

COMPONENTS

User information

This Network Rail standard contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – no variations permitted

- Red requirements are to be complied with and achieved at all times.
- Red requirements are presented in a red box.
- Red requirements are monitored for compliance.
- Non-compliances will be investigated and corrective actions enforced.

Amber requirements – variations permitted subject to approved risk analysis and mitigation

- Amber requirements are to be complied with unless an approved variation is in place.
- Amber requirements are presented with an amber sidebar.
- Amber requirements are monitored for compliance.
- Variations can only be approved through the national non-compliance process.
- Non-approved variations will be investigated and corrective actions enforced.

Green guidance – to be used unless alternative solutions are followed

- Guidance should be followed unless an alternative solution produces a better result.
- Guidance is presented with a dotted green sidebar.
- Guidance is not monitored for compliance.
- Alternative solutions should be documented to demonstrate effective control.

Amendment marks

- First document amendments are presented with a single black line to the right of the affected text.
- Second document amendments are presented with a double black line to the right of the affected text.

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D.1.1: Rail Section Designations

Table 1 – Rail Section Designations

Rail Profile Designations	Previous Profile Designation(s)	Full Details shown on Drawing Number
60E2		RE/PW/979
CEN60E1	UIC60	RE/PW/901
CEN60E1A1	A73, UIC60B, Zu I-60	RE/PW/902
CEN56E1	BS113A	RE/PW/792
CEN54E1A1	A69, UIC54B, Zu UIC 54B	RE/PW/800
CEN33C1	U69, UIC33, R1 1-60	RE/PW/862

Table 2 – Historic Rail Section Designations

Rail Profile Designations	Previous Profile Designation(s)	Full Details shown on Drawing Number
BS95RBH	95RBS, 95 lb RBS BH	RE/PW/549
BR113	LNW113, GW113	RE/PW/620
BS110	BS 110	RE/PW/200
BR109	109	RE/PW/002
98LB	BS98	RE/PW/008

D.2.1: Standard Rail Lengths

Table 3 – Most common rail lengths:

CEN56E1 (BS113A) 260 (Grade A)	60E2 (or CEN60E1) 260 (Grade A)
9.144	9.144
10.973	10.973
12.192	18.000
13.716	18.288
13.860	19.000
16.270	21.450#
18.288	22.710
21.000#	29.250
22.710	36.000
27.665#	108.000
36.000	216.000*
108.000	
216.000*	

BS95RBH 260 (Grade A)	CEN33C1 260 (Grade A)
9.144	12.500#
12.192#	15.000#
13.716#	
13.860#	

Table 4 – Less common rail lengths:

CEN56E1 (BS113A) 260 (Grade A)	60E2 (or CEN60E1) 260 (Grade A)
18.000	12.000#
19.000#	13.716
20.000#	13.860
20.500#	16.270
23.395	26.000#
	27.000#

BS95RBH 260 (Grade A)	CEN33C1 260 (Grade A)	75fb (150lb/yd) Conductor Rail [BS7865:1997]
18.288	18.288	18.288
		91.440*
		182.880*

NOTES

1. Lengths marked thus # are less commonly ordered than others.
2. 18.288 Rails can be ordered as undrilled, or drilled both ends for fishing. All other rails will be undrilled.
3. All rail lengths are in metres.
4. Lengths marked thus * are not rolled at lengths shown, but are (flash butt) welded up to these lengths.

