

PANDROL

FASTCLIP FE



PRODUCT INFORMATION



RAIL FASTENING SYSTEM:

FASTCLIP FE

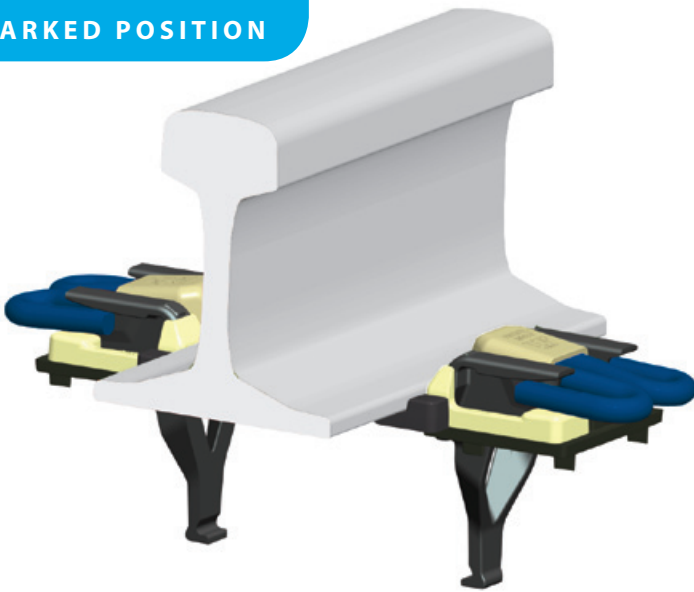
PANDROL FASTCLIP FE is a resilient, threadless rail fastening system. It features the unique PANDROL 'switch on – switch off' function that enables fast, efficient track installation and reduced maintenance costs.

Find more information about the FASTCLIP range at Pandrol.com

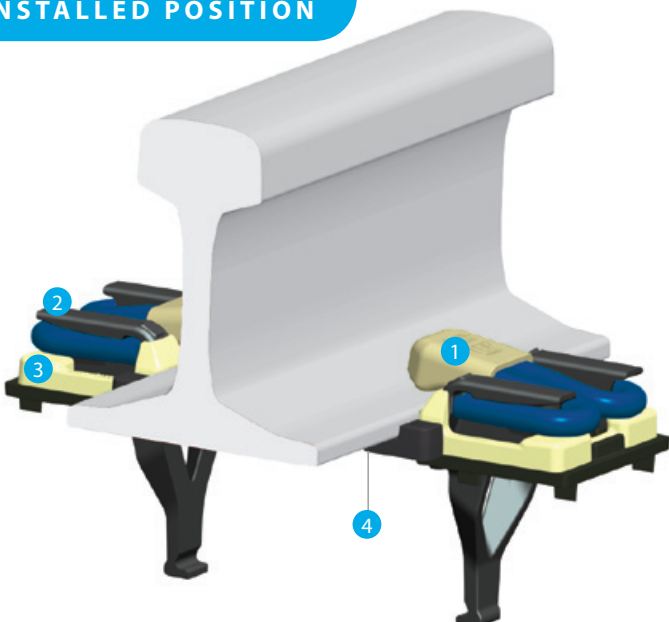
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PARKED POSITION



INSTALLED POSITION



Sleepers arrive on site with all FASTCLIP FE components held captive and the clips set at the parked position. Once the sleepers are placed and the rail has been threaded, clips are simply pushed from the parked to the installed position. Correct toe load is achieved automatically.

Components:

- 1. Clip and toe insulator**
 - Nominal toe load of 1,000 -1,250 kg per clip based on customer requirements
- 2. Cast SGI shoulder**
 - Excellent gauge retention
 - Low profile providing high lateral impact resistance
- 3. Collar**
 - High lateral stiffness and durability give excellent gauge retention
 - Excellent electrical insulation
 - Different thickness available for dual-rail/gauge-widening where required
- 4. Studded EVA rail pad**
 - Rail pad provides high impact attenuation, preventing high dynamic forces being transmitted to the sleepers and ballast
 - Other pad types, such as studded rubber, grooved rubber, PU and HDPE are available



INSTALLATIONS



SINCE 2007

FASTCLIP FE has been installed in Albania, Australia, Brazil, Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Malaysia, Mongolia, Norway, Romania, Serbia, Turkey, UK and USA.



