

High Temperature Corrosion Protection Coatings

300°F / 150°C to 1500°F / 816°C

These corrosion protection coatings are based on a number of base compound groups:

Urethane / Epoxy / Inorganic Ceramic with various fillers / Silicone / Silicone-Polyester / Inorganic Ceramic-Zinc

Urethane / Epoxy

High Temperature Urethane / Epoxy Corrosion Protection Coatings						
Part Number	UCCPC-6000	UCCPC-6030	UCCPC-6060	UCCPC-6150	UCCPC-6180	UCCPC-6210
Type	Urethane	Urethane	Urethane	Epoxy-Phenolic	Decolac-Epoxy	Decolac-Epoxy
Solids by Weight %	67.0	70.0	72.0	100.0	100.0	100.0
Solids by Volume %	49.0	66.0	77.0	100.0	100.0	100.0
Max Temp F/C	400 / 204	400 / 204	400 / 204	400 / 204	500 / 260	300 / 150 ²
Specific Gravity	1.05	1.08	1.08	1.6	1.9	1.1
Mixed Viscosity, cP	200-240	300-600	200-500	Paste	Paste	800-1000
Thinner	Hi flash Naptha	Hi flash Naptha	Hi flash Naptha	NR	NR	Xylene
Components	1	1	1	2	2	2
Mix Ratio, by wt	N / A	N / A	N / A	1:1	100:8	100:42
WFT, mils (microns)	4.0 (101.6)	4.0 (101.6)	4.0 (101.6)	50+ (1270.0)	50+ (1270.0)	7.0 (177.8)
DFT, mils (microns)	2.0 (50.8)	2.6 (67.1)	3.1 (78.7)	50+ (1270.0)	50+ (1270.0)	7.0 (177.8)
Dry Film Coverage, @ 1mil, ft ² /gal, m ² /litre	722 (17.7)	1058 (25.9)	1235 (30.3)	1604 (39.3)	1604 (39.3)	1604 (39.3)
Application Temp F	50-90	50-90	50-90	50-90	50-90	50-90
Dry to Touch, hrs	4-6	4-6	4-6	6-8	4	5
Dry Handling, hrs	6-8	6-8	6-8	12-14	6-8	8
Recoat hrs (min/max)	3/7	6/12	3/7	4/48	4/8	4/8
Cure, min air set hrs	0.5	1	0.5	2	8	8
Cure, F/hrs	RT/24 or 250/1	RT/24 or 250/1	RT/24 or 250/1	RT/48 or 175/4	RT/48 or 250/6	RT/24
Flash Point, F(C)	140 (60)	140 (60)	140 (60)	>200 (93)	>200 (93)	>200 (93)
VOC's, lbs/gal	2.86	3.00	2.80	0.00	0.00	0.00
Color	Gloss Black	Aluminum ¹	Gloss Gray ¹	Brown	Gray	Gray
Pot Life, hrs RT	NA	NA	NA	.7	.75 (500 gms)	.35 (200 gms)
Packaging	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal

Shelf Life for all products is 12 months at room temperature

Storage temperature for all products is 40-90 F

Primer for all products is not required

WFT = Wet Film Thickness

DFT = Recommended Dry Film Thickness

Dry Film Coverage numbers are theoretical: actual coverage will vary with material losses in mixing and application.

Please Note: These products are custom produced to order in small batches and all sales are final.

NOTES:

1. Product will discolour above 300°F.
2. Withstands intermittent service temperatures of 350-400 °F if cured for 2 hours at 185°F

Further Technical Notes for Epoxy Coatings:

Product	6150	6180
Hardness, Shore D	86	90
Lap Shear, strength to aluminum, psi		
@25C	2700	2300
@100C	1800	2000
@150C	900	1200
@175C	300	900
Flexural Strength, psi	13400	11500
Compressive Strength, psi	10300	12000
Elongation, %	3	2

Surface Preparation for all products:

All surfaces should be free of oil, grease, dirt, corrosives, oxides, paints or foreign matter. No further preparation is required when coating ceramics, refractories or graphites. Smooth metal surfaces should be further prepared as follows:

Abrasive blast to an SSPC-SP5 profile or etch surface using our UCPREP-6000 product. Apply for a maximum of 15 minutes, then rinse with warm water and dry rapidly.

