



CORMIX RAIL FASTENING SYSTEM

Elastic Rail Fastening Systems for Urban Environments

CORMIX RAIL FASTENING SYSTEM

PRODUCT OVERVIEW

BENEFITS OF ELASTIC

RAIL FASTENING POLYURETHANE GROUTS

CONDUR® RAIL FIX Series are two part flexible polyurethane grouts designed to be load bearing and flexible for discrete fixations, undersealing or rail embedment, developed for railways, light rail, tram and crane rail applications.

The growing demand for fast repair works has led to Cormix developing fast return to service repair systems.

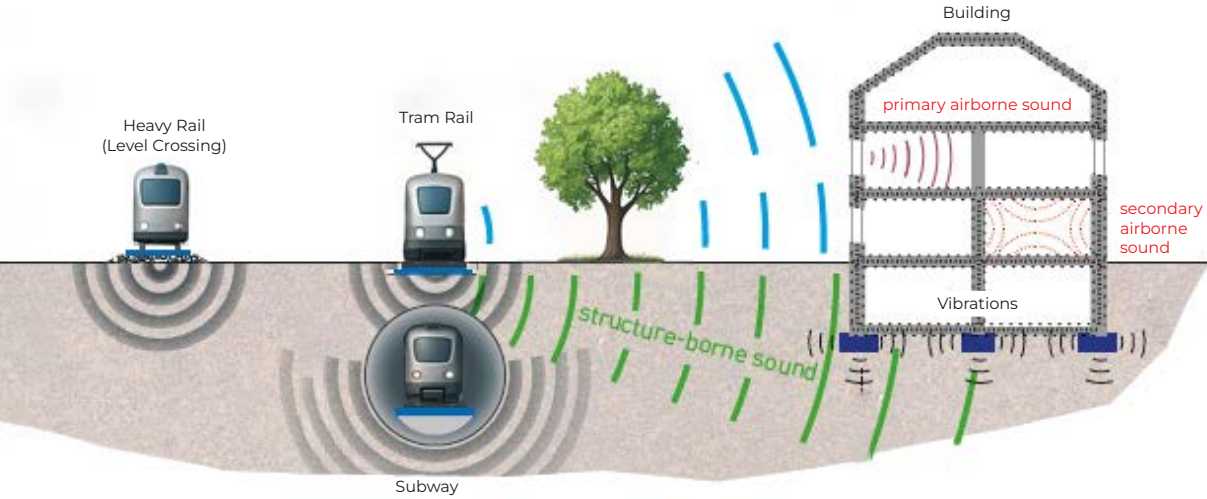
PRODUCT	DESCRIPTION	PERFORMANCE CHARACTERISTICS
Condur Rail Fix	PU Rail Embedment Grout	For Axle loads upto 140 kN & standard deflection. Complies to Category A, A+ Fastening systems as per EN 17319:2020. Accept traffic in approx. 5 hours @ 25 °C & 8 hrs @ 15 °C.
Condur Rail Fix 2	PU Rail Embedment and Discrete Fixation Grout	For Axle loads upto 250 kN and standard deflection. Accept traffic in approx. 5 hours @ 25 °C & 8 hrs @ 15 °C.
Condur Rail Fix 3	PU Rail Embedment and Discrete Fixation Grout	For Axle loads upto 250 kN & standard deflection. Accept traffic in approx. 5 hours @ 25 °C & 8 hrs @ 15 °C. Low density material = 0.99-1.01 Kg/Litre
Condur Rail Fix 4	PU Rail Embedment Grout	For Axle loads upto 140 kN and standard deflection. Accept traffic in approx. 5 hours @ 25 °C & 8 hrs @ 15 °C. Low density material = 0.99-1.01 Kg/Litre
Condur EA2	Primer on Wet Surfaces and for Fixing Filler Blocks	Slant Shear Bond strength ≥ 10 MPa. Conforms to ASTM C881-78 Type II Grade 2 Class B & C.
Condur Anchor	Anchor Fixing by Dispenser	Pull-Off Strength > 75 kN (ASTM D4435) Slant Shear Bond strength ≥ 10 MPa. Conforms to ASTM C881-78 Type IV Grade 3, Class B,C & BS EN 1504-6; anchoring of reinforced steel bars.
Slab Track Mats	Acoustic and Vibration Isolation Mats	Reduce noise and vibration. Reduction in maintenance cost. Damping of dynamic loads and vibrations of ballastless tracks. Superior resistivity to other systems.
Condur EGHS(M)	Ultra High Strength Epoxy Grout	Compressive Strength: (ASTM C579) @ 1 hr : ≥ 20 N/mm ² 3 hrs : ≥ 70 N/mm ² 1 day : ≥ 80 N/mm ² 7 days : ≥ 90 N/mm ²
Contite Slab Lift	A 2 part Fast Setting Rigid Polyurethane Foam for concrete slab lifting & soil stabilisation	Hydrophobic Rigid Closed Cell foam Reaction Time: < 15 seconds Tack Free Time: < 60 seconds Traffic ready : 15 minutes Foam Expansion 20-30 X (unconfined) Foam Density: 116.1 kg/m ³ (ASTM D1622) Foam Compressive Strength: 0.703 N/mm ² at 7 days (ASTM D1621)
Contite PUE500/501	A 2 part Rigid Polyurethane Foam for rock & soil consolidation	Hydrophobic Rigid Closed Cell foam Reaction Time: 20 - 30 seconds Tack Free Time: 30 minutes Traffic ready : 24 hrs Foam Expansion 20-30 X (unconfined) Foam Density: 96.8 kg/m ³ (ASTM D1622) Foam Compressive Strength: 0.495 N/mm ² at 7 days (ASTM D1621)
Contite PUE700/701	A 2 part Fast Setting Rigid Polyurethane Foam for rock & soil consolidation	Hydrophobic Rigid Closed Cell foam Reaction Time: 10-20 seconds Tack Free Time: < 5 minutes Traffic ready : 24 hrs Foam Expansion 20-30 X (unconfined) Foam Density: 98.4 kg/m ³ (ASTM D1622) Foam Compressive Strength: 0.454 N/mm ² at 7 days (ASTM D1621)

