



PANDROL

Partners in excellence

UK Track Fastenings Guide

2021 Edition

Partners in excellence

At Pandrol, we believe in quality above all else, and are proud to provide innovative products and services that support rail infrastructure. Across the world, our solutions define the industry standard in rail fastenings, aluminothermic welding, electrification, track engineering and maintenance, and noise and vibration reduction.

This booklet is intended for use by all those involved in the specification, installation and maintenance of Pandrol fastenings in the UK and has been designed to answer the most frequently asked questions relating to our fastening systems. It is not applicable to other railways around the world because product specifications vary from region to region.

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1

Fastclip FC



Fastclip is a total system in which all components are delivered to site pre-assembled on the sleeper or baseplate. Once the sleepers are laid and the rail installed the clip is simply pushed onto the rail by means of a simple drive action.

Fastclip FC is a threadless fastening with low maintenance and pre-assembly of the fastening which remains captive on the sleeper. The unique switch on – switch off system enables fast efficient track installation and reduced maintenance costs. It is designed for all categories of track and rapid installation by mechanised equipment.

→ Fastclip Assemblies (Ballast)

NR Sleeper Code / Assy No. / Description

Current Concrete Sleeper

G44
EG47
EG53
G55

8921

**FC1504 Concrete sleeper assembly for 56E1 rail
1436 mm gauge**

Qty per Rail Seat

14395 FC1504 Clip Assembly (Green) x2
8582 FC 16.4 mm Insulator (Blue) - Field Side x1
8690 FC 10 mm Insulator (Black) - Gauge Side x1
6650 FC Studded Rubber rail pad* x1

* 8531 FC Studded EVA rail pad (Curve less than 400m or low line speed)



G44
EG47
EG53
G55

8921

**FC1504 Concrete sleeper assembly for 60E1 rail
1438 mm gauge**

Qty per Rail Seat

14395 FC1504 Clip Assembly (Green) x2
7551 FC 8 mm Insulator (White) x2
8854 FC Studded Rubber rail pad* x1

* 9970 FC Studded EVA rail pad (Curve less than 400m or low line speed)



Current Steel Sleeper

560H

10729

**FC1504 Steel sleeper assembly for 56E1 rail
1436 mm gauge**

Qty per Rail Seat

14395 FC1504 Clip Assembly (Green) x2
8582 FC 16.4 mm Insulator (Blue) - Field Side x1
8690 FC 10 mm Insulator (Black) - Gauge Side x1
8531 FC Studded EVA rail pad x1
9482 FC Fastclip Hook in Shoulder (12 mm thick Sleeper) x2



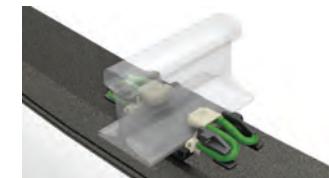
560H

10729

**FC1504 Steel sleeper assembly for 60E1 rail
1438 mm gauge**

Qty per Rail Seat

14395 FC1504 Clip Assembly (Green) x2
7551 FC 8 mm Insulator (White) x2
9970 FC Studded Rubber rail pad* x1
9482 FC Fastclip Hook in Shoulder (12 mm thick Sleeper) x2



→ Fastclip Assemblies (Ballast)

NR Sleeper Code	Assy No.	Description
Discontinued / Serviceable Older Concrete Sleeper		
F41 EF36	8921	FC1501 Concrete sleeper assembly for 56E1 rail 1438 mm gauge
Qty per Rail Seat		
17390	FC1501 Clip Assembly (Red) x2	
7551	FC 8 mm Insulator (White) x2	
6650	FC Studded Rubber rail pad* x1	
* 8531 FC Studded EVA rail pad (Curve less than 400m or low line speed).		
		
Discontinued / Serviceable Older Steel Sleeper		
HH10 (MK2)	9921	FC1504 10 mm Steel sleeper assembly for 56E1 rail 1436 mm gauge
Qty per Rail Seat		
14395	FC1504 Clip Assembly (Green) x2	
8582	FC 16.4 mm Insulator (Blue) - Field Side x1	
8690	FC 10 mm Insulator (Black) - Gauge Side x1	
8531	FC Studded EVA rail pad x1	
9922	FC Fastclip Hook-In Shoulder (10 mm thick Sleeper) x2	
		
HH10 (MK2)	9983	FC1504 10 mm Steel sleeper assembly for 60E1 rail 1438 mm gauge
Qty per Rail Seat		
14395	FC1504 Clip Assembly (Green) x2	
7551	FC 8 mm Insulator (White) x2	
9970	FC Studded EVA rail pad x1	
9922	FC Fastclip Hook-In Shoulder (10 mm thick Sleeper) x2	
		
HH12	10729	FC1504 12 mm Steel sleeper assembly for 56E1 rail 1436 mm gauge
Qty per Rail Seat		
14395	FC1504 Clip Assembly (Green) x2	
8582	FC 16.4 mm Insulator (Blue) - Field Side x1	
8690	FC 10 mm Insulator (Black) - Gauge Side x1	
8531	8531 FC Studded EVA rail pad x1	
9942	FC Fastclip Hook-In Shoulder (12 mm thick Sleeper) x2	
		

→ Fastclip Assemblies (Ballast)

NR Sleeper Code	Assy No.	Description
Discontinued / Serviceable Older Steel Sleeper		
HH12	10729	FC1504 12 mm Steel sleeper assembly for 60E1 rail 1438 mm gauge
Qty per Rail Seat		
14395	FC1504 Clip Assembly (Green) x2	
7551	FC 8 mm Insulator (White) x2	
9970	FC Studded EVA rail pad x2	
9482	FC Fastclip Hook-In Shoulder (12 mm thick Sleeper) x2	
		
500 Series	New	FC1501 Steel sleeper assembly for 56E1 rail 1435 mm gauge
Qty per Rail Seat		
17390	FC1501 Clip Assembly (Red) x2	
7551	FC 8 mm Insulator (White) x2	
8531	FC Studded EVA rail pad x1	
9482	FC Fastclip Hook-In Shoulder (12 mm thick Sleeper) x2	
		
HH10 (MK1)	10891	FC1504 10 mm Steel sleeper assembly for 56E1 rail 1435 mm gauge
Qty per Rail Seat		
14395	FC1504 Clip Assembly (Green) x2	
8277	FC 13 mm Insulator (Yellow) - Field Side x2	
8531	FC Studded EVA rail pad x1	
9922	FC Fastclip Hook-In Shoulder (10 mm thick Sleeper) x2	
		

→ Fastclips

PADS Number	Part No.	Description
057/ 048048	14395	FC1504 Clip Assembly (Standard Finish: Green) Nominal toe load per clip = 10kN Material: Spring Steel + Plastic (HVN)
		
057/ 048055	14395 CP	FC1504 Clip Assembly (CP Finish: Purple) Nominal toe load per clip = 10kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology
		
057/ 048033	17390	FC1501 Clip Assembly (Standard Finish: Red) Nominal toe load per clip = 10kN Material: Spring Steel + Plastic (HVN)
		
057/ 048056	17390 CP	FC1501 Clip Assembly (CP Finish: Grey Gloss) Nominal toe load per clip = 10kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology
		

→ Fastclips

PADS Number	Part No.	Description
057/ 048589	22433	FC1504 ZLR Clip Assembly (Standard Finish: Green, Blue Toe) Nominal toe load per clip = 0kN Material: Spring Steel + Plastic (HVN) Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology Used only with studded EVA rail pads
		
Not allocated	22433 CP	FC1504 ZLR CP Clip Assembly (CP Finish: Purple) Nominal toe load per clip = 0kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology Used only with studded EVA rail pads
		

→ Fastclip Rail Pads

PADS Number	Part No.	Description
Studded EVA Rail Pads		
057/ 048278	8531	<p>FC Studded Plastic Rail Pad for 56E1 Rail (Black)</p> <p>Working Thickness 10 mm Material: EVA Used on Fastclip steel sleepers 56E1 rail. Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology. Can be used with existing sleeper configurations to convert the assembly into a ZLR assembly.</p> 
057/ 048077	9970	<p>FC Studded Plastic Rail Pad for 56E1 Rail (Black)</p> <p>Working Thickness 10 mm Material: EVA Used on Fastclip steel sleepers with 60E1 rail. Supersedes / interchangeable with pad type 7850. Can be used with existing sleeper configurations to convert the assembly into a ZLR assembly.</p> 
Studded Rubber Rail Pads		
057/ 048271	6650	<p>FC Studded Rubber Rail Pad for 56E1 Rail (Black)</p> <p>Working Thickness 10 mm Material: Natural Rubber Used on Fastclip concrete sleepers with 56E1 rail.</p> 
057/ 048254	8854	<p>FC Studded Rubber Rail Pad for 56E1 Rail (Black)</p> <p>Working Thickness 10 mm Material: Natural Rubber Used on Fastclip concrete sleepers with 60E1 rail.</p> 

→ Fastclip Insulators

PADS Number	Part No.	Description
057/ 048021	7551	<p>FC Side post Insulator 8 mm (White)</p> <p>Material: Plastic HVN Used on G44, EG47, Series 560, 560H, 600, HH10 Mk2 and HH12 sleepers with 60E1 rail. Used on F41, 5F41, 5EF36 and Series 500 steel sleepers with 56E1 rail. Also used to replace obsolete insulator type 8914 previously used for hook-in shoulders with steel sleepers.</p> 
057/ 048066	8690	<p>FC Side post Insulator 10 mm (Black)</p> <p>Material: Plastic HVN For use on the gauge side of the 56E1 rail when fitted to G44, EG47, Series 560, 560H, 600, HH10 Mk2 and HH12 sleepers. Also used to replace obsolete insulator type 9374 previously used for hook-in shoulders with steel sleepers.</p> 
057/ 048064	8582	<p>FC Side post Insulator 16.4 mm (Blue)</p> <p>Material: Plastic (HVN) For use on the field side of the 56E1 rail when fitted to G44, EG47, Series 560, 560H, 600, HH10 Mk2 and HH12 sleepers. Also used to replace obsolete insulator type 9373 previously used for hook-in shoulders with steel sleepers.</p> 
Special Applications		
057/ 048067	8691	<p>FC Side post Insulator 6 mm (Green)</p> <p>Material: Plastic (HVN) Used in limited areas where oversized 60E1 rail was supplied and replaces the gauge side type 7551 side post insulator.</p> 

→ Fastclip Shoulders

PADS Number	Part No.	Description
Concrete Sleeper		
057/ 048546	8888	FC Cast in Shoulder for Concrete Sleepers Material: Cast Iron (SGI) Precast in supplied in sleeper types G44 and EG47. In-track damaged shoulders can be replaced with glue-in shoulder 8888R.
Steel Sleepers		
057/ 048072	9922	FC Hook in Shoulder for 10 mm thick Steel Sleepers Material: Cast Iron (SGI) Sleeper type HH10
057/ 048073	9482	FC Hook in Shoulder for 12 mm thick Steel Sleepers Material: Cast Iron (SGI) Sleeper type HH12, 560H Series
Replacement Shoulder for Concrete Sleepers		
Not allocated	8888R	FC Sleeper types G44 and EG47 Material: Cast Iron (SGI) Modification of standard shoulder 8888. Shoulder only available as part of a complete supply and replacement service through the approved specialist subcontractor. Pandrol drawing number 12372.



→ Insulated Joint bars (IBJ's)

NR Sleeper Code	Part No.	Description
EG47	N/A	6-hole IBJ on concrete sleeper



N/A	N/A	6-hole IBJ on steel sleepers showing standard Fastclip components
The clips fit snugly into the recesses of the IBJ, and clip extraction is carried out using a rear arch Fastclip extractor.		



