



Concrete and Steel Sleeper Assemblies

Sleeper Types(s)	Clip	Insulators	Pad	Design Track Gauge
Current CONCRETE sleepers				
G44, EG47 for 56E1 rails	FC1504 with 8494 toe	FIELD side: 8582 (Blue) GAUGE side: 8690 (Black)	Pad 6650, except: • Curves less than 400m radius, fit EVA type 8531 • Low line speed, fit EVA type 8531	1436mm
G44, EG47 for 60E1/2 rails	FC1504 with 8494 toe	Both sides: 7751 (White)	Pad 8854, except: • Curves less than 400m radius, fit EVA type 9970 • Low line speed, fit EVA type 9970	1438mm
Current STEEL sleepers				
560H for 56E1 rails Note: This sleeper is fitted with hook-in shoulder type 9482	FC1504 with 8494 toe	FIELD side: 8582 (Blue) GAUGE side: 8690 (Black)	Pad 8531	1436mm
560H for 60E1/2 rails Note: This sleeper is fitted with hook-in shoulder type 9482	FC1504 with 8494 toe	Both sides: 7751 (White)	Pad 9970	1438mm
Discontinued / serviceable older CONCRETE sleeper types				
EG49 for 56E1 rails	e2007	FIELD side: 10274 (Red) GAUGE side: 10275 (Yellow)	Pad 5197	1436mm
EG49 for 60E1/2	e2007	Both sides: 5720 (Green)	Pad 5197	1438mm
F41 & EF36	FC1501 with 8494 toe	Both sides: 7751 (White)	Pad 6650, except: • Curves less than 400m radius, fit EVA type 8531 • Low line speed, fit EVA type 8531	1435mm
F40	e1809 or Re1801-16	Both sides: 4452 (Blue), no separate insulator needed for 'RE' system	Pad 4548 or Composite 'RE' system pad type 15946	1432mm 1435mm
Alternative assemblies for F23 to F27, EF28, EF29, EF33 sleepers				
1. Standard toe-loads	PR401A or e1809	56E1 rail: Both sides: 724a (Orange) 98lb or 109lb rails: Both sides: 724a (Blue)	Pad 5mm rubber, or 7.5mm rubber maintenance pad, or EVA Pandrol type 2061/3	1432mm
2. Increased toe-loads	e2001	56E1 rails: Both sides: 2433 (GRNWhite) or 6924 (HVN White)	Pad 5mm rubber or EVA pad type 2061/3	1432mm
3. e-PLUS system	eP20127	56E1 rails: Both sides: 9132	Pad 9286	1432mm
4. Pandrol 'Re' system	Re1609-re-railing only Re1801-7 loose sleeper	56E1 rails: No separate insulator	Composite pad type 14229	1432mm
Discontinued / serviceable older STEEL sleeper types				
HH10 (Mk 2), HH12, for 56E1 rails Shoulder types: • HH10 = shoulder 9922 • HH12 = shoulder 9482	FC1504 with 8494 toe	FIELD side: 8582 (Blue) GAUGE side: 8690 (Black)	Pad 8531	1436mm
HH10 (Mk 2), HH12, for 60E1/2 rails • HH10 = shoulder 9922 • HH12 = shoulder 9482	FC1504 with 8494 toe	Both sides: 7751 (White)	Pad 9970	1438mm
500 Series	FC1501 with 8494 toe	Both sides: 7751 (White)	Pad 8531	1435mm
W402 Series	PR401A or e1809	56E1 rail: Both sides: 724a (Orange)	Pad 5mm EVA	1435mm
HH10 (Mk1) for 56E1 rail	FC1504 with 8494 toe	Both sides: 8277 (Yellow)	Pandrol type 2061/3 Pad 8531	1435mm
Alternative assembly converting HH10 (Mk1) to FASTCLIP system using shoulder type 9922				
Conversion of obsolete fastenings on very old concrete sleepers				
The following obsolete sleepers may be converted to Pandrol 'e' clip assemblies: • F10 using BJB fastenings • RNB6 also known as KENITRA sleepers • HEYBACK sleepers	Whilst conversions have been available and undertaken in large volumes in the past, the components are no longer readily available, generally regarded as uneconomic and anyone attempting this process should contact Pandrol directly for advice.			

This data is extracted from the Pandrol User Edition 8. Copies x 20 can be obtained by using cat number 0050/001305.



