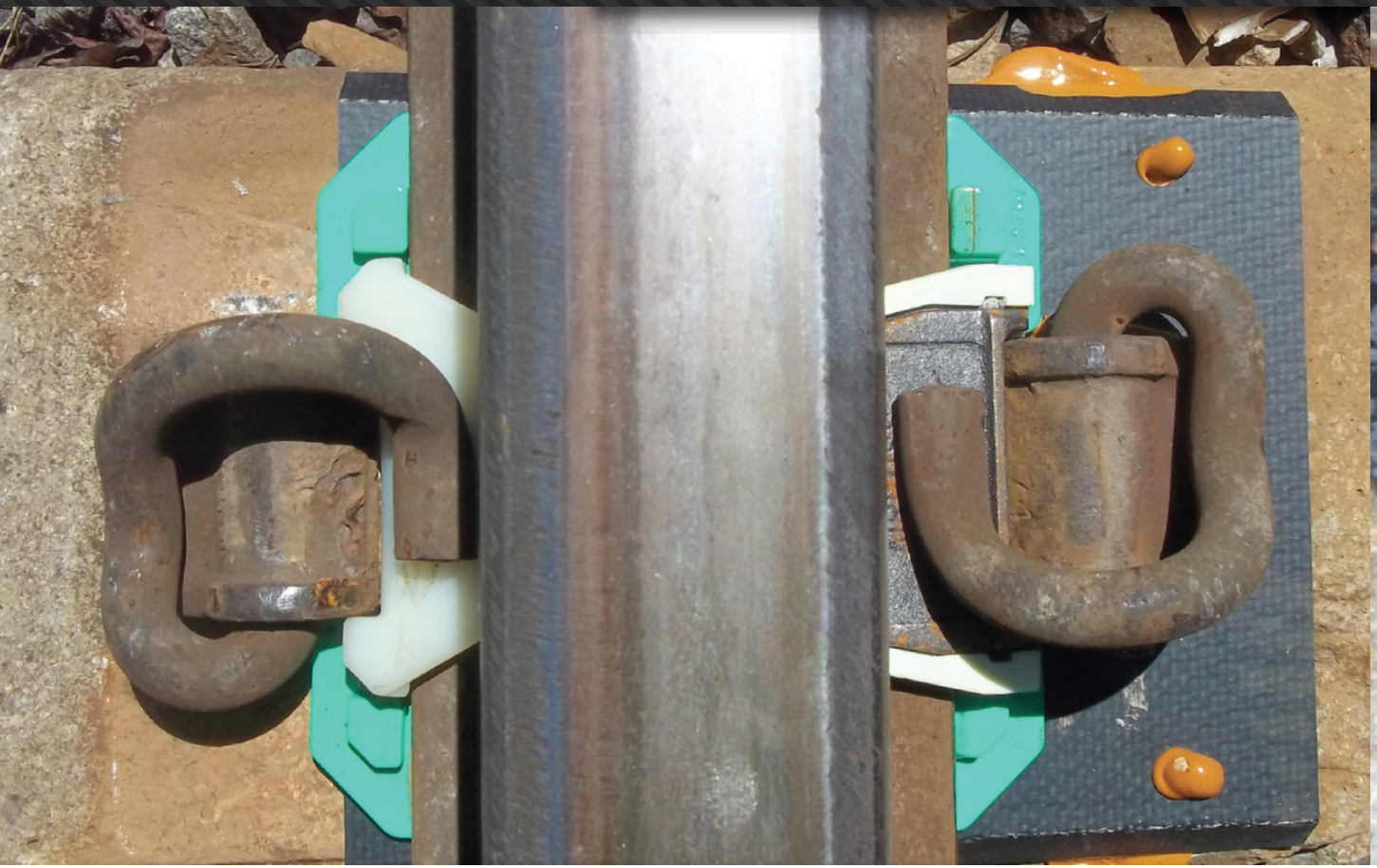

MACRO ARMOR

Proven successful in demanding military settings, MACRO Armor is the strongest material of its kind on the market. It is available for both protection and repair applications. Installation in the field is safe, fast and efficient.

Designed to protect against high impacts and abrasion. MACRO Armor is used to protect and repair concrete tie rail seats. It provides unmatched durability, design flexibility and longevity for reduced maintenance intervals and safer, more reliable track systems.

- Lightweight Strength
- Low Maintenance
- Extremely Durable

Progress Rail
A Caterpillar Company

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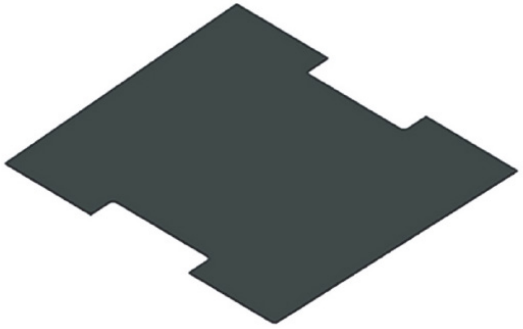
MACRO

SURVIVES AND THRIVES UNDER THE TOUGHEST CONDITIONS

- Restores rail cant, gauge and tie geometry
- Highly resistant to abrasion
- Resistant to UV degradation
- Self-extinguishing over flame
- Impervious to chemical degradation
- Strong and durable to extend tie life
- Improves safety due to lightweight design
- Installed on several Class I Railroads



MACRO ARMOR
PROTECTOR PLATE

Install, glued or dry, on new or undamaged tie rail seats.

MACRO ARMOR
REPAIR PLATE

Apply as a mold/shell over epoxy or polyurethane compound filling areas damaged by abrasion or impact.

AREMA Test 6, Wear & Abrasion Testing of MACRO Armor on Progress Rail PI TM (UIUC Test Lab, ARTEL) confirms that MACRO Armor is a minimum of 3 times more resistant to wear from heavy axle loadings than standard components currently used on track. No wear or compression set of MACRO Armor after 4.5 million cycles of load.

RIGOROUSLY TESTED TO ENSURE TOP PERFORMANCE

All testing is to MIL standards and AREMA recommended practices.

Method 516.6, Shock

Method 514.5, Vibration

Method 520.2, Temperature/Altitude/Humidity

Method 508.5, Fungus

Method 509.4, Salt Fog

Method 504, Fluid Compatibility

ASTM D412, Before-and-After Aging

ASTM D395, Compression Set

Cyclic Compression Loading

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