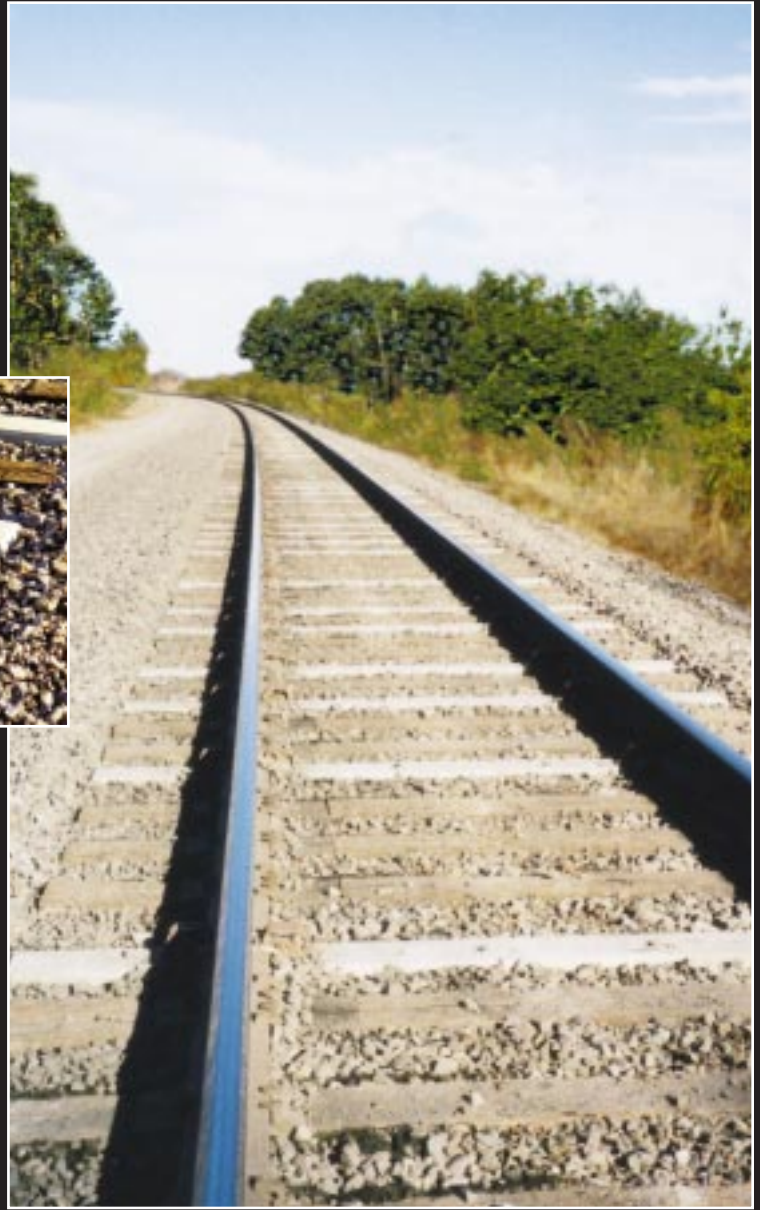


The Concrete Answer for Wood Tie Track



Rocla[®]
Rocla Concrete Tie, Inc

A New Concrete Application

Following years of development and testing, Rocla Concrete Tie, Inc. has introduced an all new concrete tie application. This prestressed concrete tie is an answer to today's economic pressures, environmental concerns and engineering challenges. The new Maintenance Replacement Tie (MRT)[™] is designed to replace wood ties in existing wood tie track.

Among the many benefits provided are:

- Lower cost than traditional concrete ties
- Lower weight than traditional concrete ties
- Low profile design for compatibility with wood ties
- Engineered product with established performance
- Lower annual maintenance costs than wood tie track
- Improved track surface, alignment, and gauge holding performance
- Proven in-track performance

A Concrete Solution

This lighter, smaller section concrete tie reduces the significant difference in stiffness between concrete ties and wood ties. Replacing wood ties that have reached the end of their useful life with Rocla's MRT[™] results in a stronger, more reliable and better performing track. Replacing defective wood ties with the new MRT design provides maximum effective life cycles for all track components.

Because the MRT is lighter weight and offers a lower cost, it provides railroads the opportunity to focus their capital resources in an effective manner, maximizing capital for maintenance of lighter density lines, without jeopardizing the capital needed for high density lines.

Unlike a wood tie, Rocla's new tie is an engineered product with specific and controlled parameters. Work on this innovative new tie began years ago with computerized finite element analysis design and testing. The MRT has been tested at TTCI in Pueblo, has withstood over 100 MGT and has been in regular service for more than three years — where it passed all service tests and confirmed compatibility, service and maintenance benefits. In these tests, interspersing Rocla's MRT[™] with wood ties



improved overall track structure and provided better surface and alignment. Production rates for tie replacement have proven to be comparable to wood ties, with little or no equipment modification.

