

PANDROL

BONDED DIRECT FIXATION FASTENING SYSTEM: ADH



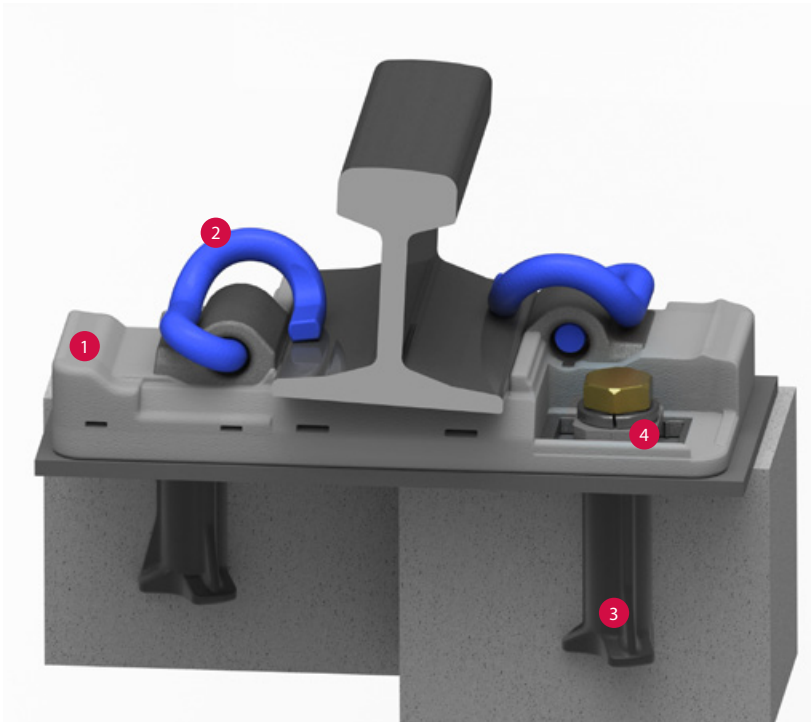
PRODUCT INFORMATION



PANDROL PRESENTS:

BONDED DFF: ADH

The Bonded DFF ADH system has been developed to directly combat corrugation and vibration problems caused by major dynamic forces generated from passing trains.



Drawing on some 30 years' experience and feedback from over 400,000 units fitted worldwide, the DFF ADH system is suited to rail-laying on concrete sleepers and slabs. It can also accommodate the different resilient fasteners proposed by Pandrol Track Systems : NABLA, SD, e-clip, FASTCLIP, SKL and G4.

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The Bonded DFF ADH fastening system has 2 solutions available. A standard model valid for running track, and customised models for switching zones. Its deployment significantly reduces vibrations from passing trains and mitigates against the development of some types of corrugation.

Components:

1. Vulcanized DFF baseplate
2. Elastic fasteners (Pandrol e-Clip shown)
3. High resistance anchoring systems
4. Adjustable washers for lateral adjustment
5. Rail pad (under rail - not shown) depending on configuration
6. Adjustment shims (under rail - not shown)



INSTALLATIONS



Switches and crossings.



DFF installation Top Down.



Installation on ballasted track.

FEATURES OF ASSEMBLY

VERTICAL AND LATERAL STIFFNESS

The DFF ADH bonded system provides both vertical and lateral stiffness as two independent cast baseplates are assembled by bonding using vulcanized rubber.

VIBRATION ATTENUATION

Vibration isolation is provided in a range of stiffness down to 10.5 kN/mm. Standard stiffness typically 20 kN/mm, bespoke requirements can also be accommodated.

ELECTRICAL INSULATION

Very high levels of electrical resistance are achieved as a result of the bonding process which provides long electrical leakage paths and test results to EN standards several times higher than the minimum required.

TRANSFER OF LATERAL FORCES

Lateral forces are transferred from the rail through the baseplate and into the rubber, thus minimising the forces transferred into the anchor bolts and reducing risk of bolt failure.

CONSTRUCTION

The DFF ADH bonded baseplate comprises a single unit which can be installed by Top Down method or installed on pre-cast blocks, sleepers or slabs. Vertical adjustment of typically 30 mm and lateral adjustment +/-12 mm.

OTHER APPLICATIONS

The DFF ADH system can be provided in various lengths to suit turnout applications and are also suitable for steel bridges and ballasted tracks.

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BONDED DIRECT FIXATION FASTENING SYSTEM: ADH

- Suitable for use on slab tracks, concrete sleepers, steel bridges, ballasted tracks, turnouts and crossings
- Suitable for Top Down and Bottom Up construction
- Intended for applications where exceptional vibration mitigation is required

| Applications Data | |
|----------------------------------|---------------------------|
| | Standard EN 13481-5 |
| Application | Metro and railway network |
| Typical rail sections | 50E6, 54E1, 60E1 |
| Dimensions | L 407 x W 192 x H 53mm |
| Type of anchors | Ø27 mm |
| Suited to Switches and crossings | YES |
| Weight per DFF baseplate | 13.6 kg |
| Corrosion resistance | ASTM B 117/ EN 13146-6 |

| Typical performance data | Metro | Network |
|----------------------------------|-------------------------------|--------------|
| Static stiffness (PrEN 13146 -9) | 18 (kN/mm) | 28.5 (kN/mm) |
| Measurement range | 1-34.4 kN | 1-51.2 kN |
| Dynamic stiffness (EN 13146 - 9) | 21 kN/mm | 51 kN/mm |
| Measurement Range | 5-34.4 kN | 5-51.2 kN |
| Electrical Insulation | >40 (kΩ) | |
| Lateral adjustment per DFF ADH | ±12 mm per increments of 3 mm | |
| Vertical adjustment | 0 - 30 mm | |

NOTE:

PANDROL is an innovator and designer of bespoke rail fastenings. The data shown above is indicative of typical performance, but is naturally dependant on external factors. Should you have different requirements, please contact us to discuss tailoring products to suit local operating conditions. The technical information given in this brochure was correct at the time of printing, however the company undertakes a continuing programme of research and development and improvements may since have been introduced.

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