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NEW CONSTRUCTION



MAINTENANCE



TRANSPORT FOR
LONDON

Network Rail protective systems for new construction

Sherwin-Williams has a full range of products that are approved to the Network Rail standards which are suitable for its new construction specifications.

Item No.	Network Rail specified products
7.3.1	Acrolon C137V2
-	Acrolon C750V2
5.12.1	Epidek M153
7.2.3	Macropoxy C123
7.2.2	Macropoxy C267V3
7.1.7	Macropoxy C401
7.2.2	Macropoxy C401

Item No.	Network Rail specified products
7.1.7	Macropoxy C402V2
7.2.2	Macropoxy C402V2
7.1.4	Macropoxy C425V2
7.2.2	Macropoxy K267
7.1.2	Macropoxy L574
7.1.2	Macropoxy L674
7.2.3	Macropoxy M922
7.1.3	Zinc Clad M501

Protective system reference		Preparation including metal coatings	Paint coats	Item No.	Min DFT (µm)	Cert ref
XN90/N1	Thermally Sprayed Metal/Epoxy Protective System	Blast-clean to Sa3 Thermally Sprayed Metal Coating Zn or Al	Macropoxy L574	7.1.2	25	XN90/N1/038
			Macropoxy C402V2	7.2.2	150	
			Acrolon C137V2	7.3.1	50	
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L574	7.1.2	25	N2/003
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy M922	7.2.3	400	
			Acrolon C137V2	7.3.1	50	
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L574	7.1.2	25	N2/033
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C123	7.2.3	400	
			Acrolon C137V2	7.3.1	50	
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L674	7.1.2	50	N2/038
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C123	7.2.3	400	
			Acrolon C137V2	7.3.1	50	
XN90/N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L574	7.1.2	25	XN90/N2/070
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C123	7.2.3	250	
			Acrolon C137V2	7.3.1	50	
XN90/N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L674	7.1.2	50	XN90/N2/074
N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C123	7.2.3	250	
			Acrolon C137V2	7.3.1	50	
N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L674	7.1.2	50	N4/088
N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C401	7.2.2	125	
			Macropoxy C402V2	7.2.2	125	
N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Acrolon C137V2	7.3.1	50	
			Macropoxy C402V2	7.1.5	100	XN90/N4/057
			Macropoxy C401	7.1.7	125	
N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Acrolon C137V2	7.3.1	50	
			Zinc Clad M501	7.1.3	50	XN90/N4/109
			Macropoxy C267V3	7.2.2	125	
N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C267V3	7.2.2	125	
			Acrolon C137V2	7.3.1	50	
N9	Protective System for Galvanized Steel	Sweep blast-clean Surface profile 20-30µm	Macropoxy K267	7.2.2	125	N9/038
N9	Protective System for Galvanized Steel	Sweep blast-clean Surface profile 20-30µm	Acrolon C137V2	7.3.1	50	
XN90/N11.1	Thermally Sprayed Metal/Epoxy MIO Protective System for Box Girder Interiors	Blast-clean to Sa3 Thermally Sprayed Metal Coating Zn or Al	Macropoxy L574	7.1.2	25	XN90/N11.1/067
N11.1	Thermally Sprayed Metal/Epoxy MIO Protective System for Box Girder Interiors	Blast-clean to Sa3 Thermally Sprayed Metal Coating Zn or Al	Macropoxy C401	7.2.2	150	
N12.1	Epoxy MIO Protective System for Box Girder Internal Surfaces	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C425V2	7.1.4	100	N12.1/005
N12.1	Epoxy MIO Protective System for Box Girder Internal Surfaces	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C401	7.2.2	125	
N13	Epoxy Protective System for Structural Steelwork for Interior Environments	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L674	7.1.2	50	N13/008
N13	Epoxy Protective System for Structural Steelwork for Interior Environments	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C402V2	7.2.2	125	
			Acrolon C137V2	7.3.1	50	



Network Rail protective systems for new construction



Protective system reference		Preparation including metal coatings	Paint coats	Item No.	Min DFT (µm)	Cert ref
XO99	Deck Coating	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy C425V2 Epidek M153 Epidek Aggregate	7.1.4 5.12.1 5.12.3	100 2500 1-3mm	XO99/009
XO99	Deck Coating	Blast-clean to Sa3 Thermally Sprayed Metal Coating Zn or Al	Macropoxy L574 Epidek M153 Epidek Aggregate	7.1.2 5.12.1 5.12.3	25 2500 1-3mm	XO99/008
Isocyanate free finish approved alternatives						
XN90/ N1	Thermally Sprayed Metal/ Epoxy Protective System	Blast-clean to Sa3 Thermally Sprayed Metal Coating Zn or Al	Macropoxy L574 Macropoxy C402V2 Acrolon C750V2	7.1.2 7.2.2 -	25 125 50	XN90/N1/100
XN90/ N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L574 Macropoxy C123 Acrolon C750V2	7.1.2 7.2.3 -	25 400 50	XN90/N2/096
XN90/ N2	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L574 Macropoxy C123 Acrolon C750V2	7.1.2 7.2.3 -	25 250 50	XN90/N2/097
XN90/ N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L674 Macropoxy C401 Macropoxy C402V2 Acrolon C750V2	7.1.2 7.2.2 7.2.2 -	50 125 125 50	XN90/N4/102
XN90/ N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Zinc Clad M501 Macropoxy C267V3 Macropoxy C267V3 Acrolon C750V2	7.1.3 7.2.2 7.2.2 -	50 125 125 50	XN90/N4/109
XN90/ N4	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm	Zinc Clad M501 Macropoxy C267V3 Acrolon C750V2	7.1.3 7.2.2 -	50 125 50	XN90/N4/111
XN90/ N13	Epoxy Protective System for Structural Steelwork for Interior Environments	Blast-clean to Sa2½ Surface profile 70-100mm	Macropoxy L674 Macropoxy C402V2 Acrolon C750V2	7.1.2 7.2.2 -	50 125 50	XN90/ N13/103

Network Rail protective systems for maintenance

Sherwin-Williams has a full range of products that are approved to the Network Rail standards which are suitable for its maintenance specifications.