Fastclip FCA

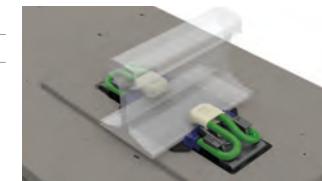
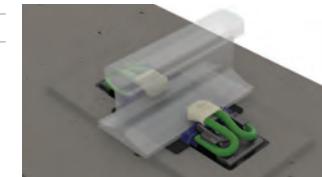
Fastclip FCA has been designed for use on slab tracks where vertical adjustment is required. The system is suitable for use with all forms of pre-cast elements (block, twin block or slab).

The system can be assembled at the slab production facility and delivered to site captive on the pre-cast element. The FCA System is a slab track variant of the standard Fastclip FC assembly used for ballast track. The clips, pads and insulators are fully interchangeable with the Fastclip assemblies for the concrete sleeper.



→ FCA Assemblies (Slab Track)

PADS Number	Assy No.	Description
Not Allocated	16632	FCA FC1504 Concrete Slab assembly for 56E1 rail 1436 mm gauge
Qty per Rail Seat		
14395		FC1504 Clip Assembly (Green) x2
8274		FC 11 mm Insulator (Blue) x2
8854		FC Studded Rubber rail pad x1
20096		FCA Shoulder x2
C225/054-K1		FCA Coach screw x2
C225/162		Anchor insert (precast into concrete block)
Clips, pads and insulators are fully interchangeable with Fastclip assemblies for the concrete sleeper, Types G44 and EG47.		
Product Acceptance: PA005/006259	17610	FCA FC1504 Concrete Slab assembly for 60E1 rail 1438 mm gauge
Qty per Rail Seat		
14395		FC1504 Clip Assembly (Green) x2
8274		FC 11 mm Insulator (Blue) x2
8854		FC Studded Rubber rail pad x1
20096		FCA Shoulder x2
C225/054-K1		FCA Coach screw x2
C225/162		Anchor insert (precast into concrete block)
Clips, pads and insulators are fully interchangeable with Fastclip assemblies for the concrete sleeper, Types G44 and EG47.		



→ FCA Clips

PADS Number	Part No.	Description
057/048048	14395	FC1504 Clip Assembly (Standard Finish: Green) Nominal toe load per clip = 10kN Material: Spring Steel + Plastic (HVN)
		
057/048055	14395 CP	FC1504 Clip Assembly (CP Finish: Purple) Nominal toe load per clip = 10kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.
		
057/048589	FC1504 ZLR	FC1504 ZLR Clip Assembly (Standard Finish: Green, Blue Toe) Nominal toe load per clip = 0kN Material: Spring Steel + Plastic (HVN) Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology. Used only with studded EVA rail pads.
		
Not allocated	FC1504 CP ZLR	FC1504 ZLR CP Clip Assembly (Standard Finish: Purple, Blue Toe) Nominal toe load per clip = 0kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.
		

→ FCA Shoulders

PADS Number	Part No.	Description
057/067009	20096	FCA Screw-down Shoulder Material: Cast Iron (SGI) 0-10 mm of vertical adjustment Catalogue No. 057/067009, available only in CP (Sherardised) finish. Used for concrete slab track as part of the FCA System. The item superseded Shoulder Type 16427 and is fully interchangeable with the earlier type. FCA shoulders are screwed into a plastic dowel and used to transfer lateral loads. They are replaceable in track and to achieve height adjustment by progressive insertion of shims, are inserted below both shoulders and the rail.
Shoulder for Vertical Adjustment		
Not Allocated	20097	FCA Screw-down Shoulder Material: Cast Iron (SGI) For 10-20 mm of vertical adjustment Use in conjunction with rail shim 19188 x1.
FCA Screw-down Shoulder Material: Cast Iron (SGI) For 20-30 mm of vertical adjustment Use in conjunction with rail shim 19188 x2.		
	20098	
	20099	
	20100	

→ FCA Rail Pads

PADS Number	Part No.	Description
057/ 048271	6650	FC Studded Rubber Rail Pad for 60E1 Rail (Black) Thickness: 10 mm Material: Natural Rubber For use on FCA Assembly 16632 (56E1 rail)
057/ 048254	8854	FC Studded Rubber Rail Pad for 60E1 Rail (Black) Thickness: 10 mm Material: Natural Rubber For use on FCA Assembly 117610 (60E1 rail)



→ Fastclip Insulators

PADS Number	Part No.	Description
057/ 048067	8691	FC Side Post Insulator 6 mm (Dark Green) Material: Plastic HVN For lateral rail adjustment
Not allocated	9816	FC Side Post Insulator 7 mm (Light Blue) Material: Plastic HVN For lateral rail adjustment
057/ 048021	7551	FC Side Post Insulator 8 mm (White) Material: Plastic HVN For lateral rail adjustment
Not allocated	8272	FC Side Post Insulator 9 mm (Orange) Material: Plastic (HVN) For lateral rail adjustment



→ Fastclip Insulators

PADS Number	Part No.	Description
Not allocated	8691	FC Side Post Insulator 10 mm (Pink) Material: Plastic HVN For lateral rail adjustment
		
Not allocated	9816	FC Side Post Insulator 11 mm (Blue) Material: Plastic HVN Used on both sides of the Pandrol FCA system for slab track installations.
		
057/ 067011	7551	FC Side Post Insulator 12 mm (Red) Material: Plastic HVN For lateral rail adjustment
		
057/ 048118	8272	FC Side Post Insulator 13 mm (Yellow) Material: Plastic (HVN) For lateral rail adjustment
		

→ Fastclip Insulators

PADS Number	Part No.	Description
Not Allocated	9556	FC Side Post Insulator 14 mm (Grey) Material: Plastic HVN For lateral rail adjustment
		
Not Allocated	8999	FC Side Post Insulator 15 mm (Light Green) Material: Plastic HVN For lateral rail adjustment
		
Not Allocated	9817	FC Side Post Insulator 16 mm (Light Blue) Material: Plastic HVN For lateral rail adjustment
		

→ FCA Anchors

PADS Number	Part No.	Description
Not allocated	C225-054-K1	FCA Coach Screw 24 mm Material: Steel Finish: Galvanised
Not allocated	C225/165	FCA Anchor Plastic Dowel Assembly



→ FCA Height Adjustment Shims

PADS Number	Part No.	Description
Not Allocated	21793	FCA Rail Seat Shim 10 mm Material: Stainless Steel For 60E1 rail 19188-150 For 56E1 rail 19188-140
Not Allocated	21793	FCA Height Adjustment Shims 1 & 2 mm Thick Material: Stainless Steel For 60E1 rail 21793-150-01 (1 mm) 21793-150-02 (2 mm) For 56E1 rail 21793-140-01 (1 mm) 21793-140-02 (2 mm)
Not Allocated	17418	FCA Height Adjustment Shims 3,4,5,6 & 10 mm Thick Material: Plastic (HDPE) For 60E1 rail 17418-150-03 (3 mm) 17418-150-04 (4 mm) 17418-150-05 (5 mm) 17418-150-06 (6 mm) 17418-150-10 (10 mm) For 56E1 rail 17418-140-03 (3 mm) 17418-140-04 (4 mm) 17418-140-05 (5 mm) 17418-140-06 (6 mm) 17418-140-10 (10 mm)
Not Allocated	23123	FCA Spacer Plate 27 mm Thick Material: Cast Iron (SGI) For 60E1 rail 23123-150-27 For 56E1 rail 22123-140-27 Both to be used in conjunction with a 3 mm conforming shim 23487
Not Allocated	23487	FCA Conforming Shim Height 3 mm Thick Material: Plastic (EVA) For 60E1 rail 2 3487-150-03 For 56E1 rail 23487-140-03 Both to be used in conjunction with a 27 mm Spacer Plate 23123



3

Fastclip FCB

A fastening assembly which provides a captive Pandrol Fastclip rail fastening system mainly for ballastless track applications. The baseplate offers a very large range of both vertical and lateral adjustment in a configuration where these adjustments can be made very quickly and easily and with a minimum of additional components required.

The Pandrol Fastclip Baseplate is designed for use on either pre-cast concrete elements, direct pour concrete construction or steel structures.



→ FCB Baseplate Assemblies (Slab Track)

PADS Number	Assy No.	Description
Not Allocated	24075	FCB 2 Hole DR 1:20 Baseplate assembly for 56E1 rail for non-inclined concrete slab Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm
Not Allocated	24076	FCB 2 Hole DR 1:20 Baseplate assembly for 60E1 rail for non-inclined concrete slab Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm
Not Allocated	24077	FCB 2 Hole DR Baseplate assembly for 56E1 rail for inclined concrete slab Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm
Not Allocated	24078	FCB 2 Hole DR Baseplate assembly for 60E1 rail for inclined concrete slab Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm



→ FCB Baseplate Assemblies (Slab Track)

PADS Number	Assy No.	Description
SR (Single Resilience)		
Not Allocated	24079	FCB 2 Hole SR 1:20 Baseplate assembly for 56E1 rail for non-inclined concrete slab Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm
Not Allocated	24080	FCB 2 Hole SR 1:20 Baseplate assembly for 60E1 rail for non-inclined concrete slab Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm
Not Allocated	24081	FCB 2 Hole SR Baseplate assembly for 56E1 rail for inclined slab track Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm
Not Allocated	24082	FCB 2 Hole SR Baseplate assembly for 60E1 rail for inclined slab track Baseplate size: 386 mm x 210 mm Hole Centres: 268 mm x 124 mm



→ FCB Clips

PADS Number	Part No.	Description
057/048048	14395	FC1504 Clip Assembly (Standard Finish: Green) Nominal toe load per clip = 10kN Material: Spring Steel + Plastic (HVN)
057/048055	14395 CP	FC1504 Clip Assembly (CP Finish: Purple) Nominal toe load per clip = 10kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.
057/048589	22433	FC1504 ZLR Clip Assembly (Standard Finish: Green, Blue Toe) Nominal toe load per clip = 0kN Material: Spring Steel + Plastic (HVN) Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology. Used only with studded EVA rail pads.
Not allocated	22433 CP	FC1504 ZLR CP Clip Assembly (Standard Finish: (Purple, Blue Toe)) Nominal toe load per clip = 0kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.



→ FCB Rail Pads

PADS Number	Assy No.	Description
SR (Single Resilience)		
Not Allocated	22606	FCB Studded Rubber Rail Pad for 60E1 and 56E1 Rail (Black) Working Thickness: 10 mm Material: Natural Rubber For 60E1 rail: 22606-150-10 For 56E1 rail: 222606-140-10
DR (Double Resilience)		
Not Allocated	22333	FCB Studded Plastic Rail Pad for 60E1 and 56E1 Rail (Black) Working Thickness: 10 mm Material: EVA For 60E1 rail: 22333-150-10 For 56E1 rail: 22333-140-10



→ FCB Insulators

PADS Number	Part No.	Description
Not Allocated	22508-08	8 mm FCB Side Post Insulator 8 mm (White) Material: HVN For FCB baseplate assemblies with 60E1 rail. Fitted field and gauge side of the baseplate.
Not Allocated	22508-11	11 mm FCB Side Post Insulator 11 mm (Dark Red) Material: HVN For FCB baseplate assemblies with 56E1 rail. Fitted gauge side of the baseplate.
Not Allocated	22508-15	15 mm FCB Side Post Insulator 12 mm (Orange) Material: HVN For FCB baseplate assemblies with 56E1 rail. Fitted field side of the baseplate.