FINISHES

Clips are available with either STANDARD or CORROSION PROTECTION (previously called SHERARDISED) finishes. CORROSION PROTECTION (CP) finish should be used in the following areas:

- Wet Tunnels
- Coastal areas
- Level crossings
- Adjacent to heavily salted roads and platforms

Clip Applications and Colour Coding

Note: 10kN = 1 tonne

Type	Cat.No. and Finishes		Type	Cat.No. and Finishes	
FC1504. Used on G44 and EG47 concrete sleepers and Series 600 steel sleepers. Nominal toe load per clip = 10kN	 Standard Finish: Green 0057/048048	 CP Finish: Purple Gloss 0057/048055	e1810. Left handed version of e1809. Used in IBJs in various situations. Nominal toe load per clip = 9kN	 Standard Finish: Yellow 0057/048256	 CP Finish: Black Gloss 0057/048043
FC1501. Used on F41 and EF36 concrete sleepers and Series 500 steel sleepers. Nominal toe load per clip = 10kN	 Standard Finish: Red 0057/048033	 CP Finish: Grey Gloss 0057/048056	e2001. High toe load clip for F27/EF27 sleepers. Used in difficult areas where insulator crushing or creep is occurring. Must be used with a WHITE insulator either type 2433 or type 6924.	 Standard Finish: Purple 0057/048239	 CP Finish: Red Gloss 0057/048044
FC1503. Used only for Pandrol Type SFC baseplates for slab track. Nominal toe load per clip = 10kN	 Standard Finish: not allocated	 CP Finish: Blue 0057/002029	e2007. High toe load clip 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. Nominal toe load = 12.5 kN	 Standard Finish: Blue 0057/048248	 CP Finish: Grey Gloss 0057/048045
e plus - eP20127. Used on F27, EF28 and W402 sleepers where extra resilience and insulator durability is required. Fitted with integral Type 9903 toe insulator. Nominal toe load per clip = 12.5kN	 Standard Finish: Red 0057/048237	 CP Finish: Grey Gloss 0057/048307	PR401A. For concrete sleepers and all PAN plates EXCEPT obsolete PAN1 to PAN5 where PR303 clips were used. Nominal toe load per clip = 6.5kN	 Standard Finish: Red 0057/048239	 CP Finish: Natural Matt Grey 0057/048253
e plus - eP20129. Fitted with integral Type 7387 toe insulator. For use on NR60 S&C and EG49 fitted with 60E1. Nominal toe load per clip = 12.5kN	 Standard Finish: Green 0057/048236	 CP Finish: Blue Gloss 0057/048308	e2071. 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.	Standard Finish: not available	 CP Finish: Green 0057/048587
e plus - eP20130. Left hand version of eP20129. Nominal toe load per clip = 12.5kN	 Standard Finish: Yellow 0057/048252	 CP Finish: Purple Gloss 0057/048309	PR402A. Left handed version of PR401A. Nominal toe load per clip = 6.5kN	 Standard Finish: Blue 0057/048243	 CP Finish: Grey Gloss 0057/048234
Re1609. Used on F23 to F27, EF28, 5EF28, W402 sleepers for re-railing operations, used in conjunction with pad type 14229. Clip is fitted with integral toe insulator not separately available. Nominal toe load per clip = 9 kN	 S. Finish: Red & White Toe-insulator 0057/048469	 S. Finish: Grey & White Toe-insulator not allocated	PR427A. Maintenance replacement for PR303 in PAN1-PAN5 baseplates. Not suitable for other types of baseplate. Nominal toe load per clip = 6.5kN	 Standard Finish: Purple 0057/048245	 CP Finish: Red Gloss 0057/048242
Re1801-7. Used on F23 to F27, EF28, 5EF28 and W402 sleeper types for loose sleeper relaying of serviceable sleepers. Clip provides greater resistance to dropped sleepers during clip insertion. Toe-insulator is integral to the clip. Design toe-load = 9 kN.	 S. Finish: Red & Orange Toe-insulator not allocated	 S. Finish: Grey & Orange Toe-insulator not allocated	PR428A. Maintenance replacement for left handed PR304 in PAN1-PAN5 baseplates. Not suitable for other types of baseplate. Nominal toe load per clip = 6.5kN	 Standard Finish: Green 0057/048244	 CP Finish: Yellow Gloss 0057/048249
Re1801-16. Used on F40 & 5F40 sleepers for either re-railing or loose sleeper relaying of serviceable sleepers. Toe-insulator is integral to the clip. Design toe load per clip = 9 kN	 S. Finish: Red & Blue Toe-insulator not allocated	 S. Finish: Grey & Blue Toe-insulator not allocated	Panlock. Clips for Bull Head Rail.	 Standard Finish: Red 0057/048450	 CP Finish: Natural Matt Grey 0057/048046
e1809. 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 'PAN' Type Baseplates. Nominal toe load per clip = 9kN	 Standard Finish: Red 0057/048255	 CP Finish: Natural Matt Grey 0057/048031	A1 spike. Original elastic rail spike.	 Standard Finish: Red 0057/048781	AL23. Maintenance replacement for A1 spike. The AL23 spike is supplied in two parts. The inner part is black and the outer part is red and fit together as shown.
				 Standard Finish: Red/Black 0057/048785	