Chemical Resistance Chart					
Chemical	Concentration	6000	6150	6180	6210
ACIDS					
Acetic Acid	20%	B	B	B	B
Acetic Acid	80%	B	B	B	B
Hydrochloric Acid	10%	A	A	A	A
Hydrochloric Acid	20%	A	A	A	A
Nitric Acid	10%	A	A	A	A
Nitric Acid	20%	B	B	B	B
Nitric Acid	50%	D	D	D	D
Nitric Acid	Concentrated	D	D	D	D
Phosphoric Acid	<40%	B	A	A	A
Phosphoric Acid	40-100%	D	C	C	C
Sulfuric Acid	10%	A	A	A	A
Sulfuric Acid	10-75%	C	B	B	B
Sulfuric Acid	75-100%	D	D	D	D
BASES					
Potassium Hydroxide		A	A	A	A
Sodium Hydroxide	20%	A	A	A	A
Sodium Hydroxide	50%	A	A	A	A
Sodium Hydroxide	80%	A	A	A	A
Fuels & Solvents					
Acetone		B	B	B	B
Jet Fuel		A	A	A	A
Alcohol		A	A	A	A
Crude Oil		A	A	A	A
Diesel		A	A	A	A
Gasoline		A	A	A	A
Heptane		A	A	A	A
Kerosene		A	A	A	A
Methyl Ethyl Ketone		B	B	B	B
Methylene Chloride		B	B	A	A
Toluene		A	A	A	A
Xylene		A	A	A	A

Inorganic Ceramic with various fillers

High Temperature Inorganic Ceramic Corrosion Protection Coatings						
Part Number	UCCPC-9000	UCCPC-9045-AL	UCCPC-9045-BL	UCCPC-9045-GR	UCCPC-9045-SS	UCCPC-9045-WH
Type	Inorganic	Inorganic	Inorganic	Inorganic	Inorganic	Inorganic
Solids by Weight %	53.2	36.8	50.0	44.5	42.3	40.0
Solids by Volume %	28.5	19.3	46.3	16.8	41.4	20.6
Max Temp F/C	1300 (704)	1200 (649)	1500 (816)	1400 (760)	1400 (760)	1500 (816)
Specific Gravity	1.55	1.32	1.54	1.38	1.47	1.37
Mixed Viscosity, cP	600-1200	250-900	600-900	300-700	200-500	600-900
Thinner	9000T	9045AL-T	9045BL-T	9045GR-T	9045SS-T	9045WH-T
Components	1	1	1	1	1	1
Mix Ratio, by wt	N / A	N / A	N / A	N / A	N / A	N / A
WFT, mils (microns)	3.52 (89.3)	5.20 (131.9)	2.16 (54.9)	6.00 (151.6)	2.42 (61.4)	4.87 (123.6)
DFT, mils (microns)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Dry Film Coverage, @ 1mil, ft ² /gal, m ² /litre	456 (11.2)	309 (7.6)	742 (18.2)	269 (6.6)	664 (16.3)	330 (8.1)
Application Temp F	50-90	50-90	50-90	50-90	50-90	50-90
Dry to Touch, hrs	1-2	1-2	1-2	1-2	1-2	1-2
Dry Handling, hrs	2-4	2-4	2-4	2-4	2-4	2-4
Recoat hrs (min/max)	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24
Cure, min air set hrs	1	1	1	1	1	1
Cure, F/hrs	200/2 + 500/1	200/2 + 500/1	200/2 + 500/1	RT / 24	RT / 24	RT / 24
Flash Point, F(C)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)
VOC's, lbs/gal	0	0	0	0	0	0
Color	Light Gray	Aluminum	Black	Gray	Stainless Steel	White
Pot Life, hrs RT	NA	NA	NA	NA	NA	NA
Packaging	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal

Shelf Life for all products is 6 months at room temperature

Storage temperature for all products is 40-85 °F

Primer for all products is not required except for exterior applications in which salt fog or moisture are present.

WFT = Wet Film Thickness

DFT = Recommended Dry Film Thickness

Dry Film Coverage numbers are theoretical: actual coverage will vary with material losses in mixing and application.

Please Note: These products are custom produced to order in small batches and all sales are final.