→ FCB Anchors

PADS Number	Assy No.	Description
DR (Double Resilience)		
Not Allocated	24157	FCB Anchor Screw 25 mm Assembly for DR Double Resilience assemblies
For initial build Bottom-up method on concrete slab track Top-down method on concrete slab track Top-down method on concrete slab track with grout plinth		
Components per anchor assembly		
(2 per FCB baseplate required) C225/195-J08 GS25 Anchor Screw (164 mm) x1		
12412		Disc Washer x1
24156		Clamp Washer x1
24153		Clamp Bush x1
24152		Insulating Bush x1
21881		Dowel Washer x1*
C225/237 GS25 Dowel Assembly x1*		
*These items are cast into concrete. Dowel Washer not required if using a 10 mm thick Construction shim 22387.		
PADS Number	Part No.	Description
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (174 mm)
For Vertical rail adjustment 10 -20 mm Material: Steel Finish: Galvanized		
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (184 mm)
For Vertical rail adjustment 20 -30 mm		
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (194 mm)
For Vertical rail adjustment 30 -40 mm		
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (204 mm)
For Vertical rail adjustment 40 -50 mm		
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (214 mm)
For Vertical rail adjustment 50 -60 mm		
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (224 mm)
For Vertical rail adjustment 60 -70 mm		
Not Allocated	GS195-J10	FCB GS25 Anchor Screw (234 mm)
For Vertical rail adjustment 60 -75 mm		



→ FCB Anchors

PADS Number	Part No.	Description
Not Allocated	12412	Disc Washer
Material: Spring Steel Finish: Zinc Pass		
Not Allocated	24156	FCB Clamp Washer
Material: SGI Finish: TBC		
Not Allocated	24153	FCB DR Clamp Bush
Material: SGI Finish: TBC		
Not Allocated	24152	FCB DR Insulating Bush
Material: HVN Finish: Colour Natural		
Not Allocated	C225/238	FCB DR Dowel Assembly
Material: Nylon, Steel & Foam Finish: Coloured Black and Natural		
Not Allocated	22619	FCB DR Dowel Washer
Dowel Washer not required if using a 10 mm thick Construction shim 22387. Material: SGI Finish: Natural		



→ **FCB Anchors**

PADS Number	Assy No.	Description
SR (Single Resilience)		

Not Allocated	24158	FCB Anchor Screw 25 mm Assembly for SR Single Resilience assemblies
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For initial build
Bottom-up method on concrete slab track
Top-down method on concrete slab track
Top-down method on concrete slab track with grout plinth

Components per anchor assembly

C225 195	(2 per FCB baseplate required)
12412	J06 GS25 Anchor Screw (154 mm) x1
24156	Washer x1
24154	Clamp Washer x1
C225 263	Clamp Bush x1
	GS25 Dowel Assembly x1

PADS Number	Part No.	Description
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Not Allocated	C225/195-J08	FCB GS25 Anchor Screw (164 mm)
		For Vertical rail adjustment 10–20 mm Material: Steel Finish: Galvanized

Not Allocated	C225/195-J08	FCB GS25 Anchor Screw (174 mm)
		For Vertical rail adjustment 20–30 mm

Not Allocated	C225/195-J08	FCB GS25 Anchor Screw (184 mm)
		For Vertical rail adjustment 30–40 mm

Not Allocated	C225/195-J08	FCB GS25 Anchor Screw (194 mm)
		For Vertical rail adjustment 40–50 mm

Not Allocated	C225/195-J08	FCB GS25 Anchor Screw (204 mm)
		For Vertical rail adjustment 50–60 mm

Not Allocated	C225/195-J08	FCB GS25 Anchor Screw (214 mm)
		For Vertical rail adjustment 60–70 mm

→ **FCB Anchors**

PADS Number	Part No.	Description
Not Allocated	12412	Disc Washer



Not Allocated	24156	FCB DR/SR Clamp Washer
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Not Allocated	24154	FCB SR Clamp Bush
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Not Allocated	C225/263	FCB SR Dowel Assembly
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→ FCB Construction Shims

PADS Number	Part No.	Description
Not Allocated	22628	<p>3 mm Thick Conforming Pad (Black) SR only</p> <p>For pre casted concrete elements (Bottom-Up Build Method)</p> <p>Material: EVA</p>
Not Allocated	22387	<p>10 mm Thick Construction Shim Assembly (Grey)</p> <p>For Concrete Pour (Top-Down Build Method)</p> <p>Material: HDPE + SGI</p> <p>Use can conjunction with FCB dowel assembly</p>



→ FCB Height Adjustment Shims

PADS Number	Part No.	Description
Not Allocated	Contact Pandrol	<p>FCB Height Adjustment Shim 1 mm</p> <p>Material: Steel</p>
Not Allocated	Contact Pandrol	<p>FCB Height Adjustment Shim 2 mm</p> <p>Material: Steel</p>
Not Allocated	Contact Pandrol	<p>FCB Height Adjustment Shim 3 mm</p> <p>Material: Plastic / Steel</p>
Not Allocated	Contact Pandrol	<p>FCB Height Adjustment Shim 4 mm</p> <p>Material: Plastic / Steel</p>
Not Allocated	Contact Pandrol	<p>FCB Height Adjustment Shim 5 mm</p> <p>Material: Steel</p>
Not Allocated	22518-10	<p>FCB Height Adjustment Shim 10 mm</p> <p>Material: SGI</p>
Not Allocated	22518-20	<p>FCB Height Adjustment Shim 20 mm</p> <p>Material: SGI</p>
Not Allocated	22518-30	<p>FCB Height Adjustment Shim 30 mm</p> <p>Material: HDPE</p> <p>Use in conjunction with SGI height shims 22518-10,20 & 30. One shim needed between SGI height shim and concrete surface.</p>
Not Allocated	23407-05	<p>FCB Height Adjustment Shim 5 mm</p> <p>Material: HDPE</p> <p>Use in conjunction with SGI height shims 22518-10,20 & 30. One shim needed between SGI height shim and concrete surface.</p>



Fastclip SFC

The Fastclip SFC baseplate system has been designed to easily transfer the advantages of the Pandrol Fastclip system to slab track applications. The captive fastening system makes it an ideal product for non-ballasted trackforms offering high levels of vertical and lateral adjustment.

The Pandrol Fastclip SFC baseplates are designed for use on wet pour top-down slabs, pre-cast blocks, sleepers, and plinths.



→ SFC Baseplate Assemblies (Slab / Steel Structures)

PADS Number	Assy No.	Description
057/ 001958	14903	<p>SFC 4 Hole baseplate assembly for 56E1 1:20 rail for slab track and steel structures</p> <p>Baseplate size: 397 mm x 289 mm Hole centres: 304 mm x 225 mm Uses an interchangeable 4-hole pattern - see Terminology.</p>
057/ 001958	15174	<p>SFC 4 Hole baseplate assembly for 60E1 1:20 rail for slab track and steel structures</p> <p>Baseplate size: 397 mm x 289 mm Hole Centres: 304 mm x 225 mm Uses an interchangeable 4-hole pattern - see Terminology.</p>



→ **SFC Clips**

PADS Number	Part No.	Description
Not allocated	15637	FC1503 Clip Assembly (Standard Finish: Black) Nominal toe load per clip = 10kN. Material: Spring Steel + Plastic (HVN) Use for SFC baseplates assemblies only.
		
057/ 002029	15637 CP	FC1503 Clip Assembly (CP Finish: Blue) Nominal toe load per clip = 10kN. Material: Spring Steel (Sherardised) + Plastic (HVN) Use for SFC baseplates assemblies only. Corrosion Protection (CP) finish – see Terminology.
		
Not allocated	15639	FC1503 ZLR Clip Assembly (Standard Finish: Black, Blue Toe) Nominal toe load per clip = 0kN. Material: Spring Steel + Plastic (HVN) Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology. Can be used with existing sleeper configurations to convert the assembly into a ZLR assembly. Used only with studded EVA rail pads.
		
Not allocated	15639 CP	FC1503 ZLR Clip Assembly (CP Finish: Blue, Blue Toe) Nominal toe load per clip = 0kN. Material: Spring Steel (Sherardised) + Plastic (HVN) Zero Longitudinal Restraint (ZLR) assemblies allow longitudinal movement of the rail. Corrosion Protection (CP) finish – see Terminology.
		

→ **SFC Insulators**

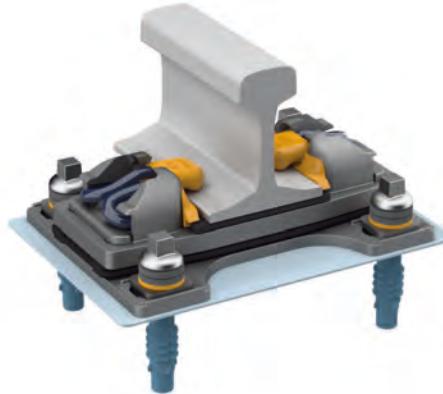
PADS Number	Part No.	Description
057/ 048181	9284	SFC/VIPA SP Side Post Insulator 8 mm (White) Material: HVN For 4-hole baseplate assemblies with 60E1 rail. Fitted field and gauge side of the baseplate.
		
057/ 001975	10222	SFC/VIPA SP Side Post Insulator 9 mm (Yellow) Material: HVN For 4-hole baseplate assemblies with 56E1 rail. Fitted gauge side of the baseplate.
		
057/ 001976	9991	SFC/VIPA SP Side Post Insulator 17.4 mm (Blue) Material: HVN For 4-hole baseplate assemblies with 56E1 rail. Fitted field side of the baseplate.
		

→ SFC Rail Pads

PADS Number	Part No.	Description
057/ 001989	10405	<p>SFC/VIPA SP Studded Rubber Rail Pad for 60E1 and 56E1 Rail (Black)</p> <p>Thickness: 10 mm Material: Natural Rubber</p> <p>For SFC and VIPA SP 4-hole baseplate assemblies for either 60E1 or 56E1 rail.</p>
Not Allocated	12067	<p>SFC/VIPA SP Studded Plastic Rail Pad for 60E1 and 56E1 Rail (Blue) for ZLR</p> <p>Applications Thickness: 10 mm Material: EVA</p> <p>For SFC and VIPA SP 4-hole baseplate assemblies for either 60E1 or 56E1 rail.</p>



5



Fastclip VIPA SP

VIPA SP is a resilient track support system that has been developed to attenuate the wheel / rail contact induced vibrations that are transferred from the rail to the supporting structure. The concept is based on providing support through two layers of resilient pads.

VIPA SP assemblies are available for fixation to timber, steel, and concrete supporting structures.

→ VIPA SP Baseplate Assemblies (Slab / Steel Structures)

PADS Number	Part No.	Description
057/001960	11308	VIPA SP Standard 4 Hole VIPA SP baseplate assembly for 56E1 rail 1:20 for slab track and steel structures Baseplate size: 400 mm x 289 mm Hole Centres: 304 mm x 225 mm Uses an interchangeable 4-hole pattern - see Terminology.
057/001961	10435	VIPA SP Standard 4 Hole VIPA SP baseplate assembly for 60E1 1:20 rail for slab track and steel structures Baseplate size: 400 mm x 289 mm Hole Centres: 304 mm x 225 mm Uses an interchangeable 4-hole pattern - see Terminology.
Special Applications		
Not Allocated	20759	VIPA SP Stiffened 4 Hole VIPA SP baseplate assembly for 56E1 rail 1:20 for slab track and steel structures Baseplate size: 400 mm x 289 mm Hole Centres: 304 mm x 225 mm Uses an interchangeable 4-hole pattern - see Terminology.
Not Allocated	20760	VIPA SP Stiffened 4 Hole VIPA SP baseplate assembly for 60E1 1:20 rail for slab track and steel structures (transition zones) Baseplate size: 400 mm x 289 mm Hole Centres: 304 mm x 225 mm Uses an interchangeable 4-hole pattern - see Terminology.