Item No.	Network Rail specified products
7.3.1	Acrolon C137V2
7.3.1	Acrolon C237
-	Acrolon C750V2
-	Dura-Plate 301W
7.2.6	Macropoxy C88
7.2.3	Macropoxy C123
7.2.2	Macropoxy C267V3
7.2.2	Macropoxy C401
7.1.5	Macropoxy C402V2 (Aluminium)
7.2.2	Macropoxy C402V2

Item No.	Network Rail specified products
7.2.2	Macropoxy K267
7.2.2	Macropoxy L524
7.1.2	Macropoxy L574
7.1.2	Macropoxy L674
7.1.5	Macropoxy M902
7.1.7	Macropoxy M905
7.2.2	Macropoxy M905
7.2.3	Macropoxy M922
7.2.6	Macropoxy M922M
7.1.3	Zinc Clad M501

Protective system reference		Preparation including metal coatings	Paint coats	Item No.	Min DFT (µm)	Cert ref
M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674	7.1.2	50	M20/170
			Macropoxy C401	7.2.2	125	
			Macropoxy C402V2	7.2.2	125	
			Acrolon C137V2	7.3.1	50	
M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674	7.1.2	50	M20/189
			Macropoxy C401	7.2.2	125	
			Macropoxy C402V2	7.2.2	125	
			Resistex K651	5.6.3	50	
M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Zinc Clad M501	7.1.3	50	M20/192
			Macropoxy C267V3	7.2.2	125	
			Macropoxy C267V3	7.2.2	125	
			Acrolon C137V2	7.3.1	50	
XM92/ M20	Epoxy MIO Protective System alternative to M20 using low temperature curing intermediate coats	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674	7.1.2	50	XM92/ M20/083
			Macropoxy M902	7.1.5	100	
			Macropoxy M905	7.2.2	125	
			Acrolon C137V2	7.3.1	50	
XM92/ M20	Protective System for dry blast-cleaned steel	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy C402V2	7.1.5	100	XM92/ M20/094
			Macropoxy C401	7.1.7	125	
			Acrolon C137V2	7.3.1	50	
XM92/ M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674	7.1.2	50	XM92/ M20/111
			Macropoxy C402V2 (Brush Applied)	7.2.2	50	
			Macropoxy C402V2	7.2.2	100	
			Macropoxy C401	7.1.7	125	
			Acrolon C137V2	7.3.1	50	
XM92/ M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Zinc Clad M501	7.1.3	50	XM92/ M20/202
			Macropoxy C267V3	7.2.2	125	
			Acrolon C137V2	7.3.1	50	
M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L574	7.1.2	25	M21/003
			Macropoxy M922	7.2.3	400	
			Acrolon C137V2	7.3.1	50	
M21	Glass Flake Epoxy Protective System – Forth Rail Bridge	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674 (Transgard TG223)	7.1.2	60	M21/004
			Macropoxy M922 (Transgard TG123)	7.2.3	400	
			Acrolon C137V2 (Transgard TG168)	7.3.1	50	
M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L574	7.1.2	25	M21/032
			Macropoxy C123	7.2.3	400	
			Acrolon C137V2	7.3.1	50	



Network Rail protective systems for maintenance



Protective system reference		Preparation including metal coatings	Paint coats	Item No.	Min DFT (µm)	Cert ref
M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674	7.1.2	50	M21/036
			Macropoxy C123	7.2.3	400	
			Acrolon C137V2	7.3.1	50	
XM92/M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L574	7.1.2	25	XM92/M21/127
			Macropoxy C123	7.2.3	250	
			Acrolon C137V2	7.3.1	50	
XM92/M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674	7.1.2	50	XM92/M21/138
			Macropoxy C123	7.2.3	250	
			Acrolon C137V2	7.3.1	50	
XM92/M21	Glass Flake Epoxy Protective System	Bristle blast-clean to St3.	Macropoxy M902	7.1.5	100	XM92/M21/160
			Macropoxy M922	7.2.3	400	
			Acrolon C137V2	7.3.1	50	
M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork.	Macropoxy C402V2 (Aluminium)	7.1.5	100	M24/049
			Macropoxy C402V2	7.1.7	100	
			Acrolon C137V2	7.3.1	50	
M24	Surface Tolerant Epoxy Protective System – Low Temperature Curing Alternative	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork.	Macropoxy M902	7.1.5	100	M24/014
			Macropoxy M905	7.1.7	100	
			Acrolon C137V2	7.3.1	50	
XM92/M24	Protective System for wet blast-cleaned steel	Wet abrasive blast-clean to Sa2½	Macropoxy C402V2 (Aluminium)	7.1.5	100	XM92/M24/059
			Macropoxy C401	7.1.7	125	
			Acrolon C137V2	7.3.1	50	
XM92/M24	Surface Tolerant Epoxy Protective System – Low Temperature Curing	Bristle blast-clean to St3.	Macropoxy M902	7.1.5	100	XM92/M24/161
			Macropoxy M905	7.1.7	100	
			Acrolon C137V2	7.3.1	50	
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W	-	100	XM92/M24/195
			Dura-Plate 301W	-	100	
			Acrolon C137V2 Or Acrolon C237	7.3.1	50	
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W	-	200	XM92/M24/196
			Acrolon C137V2	7.3.1	50	
			Or Acrolon C237	7.3.1	50	
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Macropoxy C402V2 (Aluminium)	7.1.5	200	XM92/M24/198
			Acrolon C137V2	7.3.1	50	
XM92/M26.3	Pitch Free Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100µm.	Macropoxy L674	7.1.2	50	XM92/M26.3/112
			Macropoxy L524	7.2.2	125	
			Macropoxy L524	7.2.2	100	
M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3.	Macropoxy M922M	7.2.6	400	M34/002
			Acrolon C137V2 (Optional)	7.3.1	50	
XM92/M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3, or wet abrasive Blast-Clean	Macropoxy C88	7.2.6	300	XM92/M34/181
			Acrolon C137V2 (Optional)	7.3.1	50	
			Or Acrolon C237 (Optional)	7.3.1	60	
XM92/M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W	-	300	XM92/M34/197
XM92/M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W	-	300	XM92/M34/200
			Acrolon C137V2	7.3.1	50	
			Or Acrolon C237	7.3.1	50	
XM92/M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W	-	150	XM92/M34/201
			Dura-Plate 301W	-	150	
			Acrolon C137V2 Or Acrolon C237	7.3.1	50	