Utilizing this innovative tie as a replacement for wood ties that have reached the end of their useful life will result in a high quality track with known and controlled design elements that is sensitive to both environmental and cost concerns.

Engineered Production

The manufacture of Rocla ties is an exacting process. Our production facilities utilize advanced manufacturing technology to produce an engineered product with absolute consistency, accuracy and strength.

Aggregates and other materials used in the concrete formulation are subject to detailed petrographic examinations and related tests to insure a contaminant-free mix. Prestressed precision engineering is part of this process and plays a major role in insuring the predictable and proven performance of all Rocla concrete ties.



Quality Control

Every step in the production of Rocla's ties is closely monitored. Every tie is inspected. Every tie is processed within a framework of tightly documented procedures, augmented by daily batch testing. Our manufacturing process is always at a level that exceeds ASTM standards. Rocla ties meet or exceed all quality assurance requirements of AREMA and PCI, as well as international standards.



The Rocla Concrete Advantage

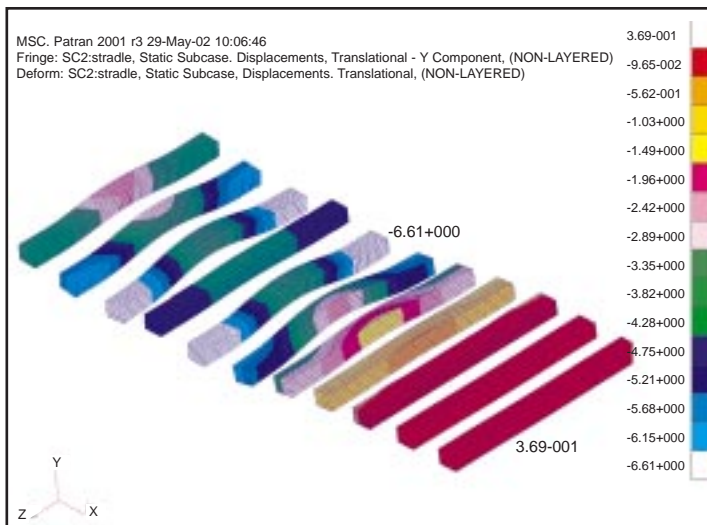
Superior Performance: The MRT, when interspersed with wood ties, improves overall track structure and provides better surface, alignment and gauge holding performance.

Reduced Maintenance: Rocla's MRT provides a solid foundation to hold the total rail system in place. Wood tie track with MRT interspersed during typical spot replacement has lower maintenance costs than all wood tie track.

Durability: Exceptional resistance to weathering and corrosion. Designed for years of in-track service.

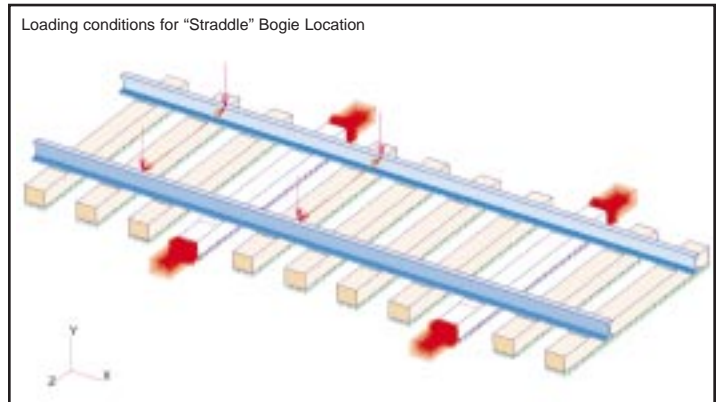
Uniform High Quality: Every Rocla tie is subject to rigid manufacturing and quality control standards that assure maximum job performance.

Environmentally Safe: There is nothing in concrete ties that will harm the environment.



Vertical Deflection in Cross Ties (mm), Straddled Axle Load

Finite Element Analysis Model: Loading Conditions for Straddled Axle Load, MRT™ interspersed with wood ties.



Rocla's Concrete Solution

The Rocla MRT™ is 8'6" long, 7" deep, 9" wide and weighs approximately 525 pounds. It can be installed with conventional tie gangs and maintenance of way equipment.

The fastening system consists of components that are currently available. The MRT is manufactured to accommodate either Pandrol Safelok or Airboss shoulders.

This new tie can be manufactured to accommodate either 5 1/2" or 6" base rail.



Conventional tie gang installing MRT™.



Automated installation with Plasser THS 2000.



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