

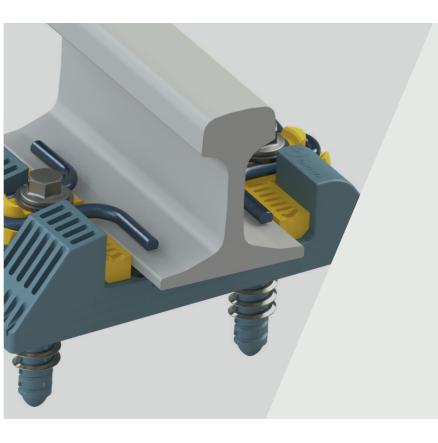


# SEE-SD

## Fastening systems



The ideal lightweight baseplate assembly, in particular when rail fastenings need to be 'pushed' into concrete that is formed but still wet (for example, when using the Appitrack method to construct tram and light rail track).



Pandrol's SEE-SD is the engineered polymer baseplate option for SD fastening clips. It is ideal for use on concrete slab tracks in tramway and urban rail applications, where light structures and fast construction is needed. As well as being extremely lightweight, the fastening system naturally yields high electrical insulation.

The SEE-SD System offers a particularly wide range of both vertical and lateral rail adjustment. Like SD sleepers, the assembly can be configured to suit a range of requirements for stiffness and clamping force. It can be installed using all typical concrete slab track construction methods, as well as meeting the needs of so called 'Appitrack' construction.

# ightarrow TECHNICAL FEATURES

#### Pre-assembled units

The SEE-SD System is usually supplied as captive, preassembled units that are ready for top-down track construction methods.

### 'Switch on / switch off' function

The SD clip can be moved simply and quickly from the 'parked' position (in which it is held securely without intruding into the rail seat) into the 'service' position. With the screw loosened, the clip is simply pushed from one position to the other to either clamp the rail or release it.

#### **Electrical insulation**

The SEE-SD baseplate and insulators are made of plastic that provides an exceptionally high level of electrical insulation all around the rail.

#### Embedded baseplate

The baseplate is partially embedded in the concrete to withstand the lateral and longitudinal loading. Clever engineering allows trapped air and water to escape, ensuring a solid fill of concrete under the rail seat.

#### Direct fastening

SEE-SD is a direct fastening system – the means-by which the rail is attached to the baseplate is the same as that attaching the baseplate to the supporting base structure.

#### Track-structure interaction

The SD clips are available in low toe load and a zero longitudinal restraint (ZLR) configuration, typically for use on bridges and viaducts when track-structure interaction effects need to be dealt with in the rail fastening assembly.

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# ightarrow advantages

- The SEE-SD System enables vertical adjustments to be made quickly, easily and without the need to fully disassemble the fastening. Minimal additional parts are needed; just rail shims and longer screws in extreme cases.
- The pre-assembled captive fastening units and the simple 'switch on / switch off' function mean that very high rates of track construction and maintenance can be achieved. In turn, this results in huge savings in labour, as well as reduced distribution and handling costs during the whole lifecycle of the system.
- The lightweight SEE-SD assembly can easily be carried and positioned by one person, saving on labour time and costs.
- As the SEE-SD System has minimal metal components, the risk of corrosion is very low. This makes it an attractive option for ensuring long service life in wet track conditions, such as tunnels or installations close to the coast.



# ightarrow components

- 1. SD clips
- 2. Side post insulators
- 3. Polymer baseplate
- 4. Rail pad
- 5. Anchor screws with concrete inserts