Isocyanate Free Finish Approved Alternatives

Network Rail protective systems for maintenance



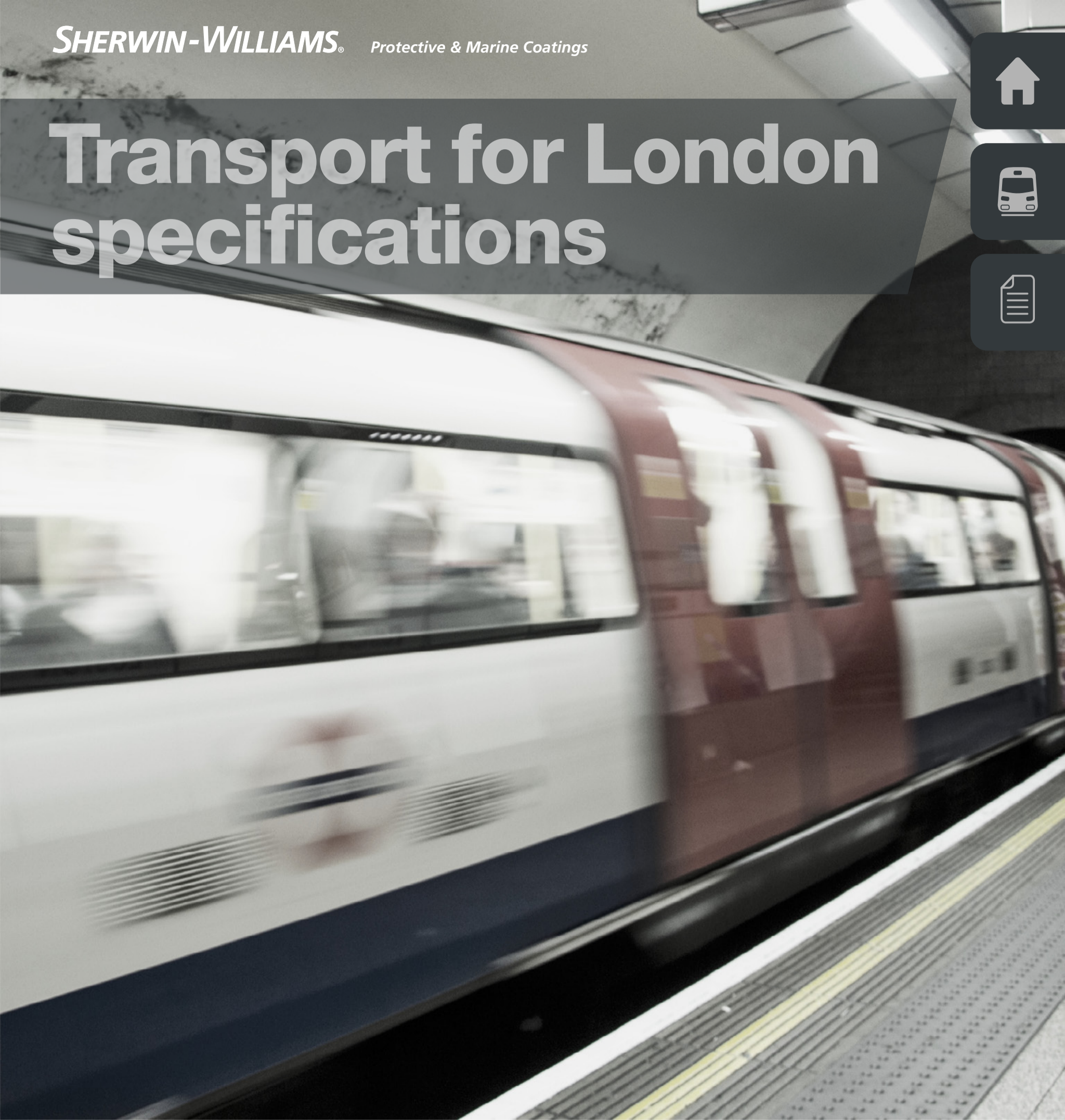
Protective system reference		Preparation including metal coatings	Paint coats	Item No.	Min DFT (µm)	Cert ref	
M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Zinc Clad M501 Macropoxy C267V3 Macropoxy C267V3 Acrolon C750V2		7.1.3 7.2.2 7.2.2 -	50 125 125 50	M20/192
XM92/M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L674 Macropoxy C401 Macropoxy C402V2 Acrolon C750V2		7.1.2 7.2.2 7.2.2 -	50 125 125 50	XM92/M20/190
XM92/M20	Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Zinc Clad M501 Macropoxy C267V3 Acrolon C750V2		7.1.3 7.2.2 -	50 125 50	XM92/M20/202
XM92/M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L574 Macropoxy C123 Acrolon C750V2		7.1.2 7.2.3 -	25 400 50	XM92/M21/185
XM92/M21	Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100mm.	Macropoxy L574 Macropoxy C123 Acrolon C750V2		7.1.2 7.2.3 -	25 250 50	XM92/M21/186
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork.	Macropoxy M902 Macropoxy M905 Acrolon C750V2		7.1.5 7.1.7 -	100 100 50	XM92/M24/182
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W Dura-Plate 301W Acrolon C750V2		- - -	100 100 50	XM92/M24/195
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W Acrolon C750V2		- -	200 50	XM92/M24/196
XM92/M24	Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork.	Macropoxy C402V2 (Aluminium) Macropoxy C402V2 Acrolon C750V2		7.1.5 7.1.7 -	100 100 50	XM92/M24/191
XM92/M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W Acrolon C750V2		- -	300 50	XM92/M34/200
XM92/M34	1 or 2 coat maintenance system for short possessions	Blast-clean to Sa2½ or hand/power tool clean to St3. Wet abrasive blast-cleaning SSPC -Vis 4 (1) NACE No.7	Dura-Plate 301W Dura-Plate 301W Acrolon C750V2		- - -	150 150 50	XM92/M34/201

Transport for London specifications









NEW CONSTRUCTION



MAINTENANCE

Transport for London protective systems for new construction

Sherwin-Williams has a full range of products that are approved to the Transport for London standards which are suitable for its new construction specifications.