D.3.1: Rail Pads, Clips and Insulators - 1a

Table 5 – Rail Pads, Clips and Insulators

Sleeper / Bearer Type	Rail Section	Insulators		Rail Seat Pad Type				Clips		Notes
		Type	Cat. No. 57/-	Above 90 m.p.h.		90 m.p.h. and below		Type	Cat. No. 57/-	
				INST.	MTCE.	INST.	MTCE.			
F7, F7A fitted with MRC 6/3 Baseplates	113A 110A	None	-	3A	3A	3A	3A	MILLS C3R	48229	
	109 98			4A	4A	4A	4A			
F10 Site conversion of former BJB fastening	113A 110A 109 98	Composite (Branded 2549)	48437	3A	3A	3A	3A	PR401A PR401A PR402A e1809	48239 48253 48243 48255	CP LH
F10 Shop Conversion of former BJB fastenings	113A 110A	Composite (Branded 2549)	48437	3A	3A (5.5mm) or 4A (7.5mm)	3A	3A (5.5mm) or 4A (7.5mm)	PR401A PR401A PR402A e1809	48239 48253 48243 48255	CP LH
	113A 110A	Nylon (Orange)	48424	5	5 (10.5mm) or 4A+2 (13mm)	5	5 (10.5mm) or 4A+2 (13mm)			
	109 98	Nylon (Blue)	48423	5	5 (10.5mm) or 4A+2 (13mm)	5	5 (10.5mm) or 4A+2 (13mm)			
F16 RNB	113A 110A	Part of fastening assembly	-	3A	4A	3A	4A	RNB7	48128	
	109 98	Part of fastening assembly	-	3A	4A	3A	4A	RNB6	48127	
F16 Conversion of former RNB fastenings	113A 110A	Either: Nylon (Orange) or Composite (Branded 1460)	48424 48427	3A	3A (5.5mm) or 4A (7.5mm)	3A	3A (5.5mm) or 4A (7.5mm)	PR401A PR401A PR402A e1809	48239 48253 48243 48255	CP LH
	109 98	Nylon (Blue)	48423	4A	4A (7.5mm) or 5 (10.5mm)	4A	4A (7.5mm) or 5 (10.5mm)			
F19 SHC	113A 110A	Nylon	48422	6 or 19	6, 6A or 20	6 or 19	6, 6A or 20	SHC Clips: Rectangular Vee	48240 48241	
	109 98	Nylon	48428	4A	4A (7.5mm) or 5 (10.5mm)	4A	4A (7.5mm) or 5 (10.5mm)			
CS3	113A 110A	Nylon CS3 Nylon Heel Block	48425 48426	3A	3A (5.5mm) or 4A (7.5mm)	3A	3A (5.5mm) or 4A (7.5mm)	CS3	48222	
	109 98			4A	4A (7.5mm) or 5 (10.5mm)	4A	4A (7.5mm) or 5 (10.5mm)			
F23, F23A, F23B, F23D, F24, F24A, F24/1, F24BS, F24A/1, F24A/1CP, F24/4R, EF25, F27, F27P, F27S, F27AS, F27BS, EF28, EF29, EF32, EF33, EF28S, EF29S, EF32S, EF33S, F34S, CC 226 F35	113A 110A	Either Nylon (Orange) or Composite (Branded 1460)	48424 48427	7	7 (5.5mm) or 8 or 9 (7.5mm)	2	2 (5.5mm) or 4B, 8 or 9 (7.5mm)	PR401A PR401A PR402A e1809	48239 48253 48243 48255	CP LH
		or GRN (White)	48436					e2001 e2001	48247 48044	CP
	109 98	Nylon (Blue)	48423	8 or 9	8 or 9 (7.5mm) or 10 or 11 (10.5mm)	4B	4B (7.5mm) or 5 (10.5mm)	PR401A PR401A PR402A e1809	48239 48253 48243 48255	CP LH
F40, 5F40	113A 110A	GRN (Blue)	48027	10, 11 or 12	10, 11 or 12	10 or 12	10 or 12	e 1809	48255	
Steel Sleepers (Hook-in shoulders)	113A 110A	Either Nylon (Orange) or Composite (Branded 1460)	48424 48427	2 or 7	2 or 7 (5.5mm) or 4B, 8 or 9 (7.5mm)	2 or 7	2 or 7 (5.5mm) or 4B, 8 or 9 (7.5mm)	PR401A PR401A PR402A PR402A e1809 e1809 e1810 e1810	48239 48253 48243 48255 48031 48256 48043	CP LH LH, CP CP LH LH, CP
	109 98	Nylon (Blue)	48423	4B or 9	4B (7.5mm) or 10 (10.5mm)	4B or 9	4B (7.5mm) or 10 (10.5mm)			
Steel Sleepers (Pressed-out Shoulders)	113A 110A 109 98	Composite (Branded 1575)	48420	2 or 7	2 or 7 (5.5mm) or 4B, 8 or 9 (7.5mm)	2 or 7	2 or 7 (5.5mm) or 4B, 8 or 9 (7.5mm)			
Steel Sleepers (Crimped Ends)	113A 110A	Either Nylon (Orange) or Composite (Branded 1460)	48424 48427	2	2	2	2	e1809	48255	
	109 98	Nylon (Blue)	48423	4B or 9	4B or 9	4B or 9	4B or 9	PR401A e1809	48239 48255	

[Table continued on next page]