ESTONIA



NORWAY

FEATURES OF ASSEMBLY

FULLY PRE-ASSEMBLED

All FASTCLIP FE components leave the sleeper factory fully pre-assembled on the sleeper. This provides huge savings in manpower, as well as reduced distribution and handling costs during track laying, stressing and rail changing.

THREADLESS

The FASTCLIP FE system has no threaded components, eliminating costly maintenance.

REPLACEABLE COMPONENTS

FASTCLIP FE is virtually maintenance free. In the rare event that a component requires replacement, the clip can be withdrawn easily, without the need to unscrew bolts.

AUTOMATIC TENSIONING

Correct tensioning is automatically achieved when the clip is driven into the working position. FASTCLIP FE provides excellent creep resistance.

FIRM ANCHORAGE

Cast-in shoulders hold the rail at the correct gauge and set the correct FASTCLIP deflection. The shoulders are cast into the sleeper during the manufacturing process.

EXCELLENT INSULATION

The FASTCLIP FE assembly provides excellent electrical insulation. The cast shoulders are electrically isolated from the rail by the collars. The spring clips are electrically isolated from the rail by the toe insulators.

SIMPLIFIED STRESSING

All components remain captive during the rail stressing procedure. The clip is simply withdrawn back to the parked position to release the rail. Stressing rollers are available for use if required.

HEAVY HAUL

The FASTCLIP FE1500 series system is suitable for heavy haul application.

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FASTCLIP FE SYSTEM

- For use on concrete sleepers
- Suitable for light rail, metro, general main line, high speed and heavy axle loads
- Suitable for use on monobloc sleepers (pre or post-tensioned) or reinforced bi-block sleepers

| Application data (Standard products – special variants may differ) | | | | | |
|--|---|--------|--------|-------------------------|---|
| Rail Inclination | As provided in the sleeper | | | | |
| Pad Type | Please consult PANDROL for appropriate pad types against operating requirements | | | | |
| Typical Applications | Light rail, Metro, general main line, mixed traffic, heavy haul and high speed | | | | |
| Clip Type | PANDROL FASTCLIP FE1400 | | | PANDROL FASTCLIP FE1500 | |
| EN13481-2 Fastening Category | Cat A | Cat B | Cat C | Cat D | For max axle load/radius please consult PANDROL |
| Maximum Axle Load* | 130 kN | 180 kN | 260 kN | 260 kN | |
| Minimum Curve Radius* | 40 m | 80 m | 150 m | 400 m | |

* For Special applications consult Pandrol

| Typical performance data* As identified by Track Category in EN13481-2 | | | | | |
|--|---------------|---------------|----------------|-----------------|------------------------------|
| | Cat A | Cat B | Cat C/D | Test method | Remarks |
| Assembly static stiffness | >70-210 kN/mm | >80-220 kN/mm | >95-250 kN/mm | EN 13146-9:2011 | Dependent upon pad selection |
| Assembly dynamic stiffness | >80-280 kN/mm | >90-310 kN/mm | >110-400 kN/mm | EN 13146-9:2011 | |
| Impact load attenuation | ≤ 30-50% | | | EN 13146-3:2012 | |
| Electrical insulation | >10 kΩ | | | EN 13146-5:2012 | |
| | FE1400 Series | | FE1500 Series | | |
| Nominal toe load | 1000 kgf | | 1250 kgf | | |
| Clamping force | >16 kN | | >20 kN | | EN 13146-7:2012 |
| Creep resistance | >9 kN | | >11 kN | | EN 13146-1:2012 |

COMPLIANCE WITH STANDARDS:

PANDROL FASTCLIP FE1400 series fastenings are compliant with the requirements of EN13481-2:2012 and the High Speed Interoperability Directive (TSI). PANDROL FASTCLIP FE1500 series fastenings are compliant with the requirements of EN13481-2:2012 – ‘Fastening systems for track with heavy axle loads’. Some configurations of Pandrol Fastclip FE1400 and FE1500 series fastenings are compliant with the requirements of AREMA Manual Chapter 30 Part 4.

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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