→ VIPA SP Baseplate Assemblies (Ballast)

PADS Number	Assy No.	Description
Current Concrete Sleeper		
057/001956	13788	<p>VIPA SP Standard "Narrow" 4-hole baseplate assembly for 56E1 rail 1:20 for timber or concrete bearers</p> <p>Baseplate size: 500 mm x 200 mm Hole Centres: 445 mm x 145 mm Uses standard circular holes for timber sleepers, and the hole pattern is not interchangeable with standard baseplate configurations.</p> 
057/001957	10601	<p>VIPA SP Standard "Narrow" 4-hole baseplate assembly for 60E1 rail 1:20 for timber or concrete bearers</p> <p>Baseplate size: 500 mm x 200 mm Hole Centres: 445 mm x 145 mm Uses standard circular holes for timber sleepers, and the hole pattern is not interchangeable with standard baseplate configurations.</p> 
Special Applications		
Not Allocated	20761	<p>VIPA SP Stiffened "Narrow" 4-hole baseplate assembly for 56E1 rail 1:20 for timber or concrete bearers for Transition Zones on Ballast</p> <p>Baseplate size: 500 mm x 200 mm Hole Centres: 445 mm x 145 mm Uses standard circular holes for timber sleepers, and the hole pattern is not interchangeable with standard baseplate configurations.</p> 
Not Allocated	20762	<p>VIPA SP Stiffened "Narrow" 4-hole baseplate assembly for 60E1 rail 1:20 for timber or concrete bearers for Transition Zones on Ballast</p> <p>Baseplate size: 500 mm x 200 mm Hole Centres: 445 mm x 145 mm Uses standard circular holes for timber sleepers, and the hole pattern is not interchangeable with standard baseplate configurations.</p> 

→ VIPA SP Clips

PADS Number	Part No.	Description
057/048048	14395	<p>FC1504 Clip Assembly (Standard Finish: Green)</p> <p>Nominal toe load per clip = 10kN. Material: Spring Steel + Plastic (HVN)</p> 
057/048055	14395 CP	<p>FC1504 Clip Assembly (CP Finish: Purple)</p> <p>Nominal toe load per clip = 10kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.</p> 
Not allocated	22433	<p>FC1504 ZLR Clip Assembly (Standard Finish: Green, Blue Toe)</p> <p>Nominal toe load per clip = 0kN Material: Spring Steel + Plastic (HVN) Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology. Used only with studded EVA rail pads.</p> 
Not allocated	22433 CP	<p>FC1504 ZLR CP Clip Assembly (CP Finish: Purple, Blue Toe)</p> <p>Nominal toe load per clip = 0kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.</p> 

→ VIPA SP Insulators

PADS Number	Part No.	Description
057/048181	9284	SFC/VIPA SP Side Post Insulator 8 mm (White) Material: HVN For 4-hole baseplate assemblies with 60E1 rail. Fitted field and gauge side of the baseplate.
057/001975	10222	SFC/VIPA SP Side Post Insulator 9 mm (Yellow) Material: HVN For 4-hole baseplate assemblies with 56E1 rail. Fitted gauge side of the baseplate.
057/001976	9991	SFC/VIPA SP Side Post Insulator 17.4 mm (Blue) Material: HVN For 4-hole baseplate assemblies with 56E1 rail. Fitted field side of the baseplate.



→ VIPA SP Rail Pads

PADS Number	Part No.	Description
057/001989	10405	SFC/VIPA SP Studded Rubber Rail Pad for 60E1 and 56E1 Rail (Black) Thickness: 10 mm Material: Natural Rubber For SFC and VIPA SP 4-hole baseplate assemblies for either 60E1 or 56E1 rail.
Not Allocated	12067	SFC/VIPA SP Studded Plastic Rail Pad for 60E1 and 56E1 Rail (Blue) for ZLR Applications Thickness: 10 mm Material: EVA For SFC and VIPA SP 4-hole baseplate assemblies for either 60E1 or 56E1 rail.



6 Fastclip Handtools

→ Hand Tools for FC, FCA, FCB SFC & Vipa SP

PADS Number	Tool No.	Description
039/047850	AE18458	Fastclip Over The Rail (OTR) Clip Installer (Yellow) <p>These tools react from the rail, meaning they are faster and safer because they are not prone to slipping from the shoulder. Compatible with a wide range of systems including FC, FCA, FBC, VIPA-SP & SFC.</p> <p>Supplied with a straight head and steel handle.</p>
111/107012	AE21272	Insulated Fastclip Over The Rail (OTR) Clip Installer (Yellow/Orange) <p>As per AE18458 but with a fully insulated handle.</p>
111/107012	AE19906	Insulated Fastclip Over The Rail (OTR) Clip Installer for Limited Access Area (Yellow/Orange) <p>Used where access is limited such as adjacent to 3rd Rail. Supplied with a cranked head and fibreglass handle.</p>
039/047851	AE16180	Fastclip Clip Extractor (White) <p>These tools react from the rail, meaning they are faster and safer because they are not prone to slipping from the shoulder. Compatible with a wide range of systems including FC, FCA, FBC, VIPA-SP & SFC.</p> <p>Supplied with a straight head and steel handle.</p>
Not allocated	AE18559	Insulated Fastclip Clip Extractor (White/Orange) <p>As per AE16180 but with a fibreglass handle.</p>



→ Hand Tools for FC, FCA, FCB SFC & Vipa SP

PADS Number	Tool No.	Description
039/016974	AE18141	Fastclip Clip Rear Arch Extractor (White) <p>This tool is needed at IBJ's to extract clips which are shielded by the scalloped section of the joint. It is also unique to Fastclip FC.</p>
Not Allocated	AE18144	Insulated Fastclip Clip Rear Arch Extractor (White/Orange) <p>As per AE18141 but with a fully insulated handle.</p>
039/047852	AE17152	Fastclip Sleeper Lifter (Blue) <p>Suitable for use on Fastclip FC sleepers only. The original version of the sleeper lifter can still be used in conjunction with the new installer where sleepers need to be lifted more than 20 mm.</p>
Not Allocated	AE18215	Insulated Fastclip Sleeper Lifter (Blue/Orange) <p>As per AE17152 but with a fully insulated handle.</p>



→ FC Stressing Rollers

PADS Number	Tool No.	Description
094/018014	114-0001	FC Stressing Roller (Blue)

For FC Sleeper and FCA Assemblies
This is a multi-function stressing roller for FC clip types. It combines both the side and under roller requirements for stressing rail. It also incorporates a lift function removing the need for track jacks.

Cannot be used on FCB baseplate assemblies.



Not Allocated	AE 18132	Vipa SP and Fastclip SFC Baseplate Side Roller (Yellow/Orange)
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Hooks over the shoulder on the inside of the track curve and tightens using the screw to adjust the ball-bearing to touch the web of the rail. Use at least one roller every 10 rail seats, depending upon the severity of the curve.



Not Allocated	AE 17499	Vipa SP and Fastclip SFC Baseplate Under Roller (White)
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This is a simple wire roller, which fits on top of the rail pad once the rail has been lifted out of the rail seat. It is a low friction roller designed to provide an even distribution of the tension from the hydraulic stressing jacks. It should be fitted at least at 1 in 10 baseplates during the stressing pull. The handle should be on the opposite side from direction of the pull.



7

Vanguard

Vanguard provides a rail fastening system with very low vertical dynamic stiffness that leads to high levels of vibration isolation without significant dynamic gauge widening under traffic. The significant reduction of vibration and secondary noise makes it ideal for applications in the most sensitive areas to these environmental concerns.

Pandrol Vanguard assemblies are suitable for application on concrete or timber sleepers, slab track, bridges, tunnels, and viaducts.



→ Vanguard Assemblies (Slab / Steel Structures)

NR Sleeper Code	Assy No.	Description
Not Allocated	10853	Vanguard 4-hole Baseplate Assembly for 56E1 rail
Qty per Rail Seat		
10396	Vanguard Baseplate 1:20 x1	
97413	Vanguard Side Bracket for 56E1 rail x2	
9705	Vanguard Hook in Shoulder x2	
9242	Vanguard Locking Wedge x2	
9456	Vanguard Side Rubber for 56E1 rail x2	
9766	Vanguard Bump Stop Pad x1	
7920	Vanguard Retention Clip x2	
Baseplate size: 405 mm x 288 mm		
Hole Centres: 304 mm x 225 mm		
Not Allocated	10395	Vanguard 4-hole Baseplate Assembly for 60E1 rail
Qty per Rail Seat		
10396	Vanguard Baseplate 1:20 x1	
9765	Vanguard Side Bracket for 60E1 rail x2	
9705	Vanguard Hook in Shoulder x2	
9242	Vanguard Locking Wedge x2	
9769	Vanguard Side Rubber for 60E1 rail x2	
9766	Vanguard Bump Stop Pad x1	
27920	Vanguard Retention Clip x2	
Baseplate size: 405 mm x 288 mm		
Hole Centres: 304 mm x 22 mm		



→ Vanguard Parts

PADS Number	Part No.	Description
057/ 060022	10396	Vanguard Standard 4-hole baseplate 1:20 Material: Cast Iron (SGI) Finish: Natural, or Painted Black Standard black paint finish can be omitted where fire regulations apply.
057/ 060023	9705	Vanguard Hook-In Shoulder Material: Cast Iron (SGI) Finish: Natural, or Painted Black Standard black paint finish can be omitted where fire regulations apply.
057/ 060025	9765	Vanguard Side Plate for 60E1 rail Material: Cast Iron (SGI) Finish: Natural, or Painted Black Standard black paint finish can be omitted where fire regulations apply.
057/ 048350	9413	Vanguard Side Plate for 56E1 rail Material: Cast Iron (SGI) Finish: Natural, or Painted Black Standard black paint finish can be omitted where fire regulations apply.



→ Vanguard Parts

PADS Number	Part No.	Description
057/ 060026	9242	Vanguard Locking Wedge Material: Cast Iron (SGI) Finish: Natural, or Painted Black Standard black paint finish can be omitted where fire regulations apply.
057/ 060027	9769	Vanguard Side Rubber Assembly for 60E1 rail (Black) Material: Natural Rubber / Steel The rubber is permanently bonded to a steel backing plate which fits only in the correct orientation into the side arm.
057/ 048334	9456	Vanguard Side Rubber Assembly for 56E1 Rail (Black) Material: Natural Rubber / Steel The rubber is permanently bonded to a steel backing plate which fits only in the correct orientation into the side arm.
057/ 048335	7920	Vanguard Retention Clip (Yellow) Material: Spring Steel
057/ 060024	9766	Vanguard Bump Stop Pad (Black) Material: Natural Rubber The pad provides a cushion if the rail moves through the air gap between the foot of the rail and the baseplate. This will rarely happen in practice.