Transport for London registered products	Transport for London registered products
Acrolon C137V2	Macropoxy K267
FIRETEX M71V3	Macropoxy L574
FIRETEX FX5060	Macropoxy L674
Macropoxy C123	Macropoxy M455V2
Macropoxy C400V3	Macropoxy M922
Macropoxy C401	Mordant Wash L703
Macropoxy C402V2	

Protective system reference	Preparation including metal coatings	Paint coats	Min DFT (µm)	Cert ref
New Work – above ground				
Thermally Sprayed Metal/ Epoxy Protective System	Blast-clean to Sa3 Thermally Sprayed Metal Coating Zn or Al	Macropoxy L574 Macropoxy C402V2 Acrolon C137V2	20 150 50	285
Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy L574 Macropoxy M922 Acrolon C137V2	25 400 50	283
Glass Flake Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy L574 Macropoxy C123 Acrolon C137V2	25 400 50	283
Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy L674 Macropoxy C401 Macropoxy C402V2 Acrolon C137V2	50 125 100 50	284
Protective System for Galvanized Steel	Sweep blast-clean Surface profile 20-30µm	Macropoxy K267 Acrolon C137V2	125 50	1649
Protective System for Galvanized Steel	Application of Mordant Wash L703 mordant wash solution	Mordant Wash L703 Macropoxy K267 Acrolon C137V2	- 125 50	1649
New Work – below ground				
Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy C400V3 Acrolon C137V2	200 50	2051
Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy M455V2 Acrolon C137V2 (optional for external)	125 50	1667
Epoxy Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy C400V3 FIRETEX FX5060 FIRETEX M71V3	50 various 50	1999

N.B. Stripe Coats not included in this table. Please see relevant Method Statement for details.



Transport for London protective systems for maintenance

Sherwin-Williams has a full range of products that are approved to the Transport for London standards which are suitable for its new construction specifications.

Transport for London registered products

- [Acrolon C137V2](#)
- [Acrolon C237](#)
- [Acrolon C750V2](#)
- [Macropoxy C401](#)

Transport for London registered products

- [Macropoxy C402V2](#)
- [Macropoxy M902](#)
- [Macropoxy M905](#)
- [Macropoxy L674](#)

Protective system reference	Preparation including metal coatings	Paint coats	Min DFT (µm)	Cert ref
New Work – above ground				
Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork	Macropoxy C402V2 (Aluminium)	100	287
		Macropoxy C402V2 Acrolon C137V2	100 50	
Surface Tolerant Epoxy MIO Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork	Macropoxy C402V2 (Aluminium)	100	288
		Macropoxy C401 Acrolon C137V2	125 50	
Epoxy MIO Protective System	Blast-clean to Sa2½ Surface profile 70-100µm	Macropoxy L674 Macropoxy M902 Macropoxy M905 Acrolon C137V2	50 125 100 50	289
Low temperature curing Surface Tolerant Epoxy Protective System	Blast-clean to Sa2½ or hand/power tool clean to St3	Dura-Plate 301W	100	3458
		Dura-Plate 301W	100	
		Acrolon C137V2	50	
		Or Acrolon C237	50	
		Or Acrolon C750V2	50	
New Work – below ground				
Surface Tolerant Epoxy Protective System - Low temperature curing alternative	Blast-clean to Sa2½ or hand/power tool clean to St3. Wash down and abrade sound existing paintwork	Macropoxy M902 Macropoxy M905 Acrolon C137V2	125 100 50	286

N.B. Stripe Coats not included in this table. Please see relevant Method Statement for details.

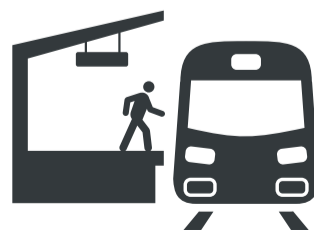




Rail track records



NETWORK RAIL BRIDGES



NETWORK RAIL STATIONS

Network Rail bridges track record

Bridge	Contractor	Date
Apperley Bridge - Leeds	Jack Tighe Ltd	2015
Braehead M8 Railway Bridge	Jack Tighe Ltd	2015
Calverly, Leeds - TJC3-32A	Pyeroy	2015
Kirkbridge Footbridge - South Elmsall	APB Construction	2015
Manchester Metro link gantries	Epic Coatings	2015
Midland Bridge	SCA	2015
Shipton - York EMC5-16	CSL	2015
Shipton - York EMC5-21	CSL	2015
Totnes Station Footbridge	TI Coatings	2015
Calder Rail Bridge	TI Coatings	2014
Spey Viaduct	TI Coatings	2014
Store St, Manchester	Pyeroy	2014
Western Approach Viaduct (WAS)	Severfield UK	2014
Barnsley Interchange	Pyeroy	2013
Blackpool Rail Bridge	APB Construction	2013
Bridge 88 - Blackpool	Pyeroy	2013
Brookhouse/Slade Hooton - Rotherham - BKS-27	Pyeroy	2013
Chapelton - Sheffield	Pyeroy	2013
Cross Lane - Gateshead	Pyeroy	2013
Fortyfoot Bridge - Bridlington	Pyeroy	2013
Hemsworth	Pyeroy	2013
Huddersfield Canal - Marsden	Pyeroy	2013
Langley Moor	Pyeroy	2013
Leeds/Liverpool Canal - Shipley	Pyeroy	2013
Maple St - Hull	Pyeroy	2013
Newton Aycliffe - DAE1-9	Pyeroy	2013
Pitsmoor Rd - Sheffield	Pyeroy	2013



Network Rail bridges track record

Bridge	Contractor	Date
River Aire - Skipton	Pyeroy	2013
Southport Rail Bridge	APB Construction	2013
Thorpe Marsh Drain - Doncaster	Pyeroy	2013
Aromax Bridge	CSL	2012
Blackfriars Bridge	Pyeroy	2012
Dinting Vale Viaduct	TI Coatings	2012
East Croydon Footbridge	Jack Tighe Ltd	2012
Fishergate Railway Bridge - Preston	TI Coatings	2012
Great Lime Street	Story Rail/E&P	2012
Marlborough Bridge - Spondon	MSD	2012
Marykirk Viaduct	TI Coatings	2012
OCC Thompson Bridge	Murphy Group	2012
Royal Albert Bridge	TI Coatings	2012
Stillington Bridge	Story Rail/Pyeroy	2012
Arnside Viaduct	Fairfield Mabey	2011
Hampsons Green	TI Coatings	2011
Hampsons Lane	TI Coatings	2011
Mottram Viaduct	TI Coatings	2011
Tennison Rail Bridge	Severfield UK	2010
Weston Mill Viaduct	TI Coatings	2010
Burton-upon-Trent footbridges	ICS	2009
Rannoch Moor Viaduct	TI Coatings	2009
Roodee Viaduct - Chester	TI Coatings	2009
Wavertree Tech Park - Liverpool	TI Coatings	2009
Liskeard Viaduct	Jack Tighe Ltd	2008
Teignmouth Bridge	SWB	2008
Croxton Road footbridge	Coastground	2007