For notes, see Sheet D.3.3

D.3.2: Rail Pads, Clips and Insulators - 1b

Table 6 – Rail Pads, Clips and Insulators

Sleeper / Bearer Type	Rail Section	Insulators		Rail Seat Pad Type				Clips		Notes
		Type	Cat. No. 57/-	Above 90 m.p.h.		90 m.p.h. and below		Type	Cat. No. 57/-	
				INST.	MTCE.	INST.	MTCE.			
Concrete Bearers for Vertical S&C	113A 110A	Composite (Branded 1460)	48427	5.5mm railpads available see RE/PW/196				e2007 e1810	48239 48253 48243 48234	CP LH LH, CP
Concrete Bearers NR56V S&C	CEN65E1 CEN54E1A1	E Plus Sidepost Insulation (9132)	4811	8mm railpads available see RE/PW/1610 and RE/PW/1615e				eP20127		
Concrete Bearers for NR60 S&C	CEN60E2	9875 (9mm White) both. [6mm & 10mm gauge management insulators also available]	48294	22 (note 7)	22 (note 7)	22 (note 7)	22 (note 7)	eP20129 eP20129 eP20130 eP20130	48236 48308 48252 48309	CP LH LH, CP
G44	CEN56E1	8582 (Blue) field 8690 (Black) gauge	48064 48066	23	23	23	23	FC1504 FC1504	48048 48055	CP
G44	CEN60E1/ E2	7551 (White) both	48021	24	24	24	24	FC1504 FC1504	48048 48055	CP
G45	CEN56E1	14.4mm gauge, 19.9mm field	48684	26	26	26	26	Vossloh W14 (Black)	48681	Screw with Washer 57/48686
G45	CEN60E1/ E2	12mm both	48685	27	27	27	27			
EG47	CEN56E1	8582 (Blue) field 8690 (Black) gauge	48064 48066	23	23	23	23	FC1504 FC1504	48048 48055	CP
EG47	CEN60E1/ E2	7551 (White) both	48021	24	24	24	24	FC1504 FC1504	48048 48055	CP
EG48	CEN56E1	14.4mm gauge, 19.9mm Field	48684	26	26	26	26	Vossloh W14 (Black)	48681	Screw with Washer 57/48686
EG48	CEN60E1/ E2	12mm both	48685	27	27	27	27			
EG49	CEN56E1 1436 Gauge	10274 (Red) field 10275 (Yellow) gauge	48082 48081	21	21	21	21	e2007 e2007	48248 48045	CP
EG49	CEN56E1 1432 (S&C) Gauge	10079 (Grey) field 4452 (Blue) gauge	non-cat 48027	21	21	21	21	e2007 e2007	48248 48045	CP
EG49	CEN60E1/ E2	9875 (White) both	48294	22	22	22	22	eP20129 eP20129 eP20130 eP20130	48236 48308 48252 48309	CP LH LH, CP
EG49	CEN60E1/ E2	5720 (Green) both	48060	21	21	21	21	e2007 e2007	48248 48045	CP