→ Vanguard Parts

PADS Number	Tool No.	Description
Not Allocated	AE 21130	Vanguard Lightweight (CE) Clamping Frame Assembly Vanguard Installer / Extractor Clamping Tool Either the Electric Pump AE or Hand Pump AE can be used with the Lightweight (CE) Clamping Tool Assembly. Supplied with separate and detailed operating instructions.
Not Allocated	AE 23902	Vanguard Clamp Tool Electric (CE) Battery Pump Assembly Use in conjunction with Vanguard Clamp tool AE21130 only. Delivers an increased productivity rate and an automatic pressure setting, which is an improvement over the hand-operated pump. Supplied with separate and detailed operating instructions.
Not Allocated	AE 23758	Vanguard Clamp Tool Hydraulic (CE) Hand Pump Assembly Use in conjunction with Vanguard clamp frame AE21130 or as a pump replacement for AE17207 Supplied with separate and detailed operating instructions.
Old Style Tool		
057/ 048879	AE 17207	Vanguard Clamping Frame c/w Hand pump Vanguard Installer / Extractor Clamping Tool Supplied with separate and detailed operating instructions.



8 Common Components

→ SFC, VIPA SP and Vanguard Baseplate Anchors

PADS Number	Assy No.	Description
Not Allocated	24187	M24 Glue in Anchor Stud Assembly Bottom-up method on pre-cast concrete slab track and top-down method on concrete slab track with grout plinth.
Qty per Anchor Assembly		
11249	M24 Glue in Anchor Stud x1*	
11368	M24 Hex Head Nut x1	
11244	M24 Flat Washers x2	
11242	M24 Disc Springs x2	
11032-24	Top-Hat Bush: (Black) x 1	
9978	Serrated Washer x1	
Construction Shim1361 (poured epoxy grout) Conforming pad10401 (on pre-cast concrete)		
* Glue-in anchor studs are available in different lengths depending on application.		
For installation of anchors refer to the assembly drawing or OMM.		
Not Allocated	24188	M24 Cast in Anchor Stud Assembly Bottom-up method on pre-cast concrete slab track and top-down method on direct pour concrete slabs.
Qty per Anchor Assembly		
20390	M24 Glue in Anchor Stud x1*	
11368	M24 Hex Head Nut x1	
11244	M24 Flat Washers x2	
11242	M24 Disc Springs x2	
11032-24	Top-Hat Bush: (Black) x 1	
9978	Serrated Washer x1	
Construction Shim1361 (poured epoxy grout) Conforming pad10401 (on pre-cast concrete)		
* Glue-in anchor studs are available in different lengths depending on application.		
For installation of anchors refer to the assembly drawing or OMM.		



→ SFC, VIPA SP and Vanguard Baseplate Anchors

PADS Number	Assy No.	Description
Not Allocated	24189	M24 Anchor Bolt Bottom-up method on steel deck Component List for Hold-Down Assembly
Qty per Anchor Assembly		
13110 M24 Hex Head Bolt x1* 11368 M24 Hex Head Nut x1 11244 M24 Flat Washers x2 11242 M24 Disc Springs x2 11032-24 Top-Hat Bush (Black) x1 9978 Serrated Washer x1		
* Anchor bolts are available in different lengths depending on application. For installation of anchors refer to the assembly drawing or OMM.		



Not Allocated	10892	23 mm Screw c/w Plastic Dowel Anchor Assembly Bottom-up method on precast concrete slab track and top-down method on concrete slab track.
Qty per Anchor Assembly		
10886-23 23 mm Screw x1 11244 M24 Flat Washers x2 11242 M24 Disc Springs x2 11032-23 Top-Hat Bush (Yellow) x1 9978 Serrated Washer x1 10887 Plastic Dowel x1		
Slab track concrete poured to beneath the baseplate or set with concrete sleepers. Construction Shim11361;(wet poured concrete) Conforming pad10401;(on precast concrete) For installation of anchors refer to the assembly drawing or OMM.		



→ SFC, VIPA SP and Vanguard Baseplate Anchors

PADS Number	Assy No.	Description
Not Allocated	24190	M24 Bolt c/w Metal Insert Anchor Assembly Bottom-up method on precast concrete slab track and top-down method on concrete slab track.
Qty per Anchor Assembly		
13110 M24 Hex Head Bolt x1 11244 M24 Flat Washers x2 11242 M24 Disc Springs x2 11032-24 Top-Hat Bush (Black) x1 9978 Serrated Washer 1 9744 M24 Metal Insert x1		
Construction Shim11361 (wet poured concrete) Conforming pad10401 (on pre-cast concrete) For installation of anchors refer to the assembly drawing or OMM.		



Not Allocated	24191	24 mm Anchor Screw Bottom-up method on timber Sleeper Component List for Hold-Down Assembly
Qty per Anchor Assembly		
6163 Ss5 Screw spike (24 mm) 4330 Double helical Spring Washer (24 mm)		
For installation of anchors refer to the assembly drawing or OMM.		



→ Anchor Parts

PADS Number	Part No.	Description
057/ 001962	11249	M24 Anchor Stud Glue In Material: Steel Finish: Galvanised Lengths from 225 mm to 320 mm
		
Not Allocated	20390	M24 Anchor Stud Cast In Material: Steel Finish: Galvanised Length 235 mm
		
057/ 001970	13110	M24 Hex Head Bolts Material: Steel Finish: Galvanised Lengths from 140 mm to 210 mm
		
057/ 001972	10086	23 mm Anchor Screw Material: Steel Finish: Galvanised This anchor screw can be used for vertical adjustment of +15 mm. For adjustment between +16 and +30 mm, please order anchor screw 12671.
		

→ Anchor Parts

PADS Number	Part No.	Description
Not Allocated	6163 6161	Screw Spike Material: Steel Finish: Galvanised Ss8 6161 Ss5 6163
		
057/ 048034	105- 0051	Hole repair Coil Standard Pandrol Coil for refurbishment of timber sleeper hole to improve pull out strength, torque of the Screw spike and dynamic gauge performance of baseplate on timber.
		
057/ 048298	105- 0052	Hole repair Coil Large Pandrol Coil for refurbishment of timer sleeper hole to improve pull out strength, torque of the Screw spike and dynamic gauge performance of baseplate on timber.
		
057/ 001971	9744	M24 Metal Insert for concrete slab Material: Cast Iron Finish: Natural or blue epoxy (as shown) finish is optional. Used in conjunction with M24 Hex Head Bolts 13110
		

→ Anchor Parts

PADS Number	Part No.	Description
057/ 001973	10887	Nylon Dowel for concrete slab Material: Steel Finish: Coloured Black Used in conjunction with 23 mm Anchor Screw 10886
		
057/ 001963	11368	M24 Nut Material: Steel Finish: Galvanised
		
057/ 001964	11244	M24 Plain Washer Material: Steel Finish: Galvanised
		
057/ 001965	11242	M24 Disc Spring Material: Spring Steel Finish: Zinc Passivated
		

→ Anchor Parts

PADS Number	Part No.	Description
Not Allocated	4330	Double Helical Spring Washer 24 mm Material: Spring Steel Finish: Galvanised
		
057/ 001947	11032-23	Plastic Top Hat Bush 23 mm Material: Nylon Finish: Coloured Yellow For use with 23 mm Anchor Screw 10886 only
		
057/ 001966	11032-24	Plastic Top Hat Bush 24 mm Material: Nylon Finish: Coloured Black
		
057/ 001998	9978	Serrated Washer Material: Cast Iron Finish: Painted Black Paint can be omitted in locations where fire regulations apply.
		

→ SFC, VIPA SP and Vanguard Baseplate Shims

PADS Number	Part No.	Description
057/001968	10401	3 mm Thick Conforming Pad Material: LLDPE Finish: Coloured White For pre casted concrete and steel decks
Not Allocated	20830	3 mm Thick Conforming Pad Material: EVA Finish: Black
057/010974	11361	10 mm Thick Construction Shim Material: HDPE Finish: Coloured Grey For poured concrete and grout
057/010950	14954-1	1 mm Thick Height Adjustment Shim (Half) with Slotted Holes Qty 2 required. Material: Stainless Steel Finish: Natural
057/001951	14954-2	2 mm Thick Height Adjustment Shim (Half) with Slotted Holes Qty 2 required. Material: Stainless Steel Finish: Natural



→ SFC, VIPA SP and Vanguard Baseplate Shims

PADS Number	Part No.	Description
057/001952	14953-3	3 mm Thick Height Adjustment Shim (Half) with Slotted Holes Qty 2 required. Material: HDPE Finish: Coloured Black
057/001953	14953-5	5 mm Thick Height Adjustment Shim (Half) with Slotted Holes Qty 2 required. Material: HDPE Finish: Coloured Black
057/001954	14953-10	10 mm Thick Height Adjustment Shim (Half) with Slotted Holes Qty 2 required. Material: HDPE Finish: Coloured Black
Not Allocated	15850-1	1 mm Thick Height Adjustment Shim (Full) Material: Stainless Steel Finish: Natural
Not Allocated	15850-2	2 mm Thick Height Adjustment Shim (Full) Material: Stainless Steel Finish: Natural
057/001969	14954-3	3 mm Thick Height Adjustment Shim (Full) Material: HDPE Finish: Coloured Black
057/001948	14954-4	5 mm Thick Height Adjustment Shim (Full) Material: HDPE Finish: Coloured Black
057/001949	14954-5	10 mm Thick Height Adjustment Shim (Full) Material: HDPE Finish: Coloured Black

For Special Applications, shims with a thickness of 15 mm, 20 mm and 25 mm are available on request.



Re System



The Re system delivers an assembly with faster installation times and a reduced number of components when compared to a traditional e-clip equivalent. This can lead to more productive engineering possessions for track refurbishment.

With the Pandrol Re system the rail pad is supplied with the side post insulators already attached, reducing time and labour when laying out and installing the components on site.

→ Re Sleeper Assemblies (Ballast)

NR Sleeper Code	Assy No.	Description
Concrete Sleepers		
F23	14615	Re1609 Concrete Sleeper Assembly for 56E1 rail
F27		Qty per Rail Seat
EF28		14616 Re1609 Clip Assembly x2
EF29		14229 Rail Pad Assembly x1
EF33		For re-railing operations.
F23	16568	Re1801-7 Concrete Sleeper Assembly for 56E1 rail
F27		Qty per Rail Seat
EF28		15417-7 Re1801-7 Clip Assembly x2
EF29		14229 Rail Pad Assembly x1
EF33		For re-railing, or re-padding, or relaying with serviceable sleepers to achieve TSI compliance.
F40	15955	Re1801-10 Concrete Sleeper Assembly for 60E1 rail
5F40		Qty per Rail Seat
		15417-10 Re1801-10 Clip Assembly x2
		15946 Rail Pad Assembly x1
		For re-railing, or re-padding, or relaying with serviceable sleepers to achieve TSI compliance.



→ Re clips

PADS Number	Assy. No.	Description
057/ 048469	14616	Re1609 Clip Assembly (Standard Finish: Red) Nominal toe load per clip = 9kN Material: Spring Steel + Plastic (HVN) Used on F23 to F27, EF28, 5EF28, W402 sleepers for re-railing operations. Used in conjunction with pad type 14229.
057/ 048467	14616 CP	Re1609 Clip Assembly (CP Finish: Grey) Nominal toe load per clip = 9kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology. Used on F23 to F27, EF28, 5EF28, W402 sleepers for re-railing operations. Used in conjunction with pad type 14229.
057/ 048510	15417-7	Re1801-7 Clip Assembly (Standard Finish: Blue) Nominal toe load per clip = 9kN Material: Spring Steel + Plastic (HVN) Used on F23 to F27, EF28, 5EF28, W402 sleepers for re-railing operations. Used in conjunction with pad type 15946.
057/ 048511	15417 -7CP	Re1801-7 Clip Assembly (CP Finish: Black) Nominal toe load per clip = 9kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology. Used on F23 to F27, EF28, 5EF28, W402 sleepers for re-railing operations. This clip type must be used in conjunction with pad type 14229.



