

Selection & Specification Data

Generic Type Cycloaliphatic Amine Epoxy

Description Economical, aluminum-pigmented mastic with excellent performance properties. Designed for a broad range of applications, this material provides good corrosion resistance, film build and surface tolerance. Can be applied at low temperatures and cures faster than many other epoxy mastics.

Features

- Very good performance over minimal surface preparation of steel substrates
- Suitable as a tie-coat/topcoat for most tightly adhered existing coatings
- Excellent film build on edges
- Can be applied at temperatures as low as 40°F
- VOC compliant to current AIM regulations

Color Aluminum (C901); Red (M500)*
(aluminum pigment yields a dull gray (or red) appearance)

*Red (M500) is available for use as a contrasting primer in multiple coat applications, but should always be topcoated. Color variations within a batch and from batch-to-batch may occur due to the metallic pigments and variations in application techniques and conditions.

Finish Flat

Primers Self-priming. May be applied over most tightly adhering coatings and aged alkyds.

Topcoats Acrylics, Alkyds, Epoxies, Polyurethanes

Dry Film Thickness 3.0 mils (75 microns) over existing coatings and 5.0 mils (125 micron) on rusted steel substrates. 8.0-10 mils (200-250 microns) in one or two coats for severe exposures and immersion conditions. Do not exceed 10.0 mils (250 microns) in a single coat.

Solids Content By Volume: 90% ± 2%

Theoretical Coverage Rate 1444 mil ft² (36.0 m²/l at 25 microns)
Allow for loss in mixing and application

VOC Values As supplied: 0.7 lbs./gal (84 g/l)
Thinned:*
32 oz/gal w/ #2: 2.0 lbs./gal (237 g/l)
32 oz/gal w/ #10: 2.0 lbs./gal (240 g/l)
32 oz/gal w/ #33: 2.0 lbs./gal (245 g/l)
45 oz/gal w/ #2: 2.3 lbs./gal (282 g/l)
These are nominal values.
*Maximum thinning for 250 g/l restricted areas is 35 oz/gal for Thinner #2 and 33 oz/gal for Thinner #33. Use Thinner #76 up to 38 oz/gal where non-photochemically reactive solvents are required

Dry Temp. Resistance Continuous: 200°F (93°C)
Non-Continuous: 250°F (121°C)
Discoloration is observed above 200°F (93°C).

Selection & Specification Data (Cont.)

Limitations Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.

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 with a 2.0-3.0 mil (50-75 micron) surface profile for maximum protection. SSPC-SP2, SP3, or SP7 are also acceptable methods.

Galvanized Steel For optimum performance sweep blast cleaning is recommended. Consult your Carboline Sales Representative for specific recommendations.

Previously Painted Surfaces Lightly sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 "X-Scribe" adhesion test.

Performance Data

Test Method	System	Results	Report #
ASTM D 522 Flexibility	1 ct CM 90	No cracking 8" cylindrical mandrel	ITL91-11-04783
ASTM D 1014 Outdoor Weathering	A.1 ct CM 90 over rusted steel (SP-2) B.1 ct. CM 90 Over abrasive blasted steel (SP-10)	No blistering and less than 1% rusting on either A & B systems.	08933
ASTM B 117 Salt Fog	2 coats CM 90 over rusted steel (SP-2)	No blistering, rusting, cracking or delamination, rust in scribe, no creepage from scribe.	02566
ASTM D 4060 Abrasion	2 coats CM 90	110 mg. loss CS-17 wheel, 1,000 gm. load 1,000 cycles	08093

Test data available upon written request.

Application Equipment

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.

General Guidelines:

Spray Application (General) 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: 1800-2200
 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 re-rolling.

Brush Use a medium bristle brush.

Roller Use a medium-nap synthetic roller cover with phenolic core.

Mixing & Thinning

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

Ratio 1:1 Ratio (A to B)

Thinning* Spray: Up to 32 oz/gal (25%) with Thinner #2 or #10.
 Brush/Roll: Up to 32 oz/gal (25%) with #33 or 45 oz/gal (35%) with Thinner #2. Thinner #2 is used typically for cooler temperatures and Thinner #33 for hot/windy conditions.

In extreme cases (consult Carboline) Thinner #230 may be used to "slow" the dry times. 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.

Carboline Thinner #236E may also be used to thin this product to minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance.

Pot Life 4 Hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating loses body and begins to sag.

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. 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. In addition to ensuring proper ventilation, appropriate respirators must be used by all application personnel.

Cleanup & Safety Cont.

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.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	60°-80°F (16°-27°C)	60°-80°F (16°-27°C)	60°-80°F (16°-27°C)	0-90%
Minimum	50°F (10°C)	40°F (4°C)	40°F (4°C)	0%
Maximum	90°F (32°C)	130°F (54°C)	100°F (38°C)	95%

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. Special application techniques may be required above or below normal application conditions.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Dry to Topcoat*
40°F (4°C)	28 Hours	20 Hours
50°F (10°C)	24 Hours	18 Hours
60°F (16°C)	16 Hours	12 Hours
70°F (21°C)	10 Hours	8 Hours
80°F (27°C)	6 Hours	5 Hours
90°F (32°C)	4 Hours	3 Hours
100°F (38°C)	3 Hours	2 Hours

These times are based on a 5.0-8.0 mil (125-200 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. **Maximum recoat/topcoat times are 30 days for epoxies and 90 days for polyurethanes at 75°F (24°C).** 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 has been exceeded, the surface must be abraded by sweep blasting prior to the application of additional coats. Note: This product contains conductive pigments and cannot be holiday tested.

* Product may be topcoated with **itself (wet-on-wet)** with the same or contrasting color in as short as 60 min (flash-off) in accordance with all the above application conditions.

Packaging, Handling & Storage

Shipping Weight (Approximate) **2 Gallon Kit** **10 Gallon Kit**
 29 lbs (13 kg) 143 lbs (65 kg)

Flash Point (Setaflash) Part A: 72°F (22°C)
 Part B: 100°F (38°C)
 Mixed: 93°F (34°C)

Storage (General) Store Indoors.

Storage Temperature & Humidity 40° - 110°F (4° - 43°C)
 0-95% Relative Humidity

Shelf Life Part A & B: Min. 36 months at 75°F (24°C)

***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**



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