For notes, see Sheet D.3.3

D.3.3: Rail Pads, Clips and Insulators - 2

Table 7 – Rail Pads, Clips and Insulators

Baseplate Type	Rail Section	Insulators		Rail Seat Pad Type				Clips		Notes						
		Type	Cat No. 57/-	Above 90 m.p.h.		90 m.p.h. and below		Type	Cat. No. 57/-							
				INST.	MTCE.	INST.	MTCE.									
PAN 1, PAN 3	113A / 110A	-	-	3A	3A	3A	3A	PR427A PR427A PR428A PR428A	48245 48242 48244 48249	CP LH LH, CP						
	109 / 98	-	-	4C	4C	4C	4C									
PAN 2, PAN 4, PAN 4A, PAN 5	113A / 110A	-	-	Nil	Nil	Nil	Nil				PR401A PR401A PR402A	48239 48253 48243	CP LH			
	109/98	-	-	1	1	1	1									
PAN 7, PAN 8, PAN 10, HO PAN	113A / 110A	-	-	Nil	Nil	Nil	Nil	PR401A PR401A PR402A	48239 48253 48243	CP LH						
	109/98	-	-	1	1	1	1									
PAN 6, PAN 9, PAN 9J, PAN 11, PAN 12, ASP, V4N	113A / 110A	-	-	3A	3A or 4C	3A	3A or 4C							PR401A PR401A PR402A	48239 48253 48243	CP LH
	109/98	-	-	4C	4C or 5	4C	4C or 5									
V, L PAN 6, PAN M6, PAN L6, LGN, LR6	113A / 110A	-	-	3A	3A	3A	3A							PR401A PR401A PR402A	48239 48253 48243	CP LH
CV	113A / 110A	-	-	3B	3B	3B	3B									
RCV, Switch Heel Baseplates & Crossing Baseplates	113A / 110A	-	-	3C	3C	3C	3C							PR401A PR401A PR402A	48239 48253 48243	Cut pads required from strip
MV	113A / 110A	GRN (Blue) GRN (White)	48027 48436	3A	3A	3A	3A									
ASP, VASP	113A / 110A	-	-	3D	3D	3D	3D	PR401A PR402A	48239 48253	LH						
	109/98	-	-	4C	4C	4C	4C									
3rd Rail Insulators types 140, 120, 100	150	-	-	18	18	18	18	-	-							
Slab Track using 10 mm thick strip pad	113A / 110A	-	-	16 or 17	16 or 17	16 or 17	16 or 17	PR401A PR401A PR402A e1809	48239 48253 48243 48255	CP LH						
VB	113A / 110A	-	-	2 x 3A	2 x 3A	2 x 3A	2 x 3A	PR401A PR401A PR402A PR402A	48239 48253 48243 48234	CP LH LH, CP						
VC	113A / 110A	-	-	1 x 3A 1 x 3B	1 x 3A 1 x 3B	1 x 3A 1 x 3B	1 x 3A 1 x 3B									
VD	113A / 110A	-	-	2 x 3B	2 x 3B	2 x 3B	2 x 3B									
NRS1, NRS2	CEN56E1	10274 field 10275 gauge	48082 48081	25 (or 21)	25 (or 21)	25 (or 21)	25 (or 21)	e2007 e2007	48248 48045	CP						
NRS1, NRS2	CEN60E1/E2	5720 Both (or 4452 both)	48060 48027	25 (or 21)	25 (or 21)	25 (or 21)	25 (or 21)	e2007 e2007	48248 48045	CP						

Abbreviations used throughout:

GRN: Glass Reinforced Nylon

EVA: Ethyl Vinyl Acetate

RBC: Rubber Bonded Cork

INST: Installation with all new materials

MTCE: Maintenance or serviceable materials

CP: Corrosion Protection (previously 'Sheradised')

FC: FASTCLIP

eP: e-Plus

LH: Left-handed

NOTES

1. If the rail seat is worn, use type 1 instead of Nil; Type 3A instead of Type 1 (baseplates only); Type 4A instead of Type 3A; Type 4C instead of type 2A; Type 5 instead of type 4A.
2. 98lb. and 109lb. FB rail should not be used in conjunction with concrete S&C bearers. F40 concrete sleepers are not suitable for 98lb. FB rail.
3. Pimpled or Dimpled pads should NOT be used in tunnels or level crossings.
4. e series clips should NOT be used in grey (Flake Graphite) cast iron baseplates.
5. Pads 3A and 4C are for baseplates up to 205mm wide.
6. For details of pad types see sheet D.3.4
7. NR60 S&C: Schwiag slide and check rail baseplates use 5.5mm EVA rail pads. Between cast crossing and baseplates use 10.5mm RBC 'rail' pad. Elsewhere use 10.5mm Studded Rubber.
8. BS113A and CEN56E1 rail sections are fully interchangeable.



Documents

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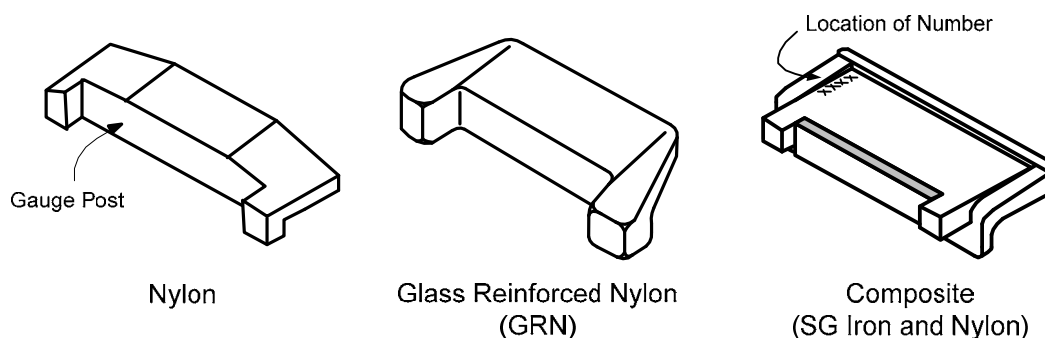
D.3.4: Rail Pads, Clips and Insulators - 3