→ Re clips

PADS Number	Assy. No.	Description
057/ 048519	15417 -10	Re1801-10 Clip Assembly (Standard Finish: Green) Nominal toe load per clip = 9kN Material: Spring Steel + Plastic (HVN) Used on F40 and SF40 sleepers for re-railing operations. Used in conjunction with composite pad type 15946, which has integral side insulators.
057/ 048538	15417 -10CP	Re1801-10 Clip Assembly (CP Finish: Purple) Nominal toe load per clip = 9kN Material: Spring Steel (Sherardised) + Plastic (HVN) Used on F40 and SF40 sleepers for re-railing operations. Used in conjunction with composite pad type 15946, which has integral side insulators.



→ Re rail pads

PADS Number	Part No.	Description
057/048470	14229	Re Studded Plastic Rail Pad Assembly for 56E1 Rail Working Thickness: 8 mm Material: EVA Bonded to HVN side insulators of 5.5 mm thick. Used with Re1609 clip for re-railing and to replace the older thin pads and orange insulators on older sleeper types F23 to F27, EF28, 5EF28, W402, HH10 (Mk1).
057/048545	15946	Re Studded Rubber Re Rail Pad Assembly for 56E1 Rail Working Thickness: 10 mm Material: Natural Rubber bonded to blue HVN side insulators of 8 mm thick. Used with Re1801-10 clips for re-railing, or re-padding, or serviceable sleeper renewals on sleeper types F40 and 5F40.
Not Allocated	24007	Re Studded Rubber Re Rail Pad Assembly for 56E1 Rail For Gauge Management Working Thickness: 10 mm Material: Natural Rubber bonded to green and natural side insulators of 6 mm and 10 mm thick.
Not Allocated	21536	Re Studded Plastic Re Rail Pad Assembly for 56E1 Rail Working Thickness: 10 mm Material: EVA bonded to blue HVN side insulators of 8 mm thick. Used with Re1801-10 clips for re-railing, or re-padding, or serviceable sleeper renewals on sleeper types F40 and 5F40.
Not Allocated	24166	Re Studded Plastic Re Rail Pad Assembly for 56E1 Rail For Gauge Management Working Thickness: 10 mm Material: Natural Rubber bonded to green and natural side insulators of 6 mm and 10 mm thick.

→ Re Clip Hand Tools

PADS Number	Tool No.	Description
039/042748	AE 18597	e-Clip PanPuller Type C (Yellow) For Re1600 clips It is recommended that the hook of the PanPuller should be checked with a Go / No Go gauge periodically, to minimise the risk of slippage. A wear gauge is available to assess the condition of the hooks: Pandrol No. AE17260. Replacement hooks are available: Pandrol AE17188 (Catalogue No. 039/042743)
039/040129	AE 19657	Insulated Re PanPuller - Insulated Handle (Yellow/Orange) for Re1600 clips As per AE18597 but with a fully insulated 35 mm handle with T cross bars for improved ergonomic and safer use.
039/042743	AE 17188	e-Clip PanPuller replacement hook (Yellow) for Re1800 clips



10

ePlus

The ePlus system uses Pandrol's tried and trusted e-Clip technology, but with less components to handle. The integrated toe insulator on the ePlus clip allows a degree of roll freedom with minimal wear, and the sidepost insulator has an enhanced life span thanks to its separation from the toe insulator. ePlus has been designed for use on lines where there is an increased amount of rail movement or heavy traffic. ePlus is also used on switches and crossings where optimised performance is required.



→ ePLUS Sleeper Assemblies (Ballast)

NR Sleeper / Assy No. / Description

Concrete Sleepers

F23	12231	eP20127 Concrete Sleeper Assembly for 56E1 rail 1432 mm Gauge
Qty per Rail Seat		
EF28	24005	eP20127 Clip Assy x2
EF29	9286	Studded Rubber Rail Pad 8 mm x1
EF33	9132	eP Insulator 5.5 mm x2
NR56V		



RT60	9917	eP20129 Concrete Sleeper assembly for 60E1 rail
Qty per Rail Seat		
NR60	24006	eP20129 Clip Assembly x2
	9328	Studded Rubber Rail Pad x1
	9875	eP Insulator 8 mm x2



Steel Sleepers

W402	9134	eP20127 Steel Sleeper assembly for 56E1 rail
Qty per Rail Seat		
	24005	eP20127 Clip Assy x2
	2061/3	Rail Pad x1
	9132	eP Insulator 5.5 mm x2



→ ePLUS Clips

PADS Number	Assy. No.	Description
057/ 048237	24005	eP20127 Clip Assembly (Standard Finish: Red) Nominal toe load per clip = 12.5 kN Material: Spring Steel + Plastic (HVN)



PADS Number	Assy. No.	Description
057/ 048307	24005 CP	eP20127 CP Assembly (CP Finish: Grey) Nominal toe load per clip = 12.5 kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.



→ ePLUS Clips

PADS Number	Assy. No.	Description
057/ 048236	24006	eP20129 Clip Assembly (Standard Finish: Green) Nominal toe load per clip = 12.5 kN Material: Spring Steel + Plastic (HVN)



PADS Number	Assy. No.	Description
057/ 048308	24006 CP	eP20129 CP Clip Assembly (CP Finish: Blue) Nominal toe load per clip = 12.5 kN Material: Spring Steel (Sherardised) + Plastic (HVN) Corrosion Protection (CP) finish – see Terminology.



PADS Number	Assy. No.	Description
057/ 048252	9871	eP20130 Clip Assembly (Standard Finish: Yellow) Nominal toe load per clip = 12.5 kN Material: Spring Steel + Plastic (HVN) Left hand version of eP20129.



PADS Number	Assy. No.	Description
057/ 048309	9871 CP	eP20130CP Clip Assembly (CP Finish: Purple) Nominal toe load per clip = 12.5 kN Material: Spring Steel (Sherardised) + Plastic (HVN) Left hand version of eP20129CP. Corrosion Protection (CP) finish – see Terminology.



→ ePlus Rail Pads

PADS Number	Part No.	Description
Special Applications		
057/048441	9286	eP Studded Rubber Rail Pad Thickness: 8 mm Material: Natural Rubber Used with eP20127 clip on F27, EF28 sleepers
		
057/048293	9328	eP Studded Rubber Rail Pad Thickness: 10 mm Material: Natural Rubber Used on e-Plus RT60 and NR60 S&C layouts.
		
057/048521	2061/3	Plain Plastic Rail Pad Thickness: 5.5 mm Material: EVA Used with W402 sleepers and PAN baseplates. Can also be used with concrete sleeper types: F23, F24, EF25, F27, EF28, EF32, EF33, F34, F35.
		

→ ePlus Insulators

PADS Number	Part No.	Description
057/048111	9132	eP Sidepost Insulator 5.5 mm (Blue) Material: HVN Used with eP20127 clip on F27, EF28, W402 sleepers and NR56V S&C.
		
057/048294	9875	eP Sidepost Insulator 8 mm (White) Material: HVN Used with eP20129 clips on F40 sleepers and NR60 S&C.
		
057/048114	9877	eP Sidepost Insulator 10 mm (Black) for Gauge Management Material: HVN Used for NR60 S&C.
		
057/048115	9876	eP Sidepost Insulator 6 mm (Green) for Gauge Management Material: HVN Used for NR60 S&C.
		

→ ePlus Clip Hand Tools

PADS Number	Tool No.	Description
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111/
120575 AE 18929 **eP PanPuller
(Red/Yellow)**

For retrofitting eP20127 clips to sleeper types: F27, EF28, 5EF28, and for the new designs to NR56V.

It is recommended that the hook of the e-PLUS PanPuller should be checked with a Go / No Go gauge periodically, to minimise risk of slippage. A wear gauge is available to assess the condition of the hooks: Pandrol No. AE17260. Replacement hooks are available: Pandrol No. AE18069



Not Allocated	AE 21269	Insulated eP PanPuller (Red/Yellow/Orange)
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As per AE18929 but with a fully insulated handle.



Not Allocated	AE 18069	eP PanPuller replacement hook (Yellow)
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For use with AE18929 and AE21269.



→ ePlus Clip Hand Tools

PADS Number	Tool No.	Description
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039/
042749 AE 17256 **eP PanPuller
(White)**

The tool is used with the eP20129 green or eP20130 yellow e-PLUS clips, mostly with RT60 and NR60 layouts.

It is recommended that the hook of the e-PLUS PanPuller should be checked with a Go / No Go gauge, to minimise the risk of slippage. A wear gauge is available to assess the condition of the hook: Pandrol No. AE17260. Replacement hooks are available: Pandrol AE17258.



Not Allocated	AE 21270	Insulated eP PanPuller (White/Orange)
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As per AE18929 but with a fully insulated handle.



Not Allocated	AE 17258	eP PanPuller replacement hook (White)
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For use with AE17256 and AE21270.



e-Clip & PR Clips

The original Pandrol e-Clip and PR clips have stood the test of time all around the world thanks to their geometric design and ease of installation. They have been used across hundreds of applications, covering virtually every possible known rail section. Today's Pandrol e-Clips and PR clips are an evolution of time-tested technologies, which have safely carried the world's rail passengers and freight for decades.



→ e-Clip Assemblies (Ballast)

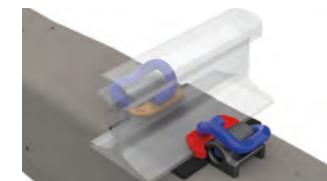
NR Sleeper / Assy Code

Discontinued / Serviceable Older Concrete Sleeper

EG49 10273 **e2007 Concrete Sleeper Assembly for 56E1 rail 1436 mm Gauge**

Qty per Rail Seat

2759 e2007 Clips x2
5197 Rail Pad x1
10274 Insulator (Red) Field Side x1
10275 Insulator (Yellow) Gauge Side x1

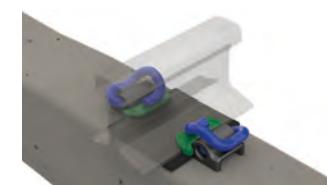


EG49 10273

e2007 Concrete Sleeper Assembly for 60E1 rail 1438 mm Gauge

Qty per Rail Seat

2759 e2007 Clips x2
5197 Rail Pad x1
5720 Insulator (Green) x2



F40
5F40 13807

e1809 Concrete Sleeper Assembly for 56E1 rail 1432 mm Gauge

Qty per Rail Seat

3468 e1809 Clips x2
4548 Rail Pad x1
4452 Insulator (Blue) x2

If required the e1809 clip can be replaced with a PR401A.



→ e-Clip Assemblies (Ballast)

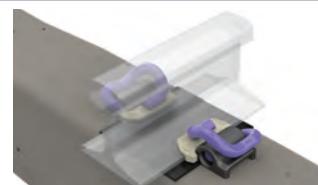
NR Sleeper Code	Assy No.	Description
F23 F27 EF28 EF29 EF33 NR56V	7162	e1809 Concrete Sleeper Assembly for 56E1 rail 1432 mm Gauge
		Qty per Rail Seat
	3468	e1809 Clips x2
	2061/3	Rail Pad 928s Rail Pad x1
	724a	Insulator (Orange) x2

If required the e1809 clip can be replaced with a PR401A.



NR Sleeper Code	Assy No.	Description
F23 F27 EF28 EF29 EF33 NR56V	7162	e2001 Concrete Sleeper Assembly for 56E1 rail for Increased Toe Load 1432 mm Gauge
		Qty per Rail Seat
	2684	e2001 Clips x2
	2061/3	Rail Pad x1
	2433	Insulator (GRN White) x2

If required insulator 2433 can be upgraded to HVN type 6924.



