Carboguard 891

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Cycloaliphatic Amine Epoxy
Description	High solids, high-build coating widely used for lining interior steel and concrete tanks, valves and pipe. Formulated for application at conventional builds (100 - 250 microns per coat) as well as high builds (250 microns per coat).
Features	• Excellent film build and edge protection • VOC compliant to current AIM regulations • Complies with EU 1935/2004 criteria for food contact.
Color	White and Grey others on request
Finish	Gloss
Primer	Self-priming
Dry Film Thickness	100 - 250 microns (3.94 - 9.84 mils) per coat
Solid(s) Content	By volume: 75 ± 2%
Theoretical Coverage Rates	5,0 m²/l at 150 µm. Allow for loss in mixing and application.
VOC Values	**As Supplied** : 214 g/l
Dry Temp. Resistance	Continuous: 121°C (250°F) Non-Continuous: 149°C (300°F) Discoloration and loss of gloss is observed above 93°C.
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.
Topcoats	Acrylics, Epoxies, Polyurethanes for non-immersion applications.
Wet Temp. Resistance	Immersion temperature resistance depends upon exposure. Consult Carboline Technical Service for specific information. It is recommended that metal tanks operating above 60°C be insulated.

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: ISO 8501-1 Sa 2½ Non-Immersion: ISO 8501-1 Sa 2 Surface Profile: 40-75 microns
Concrete or CMU	Immersion: Concrete must be cured 28 days at 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.

MIXING & THINNING

Thinning	Spray: Up to 6% with Thinner #2 (NSF Std.61 approved) Brush: Up to 13% with Thinner #33 (Non-NSF Std.61) Roller: Up to 13% with Thinner #33 (Non-NSF Std.61) 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	1:1 Ratio (A to B)
Pot Life	Material begins to lose film build in 90 minutes at 24°C, and 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)	This is a 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 manufacturers such as Binks, DeVilbiss and Graco.
Conventional Spray	Pressure pot equipped with dual regulators, 3/8” I.D. minimum material hose, .070” I.D. fluid tip and appropriate air cap.
Airless Spray	Pump Ratio: 30:1 (min.)* GPM Output: 3.0 (min.) Material Hose: 3/8” I.D. (min.) Tip Size: .017-.021” Output PSI: 2100-2300 Filter Size: 60 mesh *Teflon packings are recommended and available from the pump manufacturer. Use 45:1 pump ratio for elevated applications and ½" I.D. for hose lengths greater than 60'.
Brush & Roller (General)	Not recommended for tank lining applications except when striping welds. Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 24°C.
Brush	Use a medium bristle brush.
Roller	Use a short-nap synthetic roller cover with phenolic core.

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%

Industry standards are for substrate temperatures to be 3°C above the dew point. Condensation due to substrate temperatures below the dew point can 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 Recoat	Dry to Topcoat w/ Other Finishes	Final Cure Immersion	Maximum Recoat Time
10°C (50°F)	12 Hours	24 Hours	NR	60 Days
16°C (61°F)	8 Hours	16 Hours	10 Days	30 Days
24°C (75°F)	4 Hours	8 Hours	5 Days	30 Days
32°C (90°F)	2 Hours	4 Hours	3 Days	15 Days

These times are based on a 100-150 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. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements. *Note: Final cure temperatures below 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	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.
Caution	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 applicable regulations. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	36 months at 24°C
Shipping Weight (Approximate)	Part A 10 litres Part B 10 litres
Storage Temperature & Humidity	4°-43°C 0-95% Relative Humidity
Flash Point (Setaflash)	Part A: 24°C Part B: 27°C
Storage	Store indoors.

WARRANTY

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