

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 pipes. Formulated for application at conventional builds (100 to 150µm per coat) as well as high builds (250µm per coat).
Features	<ul style="list-style-type: none"> • Excellent film build and edge protection. • VOC compliant to current AIM regulations. • Meets or exceeds all requirements of: AWWA D102 Inside System 1 and 2; AWWA C210 for use on interior of steel water pipes; Complies with FDA 21CFR 175.300 • Carboguard 890 Glass Flake Part C may be added to improve film properties. Film builds up to 500 microns may be achieved. Consult StonCor Africa for specific recommendations.
Color	White & Pipe Blue
Finish	Gloss (70-85)
Primer	Self-priming
Dry Film Thickness	100 to 250µm per coat
Solid(s) Content	By volume 75% ± 2%
Theoretical Coverage Rates	6.0m ² /litre at 125µm Allow for loss in mixing and application
VOC Value(s)	<p>As supplied: 214g/l Thinned 6% with Thinner # 2: 249g/l Thinned 13% with Thinner # 33: 285g/l These are nominal values and may vary slightly with colour. * Maximum thinning for 250g/l restricted areas is 5% for Thinner # 33. Use Thinner # 76 up to 5% where non-photochemically reactive solvent is required.</p>
Dry Temp. Resistance	<p>Continuous: 121°C (250°F) Non-Continuous: 149°C (300°F)</p> <p>Discolouration and loss of gloss occurs above 93°C.</p>
Limitations	Epoxies lose gloss, discolour and eventually chalk in sunlight exposure.
Temperature Resistance (Immersion)	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.
Topcoats	Acrylics, Alkyds, Epoxies, Polyurethanes for non-immersion applications.

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	<p>Immersion: ISO 8501 Sa2½ Non-Immersion: ISO 8501 Sa2 Surface Profile: 40 to 75 microns</p>

Carboguard 891

PRODUCT DATA SHEET



SUBSTRATES & SURFACE PREPARATION

Concrete	Immersion: Concrete must be cured 28 days at 25°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 (TYPICAL VALUES)

Test Method	System	Results
Pencil Hardness (ASTM D3363)	Blasted Steel 2 cts. 891	3H
Specification AWWA C210	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 6% with Thinner # 2
Brush: Up to 13% with Thinner # 33
Roller: Up to 13% with Thinner # 33
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 25°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 | This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved.

Conventional Spray | Pressure pot equipped with dual regulators, 10mm I.D. minimum material hose, 1.8mm I.D. fluid tip and appropriate air cap.

Airless Spray | **Pump Ratio:** 45:1 (min)*
GPM Output: 3.0 (min)
Material Hose: 10mm 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 8mm I.D. for hose lengths greater than 20m.

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 25°C.

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.

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)	80%
Optimum	23°C (73°F)	23°C (73°F)	24°C (75°F)	40%

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 Recoat & 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

Relative Humidity: 50%

These times are based on a 100 to 150 micron dry film thickness. Higher film thicknesses, 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 StonCor Africa Technical Service for specific requirements. * **NOTE:** Final cure temperatures below 16°C are not recommended for tank linings.

CLEANUP & SAFETY

Cleanup | Use Thinner # 2. 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 material safety data sheets 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. 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.

Carboguard 891

PRODUCT DATA SHEET



CLEANUP & SAFETY

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 the National Electric Code. 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	Part A: Min 36 months at 25°C Part B: Min 6 months at 25°C * When kept at recommended storage conditions and in original unopened containers.
Shipping Weight (Approximate)	10 Litre Kit Part A: 7.43kg Part B: 8.68kg
Storage Temperature & Humidity	4°C to 43°C 0-100% Relative Humidity
Flash Point (Pensky Martens Closed Cup)	Part A: 24°C Part B: 27°C
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.