AREMCO

CORROSION RESISTANT EPOXY & URETHANE COATINGS

Technical Bulletin A6-S1

Corr-Paint™ CP2050-LF coats flare stack.

Aremco's Corr-Paint™ epoxy and urethane-based coatings are used for producing corrosion and wear resistant barriers to 500 °F. Typical applications include tanks, pipelines, boilers, precipitators, scrubbers, bag houses, cyclones, hoppers and other process equipment used in the power, pulp and paper, and chemical processing industries.

PRODUCT HIGHLIGHTS

Urethane

CP2000	Jet Black
CP2010	Aluminum
CP2020	Gray

Epoxy-Phenolics

CP2050-FF	Large-Fiber Reinforced
CP2050-LF	Fine-Fiber Reinforced
CP2050-NF	Unfilled

Novolac-Epoxies

CP2060	SiC Filled, Hi-Build, 500 °F
CP2070	Gray, Low Viscosity, 300 °F
CP2075	Gray, Hi-Build, 400 °F

FEATURES

- Single-Part, No Mixing
- Low Viscosity
- Cures at Room Temperature
- High Wear Resistance
- Excellent Salt Spray Resistance
- Maximum Temperature, 400 °F

- Two-Part Systems
- High Viscosity for Thick Depositions
- Cures at Room Temperature
- Excellent Corrosion Resistance
- Excellent Wear Resistance
- Maximum Use Temperature, 500 °F

- Two-Part Systems
- Cures at Room Temperature
- Excellent Corrosion Resistance
- Excellent Wear Resistance

Corr-Paint™ CP2060

Corr-Paint™ CP2060 coats pump housing.

Corr-Paint™ CP2000 coats motor housing.

CORROSION PROTECTIVE URETHANE & EPOXY COATINGS PROPERTIES

Type	URETHANE			EPOXY-PHENOLIC	NOVOLAC-EPOXY		
Product Number	**CP2000**	**CP2010**	**CP2020**	**CP2050-XX[1]**	**CP2060[1]**	**CP2070**	**CP2075**
Color (cured)	Gloss Black	Aluminum	Gloss Gray	Brown-Red	Gray	Gray	Gray
Temp. Continuous, °F(°C)	400 (204)	400 (204)[2]	400 (204)[2]	400 (204)	500 (260)	300 (150)[7]	400 (204)
No. Components	1	1	1	2	2	2	2
Mix Ratio, by Weight	NA	NA	NA	1 : 1	100 : 8	100:42 (2 : 1 Vol)	100:26 (3:1 Vol)
Viscosity, cP	200–240	300–600	200–500	Paste	Paste	800–1000	Paste
Specific Gravity, g/cc	1.05	1.08	1.08	1.60	1.90	1.10	1.10
Solids by Weight, %	67.0	70.0	72.0	100.0	100.0	100.0	100.0
Solids by Volume, %	49.0	66.0	77.0	100.0	100.0	100.0	100.0
WFT, mils (microns)[3]	4.0 (101.6)	4.0 (101.6)	4.0 (101.6)	50+ (1270.0)	50+ (1270.0)	7.0 (177.8)	20.0 (508.0)
DFT, mils (microns)[4]	2.0 (50.8)	2.6 (67.1)	3.1 (78.7)	50+ (1270.0)	50+ (1270.0)	7.0 (177.8)	20.0 (508.0)
Theoretical Dry Film Coverage[5] @ 1 mil, ft²/gal (m²/liter)	722 (17.7)	1058 (25.9)	1235 (30.3)	1604 (39.3)	1604 (39.3)	1604 (39.3)	1604 (39.3)
Primer	NR	NR	NR	NR	NR	NR	NR
Drying **Touch,** hrs	4–6	4–6	4–6	6–8	4	5	5
Drying **Handling,** hrs	6–8	6–8	6–8	12–14	6–8	8	8
Drying **Recoat, (min/max),** hrs	3/7	6/12	3/7	4/48	4/8	4/8	4/8
Curing **Min Air Set,** hrs[6]	0.5	1	0.5	2	8	8	8
Curing **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	RT/24 or 175/4
Application Temp., °F	50–90	50–90	50–90	50–90	50–90	50–90	50–90
Thinner	Hi-Flash Naptha	Hi-Flash Naptha	Hi-Flash Naptha	NR	NR	Xylene	Xylene
Pot Life, hrs at room temp.	NA	NA	NA	0.70	0.75 (500g)	0.35 (200g)	0.5 (200g)
Flash Point, °F (°C)	140 (60)	140 (60)	140 (60)	> 200 (93)	> 200 (93)	> 200 (93)	> 200 (93)
VOC's, lbs/gal	2.86	3.00	2.80	0.00	0.00	0.00	0.00
Shelf Life @RT, months	12	12	12	12	12	12	12
Storage Temperature, °F	40–90	40–90	40–90	40–90	40–90	40–90	40–90