Network Rail bridges track record

Bridge	Contractor	Date
Elwy footbridge	Fairfield Mabey	2007
Leven Viaduct	Fairfield Mabey	2007
Kettering Station footbridge	Meldan Fabrications	2006
River Don Bridge - Sheffield	Fairfield Mabey	2006
Kilburn Bridge (LUL)	Strada	2005
Newcastle High Level Bridge	Pyeroy	2005
Swinegate Bridge - Leeds	Spencers	2003
Tay Rail Bridge	Palmers/TI Coatings	2003
Acton Grange Bridge	Jack Tighe Ltd	2002
Princess of Wales Bridge - Teeside	TNT Coatings	2002
Rockley Sands Viaduct	Dyer & Butler	2002
Forth Rail Bridge	Pyeroy/Palmers	2001



Network Rail stations track record

Station	Contractor	Date
Calverly Bridge	Pyeroy	2015
Birmingham New Street	MCL	2014
Manchester Victoria	Severfield UK	2014
Nottingham	Bagnalls	2013
Paddington - London	TI Coatings	2013
Waterloo Int. Station	Walker Construction	2013
Blackfriars Bridge	Pyeroy	2012
East Croydon	Watsons	2012
Farringdon Station	CLC	2012
Leicester	Bagnalls	2012
Preston	Bagnalls	2012
Barrow-in-Furness	ARM4	2011
Loughborough	Bagnalls	2011
Swindon	TI Coatings	2011
Workington	NSG	2011
Edinburgh Waverley	Palmers	2010
Huddersfield	CSL	2010
Kings Cross Suburban Station	DRH	2010
Marylebone Station	Wardle Painters	2010
Southfields - London	CLC	2009
Hatfield	CLC	2008
Selhurst Depot	Jack Tighe Ltd	2008
Earl's Court	CLC	2007
London St. Pancras	Sui Generis	2007
Witby	Meldan Fabrications	2007
Cleethorpes	Meldan Fabrications	2005
Waterloo Station	Mitie Lindsay	2005
Southport	Bagnalls	2004



Network Rail stations track record

Station	Contractor	Date
Wemyss Bay	McLean & Spear	2004
Doncaster	Meldan Fabrications	2003
Railway lines (Scotland W.M.L) - Saltends	E&P	2003
Sheffield	Meldan Fabrications	2003
Canary Wharf	E&P	2002
Durham	JD Painting	2002
Newcastle	JD Painting	2002
Blackburn	CSL	2001
Bournemouth	Colebrand	2001
York	J D Painting	2001
Leeds	Manchester Blast	2000





Rail case studies

Sherwin-Williams has been involved in numerous projects both large and small. Each one presenting its own challenge where high performance coatings and innovative products have always been used.

Below are a selection of shortened overviews.



ARNSIDE VIADUCT



BLACKFRIARS RAIL
BRIDGE STATION



EARLS COURT
UNDERGROUND
STATION



FORTH RAIL BRIDGE



MANCHESTER
VICTORIA STATION



ROYAL ALBERT
BRIDGE



ST PANCRAS
INTERNATIONAL
STATION



TAY RAIL BRIDGE



WAVERLEY RAILWAY
STATION

Arnside Viaduct



Requirements:	25 years protection against high humidity and salinity levels.
Specifications:	Macropoxy L674, Macropoxy M922, Acrolon C137V2.
Area coated:	Approximately 1,200 tonnes of prefabricated deck girder units.

Arnside Viaduct is a 51 span bridge that was originally built in 1856 and consisted of a single track rail line that connects Arnside with Cumbria over the Kent estuary near Morecambe Bay.

Subsequently this was widened to accommodate a second line and has undergone further maintenance over the years to strengthen the supports. The steelwork had deteriorated over the years to such an extent that the superstructure was in need of a complete replacement and had to be carried out during a 16 week closure to the line in the spring/summer of 2011.

The 477m long bridge is constructed of tubular cast iron piles which were subsequently encased in brickwork and concrete for additional protection and a superstructure that supported the Carnforth & Whitehaven line.

To help with the limited time frame in

which the project had to be completed, the superstructure was replaced with prefabricated deck girder units which were fabricated and painted at the Mabey Bridge facilities in Chepstow, South Wales and then transported to site in Cumbria for erection and installation.

Sherwin-Williams was asked to supply an anti-corrosion coating system that would protect the project for a minimum of 25 years in a saline environment (the project was only 7.9m above water level) Sherwin-Williams also provided an anti-slip deck coating for the superstructure modules which have proven track records in the North Sea offshore industry.

Blackfriars rail bridge & station



Requirements:	25 years protection against high humidity and salinity levels.
Specifications:	Macropoxy L674, Macropoxy M922, Acrolon C137V2.
Area coated:	60,000 m²

As part of a five-year project, the task of protecting the existing Blackfriars rail bridge and the new station that runs along its length presented a specific challenge for Sherwin-Williams in that a common protective coating system for old and new steelwork was preferred.

With the River Thames below, inherent issues of dampness and humidity meant that the choice of coating would be of particular importance, because Network Rail specified a minimum service life of 25 years to first major maintenance.

The existing paintwork on the rail bridge was removed by abrasive blast-cleaning. A surface-tolerant epoxy coating system

was used to meet the requirements of a C5M environment specification.

Anti-corrosion protective coatings of a higher build blast primer Macropoxy L674, an epoxy glass flake build coat Macropoxy M922 and an acrylic urethane finish Acrolon C137V2 as well as a stripe coat of epoxy glass flake were used on this project.

Earl's Court underground station

Requirements:	15 years' life to first major maintenance for the structural steelwork.
Specifications:	Macropoxy M902, Macropoxy M905, Acrolon C137V2

The London Underground District Line first opened its tracks to Earls Court in 1869 and two years later, the first station was built. Numerous extensions had been made during the years, the last major project happening in 1960's.

