

SELECTION & SPECIFICATION DATA

Generic Type	Cycloaliphatic Amine Epoxy
Description	Highly chemical resistant epoxy mastic coating with exceptionally versatile uses in all industrial markets. Self-priming and suitable for application over most existing coatings, and tightly adherent to rust. Serves as stand-alone system for a variety of chemical environments and is also designed for various immersion conditions.
Features	<ul style="list-style-type: none"> • Excellent chemical resistance • Surface tolerant characteristics • Conventional and low-temperature versions • Self-priming and primer / finish capabilities • Very good abrasion resistance • VOC compliant to current AIM regulations • Suitable for use in USDA inspected facilities
Color	Refer to Carboline Colour Guide. Certain colours may require multiple coats for hiding.
Finish	Gloss (70-85)
Primer	Self-priming.
Dry Film Thickness	100 to 150µm per coat 150 to 200µm Over light rust and for uniform gloss over inorganic zincs. Do not exceed 250 microns in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.
Solid(s) Content	By volume 75% ± 2%
Theoretical Coverage Rates	7.4m ² /litre at 100µm 6.0m ² /litre at 125µm 4.9m ² /litre at 150µm Allow for loss in mixing and application
VOC Value(s)	Thinner # 2:10% - 276g/l Thinner # 33: 10% - 291g/l As supplied: 217g/l Use Thinner # 76 up to 5% for Carboguard 890 where non-photochemically reactive solvents are required. These are nominal values and may vary with colour.
Dry Temp. Resistance	Continuous: 149°C Non-Continuous: 177°C Discolouration and loss of gloss occurs above 93°C but does not affect performance.
Under Insulation Resistance	Continuous: 149°C Discolouration and loss of gloss occurs above 93°C but does not affect performance.
Limitations	Do not apply over latex coatings. For immersion projects, use only factory made material in special colours. Consult Technical Service for specifics. Epoxies lose gloss, discolour and eventually chalk in sunlight exposure.

Carboguard 890

PRODUCT DATA SHEET



SUBSTRATES & SURFACE PREPARATION

General	Surface must be clean and dry. Remove all dirt, dust, oil and all other contaminants.
Steel	Immersion: ISO 8501 Sa2½ Non-immersion: ISO 8501 Sa2½ 40 to 75µm ISO 8501 St2 or St3 are suitable cleaning methods for mild environments.
Galvanized Steel	Prime with specific Carboline primers as recommended by your Carboline sales representative. Refer to the specific primer's Product Data Sheet for requirements.
Concrete or CMU	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. Mortar joints should be cured a minimum of 15 days.
Drywall & Plaster	Joint compound and plaster should be fully cured prior to coating application.
Previously Painted Surfaces	Lightly sand or abrade to roughen surface and degloss the surface. Existing paint must attain a minimum 3A rating in accordance with ASTM D3359 "X-Cut" adhesion test.

PERFORMANCE DATA (TYPICAL VALUES)

Test Method	System	Results
Abrasion (ASTM D4060)	Blasted Steel 1ct Epoxy Pr 1 ct. 890	85mg loss after 1000 cycles, CS17 wheel 1000gm load
Adhesion (ASTM D3359)	Blasted Steel 1 ct. 890	5A
Flame & Smoke (ASTM E84)	2 cts. 890	5 Flame 5 Smoke Class A
Pencil Hardness (ASTM D3363)	Blasted Steel 2cts. 890	Greater than 8H
Salt Fog (ASTM B117)	Blasted Steel 1 ct. IOZ 1 ct. 890	No effect on plane, no rust in scribe and no undercutting after 4000 hours
Salt Fog (ASTM B117)	Blasted steel 2 cts. 890	No effect on plane, rust in scribe. 1.6mm undercutting at scribe after 2000 hours
Scrub Resistance (ASTM D2486)	Blasted Steel 1 ct. 890	93% gloss retained after 10,000 cycles w/ liquid scrub medium

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 10% with Thinner # 2 Brush: Up to 12% with Thinner # 33 Roller: Up to 12% with Thinner # 33 Carboline Thinner # 33 can be used for spray in hot / windy conditions. 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	3 Hours at 25°C. Pot life ends when coating loses body and begins to sag. 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	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 fluid tip and appropriate air cap.
Airless Spray	<p>Pump Ratio: 45:1 (min*) GPM Output: 3.0 (min) Material Hose: 10mm (min) Tip Size: .017"-.021" Output PSI: 2100-2300 Filter Size: 60 mesh</p> <p>* Teflon packings are recommended and available from the pump manufacturer.</p>
Brush & Roller (General)	Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or rerolling. For best results, tie-in within 10 minutes at 25°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)	90%

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 General	Final Cure Immersion
10°C (50°F)	12 Hours	24 Hours	3 Days	NR
16°C (61°F)	8 Hours	16 Hours	2 Days	10 Days
24°C (75°F)	4 Hours	8 Hours	1 Day	5 Days
32°C (90°F)	2 Hours	4 Hours	16 Hours	3 Days

Relative Humidity: 50%

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. **Maximum recoat / topcoat times are 30 days for epoxies and 90 days for polyurethanes at 25°C.** If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats.

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PRODUCT DATA SHEET



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 sheet for this product. 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. User should test and monitor exposure levels to ensure all personnel are below guidelines.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: Min 36 months at 25°C Part B: Min 15 months at 25°C * When kept at recommended storage conditions and in original unopened containers.
Shipping Weight (Approximate)	10 Litre Kit Part A: 6.93kg Part B: 8.44kg
Storage Temperature & Humidity	4°C to 43°C 0-100% Relative Humidity
Flash Point (Pensky Martens Closed Cup)	Part A: 32°C Part B: 23°C
Storage	Store indoors This product is solvent-based and not affected by excursions below these published storage temperatures, down to -12°C, for a duration no more than 14 days. Always inspect the product prior to use to make sure it is smooth and homogeneous when properly mixed.

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.