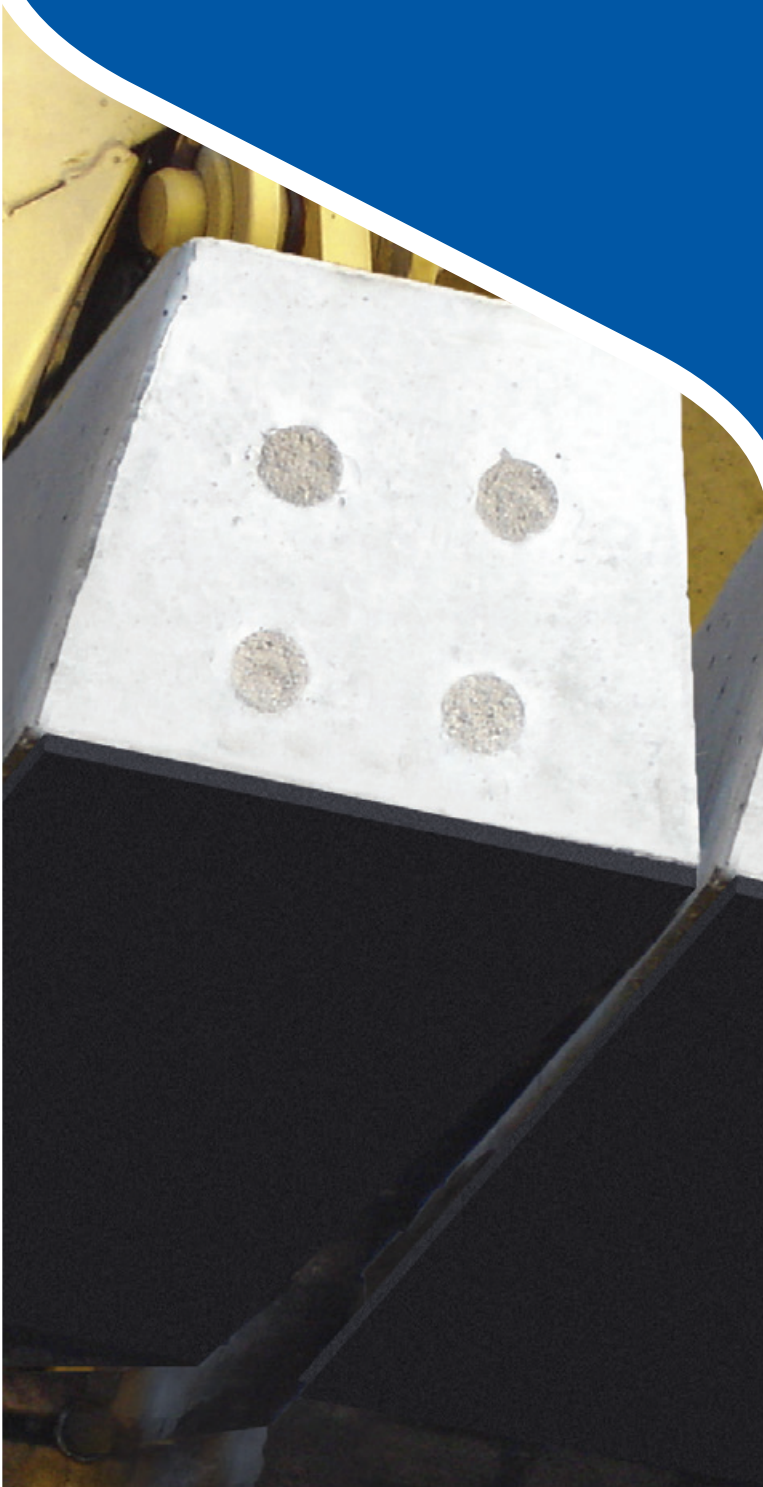


PANDROL CDM TRACK

Sustaining the way

UNDER SLEEPER PADS

SYSTEM DATA SHEET



 **PANDROL**

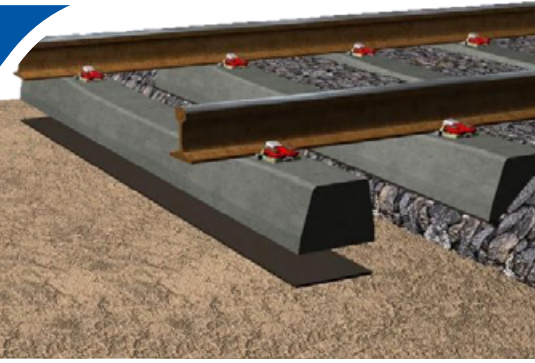
CDM TRACK

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UNDER SLEEPER PADS

(CDM-USP)



Under Sleeper Pads are tailor-made resilient systems designed to reduce track maintenance, increase the quality of the track and provide vibration mitigation by fixing elastic elements to the bottom surface of the sleepers.

INSTALLATION

- Attached during sleeper production by means of CDM MFF® technology
- Can be attached to sleeper post-production by means of glue
- Compatible with all in-track sleeper installation methods

CDM-MFF®

- CDM MFF® is the registered trade mark for the Micro-Filament Fastening bonding technique
- Designed to fix CDM-USP onto fresh concrete during sleeper production
- Compatible with all production processes and concrete types

BELGIUM



Visit Pandrolcdmtrack.com for more information about the USP system

APPLICATIONS & BENEFITS

Improvement of Track Quality

- Reduction of stresses on all track components and substructure due to a better load distribution over the track and its components both longitudinally and transversely
- Improvement of the initial track geometry = less settlement & corrugation

Economic Impact: Reduction of Life Cycle Costs (LCC)

- Increased longevity of the track and all the components
- Reduction of rail corrugation, especially in tight radius curves = extending the grinding interval by at least a factor 2
- Possibility of reducing the ballast bed thickness (up to 10cm)
- Minimising maintenance efforts: Levelling, Lining and Tamping (LLT) period extended by a minimum factor of 2
- Payback period is approximately 3-4 years

Transition Zones Design and Control

- Less differential settlement
- Controlled stiffness differential (where conventional ballasted track becomes slab-track or goes over a bridge, embankment, tunnel etc.)

Noise & Vibration Control

- Vibration Insulation up to 15 dB(v)
- Decreases noise (about 1 dBA) when compared to new track
- Better in-time evolution of recorded airborne noise levels

Sand Ingress

- Mitigation of detrimental effects and ballast stiffening due to wind blown sand

SPECIFICATION

Track application category	LRT, metros, main and high speed lines
Bonding method	Fixed on fresh concrete through CDM MFF® technology Glued post sleeper production
Materials	Resin-bonded rubber (RR family)
Thickness range	For the elastomer part: 7 – 20 mm For the CDM MFF® layer: 0,7 mm
Geometry	Flat or wavy (CDM-Locksoft® technology)
Sleeper compatibility	Suitable for all monoblock or bi-block concrete and timber sleepers. All possible geometries
Density range	710 - 1200 kg/m ³
Static bedding modules range	0,07 – 0,25 N/mm ³ according to DIN 45673-6
Dynamic bedding modules range (10Hz)	0,08 – 0,32 N/mm ³ according to DIN 45673-6
Pull-out strength	>0,5MPa according to DIN45673-6