

# HIGH TEMPERATURE POLYSILOXANE COATINGS

Technical Bulletin A6-S3A

Aremco's Corr-Paint™ CP40xx-S2 series silicone-ceramic coatings are single-part, room temperature cure systems that provide ultra-high temperature resistance up to 1800 °F (982 °C) along with exceptional resistance to outdoor weathering, UV, salt-spray corrosion, and flame impingement.

#### **PRODUCT HIGHLIGHTS**

- Ultra-High Temperature Resistance
- Room Temperature Curing
- Single Part, No Catalyst Required
- · Sprayable, Low Viscosity
- · Moisture & Salt Spray Resistant
- Flame Resistant
- UV Resistant
- High Dielectric Strength

Corr-Paint™ CP4000-S2

# **AVAILABLE COLORS\***

CP4000-S2	CP4040-S2-HT
Black	White
CP4000-S2-HT	CP4045-S2-HT
Black	White
CP4010-S2	CP4080-S2-HT
Silver	Yellow
CP4020-S2-HT Gray	

<sup>\*</sup> All colors are matte finish. The colors represented here are approximate and the actual product color may vary.

## COATINGS COLOR CONTINUOUS INTERMITTENT

CP4000-S2	Black	1000	1200
CP4000-S2-HT	Black	1400	1800
CP4010-S2	Silver	1100	1200
CP4020-S2-HT	Gray	1400	1800
CP4040-S2-HT	White	1400	1800
CP4045-S2-HT	White	1500	1600
CP4080-S2-HT	Yellow	1400	1800

# **TYPICAL APPLICATIONS**

- Boilers
- Chimneys
- Ducting
- Heaters
- Heat Exchangers
- Exhaust Systems
- Engines

- Flight Decks
- Furnaces, Ovens, Kilns
- Process Vessels
- Reformers
- Scrubbers
- Stacks

### CORR-PAINT™ HIGH TEMPERATURE POLYSILOXANE COATINGS PROPERTIES

Pro	duct Number	CP4000-S2	CP4000-S2-HT	CP4010-S2	CP4020-S2-HT	CP4040-S2-HT	CP4045-S2-HT	CP4080-S2-HT
Color (cured)		Black	Black	Silver	Navy Gray	Navy White	Boron Nitride	Navy Yellow
Temperature Continuous, °F (°C)		1000 (538)	1400 (760)	1100 (593)	1400 (760)	1400 (760)	1500 (816)	1400 (760)
Temperature Intermittent, °F (°C)		1200 (649)	1800 (982)	1200 (649)	1800 (982)	1800 (982)	1700 (927)	1800 (982)
No. Components		1	1	1	1	1	1	1
Viscosity, cP1		250–500	150–500	200–500	200–400	250–500	500–1000	200–400
Specific Gravity, g/cc		1.43	1.50	1.07	1.55	1.35	1.21	1.53
Solids by Weight, %		83.0	72.9	67.3	85.5	85.2	66.0	85.3
Solids by Volume, %		77.1	70.1	59.6	74.5	75.5	58.8	74.4
Wet Film Thickness, Estimated, mils (microns)		1.3 (33.0)	1.4 (36.3)	1.7 (42.7)	1.4 (34.1)	1.3 (33.7)	1.7 (43.2)	1.34 (34.2)
<b>Dry Film Thickness, Estimated,</b> 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)	1.0 (25.4)
Theoretical Dry Film Coverage @ 1 mil, ft²/gal (m²/liter)²		1236 (30.3)	1124 (27.6)	955 (23.4)	1194 (29.3)	1211 (29.7)	944 (23.2)	1193 (29.3)
ס	Touch, hrs	1–2	1–2	1–2	1–2	1–2	1–2	1–2
Drying	Handling, hrs	2–4	2–4	2–4	2–4	2–4	2–4	2–4
	Recoat, (min/max), hrs	1 / 24	1–2	1 / 24	1 / 24	1 / 24	1 / 24	1 / 24
Curing	Minimum Air Set, hrs <sup>3</sup>	1	1	1	1	1	1	1
Cur	Cure Schedule, °F/hrs <sup>4,5</sup>	RT / 24–48 or 450 / 1						
Application Temperature, °F		50–120	50–120	50–120	50–120	50–120	50–120	50–120
Thinner		T-Butyl Acetate						
Flash Point, °F (°C)		~ 118 (48)	~ 113 (45)	~108 (42)	~ 118 (48)	~ 118 (48)	~ 118 (48)	~ 118 (48)
VOC's, lbs/gal		2.0	2.5	2.9	1.8	1.7	3.3	1.8
Shelf Life @RT, months		6	6	6	6	6	6	6
Stor	rage Temperature, °F	40–90	40–90	40–90	40–90	40–90	40–90	40–90

#### Reference Notes

- <sup>1</sup> Viscosity is measured using a Brookfield LV Viscometer, LV3 Spindle @ 30 RPM.
- <sup>2</sup> Actual coverage will vary depending on material losses during mixing and application.
- <sup>3</sup> This is the minimum time recommended to set the coating at room temperature before placing in operation or recoating.
- Adequate ventilation is required when applying and curing these products as some outgassing will occur.
- <sup>5</sup> This coating can be cured at room temperature (RT) or heat cured more rapidly at 450 °F in one hour.

#### Surface Preparation Notes

Metals should be free of oil, grease, dirt, corrosives, oxides, paints or other foreign matter. Smooth metal surfaces should be abrasive blasted to an SSPC-SP6 near white blast. Remove abrasive residue using air pressure.

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, the rinse off and dry substrate thoroughly prior to coating.

Application Notes: Mix thoroughly before use to redisperse fillers and pigments. Apply using a brush, roller or spray gun. When spraying, a maximum dry film thickness of 2 mils (0.002") can be achieved by applying two coats. Recommended fluid nozzle diameter is 40–50 mils, atomizing presure of 40–50 psi, and distance from work of 8–10". Adequate ventilation is required when applying and curing the coating. Read Safety Data Sheet for further safety instructions.

#### Abbreviations

RT Room Temperature