Silicone Based

High Temperature Silicone Based Corrosion Protection Coatings						
Part Number	UCCPC-12000	UCCPC-12030	UCCPC-12060	UCCPC-12120	UCCPC-12150	UCCPC-12180
Type	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone
Solids by Weight %	51.5	44.2	44.2	44.2	48.5	46.5
Solids by Volume %	38.1	41.6	38.2	46.1	39.5	38.3
Max Temp °F/°C	1100 (593)	1100 (593)	1100 (593)	1100 (593)	1100 (593)	1100 (593)
Specific Gravity	1.32	1.05	1.28	1.27	1.31	1.31
Mixed Viscosity, cP	400-800	200-600	400-800	400-900	500-750	750-950
Thinner	Distilled Water	Distilled Water	Distilled Water	Distilled Water	Distilled Water	Distilled Water
Components	1	1	1	1	1	1
Mix Ratio, by wt	N / A	N / A	N / A	N / A	N / A	N / A
WFT, mils (microns)	2.6 (66.5)	2.4 (61.0)	2.6 (66.4)	2.2 (55.1)	2.5 (64.3)	2.6 (66.3)
DFT, mils (microns)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Dry Film Coverage, @ 1mil, ft ² /gal, m ² /litre	611 (14.9)	668 (16.4)	613 (15.1)	740 (18.2)	634 (15.6)	614 (15.1)
Application Temp °F	50-120	50-120	50-120	50-120	50-120	50-120
Dry to Touch, hrs	1-2	1-2	1-2	1-2	1-2	1-2
Dry Handling, hrs	2-4	2-4	2-4	2-4	2-4	2-4
Recoat hrs (min/max)	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24
Cure, min air set hrs	1	1	1	1	1	1
Cure, F/hrs	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75
Flash Point, F(C)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)
VOC's, lbs/gal	1.04	0.86	0.99	0.98	0.98	0.98
Color	Flat Black	Aluminum	Gray	White	Green	Red
Pot Life, hrs RT	NA	NA	NA	NA	NA	NA
Packaging	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal

Shelf Life for all products is 6 months at room temperature

Storage temperature for all products is 55-85 °F

Primer for all products is not required except for exterior applications in which salt fog or moisture are present.

WFT = Wet Film Thickness

DFT = Recommended Dry Film Thickness

Dry Film Coverage numbers are theoretical: actual coverage will vary with material losses in mixing and application.

Please Note: These products are custom produced to order in small batches and all sales are final.

Silicone Based - Continued

High Temperature Silicone Based Corrosion Protection Coatings					
Part Number	UCCPC-12210	UCCPC-12240	UCCPC-12270	UCCPC-12285	UCCPC-15000
Type	Silicone	Silicone	Silicone	Silicone	Inorganic
Solids by Weight %	44.8	47.0	44.5	44.5	76.7
Solids by Volume %	38.5	38.0	37.8	37.8	36.8
Max Temp °F/°C	1100 (593)	1100 (593)	1100 (593)	1100 (593)	900 (482)
Specific Gravity	1.25	1.33	1.32	1.32	3.27
Mixed Viscosity, cP	300-600	500-700	300-500	500-700	1250-1750
Thinner	Distilled Water	Distilled Water	Distilled Water	Distilled Water	Distilled Water
Components	1	1	1	1	2
Mix Ratio, by wt	N / A	N / A	N / A	N / A	2:1
WFT, mils (microns)	2.6 (66.3)	2.6 (66.8)	2.7 (67.2)	2.6 (64.9)	2.7 (69.1)
DFT, mils (microns)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Dry Film Coverage, @ 1mil, ft ² /gal, m ² /litre	617 (15.2)	610 (15.0)	606 (14.9)	628 (15.4)	589 (14.5)
Application Temp °F	50-120	50-120	50-120	50-120	50-90
Dry to Touch, hrs	1-2	1-2	1-2	1-2	1-2
Dry Handling, hrs	2-4	2-4	2-4	2-4	2-4
Recoat hrs (min/max)	1 / 24	1 / 24	1 / 24	1 / 24	4 / 24
Cure, min air set hrs	1	1	1	1	1
Cure, F/hrs	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	200/2
Flash Point, F(C)	> 212 (100)	> 212 (100)	> 212 (100)	> 212 (100)	N/A
VOC's, lbs/gal	1.01	0.95	0.98	0.98	0.00
Color	Blue	Yellow	Brown	Orange	Zinc
Pot Life, hrs RT	NA	NA	NA	NA	<24
Packaging	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal

Shelf Life for all products is 6 months at room temperature

Storage temperature for all products is 55-85 °F

Primer for all products is not required except for exterior applications in which salt fog or moisture are present.

WFT = Wet Film Thickness

DFT = Recommended Dry Film Thickness

Dry Film Coverage numbers are theoretical: actual coverage will vary with material losses in mixing and application.

Please Note: These products are custom produced to order in small batches and all sales are final.

