

HIGH TEMPERATURE THERMAL SPRAY SEALANTS

Technical Bulletin A5-S3

PRODUCT HIGHLIGHTS

Single part, low viscosity, water-dispersed, aluminum phosphate solution for penetrating ultra-fine porosity in

thermal applications 3000 °F (1650 °C).

503-VFG-C Single part, alumina-filled, phosphate-bonded, abrasion and

corrosion resistant sealer for thermal spray applications to 3000 $^{\circ}$ F (1650 $^{\circ}$ C). Available in standard colors as follows:

503-VFG-C-WHT White 503-VFG-C-BLK Black 503-VFG-C-BLU Blue 503-VFG-C-RED Red 503-VFG-C-ORG Orange

CP2000 Single part, urethane-based, gloss black, low viscosity, room temperature curing, abrasion and corrosion resistant sealer

for applications to 400 °F (204 °C).

CP2070 Two-part, gray colored, Novolac-epoxy with exceptional abrasion and corrosion resistance for continuous operations

to 300 °F (150 °C) and intermittent use to 400 °F (204 °C).

CP2080 Two-part, clear, Novolac-epoxy with exceptional abrasion

and corrosion resistance for continuous operations to 300 °F (150 °C) and intermittent use to 400 °F (204 °C).

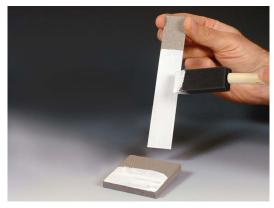
CP4010 Single part, silicone-emulsion and aluminum-filled, water-

dispersed, low viscosity, heat-curable sealer ideal offering

exceptional moisture resistance to 1100 °F (593 °C).

CP4010-S1 Single part, silicone-resin and aluminum-filled, waterdispersed, low viscosity, heat-curable sealer ideal offering

exceptional moisture resistance to 1100 °F (593 °C).



Ceramacoat™ 503-VFG-C-WHT applied to thermal spray substrate.



Ceramabind[™] 542 seals thermal spray on sensor.



CP2000 seals thermal spray on small heater.



CP2000 seals thermal spray on motor housing.

HIGH TEMPERATURE THERMAL SPRAY SEALANTS

Product Number	542	503-VFG-C	CP2000	CP2070	CP2080	CP4010	CP4010-S1
Tradename	Ceramabind™	Ceramacoat™			Corr-Paint™		
Туре	Inorganic		Urethane	Novolac-Epoxy		Silicone	
Color (cured)	Clear	Assorted ⁶	Gloss Black	Gray	Clear	Aluminum	Aluminum
Maximum Temperature, °F (°C)	3000 (1650)	3000 (1650)	400 (204)	300 (150)	300 (150)	1100 (593)	1100 (593)
No. Components	1	1	1	2	2	1	1
Mix Ratio, by Weight (by Volume)	NA	NA	NA	100:42 (2:1)	100:40 (2:1)	NA	NA
Viscosity, cP1	35–45	5,000–7,000	200–240	800–1000	600–1000	200–600	250–500
Specific Gravity, g/cc	1.47	2.34	1.05	1.10	1.10	1.05	1.00
Solids by Weight, %	41.0	76.0	67.0	100.0	100.0	44.2	41.0
Solids by Volume, %	22.0	53.7	49.0	100.0	100.0	41.6	42.4
WFT, mils (microns) ²	4.54 (115.3)	1.86 (47.3)	2.00 (50.5)	1.00 (25.4)	1.00 (25.4)	2.4 (61.0)	2.4 (61.0)
DFT, mils (microns) ³	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.0 (25.4)	1.0 (25.4)
Theoretical Dry Film Coverage ⁴ @ 1 mil, ft ² /gal (m ² /liter)	353 (8.7)	861 (21.1)	722 (17.7)	1604 (39.3)	1604 (39.3)	611 (14.9)	680 (16.7)
Curing, Min Air Set, hrs ⁵	1.0-2.0	1.0-2.0	0.5	8.0	8.0	1.0	1.0
Curing, Heat Cure, °F, hrs	200, 1 + 500, 1 + 700, 1	200, 1 + 500, 1 + 700, 1	RT, 24 or 250, 1	RT, 24	RT, 24 or 150, 2	450, 1 or 480, 0.75	480, 0.75
Application Temperature, °F	50-90	50–90	50–90	50-90	50-90	50–120	50–120
Thinner	Water	503-T, Water	Hi-Flash Naptha	Xylene	Xylene	Distilled Water	PM Acetate
Flash Point, °F/°C	NA	NA	140 (60)	> 200 (93)	> 200 (93)	> 212 (100)	~108 (42)
Volatiles, lbs/gal	0.00	0.00	2.86	0.00	0.0	0.86	5.7
Shelf Life, months	6	6	12	12	12	6	6
Storage Temperature, °F	55-85	55–85	40-80	40-90	40-90	55–85	40–90

Reference Notes

- ¹ Viscosity is measured using a Brookfield LV Viscometer; spindle and speed selection vary depending on the product.
- ² Estimated Wet Film Thickness (WFT).
- ³ Recommended Dry Film Thickness (DFT).
- ⁴ Actual coverage will vary depending on material losses during mixing and application.
- Where a value is provided for "Min Air Set", it is recommended to set the coating at room temperature for, at minimum, the specified time prior to curing.

Ceramacoat™ 503-VFG-C

⁶ Available in the following standard colors:

 503-VFG-C-WHT
 White

 503-VFG-C-BLK
 Black

 503-VFG-C-BLU
 Blue

 503-VFG-C-RED
 Red

 503-VFG-C-ORG
 Orange

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. Quartz should be sandblasted whenever possible. Smooth metal surfaces should be sandblasted or etched using Aremco's Corr-Prep® CPR2000.

Abbreviations

NA Not Applicable
NR Not Required
DFT Dry Film Thickness
WFT Wet Film Thickness