Carboguard 193 Primer S

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Epoxy polyamide
Description	An economical, lead-free, high build maintenance-coating primer. Cures to hard, tough film with excellent sub-film corrosion resistance. Has excellent physical properties and good all-round chemical resistance. Carboline 193 Primer S has excellent adhesion and better tolerance of field application variables than other types of coatings.
Features	• Excellent corrosion protection • High build film • Excellent adhesion • Very good abrasion resistance • Good all-round chemical resistance
Color	Red (0500)
Finish	Flat
Primer	Self-priming
Dry Film Thickness	1 coat system: 2-4 mils (50-100 microns) Depending on service requirement
Theoretical Coverage Rates	387 ft2/gal @ 4 mils, 9.5 m2/l @ 100 microns Allow for loss in mixing and application
VOC Value(s)	As supplied: 28.47 g/l These are nominal values and may vary slightly with color.
Dry Temp. Resistance	Continuous: 93°C (199°F) Non-Continuous: 121°C (250°F) Discoloration and loss of gloss is observed above 200°F (93°C).
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.
Topcoats	Carboguard 193 Primer S may be topcoat with catalysed epoxies vinyls, modified phenolics or others as recommended.
Wet Temp. Resistance	Immersion temperature resistance depends upon exposure. Consult Carboline Technical Service for specific information.

SUBSTRATES & SURFACE PREPARATION

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Steel	Immersion: SSPC-SP5 – 3-4 mils Non-Immersion: SP10 – 2-3 mils

SUBSTRATES & SURFACE PREPARATION

Concrete	Immersion and Non-Immersion: Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
Thinning	Spray: Up to 13 oz/gal (10%) w/ Carboline Thinner #2 Brush: Up to 19 oz/gal (15%) w/ Carboline Thinner #2 Roller: Up to 19 oz/gal (15%) w/ Carboline Thinner #2 For hot and windy conditions above 800°F (240°C), use Carboline Thinner #33. Use of thinner other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Ratio	5:1 Ratio (A : B)
Pot Life	30 minutes at 75°F (24°C). Pot life ends when material begins to thicken and starts to heat up. Pot life times will be less at higher temperatures.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application	Recommended for application by single or plural component airless spray. This is high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufactures such as Binks, DeVilbiss and Graco.
Conventional Spray	Not recommended
Airless Spray	Pump Ratio: 45:1 (min.) GPM Output: 3.0 (min.) Material Hose: ½” I.D. (min) Tip Size: 0.025 - 0.035” Output PSI: 2700-3000 Filter Size: 60 mesh Teflon packings are recommended and available from the pump manufacturer. Contact Carboline Technical Service for plural component equipment recommendations.
Brush & Roller (General)	Not recommended for tank lining applications except when striping welds.
Brush	For touch up and limited areas only
Roller	For touch up and limited areas only

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	10°C (50°F)	10°C (50°F)	10°C (50°F)	0%
Maximum	32°C (90°F)	52°C (126°F)	43°C (109°F)	85%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions. To reduce out gassing when applying to concrete substrates, do not apply in direct sunlight or when surface temperatures are increasing. Best results are obtained when ambient and surface temperatures are decreasing or constant.

CURING SCHEDULE

Surface Temp.	Dry to Recoat	Final Cure Immersion	Maximum Recoat Time
16°C (61°F)	24 Hours	14 Days	2 Days
24°C (75°F)	8 Hours	10 Days	1 Day
32°C (90°F)	6 Hours	7 Days	16 Hours

50% Relative Humidity
These times are based on a 10 mils (250 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times. Condensation on the surface or humidity above 25% during application and curing will result in a surface haze or blush. Any haze or blush be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the maximum recoat times is exceeded, the surface must be washed with detergent and water, then abraded by sweep blasting prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements.
***Note: Final cure temperatures below 60°F (16°C) are not recommended for tank linings.**

CLEANUP & SAFETY

Cleanup	Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
Ventilation	Vapors and/or spray mist may cause explosion. When used as a tank lining or in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. In addition to ensuring proper ventilation, appropriate respirators must be used by all application personnel.

PACKAGING, HANDLING & STORAGE

Shelf Life	18 months at 75°F (24°C) ***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**
Shipping Weight (Approximate)	19-Liter Kit: 31.1 kg
Storage Temperature & Humidity	40° -110°F (4°-43°C) 0-100% Relative Humidity

PACKAGING, HANDLING & STORAGE

Flash Point (Setaflash)	Part A: >205°F (96°C) Part B: >205°F (96°C)
Storage	Store Indoors

WARRANTY

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