Silicone-Polyester Based

High Temperature Silicone Polyester Based Corrosion Protection Coatings					
Part Number	UCCPC-12000-S	UCCPC-12030-S	UCCPC-12060-S	UCCPC-12120-S	UCCPC-12150-S
Type	Silicone-Polyester	Silicone-Polyester	Silicone-Polyester	Silicone-Polyester	Silicone-Polyester
Solids by Weight %	69.9	37.0	62.1	42.1	62.1
Solids by Volume %	57.7	36.7	58.5	49.2	57.4
Max Cont Temp °F/°C	600 (316)	600 (316)	600 (316)	600 (316)	600 (316)
Max Int Temp °F/°C	800 (427)	800 (427)	800 (427)	800 (427)	800 (427)
Specific Gravity	1.45	1.00	1.42	1.37	1.46
Mixed Viscosity, cP	400-600	300-400	200-400	300-500	250-350
Thinner	PM Acetate	PM Acetate	PM Acetate	PM Acetate	PM Acetate
Components	1	1	1	1	1
Mix Ratio, by wt	N / A	N / A	N / A	N / A	N / A
WFT, mils (microns)	1.73 (44.0)	2.73 (69.2)	1.71 (43.4)	2.03 (51.6)	1.74 (44.3)
DFT, mils (microns)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Dry Film Coverage, @ 1mil, ft ² /gal, m ² /litre	925 (22.7)	589 (14.5)	938 (23.0)	789 (19.4)	920 (22.6)
Application Temp °F	50-120	50-120	50-120	50-120	50-120
Dry to Touch, hrs	1-2	1-2	1-2	1-2	1-2
Dry Handling, hrs	2-4	2-4	2-4	2-4	2-4
Recoat hrs (min/max)	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24
Min air set hrs	1	1	1	1	1
Cure, F/hrs	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75
Flash Point, F(C)	118 (48)	115 (46)	115 (46)	115 (46)	115 (46)
VOC's, lbs/gal	3.6	5.3	3.6	3.4	3.7
Color	Black	Aluminum	Gray	White	Green
Pot Life, hrs RT	NA	NA	NA	NA	<24
Packaging	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal

Shelf Life for all products is 6 months at room temperature

Storage temperature for all products is 40-90 °F

Primer for all products is not required except for exterior applications in which salt fog or moisture are present.

WFT = Wet Film Thickness

DFT = Recommended Dry Film Thickness

Dry Film Coverage numbers are theoretical: actual coverage will vary with material losses in mixing and application.

Please Note: These products are custom produced to order in small batches and all sales are final.

Silicone-Polyester Based - Continued

High Temperature Silicone Polyester Based Corrosion Protection Coatings					
Part Number	UCCPC-12180-S	UCCPC-12210-S	UCCPC-12240-S	UCCPC-12270-S	UCCPC-12285-S
Type	Silicone-Polyester	Silicone-Polyester	Silicone-Polyester	Silicone-Polyester	Silicone-Polyester
Solids by Weight %	62.1	62.1	62.1	62.1	62.1
Solids by Volume %	57.4	59.0	57.7	58.6	58.9
Max Cont Temp °F/°C	600 (316)	600 (316)	600 (316)	600 (316)	600 (316)
Max Int Temp °F/°C	800 (427)	800 (427)	800 (427)	800 (427)	800 (427)
Specific Gravity	1.47	1.43	1.40	1.45	1.40
Mixed Viscosity, cP	500-700	150-250	300-500	400-600	550-750
Thinner	PM Acetate	PM Acetate	PM Acetate	PM Acetate	PM Acetate
Components	1	1	1	1	1
Mix Ratio, by wt	N / A	N / A	N / A	N / A	N / A
WFT, mils (microns)	1.74 (44.3)	1.69 (43.0)	1.73 (44.0)	1.71 (43.3)	1.70 (43.2)
DFT, mils (microns)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Dry Film Coverage, @ 1mil, ft ² /gal, m ² /litre	921 (22.6)	946 (23.2)	925 (22.7)	940 (23.1)	944 (23.2)
Application Temp °F	50-120	50-120	50-120	50-120	50-120
Dry to Touch, hrs	1-2	1-2	1-2	1-2	1-2
Dry Handling, hrs	2-4	2-4	2-4	2-4	2-4
Recoat hrs (min/max)	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24
Min air set hrs	1	1	1	1	1
Cure, F/hrs	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75	450/1 or 480/.75
Flash Point, F(C)	115 (46)	115 (46)	115 (46)	115 (46)	115 (46)
VOC's, lbs/gal	3.7	3.6	3.7	3.6	3.6
Color	Red	Blue	Yellow	Brown	Orange
Pot Life, hrs RT	NA	NA	NA	NA	NA
Packaging	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal	Pt, Qt, Gal, 5 Gal
Price (Pt)					

Shelf Life for all products is 6 months at room temperature

Storage temperature for all products is 40-90 °F

Primer for all products is not required except for exterior applications in which salt fog or moisture are present.

WFT = Wet Film Thickness

DFT = Recommended Dry Film Thickness

Dry Film Coverage numbers are theoretical: actual coverage will vary with material losses in mixing and application.

Please Note: These products are custom produced to order in small batches and all sales are final.