In 2007, CLC Contractors Ltd. was asked to carry out a refurbishment of the roof structure, which entailed chemically stripping the exiting paint off the steelwork followed by mechanical preparation prior to re-applying a new paint system to provide 15 years life to first major maintenance. This was complicated by the fact that there were around eight layers of old paint to remove, some of the exiting coatings contained lead, the station had to be kept open and the glazing had

to be removed which meant that the ambient conditions would not be ideal for painting in the colder months. Sherwin-Williams was asked to supply an anti-corrosion coating system for the project that would satisfy the TFL requirements and provide protection for a minimum period of 15 years to next major maintenance. The paint system would also have to be suitable for curing in cold temperatures during the winter months, exacerbated by the removal of the glazing.



Forth Rail Bridge



Requirements:	To provide 25 years protection in a highly corrosive environment.
Specifications:	Transgard TG223, Transgard TG123 and Acrolon C137V2.
Area coated:	230,000 m ²

An incredible 119 years old, the Forth Rail Bridge was constructed from 53,000 tonnes of steel. Standing 110m high and 2,467m in length, the structure requires enough protective coating to cover 230,000 square metres of steel.

Subject to coastal conditions with moderate to high salinity the steel of the Forth Rail Bridge needs to be protected against a very aggressive environment; including high winds and sea mists. Network Rail required a system that would provide a minimum of 25 years protection against corrosion.

After careful consideration and detailed discussions, Railtrack (now Network Rail) opted for a glass flake epoxy based system,

which could be applied to a higher film build, resulting in a system comprising of three coats compared with the four coats of an epoxy MIO system.

The selected system consists of a higher build blast primer (Transgard TG223), an epoxy glass flake build coat (Transgard TG123) and an acrylic urethane finish (Acrolon C137V2), as well as a stripe coat of epoxy glass flake.

Manchester Victoria rail station



Requirements:	25 years' life to first major maintenance for the structural steelwork.
Specifications:	Macropoxy L574, Macropoxy C123, Acrolon C137V2.
Area coated:	45,000 m ²

Manchester Victoria railway station was first built in 1844 and was further developed in seven phases up to 1909. During 2013-2015, the station was redeveloped as part of a £44M overhaul to allow increased passenger use from 20,000 to the current 40,000 a day.

The project involved the repainting of some existing steelwork, but a large proportion of the project involved the painting and erection of new steelwork to form the futuristic new “glass bubble” roof, a new bridge and general structural steelwork. The new 8,500m² roof is constructed from 15 separate “ribs”, the largest of which is 95 metres in length and weights over 80 tonnes.

Sherwin-Williams was asked to supply an anti-corrosion coating system for the project that would satisfy the Network Rail specifications and provide protection for a minimum period of 25 years to next major maintenance. A high performance system is necessary on a structure such as the roof, as access for any maintenance would be awkward due to the logistics and operations of a fully functional railway station.

Royal Albert Rail Bridge



Requirements:	25 years protection against high humidity and salinity levels.
Specifications:	Macropoxy L674, Macropoxy C123, Acrolon C137V2.
Area coated:	50,000 m²

The Royal Albert Bridge is one of legendary engineer Isambard Kingdom Brunel’s most famous creations.

A railway bridge spanning the River Tamar between Devon and Cornwall, it boasts a unique design featuring two 139m lenticular iron trusses positioned 30m above the water.

Completed in 1859 and opened by Prince Albert, it now stands as a monument to its creator and still carries trains between the two counties across its 666.8m span.

The bridge stands in an aggressive environment with relatively high levels of

humidity and salinity from the tidal river below. Network Rail required a 25 years’ anti-corrosive paint protection system. Based on the protection afforded on other major bridge protection schemes including the Forth and Tay Rail Bridges, Network Rail specified a glass flake epoxy system. The Principal Contractor, Taziker Industrial Limited from Horwich, Bolton, UK, selected Sherwin-Williams as its paint supplier.

St. Pancras International Station



Requirements:	To provide anti-corrosion protection and decoration as well as 60 minutes fire protection to the Undercroft area.
Specifications:	Undercroft: Macropoxy M902, FIRETEX® FX1000, FX7000, Acrolon C237. Main train shed: Macropoxy M902, Macropoxy M905, Acrolon C237. New train shed extension: Epigrip J984, Macropoxy C401, Acrolon C237.
Area coated:	150,000 m ²

Serving over 6.5M passengers each year, the undercroft area at St. Pancras International Station includes 680 cast iron columns, cross members and buckle plates, all of which require 60 minutes fire protection. These cast iron columns support the rail deck and platforms for the Eurostar trains, and house a number of shop units and cafés.

With St. Pancras replacing Waterloo Station as the London end of the Eurostar, the decision was taken to refurbish the Main Train Shed. The paint had to protect and decorate the 140 year old structure, matching the English Heritage's original colours.

The new 'train shed' was constructed to replace the existing one whilst the maintenance work was carried out.

Now complete, the train shed will become the terminal set to serve trains from the North. This project required a coating specification to give at least 25 years anti-corrosion protection, 60 minutes passive fire protection to a preferable finish.



Tay Rail Bridge



Requirements:	25 years protection against high humidity and salinity levels.
Specifications:	Macropoxy L674, Macropoxy C123, Acrolon C137V2.
Area coated:	242,000 m ²

The Tay Rail Bridge spans the Firth of Tay, linking the city of Dundee to Fife. It plays a key role in the region by carrying the Great North Eastern Railway. It took just five years to build and set new engineering standards for bridge building at the time. When it opened in 1887 it brought increased travel and trade opportunities to the east coast of Scotland.

The bridge was built to replace an earlier structure, which was destroyed by a gale in 1879 in what was Britain’s worst rail disaster. The current structure is 3,265 m in length and includes 85 cast iron piers that support a steel deck. Construction included 25,000 tons of cast iron and steel, 70,000 tons of concrete, ten million bricks and three million rivets.

The bridge stands in an aggressive environment with high levels of humidity and salinity from the tidal Firth below. Network Rail required 25 years anti-corrosion paint protection system. Based on the protection afforded on other major bridge protection schemes including the Forth Rail and Royal Albert Bridges.

Waverley rail station



Requirements:	To provide anti-corrosion protection for a minimum period of 25 years.
Specifications:	Principally Network Rail Protective System M24/049. Calton Road Footbridge was repainted with Network Rail Protective System M34. All new steelwork was coated with Network Rail Protective System N13/008.
Area coated:	50,000 m ²

Edinburgh Waverley railway station is the main station in the Scottish capital. Covering an area of more than 101,000 m² (25 acres) in the centre of the city, it is the second-largest main line railway station in the United Kingdom in terms of area, and is both a terminal station and a through station, in contrast to most of the major London stations.