ONE OF THE MAIN REQUIREMENTS OF TRACK CONSTRUCTION IS TO REDUCE NOISE AND VIBRATION.

Cormix systems achieve this through a flexible fast cure polyurethane grout that not only reduces noise and vibration but has superior electrical resistivity ensuring the longevity of tracks and safety.



“Noise and vibration generated by rail movements, including primary and secondary emission effects are reduced”



BENEFITS ARE AS FOLLOWS

EASY APPLICATION AND VERSATILITY

- Apply manually or to save time and wastage apply by machine.
- Suitable for all kinds of rail.
- Various versions available to meet specific needs.
- Self leveling.

VERY LOW MAINTENANCE COSTS AND LONG DURABILITY

- Ensures track stability as resistant to dynamic loads.
- Levels out tolerances between rail and substrate.
- Good resistance against detergents and oils.
- Completely seals rail in polyurethane, no corrosion.

NOISE AND VIBRATION REDUCTION

- Increases comfort and ride smoothness.
- Various shore A hardness for different types of rolling stock.

SAFETY

- Superior electrical resistivity for prevention of stray current leakage helping to safe guard against signaling malfunctions and protecting buried structures.

Main applications for embedded rail systems includes:



RAIL BRIDGE CROSSING



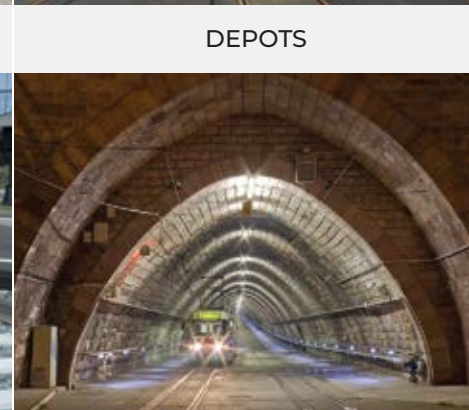
TRAM RAIL



DEPOTS



LEVEL CROSSINGS



SUBWAY SYSTEMS

CONTINUOUS BEDDING OF RAILS AND DISCRETE / DIRECT FIXATION

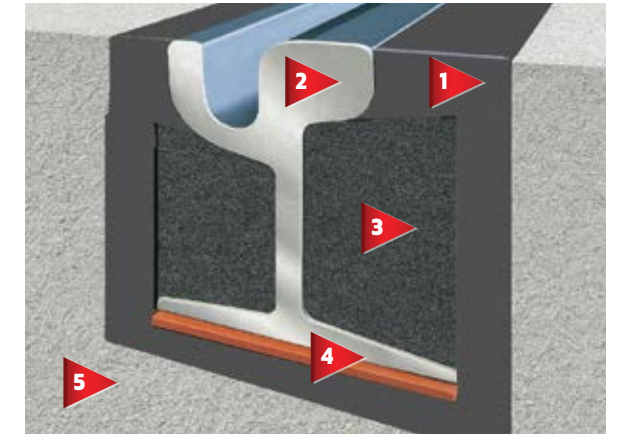
More advanced rail vehicles increase the risk of stray currents corrosion and signal interference **CONDUR RAIL FIX SERIES** is developed with this in mind and provide many advantages.

