PANDROL

VIPA SP

PRODUCT INFORMATION
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.

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

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

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.
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• 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)

<table>
<thead>
<tr>
<th>Rail inclination</th>
<th>Provided in the baseplate or concrete as required</th>
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<tbody>
<tr>
<td>Typical applications</td>
<td>LRT/Metro, General main line, high speed non ballasted tracks, bridges</td>
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<tr>
<td>Clip Type</td>
<td>PANDROL FASTCLIP FC1501, FC1504</td>
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<tr>
<td>EN 13481-5 Track Category</td>
<td>Cat A</td>
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<tr>
<td>Maximum Axle Load*</td>
<td>130 kN</td>
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<tr>
<td>Minimum Curve Radius*</td>
<td>40 m</td>
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* For Special applications consult PANDROL

Typical performance data* As identified by Track Category in EN 13481-1

<table>
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<th>Test Method</th>
<th>Remarks</th>
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<tr>
<td>EN 13146-9:2011</td>
<td>Dependent upon pad selection</td>
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<table>
<thead>
<tr>
<th>Test Method</th>
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<td>EN 13146-7:2012</td>
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<td>EN 13146-1:2012</td>
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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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