This data is extracted from the Pandrol User Edition 8. Copies x 20 can be obtained by using cat number 0050/001305.



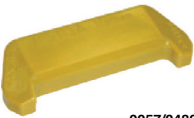




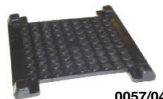

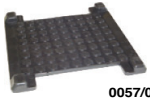

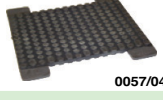




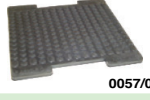
Insulator Applications and Colour Coding

Type	Catalogue Number	Type	Catalogue Number
FASTCLIP Type 8582 Sidepost Insulator (Blue) 16.4mm sidepost thickness. 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.	 0057/048064	FASTCLIP Type 8494 Toe Insulator (White) For use on all sleeper types fitted with the FASTCLIP system.	 0057/048020
FASTCLIP Type 7551 Sidepost Insulator (White) 8mm sidepost thickness. 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.	 0057/048021	e-PLUS Type 9903 Toe Insulator (White) Previously coloured blue. Not supplied separately, always supplied already fitted to the e-PLUS clip types.	 0057/048113
FASTCLIP Type 8690 Sidepost Insulator (Black) 10mm sidepost thickness. 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.	 0057/048066	Orange (Nylon) Type 724a 5mm sidepost thickness x 5mm blade thickness. Used for: F23, F24 series, EF25, F27, EF28, EF29, EF32, EF33, F34, F35 concrete sleepers and 400 series, steel sleepers with 56E1 or BS110A or BS110A rails.	 0057/048424
FASTCLIP Type 8691 Sidepost Insulator (Green) 6mm sidepost thickness. Used in limited areas where oversize 60E1 rail was supplied. Used in place of the GAUGE side Type 7551 sidepost insulator.	 0057/048067	Blue (Nylon) Type 724a 5mm sidepost thickness 5mm blade thickness used where 98lb and 109lb rail is installed. Used for concrete sleeper types: F23, F24, EF25, F27, EF28, EF29, EF33, F34, & F35, as well as steel sleepers 400 Series. NOTE: This insulator is not commonly available, and can be replaced with Pandrol type 6924 provided this is used with clip type e2001.	 0057/048423
FASTCLIP Type 8277 Side post insulator (Yellow) 13mm sidepost thickness, for use on HH10 Mark 1 sleepers with Type 9922 hook in shoulders.	 0057/048118	Blue (GRN) Type 4452 8mm sidepost thickness x 8mm blade thickness used on: F40 and 5F40 sleepers.	 0057/048027
e-PLUS Type 9132 Sidepost Insulator (Blue) Used with eP20127 clip on F27, EF28, W402 sleepers and NR56V S&C.	 0057/048111	White (GRN) Type 2433 5mm sidepost x 8mm blade thickness (previously coloured black) used with e2001 clip. Also used on F40 & 5F40 sleepers as part of the range of gauge management insulators to adjust the track gauge, by moving the rail across the rail seat. This insulator can be upgraded to use HVN by substituting insulator type 6924, which is an identical size.	 0057/048436
e-PLUS Type 9875 Sidepost Insulator (White) Used with eP20129 clips on F40 sleepers and NR60 S&C.	 0057/048294	White Type 6924 White (HVN) type 6924, 5mm side post x 8mm blade thickness used with e2001 clip. Also can be used with NR56V S&C to replace composite insulators. This HVN insulator is sufficiently flexible to be used as a replacement for Blue nylon insulator Catalogue No. 57/48423 with either 98lb or 109lb rail, but can ONLY be used with e2001 clips.	 Not allocated
e-PLUS Type 9877 Gauge Management Insulator (Black) 10mm sidepost insulator, used for NR60 S&C.	 0057/048114	Brown (HVN) Type 7583 12mm sidepost x 8mm blade thickness. Used as part of the range of Pandrol insulators to provide gauge management by adjusting the position of the rail in the rail seat. A separate data-sheet is available to advise the methods and adjustment range achievable. Gauge management can be provided for concrete sleeper types: F40, & 5F40.	 0057/048434
e-PLUS Type 9876 Gauge Management Insulator (Green) 8mm sidepost insulator, used for NR60 S&C.	 0057/048115	Red (HVN) Type 10274 Insulator for 56E1 rail on FIELD side of: 1. NRS1/NRS2/Combi baseplates. 2. EG49 concrete sleepers.	 0057/048082

