ties
- Concrete tie cracking, wood tie plate cutting
- Rail battering, fatigue, corrugation

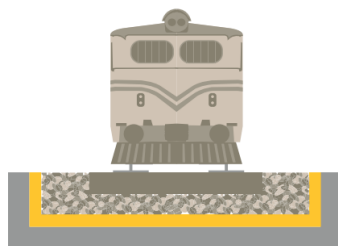
Service Impacts:

- Increased wear on vehicles
- Slow orders or speed restrictions
- Poor ride quality for passengers
- Damage to sensitive freight

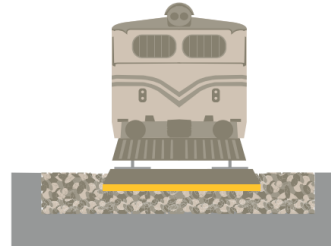
SOLUTION

The **GenieMat BST** under ballast mat and **GenieMat RTP** under tie pads are engineered elastomers that can be implemented in the superstructure to reduce track modulus and more closely match the modulus of the approach, therefore providing a smoother transition.

- **GenieMat RAIL** products are rigorously tested to exceed project requirements.
- Standard and custom material stiffness options available.
- Pliteq provides wheel deflection and track modulus calculations to support the design.



GenieMat BST



GenieMat RTP

CONTACT Us

For Your Project Specific Questions
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