CORMIX RAIL EMBEDMENT AND DISCRETE FIXING

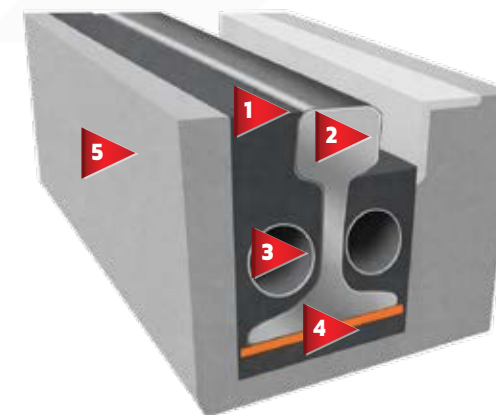
CONDUR RAIL FIX systems are easily applied in most conditions . They are used for embedding and continuous undersealing with product services load from 1 to 4 MPa and in discrete fixing 3-4 MPa.

BENEFITS OF CONDUR RAIL FIX SERIES

- Short curing time speeds up installation down time.
- Shorter interruptions and down time, long term maintenance free cost reductions.
- Greater than 30 years life.



1. Condur Rail Fix
2. Groove Rail
3. Filler Block
4. Rail Pad
5. Concrete Slab



1. Condur Rail Fix 2
2. Vignole Rail
3. PVC Pipe
4. Rail Pad
5. Concrete Slab

WHAT ARE THE ADVANTAGES

- Track geometry stability.
- Greater uniformity of load distribution to the ground.
- Long durability and low maintenance cost ensures efficient life cycle.
- Selection of the correct shore A hardness ensures that mechanical wear on vehicles and the track is reduced.
- A permanent fixation system easily repaired
- Superior electrical resistivity ensures against stray current corrosion.
- Noise and vibration reduction.
- Moisture resistant protects the rail from corrosion, water-tight rail structure. Frost resistant.
- Flexible, elastic with good dimension tolerances.



APPLICATION BY PUMPING



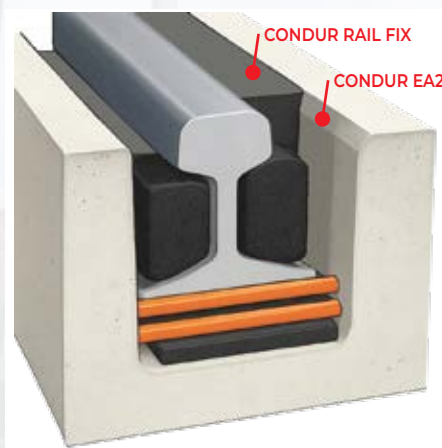
CORMIX ACCESSORIES

Cormix provides various materials to support its polyurethane grouts

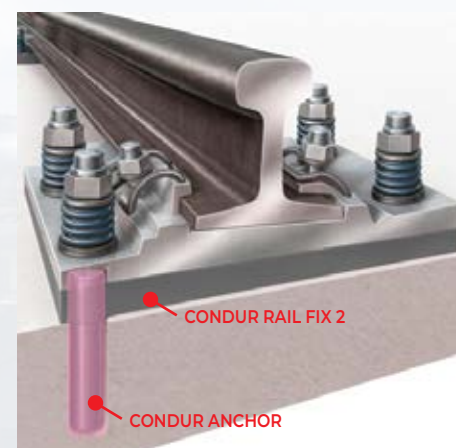
Slab Track



Tram Rail



Discrete Rail



Ultra High Early Strength Repair Mortar



Rail Crossing Realignment with Rigid Foam

CERTIFICATION, QUALITY AND THE ENVIRONMENT

Cormix products are tested according to International standards including EN 17319 : 2020 Railway applications - Infrastructure - Performance requirements of rail fastening systems for tramways

Cormix is accredited with ISO 14001:2015 and ISO 9001:2015 management systems and complies to Green Industry standards its products are made with ecology and the environment in mind avoiding VOCs and other calcigenic raw materials. Cormix cured products are environmentally friendly.



Elongation at Break / Tensile strength



Stiffness



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