

PANDROL

VIPA SP



PRODUCT INFORMATION



TRACK SUPPORT SYSTEM:

VIPA SP

PANDROL VIPA SP is a resilient track support system that attenuates wheel and rail contact induced vibrations transferred from the rail to the supporting structure. The VIPA SP concept utilises a two-layer resilient pad system to provide exceptional support.

Find more information about PANDROL fastening systems at Pandrol.com

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PANDROL VIPA SP products are supplied to track sites as fully assembled units. The system is available in two variants.

Components:

1. Cast SGI top plate
2. Studded rubber baseplate pad
3. Cast SGI lower plate
4. Studded rubber or EVA rail pad
5. Resilient bush that provides electrical insulation and lateral and longitudinal resilience between cast iron plates (not shown)
6. Cast SGI cover plate
7. Clip and toe insulator
8. Side-post insulator made from high viscosity nylon
9. Conforming shim



VIPA SP assemblies can be installed on timber, steel and concrete supporting structures.



INSTALLATIONS



COLERAINE



LONDON



SELBY

VARIATIONS



Offset VIPA SP



4-hole VIPA SP

The 2-hole offset baseplate is designed for medium axle loads and high speed rail. The 4-hole baseplate is designed for higher axle loads and tight curves. The product is interchangeable with PANDROL VANGUARD baseplates where compatible.

There is also a 4-hole baseplate option for slab and a 4-hole narrow option for stiffness.

FEATURES OF ASSEMBLY

HIGHLY ADJUSTABLE

VIPA SP baseplates provide exceptionally wide adjustment. The range is typically +/- 15 mm lateral per baseplate, and +30 mm vertical. For additional requirements please consult PANDROL.

LOW MAINTENANCE COSTS

VIPA SP is a non-bonded baseplate assembly designed for long life. All parts are fully accessible and replaceable, enabling repair that does not require replacement of the complete unit. Maintenance costs are highly economical.

RAIL-FREE INTERACTION

Low toe load and zero longitudinal restraint (ZLR) options are available for use on structures.

DOUBLE INSULATION

VIPA SP features double electrical insulation. The rail is insulated from the top plate. The top plate is insulated from the baseplate by the rubber pads, bushes and line insulators.

ANCHORAGE

The "hold-down" anchorage method is an integral part of PANDROL rail fastening design. The degree of vertical adjustment provided is determined by the anchor arrangement selected. Various options are available. For advice on specific applications, please consult PANDROL.

INSTALLATION OPTIONS

VIPA SP can be installed using both the top-down and bottom-up methods of track construction. VIPA SP can be installed by top-down wet pour, with or without pre-cast concrete elements. The system can also be installed on timber and steel bearers and bridge beams.

CUSTOM STIFFNESS

Standard VIPA SP assemblies are designed to provide static vertical secant stiffness of >15 kN/mm. Customised stiffnesses can be provided to accommodate special requirements, and for transitions zones.

PANDROL

VIPA SP

- For use on non-ballasted tracks (slab tracks)
- Two-part base plate system suitable for top down, wet pour construction, pre-cast concrete or fixing directly to bridge decks
- Also suitable for concrete and wooden sleepers and blocks
- Intended for applications where very good vibration reduction is required

Application data (Standard products – special variants may differ)

Rail inclination	Provided in the baseplate or concrete as required			
Typical applications	LRT/Metro, General main line, high speed non ballasted tracks, bridges			
Clip Type	PANDROL FASTCLIP FC1501, FC1504			
EN 13481-5 Track Category	Cat A	Cat B	Cat C	Cat D
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 EN 13481-1

	Cat A	Cat B	Cat C/D	Test Method	Remarks
Assembly static stiffness	10-15 kN/mm	11-16 kN/mm	12.5-17.5 kN/mm	EN 13146-9:2011	Dependent upon pad selection
Assembly dynamic stiffness	12.5-17.5 kN/mm	13-18 kN/mm	17.5-22.5 kN/mm	EN 13146-9:2011	
Electrical Insulation	>10 kΩ			EN 13146-5:2012	
Nominal toe load	1000 kgf				
Clamping force	>16 kN			EN 13146-7:2012	
Creep resistance	>9 kN			EN 13146-1:2012	
Lateral adjustment	+/- 20 mm				
Vertical adjustment	+ 30 mm				

COMPLIANCE WITH STANDARDS:

PANDROL VIPA SP has been tested against the requirements of EN 13481-5:2012 'Fastening systems for slab tracks'. The system will meet the requirements of the European High Speed TSI (Technical Standards for Interoperability).

NOTE:

PANDROL is a provider of innovative custom rail fastenings. Data in this document indicates typical performance. Actual performance is dependent on a range of external factors. Please contact us to discuss how PANDROL can tailor products to suit local operating conditions and specific requirements. Technical information in this document was correct at time of printing. Improvements may since have been introduced as a result of our continuous research and development programmes.

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