

ADH System (Bonded DFF)

Fastening systems



Pandrol's ADH System limits corrugation and vibration problems caused by the major dynamic forces generated by passing trains.

This versatile system can be used on both standard track and turnouts. A single fastening system can be used for the whole track system as the standard model is designed for running track and customised models are designed for switching zones.

The ADH System provides both vertical and lateral stiffness via two independent cast baseplates. A one-piece bonded system (comprised of a top and bottom plate) is factory assembled by bonding with vulcanised rubber. This provides high levels of electrical resistance, long electrical leakage path and lateral resilience.

→ TECHNICAL FEATURES

Variable baseplate options

The ADH system is available in two- and four-hole offset and two-hole line footprint configurations. This gives the best possible solution for new build, track renewal and retrofit applications.

Variable rail fastening

To meet specification requirements, the ADH System is available with a variety of clip types, including e-clip, SD, SLK, Nabla and FE.

Electrical insulation

The system's unique bonding process achieves very high levels of electrical resistance and long electrical leakage paths. Tests against EN Standards have shown electrical insulation performance several times higher than the minimum required.

Turnout options

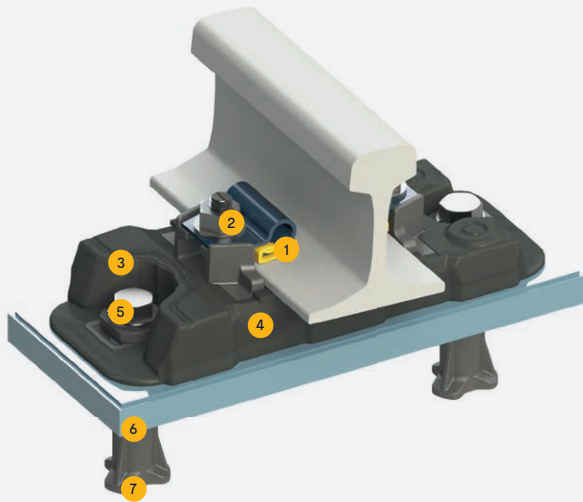
The ADH system comes in a variety of lengths, with different base plate lengths and options to suit all turnout applications. The system is also suitable for steel bridges and ballasted tracks.

Track-structure interaction

Rail fastening clips are available in low toe load and zero longitudinal restraint (ZLR) configurations. This makes the system ideal for use on bridges and viaducts, when the effects of track-structure interaction need to be considered in the rail fastening assembly.

→ ADVANTAGES

- The ADH System has particularly high corrosion resistance because the plate is covered with rubber, which acts as a protective barrier between the baseplate and the atmosphere.
- The system's low stiffness decreases the dynamic load level by reducing vibrations transmitted to the ground and distributing them along the supports. As a result, vibrations are isolated and noise generated by the moving wheels on the rail is attenuated.
- The system provides a specific longitudinal restraint, good track elasticity, and reduced stress in the rail when exposed to high temperatures.
- The system provides electrical insulation for the rail, isolating it from the track bed and avoiding electrical leakage into the ground. In addition to this, the system has a high level of stray current protection.
- The DFF assembly has a fail-safe design, remaining active and safe in situations where bond failure between rubber and metal components occurs.
- Installation of the ADH System is simple, enabling the entire assembly, or any of its components, to be installed or replaced by one person using hand tools.



→ COMPONENTS

1. Elastic rail fastening
2. High resistance anchoring system
3. Vulcanised DFF baseplate assembly
4. Rail pad
5. Baseplate anchor
6. Baseplate shims
7. Cast in anchor insert

