Carboguard® 890 VOC

PRODUCT DATA SHEET

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. Carboguard 890 VOC serves as stand-alone system for a variety of chemical environments.
Features	• Excellent chemical resistance • Surface tolerant characteristics • 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 Color Guide. Certain colors may require multiple coats for hiding.Epoxies lose gloss, discolor and chalk in sunlight exposure.
Finish	Semi-Gloss
Primer	Self-priming. May be applied over inorganic and organic zinc primers and other tightly adhering coatings. A mist coat may be required to minimize bubbling over inorganic zinc primers.
Dry Film Thickness	4 - 6 mils (102 - 152 microns) per coat 6 - 8 mils (152 - 203 microns) over light rust and for uniform gloss over inorganic zincs Don't exceed 10 mils (250 microns) in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.
Solids Content	By Volume 75% +/- 2%
Theoretical Coverage Rate	1203 ft²/gal at 1.0 mils (29.5 m²/l at 25 microns) 301 ft²/gal at 4.0 mils (7.4 m²/l at 100 microns) 150 ft²/gal at 8.0 mils (3.7 m²/l at 200 microns) Allow for loss in mixing and application.
VOC Value(s)	Per EPA Method 24: 0.8 lbs/gal (100 g/l) Thinner 236 E: 0.8 lbs/gal (100 g/l) These are nominal values and may vary slightly with color. This product contains US EPA VOC-exempt solvent(s).
Dry Temp. Resistance	Continuous: 300°F (149°C) Non-Continuous: 350°F (177°C) Discoloration and loss of gloss occurs above 200°F (93°C) but does not affect performance.
Under Insulation Resistance	Continuous: 300°F (149°C) Discoloration and loss of gloss occurs above 200°F (93°C) but does not affect performance.
Limitations	Do not apply over latex coatings. Discoloration may be objectionable if used as a topcoat. For immersion projects use only factory made material in special colors. Consult Technical Service for specifics.
Topcoats	May be coated with Acrylics, Epoxies, or 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.
Steel	**Non-immersion**: SSPC-SP6 1.5-3.0 mils (38-75 microns). SSPC-SP2 or SP3 are suitable cleaning methods for mild environments. **Immersion**: SSPC-SP10 1.5-3.0 mils (38-75 microns)
Galvanized Steel	Prime with specific Carboline primers as recommended by your Carboline Sales Representative. Refer to the specific primer's Product Data Sheet for substrate preparation requirements.
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. Mortar joints should be cured a min of 15 days. Prime with itself, Carboguard® 1340, or suitable filler/sealer.
Drywall & Plaster	Joint compound and plaster should be fully cured prior to coating application. Prime with Carbocrylic® 120 or Carboguard® 1340.
Previously Painted Surfaces	Lightly sand or abrade to roughen surface and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 "X-Scribe" adhesion test.

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
Thinning	Spray: Up to 13 oz/gal (10%) w/ #236E Brush: Up to 16 oz/gal (12%) w/ #236E Roller: Up to 16 oz/gal (12%) w/ #236E 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	890 VOC 1:1 Ratio (A to B)
Pot Life	890 VOC 3 Hours at 75°F (24°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 (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.

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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.
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 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	50°F (10°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	90°F (32°C)	125°F (52°C)	110°F (43°C)	80%
Optimum	75°F (24°C)	75°F (24°C)	75°F (24°C)	50%

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
50°F (10°C)	12 Hours	24 Hours	3 Days
60°F (16°C)	8 Hours	16 Hours	2 Days
75°F (24°C)	4 Hours	8 Hours	1 Day
90°F (32°C)	2 Hours	4 Hours	16 Hours

Based on 4-8 mils, 100-200 microns 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.
Maximum recoat/topcoat times are 30 days for epoxies and 90 days for polyurethanes at 75°F (24°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.

CLEANUP & SAFETY

Cleanup	Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations

CLEANUP & SAFETY

Safety	Read and follow all caution statements on this product data sheet and on the 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 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 solventvapor 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 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: 36 months at 75°F (24°C) Part B: 15 months at 75°F (24°C) *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	40° -110°F (4°-43°C) 0-100% Relative Humidity
Storage	Store Indoors
Shipping Weight (Approximate)	2 Gallon Kit - 29 lbs (13kg) 10 Gallon Kit - 145 lbs (66kg)
Flash Point (Setaflash)	89°F (32°C) for Part A 73°F (23°C) for Part B

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.