

SELECTION & SPECIFICATION DATA

Generic Type	Cycloaliphatic Amine Epoxy
Description	High solids, high-build potable water coating widely used for lining interior steel and concrete tanks, valves and pipe. Formulated for application at conventional builds (4.0-6.0 mils per coat) as well as high builds (10.0 mils per coat).
Features	• Excellent film build and edge protection • VOC compliant to current AIM regulations • Meets or exceeds all requirements of: ANSI/NSF Std. 61 for potable water tanks* • AWWA D102 Inside System 1 and 2 • AWWA C210 for use on interior of steel water pipe • Complies with FDA 21CFR 175.300 criteria for food contact *Valid if manufactured at a certified location.
Color	White (S800); Gray (0794); Blue (4169); Other colors may be available but are limited to various approvals.
Finish	Gloss
Primer	Self-priming
Dry Film Thickness	102 - 254 microns (4 - 10 mils) per coat Do not exceed 17 mils (425 microns) per system for potable water applications.
Solids Content	By Volume 75% +/- 2%
Theoretical Coverage Rate	29.5 m ² /l at 25 microns (1203 ft ² /gal at 1.0 mils) 7.4 m ² /l at 100 microns (301 ft ² /gal at 4.0 mils) 3.0 m ² /l at 250 microns (120 ft ² /gal at 10.0 mils) Allow for loss in mixing and application.
VOC Values	As Supplied : 1.8 lbs./gal: (214 g/l) Thinner 2 : 8 oz/gal: 2.1 lbs./gal (249 g/l) Thinner 33 : 16 oz/gal: 2.4 lbs./gal (285 g/l) Thinner 76 : 8 oz/gal: 2.1 lbs./gal (249 g/l)
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.
Topcoats	May be coated with Acrylics, Epoxies, Alkyds, or Polyurethanes depending on exposure and need.
Wet Temp. Resistance	Immersion temperature resistance depends upon exposure. Consult Carboline Technical Service for specific information. It is recommended that metal tanks operating above 140°F (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	<u>Immersion</u> : SSPC-SP10 <u>Non-Immersion</u> : SSPC-SP6 <u>Surface Profile</u> : 1.5-3.0 mils (38-75 microns)

Carboguard 891

PRODUCT DATA SHEET



SUBSTRATES & SURFACE PREPARATION

Concrete or CMU	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.
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PERFORMANCE DATA

Test Method	System	Results
ANS/NSF Std. 61	Blasted Steel 2cts. 891	Pass
ASTM D3363 Pencil Hardness	Blasted Steel 2 cts. 891	3H
AWWA C210 Specification	Blasted Steel 2 cts. 891	Pass

Test reports and additional data available upon written request.

MIXING & THINNING

Mixing | Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Thinning | Spray: Up to 8 oz/gal (6%) w/#2 (NSF Std.61 approved) Brush: Up to 16 oz/gal (13%) w/#33 (Non-NSF Std.61) Roller: Up to 16 oz/gal (13%) w/#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. *See VOC values for thinning limits.

Ratio | 1:1 Ratio (A to B)

Pot Life | Material begins to lose film build in 90 minutes at 75°F (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 1/2" 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 75°F (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 (125°F)	43°C (110°F)	80%

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 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 (60°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 4.0-6.0 mil (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 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.
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. 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 respirator.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: Min. 36 months at 75°F (24°C) Part B: 6 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)	2 Gallon Kit - 29 lbs (13 kg) 10 Gallon Kit - 145 lbs (66 kg)
Storage Temperature & Humidity	40° -110°F (4°-43°C) 0-100% Relative Humidity
Flash Point (Setflash)	Part A: 75°F (24°C) Part B: 81°F (27°C)

Carboguard 891

PRODUCT DATA SHEET



PACKAGING, HANDLING & STORAGE

Storage | Store indoors.

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.