This data is extracted from the Pandrol User Edition 8. Copies x 20 can be obtained by using cat number 0050/001305.



Insulator and Rail Pad Applications with Colour Coding

Type	Catalogue Number	Type	Catalogue Number
Yellow (HVN) Type 10275 Insulator for 56E1 on GAUGE side of: 1. NRS1/NRS2/Combi baseplates. 2. EG49 concrete sleepers.	 0057/048081	Pad No. 15946 Used as part of the 'Re' system on F40 or 5F40 sleepers for re-railing or loose sleeper relaying. 10 mm studded and curved rubber pad which is permanently bonded to side insulators. The insulators allow the pads to be stacked and 'nested' for easy packing and handling.	 not allocated
Green (HVN) Type 5720 Insulator for use with 60E1 rail using: 1. NRS1/NRS2/Combi baseplates with 60E1 rail. 2. 6 Hole IBJ's on NR60 S&C, EG49 Concrete sleepers.	 0057/048060	Pad No. 2061/3 Thickness: 5mm Material: Flat EVA Used with W402 sleepers and PANbaseplates. Can also be used with concrete sleeper types: F23, F24, EF25, F27, EF28, EF32, EF33, F34, F35.	 0057/048521
Composite (Nylon with cast iron cover plate) for: 1. Concrete S&C bearers. 2. As a substitute for ORANGE (Nylon) insulators where the wear rate is unacceptable. NOTE: This insulator is not commonly available, and can be replaced with Pandrol type 6924 provided this is used with clip type e2001.	 0057/048427	Pad No. 9970 Thickness: 10mm Material: Studded EVA Used on FASTCLIP steel sleepers with 60E1 rail. Supersedes / interchangeable with 7850.	 0057/048077
Composite (Black) Type 2786/1 6mm sidepost thicknesses.	 0057/048166	Pad No. 8531 Thickness: 10mm Material: Studded EVA Used on FASTCLIP steel sleepers 56E1 rail.	 0057/048278
Composite (Blue) Type 2786/2 7.5mm sidepost thicknesses.	 0057/048167	Pad No. 4548 Thickness: 10mm Material: Studded Rubber Used on F40 and 5F40 sleepers.	 0057/048028
Composite (Red) Type 2786/3 9mm sidepost thicknesses.	 0057/048168	Pad No. 6650 Thickness: 10mm Material: Studded Rubber Used on FASTCLIP concrete sleepers with 56E1 rail.	 0057/048271
Composite Cover Plates Composite cover plates Type 2787, to provide 4, 8 and 12mm blade thicknesses.	 4mm = 0057/048169 8mm = 0057/048170 12mm = 0057/048171	Pad No. 8854 Thickness: 10mm Material: Studded Rubber Used on FASTCLIP concrete sleepers with 60E1 rail.	 0057/048254
Composite Insulators For level and gauge adjustment on slab track installations. Plastic insulators and metal cover plates are combined to give a variety of blade and sidepost thicknesses.	 Catalogue Number depends upon insulator and cover plates selected	Pad No. 9286 Thickness: 8mm Material: Studded Rubber Used on F27 and EF28 sleepers when fitting the e-Plus system.	 0057/048441
Pad No. 14229 Studded EVA rail pad 8mm thick bonded to HVN side insulators of 5.5mm thick. Used with 'Re1609' or 'Re1801-7' clips on older sleeper types, F23 to F27, EF28, 5EF28, W402, HH10 (Mk1).	 0057/048470	Pad No. 9328 Thickness: 10mm Material: Studded Rubber Used on e-Plus RT60 and NR60 layouts.	 0057/048293
		Pad No. 5197 Thickness: 10mm Material: Studded Rubber Used on EG49 sleepers with either 56E1 or 60E1 rails.	 0057/048088
		Pad No. 7031 Thickness: 10mm Material: Studded Rubber Used on NRS1, NRS2, and Combi baseplates.	 0057/048613

This data is extracted from the Pandrol User Edition 8. Copies x 20 can be obtained by using cat number 0050/001305.