Reference Notes

[1]

Technical Notes for Epoxy Coatings	CP2050-XX	CP2060	CP2070	CP2075
Lap Shear Strength to Aluminum, psi				
25 °C	2,700	2,300	2050	2260
65 °C	–	–	1900	2100
100 °C	1,800	2,000	1250	1420
150 °C	900	1,200	225	430
175 °C	300	900	–	–
Flexural Strength, psi	13,400	11,500	12,000	12,000
Compressive Strength, psi	10,300	12,000	8,500	8,500
Elongation, %	3	2	< 2	< 2
Hardness, Shore D	86	90	85	85

[2] CP2010 will begin to discolor at 300 °F.
[3] Estimated Wet Film Thickness (WFT).
[4] Recommended Dry Film Thickness (DFT).
[5] Actual coverage will vary depending on material losses during mixing and application.
[6] Where a value is provided for "Min Air Set", it is recommended that the coating set at room temp. for, at minimum, the specified time prior to curing.
[7] Withstands intermittent service temperatures of 350–400 °F if cured for 2 hours at 185 °F.

Surface Preparation Notes

All surfaces should be free of oil, grease, dirt, corrosives, oxides, paints or other foreign matter. No further preparation is required when coating ceramics, refractories or graphites. Smooth metal surfaces should be abrasive blasted to an SSPC-SP10 near white blast. Remove abrasive residue using air pressure; do not clean with organic solvents

Aremco's Corr-Prep™ CPR2000 is recommended as an alternative when sandblasting is not possible. This is a specially formulated, water-based, zinc phosphate metal etching solution that is non-toxic, non-flammable, non-caustic, and non-corrosive. It etches metal to provide surface profile for superior coating adhesion to aluminum, galvanized metal, steel, and stainless steel. It also helps to improve long-term corrosion protection. Application is simple—just brush or spray liquid on the substrate, allow to sit for 20–30 minutes, then rinse off and dry substrate thoroughly prior to coating.

CHEMICAL RESISTANCE CHART

Chemical	%	CP2000	CP2050	CP2060	CP2070	CP2075
ACIDS						
Acetic Acid	20%	B	B	B	B	B
Acetic Acid	80%	B	B	B	B	B
Hydrochloric Acid	10%	A	A	A	A	A
Hydrochloric Acid	20%	A	A	A	A	A
Nitric Acid	10%	A	A	A	A	A
Nitric Acid	20%	B	B	B	B	B
Nitric Acid	50%	D	D	D	D	C
Nitric Acid	100%	D	D	D	D	B
Phosphoric Acid	< 40%	B	A	A	A	A
Phosphoric Acid	40–100%	D	C	C	C	C
Sulfuric Acid	10%	A	A	A	A	A
Sulfuric Acid	10–75%	C	B	B	B	B
Sulfuric Acid	75–100%	D	D	D	D	C
BASES						
Potassium Hydroxide		A	A	A	A	A
Sodium Hydroxide	20%	A	A	A	A	A
Sodium Hydroxide	50%	A	A	A	A	A
Sodium Hydroxide	80%	A	A	A	A	A
FUELS & SOLVENTS						
Acetone		B	B	B	B	B
Alcohol		A	A	A	A	A
Crude Oil		A	A	A	A	A
Diesel		A	A	A	A	A
Gasoline		A	A	A	A	A
Heptane		A	A	A	A	A
Jet Fuel		A	A	A	A	A
Kerosene		A	A	A	A	A
Methyl Ethyl Ketone		B	B	B	B	B
Methylene Chloride		B	B	A	A	A
Toluene		A	A	A	A	A
Xylene		A	A	A	A	A

Abbreviations

NA	Not Applicable
NR	Not Required
DFT	Dry Film Thickness
WFT	Wet Film Thickness
RT	Room Temperature

Key

A	No Effect or Excellent
B	Minor Effect or Good
C	Moderate Effect or Fair
D	Severe Effect or Not Recommended

Refer to Price List for complete order information.