It is one of 19 stations managed by Network Rail and is the northern limit of the East Coast Main Line, although through-services operate to Glasgow, Dundee, Aberdeen, Perth and Inverness. Waverley is the second busiest railway station in Scotland after Glasgow Central and the 20th busiest in the United Kingdom.

The major challenge was to prepare and repaint all the iron work without

inconveniencing passengers and disrupting the day to day running of this very busy railway station. Not all areas could be abrasive blast-cleaned so the contractor, Xervon Palmers, required a protective system that was suitable for blast-cleaned and mechanically prepared iron work. Also, it wasn't possible to spray apply the paint to all areas so a system that could be applied by brush and spray was required.



Highways infrastructure



SPECIFICATIONS

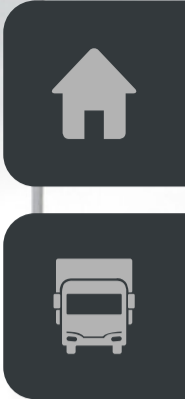


TRACK RECORDS



CASE STUDIES

Highways specifications



NEW CONSTRUCTION



MAINTENANCE

Highways Agency protective systems for new steelwork

Sherwin-Williams has a full range of products that are approved to the Highways Agency standards which are suitable for its new construction specifications.

Item No.	Approved Highways Agency products	
109	Zinc Clad M501	-
110	Transgard TG110	-
111	Transgard TG111V2	-
112	Macropoxy C267V3	-
121	Macropoxy K267	-
123	Macropoxy M922 (Transgard TG123)	Macropoxy C123
155	Mordant Wash L703	-
167	Acrolon C750V2	-
168	Acrolon C137V2 (Transgard TG168)	-
169	Transgard TG169	-

For details of systems for bearings, please contact Sherwin-Williams technical customer support.

Type		Metal coating	1st Coat	2nd Coat	3rd Coat	4th Coat	Min total DFT of the paint system (µm)
I	Item No		109	112	167, 168, 169		275
	Min DFT per coat (µm)		50	125	50		
	Item No		111	112	167, 168, 169		300
	Min DFT per coat (µm)		75	125	50		
II	Item No		109	112	112	167, 168, 169	400
	Min DFT per coat (µm)		50	125	125	50	
	Item No		110	123	167, 168, 169		525
	Min DFT per coat (µm)		25	400	50		
	Item No		111	112	112	167, 168, 169	425
	Min DFT per coat (µm)		75	125	125	50	
III	Item No		109	112			200
	Min DFT per coat (µm)		50	125			
	Item No		111	112			225
	Min DFT per coat (µm)		75	125			
IV	Item No	Hot dip galvanize	155 or sweep blast	110, 112 or 121	112 or 121	167, 168, 169	2nd Coat item 110: 225
	Min DFT per coat (µm)			25 (item 110) or 125 (items 112 or 121)			2nd Coat items 112 or 121: 350

Highways Agency protective systems for maintenance

Sherwin-Williams has a full range of products that are approved to the Highways Agency standards which are suitable for its maintenance specifications.

Item No.	Approved Highways Agency products	
112	Macropoxy C267V3	-
115	Transgard TG115	Macropoxy M902
116	Transgard TG116	Macropoxy M905
121	Macropoxy K267	-
155	Mordant Wash L703	-
168	Acrolon C137V2 (Transgard TG168)	-
169	Transgard TG169	-

Type	Substrate type	Surface preparation		1st Coat	2nd Coat	3rd Coat	Min total DFT of the paint system (µm)
I (M) – High build epoxy (two-pack)/ Polyurethane (two-pack) finish	Steel	Clean, bright Sa2 or St3 quality steel	Item No	115	116	168 or 169	300
			Min DFT (µm)	100		50	
	Aluminium metal spray, zinc metal spray	Bright or sound metal coating	Item No	115	116 or 112	168 or 169	300
			Min DFT (µm)	100		50	
	Existing paint coats	Sound finishing coat or last undercoat	Item No	Nil	Nil	168 or 169	50
			Min DFT (µm)	-	-	50	
		Other sound coats	Item No	Nil	116 or 112	168 or 169	175
			Min DFT (µm)	-	100	50	
III (M) – Extended cure epoxy/ Polyurethanes	Hot dip galvanizing	Bright or sound metal coating	Item No	155	121	168 or 169	175/250
			Min DFT (µm)		100	50	
III (M) (alternative) – Extended cure epoxy/ Polyurethanes	Hot dip galvanizing	Bright or sound metal coating	Item No	121	168 or 169		300
			Min DFT (µm)	100	50		





Highways track records



HIGHWAYS AGENCY BRIDGES

Highways Agency bridges track record

Bridge	Contractor	Date
Tamar Bridge - Maintenance	TI Coatings	2015
Salford Swingbridge	CSL	2014
Erskine Bridge	Gabriel Hughes	2013
Farringdon Bridge	Gabriel Hughes	2013
Hull Swingbridge	Qualter Hall	2013
Wilford Toll Bridge - Nottingham	John's of Nottingham	2013
A666 footbridges & gantries	Powerprep	2012
Blackfriars Bridge	Pyeroy	2012
London Cable car bridge	Severfield UK	2012
St. Asaph	Bagnalls	2011
Bascule Bridge, Liverpool	Bagnalls	2010
Finneston Bridge	MCL	2010
Sheepwash Bridge - Northumberland	Matatec	2009
Tower Bridge	Pyeroy	2009
A58(M) Flyover - Leeds	Superblast	2008
Bilston Wishbone Bridge A41/A4150	Hardyman & Co	2008
Newport SDR Usk Viaduct	Fairfield Mabey	2008
Sir Howey Bridge	Fairfield Mabey	2008
Ravenglass Viaduct	Superblast	2007
Swale Bridge - Isle of Sheppey	Fairfield Mabey	2006
Humber Bridge	Colas	2005
Darrington to Dishforth Relief Road	Fairfield Mabey	2004
A47 Hardwick Roundabout Bridge	Fairfield Mabey	2003
Cottingley Viaduct	Fairfield Mabey	2003
Foyle Bridge	Pyeroy	2003
Lesbury Bridge	Fairfield Mabey	2003
Tinsley Viaduct	Interserve Industrial Services	2003
Avonmouth Bridge	Interserve Industrial Services	2002



Highways Agency bridges track record

Bridge	Contractor	Date
Barton Bridge	Colebrand	2002
M6 Toll Road Bridges (46 bridges)	Fairfield Mabey	2002
Marlow Suspension Bridge	Southern Contracting Services	2002
A27 Adur Viaduct - Shoreham	Interserve Industrial Services	2001
Clifton Suspension Bridge	CSST & Ian Williams	2001
A1 to M1 link Bridges (8 bridges)	Cleveland Bridge	1999





Highways case studies

Sherwin-Williams has been involved in numerous projects both large and small. Each one presenting its own challenge where high performance coatings and innovative products have always been used.