PANDROL handtools are designed by PANDROL to be safely and efficiently used on PANDROL fastening assemblies. Components are accurately cut and hardened to maximise operator safety and tool life.

PANDROL Handtools

<p>Installer (FASTCLIP 'FC', 'FE', VIPA-SP, SFC) FASTCLIP Installer LP18681. Catalogue No. 0039/047850</p>		<p>Replacement Hooks e-Plus PANPULLER'S PANDROL No. LP12717 Use replacement hook type 2P5931 LP12717 - Catalogue No. - Not allocated PANDROL No. LP15923 Use replacement hook type 3P16127 LP15923 - Catalogue No. 0039/042742</p>	
<p>Extractor (FASTCLIP 'FC', 'FE', VIPA-SP, SFC) FASTCLIP Installer LP18679. Catalogue No. 0039/047851</p>		<p>PANPULLER Hook Wear - Gauge PANDROL No. 3-P6536 Catalogue No. 0039/030100</p>	
<p>Sleeper lifter for FASTCLIP 'FC', & 'FE' PANDROL No. LP12608. Catalogue No. 0039/047852</p>		<p>PANSETTER for PR, e-PLUS & Re clips PANDROL No. 2-P9559 THE PANSETTER is suitable for all Network Rail Sleepers fitted with PR, e & e-PLUS. Catalogue No. 0039/042900</p>	
<p>Vanguard Hydraulic Tool PANDROL No. LP15647 Vanguard Installer & Extractor Catalogue No. - Not allocated</p>		<p>Optional Handles Catalogue Nos. for tools with straight insulated handles. All Pandrol hand-tools can be supplied with optional insulated handles, which have recently been upgraded to 35mm diameter cylindrical handles with 'T' cross bars for improved ergonomic and safer use.</p>	
<p>FASTCLIP Hydraulic Tool RAILTECH TYPE CDH 16 Catalogue No. - Not allocated</p>		<p>The photograph shows a typical handle attached to a FASTCLIP sleeper lifter. PANPULLER type 'C': Cat No. 0039/040129 PANSETTER: Cat No. 0039/040133 PANLOCK Puller: Cat No. 0039/040135 FASTCLIP installer: Cat No. - Not allocated FASTCLIP extractor: Cat No. - Not allocated FASTCLIP lifter: Cat No. - Not allocated</p>	
<p>PANPULLER Type D For PR, & e Clips PANDROL No. LP7632 Especially for e2001 and e2007 clips but NOT for 4-shoulder baseplates. NOTE: hook positions for max efficiency: Upper pivot: Clip installation Lower pivot: Clip extraction Catalogue No. - Not allocated</p>		<p>PANLOCK Puller PANDROL No. LP8452 Catalogue No. 0040/060549</p>	
<p>PANPULLER Type C for PR, & e Clips PANDROL No. LP1180 And for 4 shoulder baseplates. Catalogue No. 0039/042748</p>		<p>Elastic Spike Extractor Elastic Spike extractor available from Tool and Steel; Product code: TASTE112 Catalogue No. 0039/017090</p>	
<p>e-PLUS PANPULLER LP12717 PANDROL No. LP12717 Colour: Red working head (matches the appropriate e-PLUS clip type), and yellow handle. For use with eP20127 clips for retrofitting to sleeper types: F27, EF28, SEF28, and for the new S&C designs to NR56V. Catalogue No. - Not allocated</p>		<p>Vortok Stressing Roller (VSR) The Vortok Stressing Roller is available for:</p> <ul style="list-style-type: none"> FASTCLIP 0094/018014, (LH Image) 'e' clip 0094/018013, (RH Image) FASTCLIP 'FE' (Application Pending) <p>Catalogue No. 0094/018014 Catalogue No. 0094/018013</p>	
<p>e-PLUS PANPULLER LP15923 PANDROL No. LP15923 Colour: White The tool is used with the eP20129 green or eP20130 yellow e-PLUS clips, mostly with RT60 and NR60 S&C layouts. Catalogue No. 0039/042749</p>			
<p>Replacement Hook for Types C and D PANPULLER PANDROL No. 3-P2260 Catalogue No. 0039/042743</p>			

This data is extracted from the Pandrol User Edition 8. Copies x 20 can be obtained by using cat number 0050/001305.