

SELECTION & SPECIFICATION DATA

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| Generic Type | Cycloaliphatic Amine Epoxy |
| Description | Highly chemical resistant epoxy with specialized application in hyperbaric chambers for the US Navy and other users. The product is self-priming and is most often used as a two-coat lining system. The product is an immersion-grade formula for water, seawater and other exposures. |
| Features | <ul style="list-style-type: none"> • Excellent chemical resistance • Self-priming and primer/finish capabilities • Very good abrasion resistance • VOC compliant to current AIM regulations • The US Navy has determined its suitability for use in hyperbaric chambers |
| Color | White (0820) |
| Finish | Gloss |
| Primer | Self-priming. |
| Dry Film Thickness | 4 - 6 mils (102 - 152 microns) per coat Do not exceed 10 mils (250 microns) in a single coat. |
| Solids Content | By Volume 75% +/- 2% |
| Theoretical Coverage Rate | 1203 ft ² /gal at 1.0 mils (29.5 m ² /l at 25 microns) 301 ft ² /gal at 4.0 mils (7.4 m ² /l at 100 microns) 200 ft ² /gal at 6.0 mils (4.9 m ² /l at 150 microns) Allow for loss in mixing and application. |
| VOC Values | <p>As Supplied : 1.7lbs/gal (214 g/l) Thinner 2 : 13oz/gal=2.2lbs/gal (271g/l) Thinner 33 : 16oz/gal=2.3lbs/gal (285g/l) Thinner 33 : 7oz/gal=2.0lbs/gal (250g/l) Thinner 2 : 7oz/gal=2.0lbs/gal (250g/l)</p> <p>*Use Thinner #76 up to 8 oz/gal for 890 where non-photochemically reactive solvents are required.</p> |
| Dry Temp. Resistance | Continuous: 250°F (121°C) Non-Continuous: 300°F (149°C) Discoloration and loss of gloss is observed above 200°F(93°C) |
| Limitations | Epoxies may lose gloss, discolor and chalk when exposed to sunlight. Do not apply over latex coatings. For immersion projects use only factory made material in special colors. Consult Technical Service for specifics. |

SUBSTRATES & SURFACE PREPARATION

General | Surfaces must be clean and dry. Remove dirt, dust, oil and all other contaminant.

SUBSTRATES & SURFACE PREPARATION

Steel | **Immersion:** SSPC-SP10
Non-immersion: SSPC-SP6
 Profile: 1.5-3.0 mills (38-75 microns) *SSPC-SP2 or SP3 are suitable cleaning methods for mild environments.*

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.

PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

| Test Method | System | Results |
|-----------------------------|-----------------------------------------|-----------------------------------------------------------------------------------|
| ASTM B 117 Salt Fog | Blasted Steel 2 cts. 890 | No effect on plane, rust in scribe. 1/16" undercutting at scribe after 2000 hours |
| ASTM B117 Salt Fog | Blasted Steel 1 ct. IOZ 1 ct 890 | No effect on plane, no rust in scribe and no undercutting after 4000 hours |
| ASTM D 4060 Abrasion | Blasted Steel 1 ct Epoxy Pr. 1 ct 890 | 85 mg. loss after 1000 cycles, CS17 wheel 1000 gm. load |
| ASTM D1735 Water Fog | Blasted Steel 1 ct. Epoxy Pr. 1 ct. 890 | No blistering, rusting or delamination after 2800 hours |
| ASTM D2486 Scrub Resistance | Blasted Steel 1 ct. 890 | 93% gloss retained after 10,000 cycles w/liquid scrub medium |
| ASTM D3359 Adhesion | Blasted Steel 1 ct 890 | 5A |
| ASTM D3363 Pencil Hardness | Blasted Steel 2 cts 890 | Greater than 8H |
| ASTM E84 Flame and Smoke | 2 ct 890 | 5 Flame 5 Smoke Class A |

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/ #2
 Brush: Up to 16 oz/gal (12%) w/ #33
 Roller: Up to 16 oz/gal (12%) w/ #33
 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 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.

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| 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: 0.017"-0.021" Output PSI: 2100-2300 Filter Size: 60 mesh *PTFE 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% |

This product simply requires that the substrate temperature is 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 |
|---------------|---------------|-------------------------------------------|--------------------|----------------------|
| 50°F (10°C) | 12 Hours | 24 Hours | 3 Days | NR |
| 60°F (16°C) | 8 Hours | 16 Hours | 2 Days | 10 Days |
| 75°F (24°C) | 4 Hours | 8 Hours | 1 Day | 5 Days |
| 90°F (32°C) | 2 Hours | 4 Hours | 16 Hours | 3 Days |

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).**

CLEANUP & SAFETY

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| Cleanup | Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations. |
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Carboguard[®] 890 H

PRODUCT DATA SHEET



CLEANUP & SAFETY

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| Safety | Read and follow all caution statements on this product data sheet and on the SDS 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 insure all personnel are below guidelines. |
| 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

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| Shelf Life | Part A: Min. 36 months at 75°F (24°C) Part B: Min. 15 months at 75°F (24°C) *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 (13 kg) |
| Flash Point (Setaflash) | 89°F (32°C) for Part A 73°F (23°C) for Part B 71°F (22°C) for 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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.