

PANDROL

# SEE SD



PRODUCT INFORMATION



RAIL FASTENING SYSTEM:

# SEE SD

SEE-SD fastening system is a plastic baseplate designed to be embedded into fresh concrete or by wet pour methods, providing adequate resilience (stiffness) to attenuate the concrete slab and provide large vertical adjustments to the rail position.



Provides a lightweight solution for handling/ installation and can be pre-assembled for use with automatic baseplate laying equipment.

Find more information about the SD range at [Pandrol.com](https://Pandrol.com)

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The SEE-SD plastic baseplate has a special system feature of vents and channels that optimise insertion into concrete and ensures excellent resistance to lateral forces.

**Components:**

1. Clip
2. Plastic baseplate
3. Insulated guide plate
4. Rail pad
5. Screw
6. Anchor insert (not shown)
7. Optional covers (not shown)

## INSTALLATION AND ASSEMBLY PROCESS



Plastic anchor inserts are added to the plastic baseplate.



Setting shims are added for future vertical adjustment.



Pad is added while all the other components are removed or in parked position.



The clips are driven from the parked to the working position.



The coach screws are tightened to refusal.



If required a cover is added for permanent or temporary protection of the assembly.

## FEATURES OF ASSEMBLY

### VERTICAL ADJUSTMENT

SEE SD provides vertical height adjustment of +30 mm, and lateral adjustment of +/- 5 mm. For special adjustment requirements, please consult PANDROL.

### LOW VERTICAL STIFFNESS

Vertical stiffness is typically 35 kN/mm, providing adequate resilience for slab attenuation. SEE SD provides a choice of rail pads that deliver static stiffness of between 35 kN/mm to 150 kN/mm.

### LIGHTWEIGHT

The lightweight and compact nature of PANDROL SEE SD composite material baseplates support cost-effective construction for tram LRT and metro infrastructures.

### CONSTRUCTION OPTIONS

SEE SD baseplates can be installed into fresh dry concrete, using innovative slab track construction techniques. The top-down wet pour method is also supported. The PANDROL air evacuation system prevents trapped air under the baseplate.

### HIGH PERFORMANCE DOWEL

The SEE SD GS dowel is suitable for insertion into fresh concrete. The GS dowel provides more efficient load transfer to the concrete.

### CONTACT TIGHTENING

The SEE SD coach screw provides a large acceptable torque range of between 250 and 400 Nm. Toe load is achieved automatically once the screw is tightened to contact.

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- Low vertical stiffness option: 35 kN/mm
- Pre-assembled system, to facilitate installation operations
- Light plastic baseplate suitable for mechanical installation
- Large vertical adjustment range: +30 mm

## Application data (Standard products – special variants may differ)

Rail inclination	As provided in the baseplate		
Pad type	Please consult PANDROL for appropriate pad types against operating requirements		
Typical applications	Tram, LRT/Metro		
Clip type	SD		
EN13481-5 fastening category	Cat A	Cat B	For max axle load/radius please consult PANDROL
Maximum axle load*	130 kN	180 kN	
Minimum curve radius*	40 m	80 m	

\* For special applications please consult Pandrol

## Typical performance data\* As identified by Track Category in EN13481-1

	Value	Test method	Remarks
Assembly static stiffness	>35 kN/mm	EN 13146-9:2011	Dependent upon pad selection
Assembly dynamic stiffness	>45 kN/mm	EN 13146-9:2011	
Impact load attenuation	≤ 30-50%	EN 13146-3:2012	
Electrical resistance	>15 kΩ	EN 13146-5:2012	
Nominal toe load	1000 kgf		
Lateral adjustment	+/- 5 mm		
Vertical adjustment	0 / +30 mm		
Clamping force	16-20 kN	EN 13146-7:2012	
Creep resistance	>7 kN	EN 13146-1:2012	

### COMPLIANCE WITH STANDARDS:

SEE SD System complies with European CEN Standard 13481-5.

### 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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