Table 8 – Rail Seat Pad Types

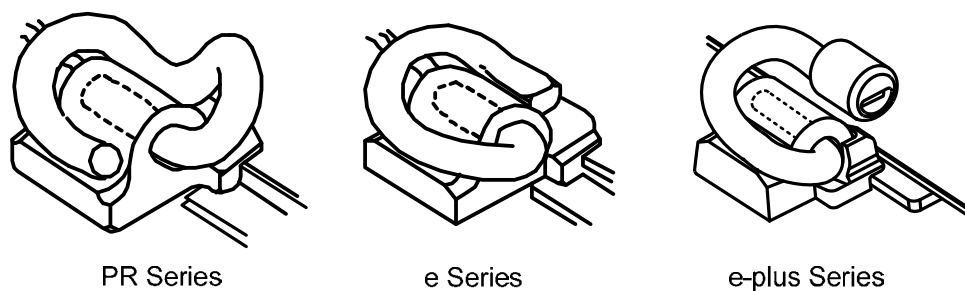
Code	Rail Seat Pad Type	Cat no. 57/-	Code	Rail Seat Pad Type	Cat no. 57/-
1	2.5mm Lipped EVA (220 X 140)	48476	12	10.5mm 'H' Rubber (Pandrol)	48028
2	5.5mm 'H' EVA	48521	13	1.5mm RBC	48017
3A	5.5mm Lipped EVA (260 x 140)	48093	14	1.5mm RBC (Height adjustment)	48730
3B	5.5mm Lipped EVA (260 x 250)	48178	15	1.5mm RBC (Height adjustment)	48731
3C	5.5mm Lipped EVA (260 wide strip)	48449	16	10.5mm RBC (150 x 2000)	
3D	5.5mm Lipped EVA (220 x 140)	48094	17	10.5mm Rubber (150 x 2000)	
4A	7.5mm Lipped EVA	48095	18	FC16 9.3/8" x 5.7/8" x 3/16" (pad under conductor rail insulator)	49152
4B	7.5mm 'H' EVA	48086	19	5.5mm '+' EVA (for SHC)	48493
4C	7.5mm Lipped EVA (220 x 140)	48089	20	7.5mm '+' EVA (for SHC)	48499
5	10.5mm Lipped EVA	48096	21	10.5mm 'H' Rubber (Pandrol 5197)	48088
6	5.5mm '+' Rubber (for SHC)	48092	22	10.5mm 'H' Rubber (Pandrol 9328)	48293
6A	7.5mm '+' Rubber (for SHC)	48492	23	10.5mm 'H' Rubber (Pandrol 6650)	48271
7	5.5mm 'H' Rubber	48091	24	10.5mm 'H' Rubber (Pandrol 8854)	48254
8	7.5mm 'H' RBC	48267	25	10.5mm 'H' Rubber (Pandrol 7031)	48613
9	7.5mm 'H' Rubber	48269	26	10.5mm for Vossloh W14 with CEN56E1 Rail	48682
10	10.5mm 'H' RBC	48029	27	10.5mm for Vossloh W14 with CEN60E1/E2 Rail	48683
11	10.5mm 'H' Rubber	48268			

Attenuation types: EVA (Ethyl Vinyl Acetate) = Type C, Rubber = Type B, RBC (Rubber Bonded Cork) = Type A.

Insulators:



Pandrol Clips:



D.4.1: Standard Timber Lengths

Table 9 – Standard Timber Lengths

AVAILABLE TIMBER LENGTHS FOR SWITCH AND CROSSING WORK			
LENGTH (mm)	Catalogue No. 57/-	LENGTH (mm)	Catalogue No. 57/-
2450*	091000	5450	091020
2600	091001	5600	091021
2750	091002	5750	091022
2900	091003	5900	091023
3050	091004	6050	091024
3200	091005	6200	091025
3350	091006	6350	091026
3500	091007	6650	091027
3650	091008	6950	091028
3800	091009	7250	091029
3950	091010	7550	091030
4100	091011	7850	091031
4250	091012	8150	091032
4400	091013	8450	091033
4550	091014	8750	091034
4700	091015	9050	091035
4850	091016	9350	091036
5000	091017	9650	091037
5150	091018	9950	091038
5300	091019	10 250	091039

NOTES

- * 2450 length may also be cut from 2600 if required.