Discontinued / Serviceable Older Steel Sleeper

W402 HH10 MK1	13730	e1809 Steel Sleeper Assembly for 56E1 Rail 1435 mm Gauge
		Qty per Rail Seat
	3468	e1809 Clips x2
	1061/3	Rail Pad x1
	724a	Insulator (Orange) x2
		Weld on shoulder 1086

If required the e1809 clip can be replaced with a PR401A.



e-Clip Assemblies (Ballast)

NR Sleeper Code	Assy No.	Description
		Discontinued / Serviceable Older Concrete Slab
N/A	13934	e2007 Concrete Slab Assembly for 56E1 rail

Qty per Rail Seat

2759	e2007 Clips x2
4548	Rail Pad x1
4453	Insulator (Blue) x2
7205	Glue in e-Clip Shoulder x2

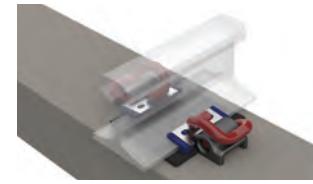
Add Note "If required the e2007 clip can be replaced with either e1809 or PR401A to give reduced toe load.



N/A	2698	e1809 Concrete Slab Assembly for 56E1 rail with vertical and lateral adjustment
		Qty per Rail Seat

3468	e1809 Clips x2
4548	Rail Pad x1
2786/2	Composite Insulator (Blue) x2
2787-4	Spacer Plate x2
2755	Glue in e-Clip Shoulder x2

If required the e1809 clip can be replaced with a PR401A.



→ e-Clips/PR Clips for Non Pandrol Baseplate

NR Sleeper Code	Number of shoulder housings per baseplate	Pandrol Clip to used	Remarks
PAN 6 to PAN 12 PAN14	2 or 4	PR401A x2	Only 2 housing and clips to be used.
CC PAN 1 - 44	2	PR401A x1 PR402A x1	Check Rail baseplate
HO PAN	2	PR401A x1 PR402A x1	
PAN 14SG	4	e1809 x2	Only 2 housing and clips to be used. Only use e-Clips with SGI grade Cast Iron baseplate
V VN CV RCV	2 or 4	PR401A x2	Only 2 housing and clips to be used.
NRS1 NRS2 Combi Baseplate	2	e2007 x2	Dual rail baseplate for either 56E1 or 60E1 rail. Other components req, 7031 Rail pad x1 For 60E1 5720 Insulator (Green) x For 56E1 10274 Insulator (Red) Field Side x1 10275 Insulator (Yellow) Gauge Side x1
Discontinued / Serviceable Older Baseplates			
PAN 1 to PAN 5	4	PR427A x 2 Ordinarily fitted with PR303	Baseplates no longer available Only 2 housing and clips to be used.

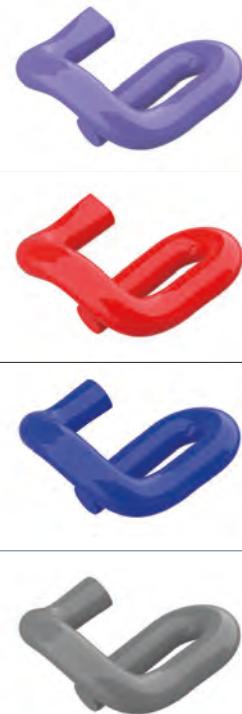
→ e-Clips

PADS Number	Part No.	Description
057/ 048255	3468	e1809 Clip (Standard Finish: Red) Nominal toe load per clip = 9kN Material: Spring Steel For use in F40 sleepers with a Blue (HVN) insulator. For use in all other sleepers with an Orange (Nylon) insulator. Must not be used with grey cast iron baseplates.
057/ 048031	3468 CP	e1809 Clip (CP Finish: Grey Matt) Nominal toe load per clip = 9kN Material: Spring Steel (Sherardised) Corrosion Protection (CP) finish – see Terminology. For use in F40 sleepers with a Blue (HVN) insulator. For use in all other sleepers with an Orange (Nylon) insulator. Must not be used with grey cast iron baseplates.
057/ 048256	4583	e1810 Clip (Standard Finish: Yellow) Nominal toe load per clip = 9kN Material: Spring Steel Left-handed version of e1809.
057/ 048043	4583 CP	e1810 Clip (CP Finish: Black) Nominal toe load per clip = 9kN Material: Spring Steel (Sherardised) Left-handed version of e1809. Corrosion Protection (CP) finish – see Terminology.



→ e-Clips

PADS Number	Part No.	Description
057/048247	2684	e2001 Clip (Standard Finish: Purple) Nominal toe load = 12.5 kN Material: Spring Steel High toe load clip for F27/EF28 sleepers, used in difficult areas where insulator crushing, or creep is occurring. Must be used with white insulator, either type 2433 or type 6924.
057/048044	2684 CP	e2001 Clip (CP Finish: Red) Nominal toe load = 12.5 kN Material: Spring Steel (Sherardised) Corrosion Protection (CP) finish – see Terminology. High toe load clip for F27/EF28 sleepers, used in difficult areas where insulator crushing, or creep is occurring. Must be used with white insulator, either type 2433 or type 6924.
057/048248	2759	e2007 Clip (Standard Finish: Blue) Nominal toe load = 12.5 kN Material: Spring Steel High toe load clip which is interchangeable with either PR401A or e1809 clip types. Should not be used in applications fitted with orange insulator type 724a. Also used with IBJ's in NR60 S&C.
057/048045	2759 CP	e2007 Clip (CP Finish: Grey Gloss) Nominal toe load = 12.5 kN Material: Spring Steel (Sherardised) Corrosion Protection (CP) finish – see Terminology. High toe load clip which is interchangeable with either PR401A or e1809 clip types. Should not be used in applications fitted with orange insulator type 724a. Also used with IBJ's in NR60 S&C.



→ e-Clips

PADS Number	Part No.	Description
057/048239	6608	PR401A Clip (Standard Finish: Red) Nominal toe load per clip = 6.5kN Material: Spring Steel For concrete sleepers and all PAN plates except obsolete PAN1 to PAN5 where PR303 clips were used. Interchange with either a e1809 or e2007 for increased toe load.
057/048253	6608 CP	PR401A Clip (CP Finish: Matt Grey) Nominal toe load per clip = 6.5kN Material: Spring Steel (Sherardised) Corrosion Protection (CP) finish – see Terminology. For concrete sleepers and all PAN plates except obsolete PAN1 to PAN5 where PR303 clips were used. Interchange with either a e1810 or e2008 for increased toe load.
057/048243	6693	PR402A Clip (Standard Finish: Blue) Nominal toe load per clip = 6.5kN Material: Spring Steel Left-handed version of PR401A. Interchange with either a e1810 or e2008 for increased toe load.
057/048234	6693 CP	PR402A Clip (CP Finish: Grey Gloss) Nominal toe load per clip = 6.5kN Material: Spring Steel (Sherardised) Left-handed version of PR401A CP. Corrosion Protection (CP) finish – see Terminology.



→ e-Clips

PADS Number	Part No.	Description
057/048245	6747	PR427A Clip (Standard finish: Purple) Nominal toe load per clip = 6.5kN Material: Spring Steel Maintenance replacement for PR303 in PAN 1 to PAN5 baseplates. Not suitable for other types of baseplates.
057/048242	6672 CP	PR427A Clip (CP Finish: Red Gloss) Nominal toe load per clip = 6.5kN Material: Spring Steel (Sherardised) Corrosion Protection (CP) finish – see Terminology. Maintenance replacement for PR303 in PAN 1 to PAN5 baseplates. Not suitable for other types of baseplates.
057/048244	6747	PR428A Clip (Standard Finish: Green) Nominal toe load per clip = 6.5kN Material: Spring Steel Left-handed version of PR427A.
057/048242	6747 CP	PR428A Clip (CP Finish: Yellow) Nominal toe load per clip = 6.5kN Material: Spring Steel (Sherardised) Left-handed version of PR427A CP. Corrosion Protection (CP) finish – see Terminology.



→ e-Clip/PR Pads

PADS Number	Part No.	Description
057/048521	2061/3	Plain Plastic Rail Pad for 56E1 & 60E1 Rail Thickness: 5.5 mm Material: EVA Used with W402 sleepers and PAN baseplates. Can also be used with concrete sleeper types: F23, F24, EF25, F27, EF28, EF32, EF33, F34, F35.
057/048028	4548	Studded Rubber Rail Pad for 56E1 & 60E1 Rail Thickness: 10 mm Material: Natural Rubber Used on F40 and 5F40 sleepers.
057/048088	5197	Studded Rubber Rail Pad for 56E1 & 60E1 Rail Thickness: 10 mm Material: Natural Rubber Used on EG49 sleepers with either 56E1 or 60E1 rails.
057/048613	7031	Studded Rubber Rail Pad for 56E1 & 60E1 Rail Thickness: 10 mm Material: Natural Rubber Used on NRS1, NRS2 and Combi baseplates.



→ e-Clip Insulators

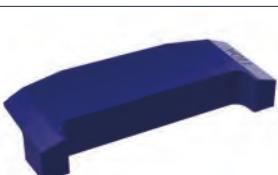
PADS Number	Part No.	Description
057/048424	742A (Orange)	e-Clip Insulator 5.5 mm (Orange)

Material: HVN
For 56E1 (BS113A) and BS110A where 109lb rail is installed.
Used for F23, F24 series, EF25, F27, EF28, EF29, EF32, EF33, F34, F35, concrete sleepers and 400 series steel sleepers with 56E1 or BS110A.



057/048423	742A (Blue)	e-Clip Insulator 5.5 mm (Blue)
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Material: HVN
Used where 98lb and 109lb rail is installed.
Used for concrete sleeper types: F23, F24, EF25, F27, EF28, EF29, EF33, F34, F35 concrete sleepers and 400 series steel sleepers.
This insulator is not commonly available and can be replaced with Pandrol type 6924 provided this is used with clip type e2001.



057/048027	4452	e-Clip Insulator 8 mm (Blue)
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Material: GRN
For 56E1 (BS113A)
Used on F40 and 5F40 sleepers.



057/048436	2433	e-Clip Insulator 5.5 mm (White) - (previously coloured black)
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Material: GRN
For 56E1 (BS113A)
Used on F40 and 5F40 sleepers.
Used as part of the range of Pandrol insulators to provide gauge management by adjusting the position of the rail in the rail seat.
This insulator can be upgraded to use HVN by substituting insulator type 6924, which is an identical size.



→ e-Clip/PR Pads

PADS Number	Part No.	Description
057/048985	6924	e-Clip Insulator 5.5 mm (White)

Material: HVN
For 56E1 (BS113A)
Can be used with NR56V to replace composite insulators.
This HVN insulator is sufficiently flexible to be used as a replacement for blue nylon insulator Catalogue No. 057/048423 with either 98lb or 109lb rail but can only be used with e2001 clips.



057/048434	7583	e-Clip Sidepost Insulator 12 mm (Brown)
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Material: HVN
For 56E1 (BS113A)
Used on F40 and 5F40 sleepers.
Used as part of the range of Pandrol insulators to provide gauge management by adjusting the position of the rail in the rail seat.



057/048082	10274	e-Clip Insulator 16.4 mm (Red)
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Material: HVN
For 56E1 rail on field side of rail.
Used on EG49 concrete sleepers and NRS1/NRS2/Combi baseplates.



