Carboguard 1209

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Polyamido-Amine Epoxy
Description	Dense, highly impermeable glass flake-filled coating used for protecting steel and concrete. This versatile coating provides an impenetrable film for severe exposures in marine, offshore, petrochemical, pulp and paper and other aggressive environments. Optional use of light or course grit fillers provides nonskid properties.
Features	• Excellent abrasion resistance • Excellent chemical resistance • Outstanding impermeability • Single coat, self-priming capabilities • VOC compliant to current AIM regulations • Non-skid surface (optional)
Color	Gray (5742) Other colors upon request contact your Carboline representative.
Finish	Flat
Primer	Self-priming. May be applied over certain Carboline epoxy holding primers. Contact your Carboline sales representative for specific recommendations.
Dry Film Thickness	254 - 1016 microns (10 - 40 mils) per coat Typical DFT per coat is 375-500 microns (15- 20 mils).
Solids Content	By Volume 88% +/- 2%
Theoretical Coverage Rate	34.6 m²/l at 25 microns (1412 ft²/gal at 1.0 mils) 3.5 m²/l at 250 microns (141 ft²/gal at 10.0 mils) 0.9 m²/l at 1000 microns (35 ft²/gal at 40.0 mils) Allow for loss in mixing and application.
VOC Values	**As Supplied** : 96 g/l (0.8 lbs/gal) Thinner 213 : 134 g/l (1.1 lbs/gal) Thinner 213 : 200g/l (1.6 lbs/gal) These are nominal values and may vary slightly with color.
Dry Temp. Resistance	Continuous: 82°C (180°F) Non-Continuous: 121°C (250°F) Discoloration and loss of gloss is observed above 82ºC (180ºF).
Limitations	• Epoxies may lose gloss, discolor and chalk when exposed to sunlight. • When modified with non-skid fillers, do not use for immersion service.
Topcoats	May be coated with Polyurethanes depending on exposure and need.

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.

SUBSTRATES & SURFACE PREPARATION

Steel	**Immersion**: ISO 8501-1 Sa 2 ½ (SSPC-SP10) **Non-Immersion**: ISO 8501-1 Sa 2 (SSPC-SP6) **Surface Profile**: 3.0 mils min. (75 microns)
Concrete or CMU	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.

PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	System	Results
ASTM B 117 Salt Fog	Blasted Steel 1 ct. 1209 (16-20 mil dft)	No blistering, rusting, cracking or delamination. Rusting in the scribe less than 1/16" (2mm) after 4000 hours
ASTM D4060 Abrasion	Blasted Steel 1 ct. 1209 (16-20 mils dft)	88 mg. loss CS-17 wheel 1,000 gm load after 1,000 cycles
ASTM D4541 Adhesion	Blasted Steel 1ct. 1209 (16-20 mils dft)	833 psi

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix. When non-skid fillers are used, slowly mix into the mixed materials with the power mixer running. Allow a 15 minute induction time at (24°C (75°F) before application. Mixing time should be considered part of induction time. DO NOT MIX PARTIAL KITS.
Thinning	5-10% with Thinner #213 **after** induction time. Exact amount of thinner will depend on job site conditions. Add only enough to assure uniform flow. For horizontal application (i.e. Platform decks) only may be thinned with Thinner #2. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Ratio	Part A: 15.5 litres (4.09 gal.) Part B: 4.5 litres (1.19 gal.) Light Grit Finish: 10kg of Filler 36 Coarse Grit Finish: 10kg of Filler 47
Pot Life	2 hours at 24°C (75°F) Pot life ends when coating starts to generate heat or loses film build. 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 (General)	The following spray equipment has been found suitable and is available from equipment manufacturers.

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.

Conventional Spray	Pressure pot equipped with dual regulators, 1/2" I.D. minimum material hose, 0.110" I.D. fluid tip and appropriate air cap. **Note: When non- skid fillers are used, the following equipment is mandatory.** Bottom Feed pressure pot equipped with dual regulators, mechanical agitator and a water trap. Use ¾" I.D. minimum material hose with a maximum length of 25', 3/8" I.D. air hose. Use a ¼" fluid tip with a ¼" round or slotted internal mix air cap. A Binks 7E2 or similar gun from Graco or DeVilbiss is suggested.
Airless Spray	Pump Ratio: 45:1 (min.) GPM Output: 3.0 (min.) Material Hose: ½" I.D. (min.) Tip Size: .027-.035" Output PSI: 2200-2500 Filter Size: Not recommended
Brush	Not recommended.
Roller	A "nylon loop" roller may be used but will result in a rougher surface with a more pronounced non-skid surface when one of the optional fillers is used. When using a roller, do not pour the material on the surface. Dip the roller into a 5 gallon pail and roll out evenly. Keep the roller wet.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	10°C (50°F)	10°C (50°F)	10°C (50°F)	0%
Maximum	38°C (100°F)	60°C (140°F)	38°C (100°F)	95%

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.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Topcoat	Final Cure General	Maximum Recoat Time w/ Polyurethanes
16°C (60°F)	16 Hours	32 Hours	14 Days	45 Days
24°C (75°F)	8 Hours	16 Hours	7 Days	30 Days
38°C (100°F)	2 Hours	4 Hours	2 Days	10 Days

These times are based on a 20.0 mil (500 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must 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 time is exceeded, the surface must be abraded by sweep blasting before the application of additional coats.

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 safety data sheet SDS 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	When used in enclosed areas and product is thinned, 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. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.
Caution	This product exotherms at the end of its pot life. Any unused quantities will become extremely hot and will generate smoke and fumes. This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A & B: Min. 36 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)	20 litres kit Part A: 15.5 litres Part B: 4.5 litres Filler 36 - 10 kg (22 lbs) Filler 47 - 10 kg (22 lbs)
Storage Temperature & Humidity	4°-43°C (40° -110°F) 0-100% Relative Humidity
Flash Point (Setaflash)	Part A: 28°C (83°F) Part B: 93°C (200°F) Fillers: NA
Storage	Store Indoors.

WARRANTY

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