Below are a selection of shortened overviews.



M5 AVONMOUTH
ROAD BRIDGE



M6 TOLL ROAD
BRIDGES



M1 TINSLEY VIADUCT



SWALE CROSSING



TOWER BRIDGE



M5 Avonmouth road bridge



Requirements:	20 years' external corrosion protection.
Specifications:	Transgard TG111V2 (Zinc phosphate primer/buildcoat), Transgard TG112 (Epoxy MIO buildcoat), Transgard TG169 (Sheen acrylic urethane topcoat).
Area coated:	110,000 m ²

Avonmouth Bridge is a twin box girder cantilever type bridge that spans the river Avon between junctions 18 and 19 of the M5 motorway and was opened to public traffic in 1974. Originally it was built as a three-lane highway with a cycle and footpath also attached.

The bridge is 1,388m long, 40m wide, 30m high and spans 174m over the river Avon estuary. There are eighteen spans in all, ten on the north side and eight on the south side. The bridge was built so that traffic travelling to and from the south-west of England could bypass the city of Bristol. An increase in traffic necessitated widening and strengthening of the bridge in the 1990's to cope with the

extra load imposed on it. In 2002, a painting programme was undertaken to completely repaint the external surfaces of the bridge. Sherwin-Williams was asked to supply a Highways Agency compliant anti-corrosion coatings system for the project that would protect the steelwork for a minimum period of 20 years to first maintenance.

M6 Toll road bridges



Requirements:	25 years' external corrosion protection.
Specifications:	Transgard TG110, Transgard TG123, Acrolon C137V2.
Area coated:	46 Bridges in total.

The M6 toll road was opened in 2002 to allow traffic an alternative route to the very congested section of the M6 around Birmingham from junctions 3A to 11A, which is the busiest section of the M6.

The toll road is a 27 mile long stretch of a standard three lane motorway which incorporates ten junctions and as part of its construction required a total of 58 bridges to be fabricated to support the project. Forty six of these overbridges utilised structural steel elements that required the application of anti-corrosive protective coatings.

The majority of the bridges span the toll road and were constructed from large I-section

girders and cross beams. The use of de-icing salt/grit on the roads during winter and the associated wet spray, creates an aggressive marine type micro-climate.

Sherwin-Williams recommended a non-standard Highway Agency paint system based on glass flake epoxy, which has an excellent track record in the offshore industry, to protect the structures.

M1 Tinsley Viaduct



Requirements:	20 years' external corrosion protection and anti-corrosive protection to the internal of the box girders.
Specifications:	Transgard TG111V2 (Zinc phosphate primer/buildcoat), Transgard TG112 (Epoxy MIO buildcoat), Transgard TG169 (Sheen acrylic urethane topcoat).
Area coated:	External steelwork: 155,000 m², internal steelwork: 85,000 m²

Tinsley Viaduct is a two-tier steel box girder road bridge which was the first of its kind in the UK. The bridge crosses the Don Valley between the split junction 34 of the M1 motorway. It spans the River Don, the Sheffield canal, as well as road and rail lines, with the upper tier carrying the M1 motorway and the lower tier the A631 road directly underneath.

The bridge is 1,033m long, approx 30m wide and 20m high from the top tier and includes a 50m span which is the longest of twenty. The bridge was built in 1968 and cost around £6 million to build. At that time, there had been some high-profile failures of bridges of this type of construction, so further strengthening work was carried out to reinforce the bridge in 1983.

Due to new EU legislation regarding the carrying of 40-tonne vehicles, an additional strengthening and painting programme was undertaken in 2003. The bridge required a paint system that would last up to 20 years before another major maintenance would be required. Sherwin-Williams was asked to supply anti-corrosion coatings systems that complied with Highways Agency standards.

Swale Crossing



Requirements:	20 years' external corrosion protection to the structural steelwork.
Specifications:	TSA (thermally sprayed aluminium), Transgard TG159, Transgard TG111V2, Transgard TG112, Acrolon C137V2.
Area coated:	Approximately 14,000 tonnes of structural steel.

The Swale Crossing was built to connect the Kent mainland with the Isle of Sheppy in south east England, linking the M2 and M20 motorways with Sheppy via the A249.

The bridge is approximately 1,300m long, 21m wide, and its highest point stands 31m above ground level. The longest span is 92.5m as it crosses the Swale estuary, the old existing A249 and the local railway line.

The bridge is constructed from numerous I-section girders and cross beams and 15% of the steel came from recycled sources as this was an important aspect of the project.

All of steelwork was fabricated and painted at the Mabey Bridge facilities in Chepstow, South Wales then transported to site in Kent for erection although minor repairs and field joint repairs were carried out at site.

Sherwin-Williams was asked to supply an anti-corrosion coating system for the project that would satisfy the Highways Agency specifications.

Tower Bridge



Requirements:	25 years protection against high humidity and salinity levels.
Specifications:	Macropoxy M902, Macropoxy M905 and Acrolon C137V2.
Area coated:	22,000 ltrs

Tower Bridge has stood over the River Thames in London since 1894 and is one of the most recognisable landmarks in the world. It is the only bridge on the Thames which can be raised.

The original specification included total removal of the existing paintwork by abrasive blast-cleaning, this would have meant the bridge had to be closed for three months. Transport for London wanted to keep the structure open to prevent disruption during the busy summer period and alternative ideas were explored. Repainting from cradles could keep the structure open but blast-cleaning was not possible from cradles. After discussions,

a Network Rail approved system based on mechanical methods of surface preparation was agreed to remove all unsound existing paintwork. A surface-tolerant epoxy coating system was used to meet the requirements of a C5M environmental specification. Protective coatings for anti-corrosion of Macropoxy M902, Macropoxy M905 and Acrolon C137V2 were used in this project.