057/048081	10275	e-Clip Insulator 10 mm (Yellow)
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Material: HVN
For 56E1 rail on gauge side.
Used on EG49 concrete sleepers and NRS1/NRS2/Combi baseplates.



Special Applications

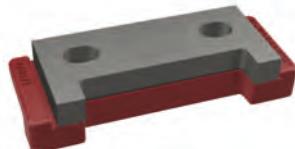
057/048060	5720	e-Clip Insulator 8 mm (Green)
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Material: HVN
For 60E1 rail.
Used on EG49 concrete sleepers, NRS1/NRS2/Combi baseplates and 6 Hole IBJ's on NR60 S&C.



→ e-Clip Composite Insulator

PADS Number	Part No.	Description
Not Allocated		e-Clip Composite Insulator Assemblies
		For level and gauge adjustment on slab track installations. Plastic insulators and metal cover plates are combined to give a variety of widths and plate thicknesses to suit vertical and lateral rail adjustment.
057/ 048166	2786/1	e-Clip Composite Insulator 6 mm (Black)
		Material: HVN
057/ 048167	2786/2	e-Clip Composite Insulator 7.5 mm (Blue)
		Material: HVN
057/ 048168	2786/3	e-Clip Composite Insulator 9 mm (Red)
		Material: HVN



→ e-Clip Composite Insulator

PADS Number	Part No.	Description
057/ 048169	2787-4	Composite cover plate 4 mm (Natural)
		Material: Steel
057/ 048170	2787-8	Composite cover plate 8 mm (Natural)
		Material: Steel
057/ 048171	2787-12	Composite cover plate 12 mm (Natural)
		Material: Steel



→ e-Clip/PR/Re/e Plus Shoulders

PADS Number	Part No.	Description
Concrete Sleepers		

057/ 048071	7205	e-Clip Glue in replacement Shoulder for Concrete Sleepers
Standard Finish		
		For use with 10 mm pads and either e-Clip assembly using GRN insulator type 4452 (blue) or e-PLUS assembly using eP20129.

057/ 048063	7205 CP	e-Clip Glue in replacement shoulder concrete slab track
Sherardised Finish Corrosion Protection (CP) finish – see Terminology.		

Concrete Slab "Ballastless Track" Discontinued Slab Track Form		
Not Allocated	1615	e-Clip Glue in shoulder concrete slab track (25 mm)

Not Allocated	1615	e-Clip Glue in shoulder concrete slab track (25 mm)
Standard Finish		
		For use on 5 mm non-insulated rail pads. Typically, this covers PACT or other slip-formed concrete which use shoulders cast into the concrete. There are many differing types of shoulders, and these are differentiated by the height of the centre leg hole above the level of the concrete rail seat. This type covers shoulders with a centre leg hole 25 mm above the rail seat level.

Not Allocated	1615 CP	e-Clip Glue in shoulder concrete slab track (25 mm)
Sherardised Finish Corrosion Protection (CP) finish – see Terminology.		



→ e-Clip/PR/Re/e Plus Shoulders

PADS Number	Part No.	Description
Concrete Sleepers		

057/ 048071	7205	e-Clip Glue in shoulder concrete slab track (34 mm)
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Standard Finish
For use for 10 mm thick rail pads. Typically, this covers PACT or slip-formed concrete which uses shoulders cast into the concrete. There are many differing types of shoulders, and these are differentiated by the height of the centre leg hole above the level of the concrete rail seat. This type covers shoulders with a centre leg hole 34 mm above the rail seat level.



057/ 048063	7205 CP	e-Clip Glue in shoulder concrete slab track
Sherardised Finish Corrosion Protection (CP) finish – see Terminology.		

Not Allocated	2755	e-Clip Glue in shoulder concrete slab track (45 mm)
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Standard Finish
For use on 10 mm thick rail pads only and composite insulators to provide up to +10 mm of vertical adjustment. Typically, this covers PACT or slip-formed concrete, which uses shoulders cast into the concrete. There are many differing types of shoulders, and these are differentiated by height of the centre leg hole above the level of the concrete rail seat. This type covers shoulders with a centre hole height of 45 mm above the rail seat.

Not Allocated	2755 CP	e-Clip Glue in shoulder concrete slab track
Sherardised Finish Corrosion Protection (CP) finish – see Terminology.		

Sherardised Finish
Corrosion Protection (CP) finish – see Terminology.

→ e-Clip/PR/Re/e Plus Shoulders

PADS Number	Part No.	Description
Steel Sleepers		
Not Allocated	1086	e-Clip weld on steel shoulder
		For use with no rail pads.
Not Allocated	7715	e-Clip weld on steel shoulder
		For use with 5 mm thick rail pads only.
Not Allocated	7070	e-Clip weld on steel shoulder
		For use with 10 mm thick rail pads only.



→ e-Clip ZLR Conversion

PADS Number	Part No.	Description
057/ 048586	7015	ZLR e-Clip Cover Plate

Used in Zero Longitudinal Restraint (ZLR) assemblies – see Terminology.
Can be used with existing sleeper configurations to convert the assembly into a ZLR assembly. The cover plate must be used with Clip Type e2071 only.
Pandrol assembly number 15206 (covers all sleeper types)



Special Applications

057/ 048587	3073 CP	e2017 Clip (CP Finish: Green)
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Nominal toe load per clip = 12.5 kN
Material: Spring Steel
Corrosion Protection (CP) finish – see Terminology.
Clip only used for Zero Longitudinal Restraint (ZLR), to convert the following sleeper types to rail free assemblies: F23 to F27, EF28, 5EF28, W402, F40 5F40, with other specialist components.
Must be used in conjunction with cast-iron cover plate Type 7015, which is placed on top of the shoulders.



Special Applications

057/ 048558	12697	Studded Plastic Rail Pad
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Thickness: 10 mm
Material: EVA
Used for ZLR applications with F40 and 5F40 sleepers.



→ e-Clip Hand Tools

PADS Number	Tool No.	Description
111/ 120576	AE 18068	Pandrol PanPuller Type D (Yellow) For PR, & e Clips

Designed especially for e2001 and e2007clips but not for 4-shoulder baseplates.
Hook positions for maximum efficiency:
Upper pivot: Clip installation
Lower pivot: Clip extraction
It is recommended that the hook of the PanPuller should be checked with a Go / No Go gauge periodically, to minimise the risk of slippage. A wear gauge is available to assess the condition of the hooks Pandrol No. AE17260. Replacement hooks are available: Pandrol AE17188. (Catalogue No. 39/42743)



Not Allocated	AE 18089	Pandrol Insulated PanPuller Type D (Yellow)
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For PR, & e-Clip fibreglass handle
Insulated version of product AE18068.



039/ 042748	AE 18597	e-Clip PanPuller Type C (Yellow) for 'PR', 'e' Clips
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Made for 4-shoulder baseplates.
It is recommended that the hook of the PanPuller should be checked with a Go / No Go gauge periodically, to minimise the risk of slippage. A wear gauge is available to assess the condition of the hooks: Pandrol No. AE17260. Replacement hooks are available: Pandrol AE17188. (Catalogue No. 39/42743)



Not Allocated	AE 19657	e-Clip PanPuller Type C (Yellow) for 'PR'
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'e' Clips fibreglass handle



→ e-Clip Hand Tools

PADS Number	Part No.	Description
039/ 042743	AE 17188	e-Clip/PR Clips PanPuller Type C and D replacement hooks (Yellow)



039/ 042900	AE 19493	PanSetter (Blue)
<p>The PanSetter is suitable for all Network Rail Sleepers fitted with PR, e, e-PLUS or Re clip types. Used for lifting the sleeper to the rail foot. It pushes the rail over, leaving the correct gap between the rail foot and the Pandrol housing, so that the insulator can be easily placed in the correct position.</p>		



Not Allocated	AE 19522	PanSetter (Blue) fibreglass handle
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→ RE, ePlus, e-Clip and PR Stressing Roller

PADS Number	Part No.	Description
094/ 018013	114- 0008	The eVSR (Yellow)

A multi-function stressing roller for e, PR e-Plus and Re clip types. It combines both the side and under roller requirements for stressing rail. It also incorporates a lift function removing the need for track jacks.



Not Allocated	AE 21795	PanPuller for IBJs
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This PanPuller has been specially scalloped and narrowed at the head, to fit between the Huck-bolts of the IBJs.

This PanPuller is for the IBJs within layouts using e1810 or e2001 or e2007 clips, but not Fastclip.



111/ 120578	AE 18597-A DC24	PanPuller for split level baseplates in S&C
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Developed at the request of Makers to fit into confined spaces around double level baseplates, mainly in the heel areas of the switches. This standard PanPuller has been adapted for these confined spaces, using a long-reach hook, so that the PanPuller is used from the opposite side of the baseplate.



Not Allocated	AE 19657	PanPuller for split level baseplates in S&C fibreglass handle
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12 Panlocks and Rail Spikes

PADS Number	Part No.	Description
057/ 048450	Pan Lock	PanLock Key for Bull Head rail (Red) Standard Finish
		
057/ 048046	Pan Lock	PanLock Key for Bull Head rail (Matt Grey) Sherardised Finish Corrosion Protection (CP) finish – see Terminology.
		
040/ 060549	AE 19989	PanLock Puller Hammers should never be used for either insertion or extraction of PanLock. Hammers may be used for the loosening of rusty PanLock, but not to fully extract.
		
Not Allocated	AE 21271	PanLock Puller fibreglass handle
		

→ Elastic Rail Spikes and Hand Tools

PADS Number	Part No.	Description
057/ 048781	A1	Elastic Rail Spike Original A1 (Red) Standard Finish Corrosion Protection (CP) finish – see Terminology.
		
057/ 048785	AL23	Elastic Rail Spike Maintenance replacement for A1 Spike Standard Finish. The AL23 spike is supplied in two parts. The inner part is black, and the outer part is red, and fit together as shown. Corrosion Protection (CP) finish – see Terminology.
		
039/ 017090	AE 24127	Elastic Rail Spikes Extractor This tool can be used to remove elastic spikes from baseplates and sleepers. Hammers can be used for the insertion of elastic spikes.
		

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Sleeper Code	Fastclip FC	Fastclip FCA	Re System	ePlus	e-Clip & PR Clips
500 Series	●				
560H	●				
5F40		●			●
EF28		●	●	●	●
EF29		●	●	●	●
EF33		●	●	●	●
EF36	●				
EG47	●	●			
EG49					●
EG53	●				
F23		●	●	●	●
F27		●	●	●	●
F40		●	●	●	●
F41	●				
G44	●	●			
G55	●				
HH10 (MK1)	●		●		●
HH10 (MK2)	●				
HH12	●				
NR56V				●	●
NR60				●	
RT60				●	
W402		●	●	●	●



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Terminology

CP

Corrosion Protection finish should be used in wet tunnels, coastal areas, level crossings adjacent to heavily salted roads, and platforms.

ZLR

Zero Longitudinal Restraint assemblies allow longitudinal movement of the rail. Used to provide differential movement between the rails and long bridge structures, or stressing relief for ground subsidence. ZLR assemblies use normal toe-load clips but divert the clamping force in other directions providing a gap over the rail foot and allowing the rail to slide longitudinally in the gap. In the event of the rail moving to close the gap (such as rail roll) the nominal toe-load is immediately available to prevent further overturning movement. This component can be used with existing sleeper configurations to alter the fastening assembly into a ZLR assembly.

Interchangeable 4-hole Pattern

4-hole Vanguard, VIPA-SP and SFC baseplates use an interchangeable hole pattern.

Partners in excellence

Contact us to discuss your track requirements

info@pandrol.com

