

## Selection & Specification Data

<b>Generic Type</b>	Urethane Modified Epoxy
<b>Description</b>	<u>Aluminum-pigmented, low temperature curing mastic designed for cold weather applications down to 0°F.</u> This unique coating provides excellent corrosion resistance over existing finishes and rusted or SSPC-SP2 or SP3-cleaned steel.
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Single coat application characteristics</li> <li>▪ Suitable as a topcoat for most tightly adhered existing coatings</li> <li>▪ Dry to handle in 24 hours at 20°F.</li> <li>▪ Extended pot life at low temperatures</li> <li>▪ VOC compliant to current AIM regulations</li> </ul>
<b>Color</b>	Aluminum (C901)
<b>Finish</b>	Flat
<b>Primers</b>	Self-priming. May be applied over most tightly adhering coatings as well as inorganic zinc primers. A mist coat may be required to minimize bubbling over inorganic zinc primers.
<b>Topcoats</b>	Acrylics, Alkyds, Epoxies, Polyurethanes
<b>Dry Film Thickness</b>	3.0 mils (75 microns) over inorganic zinc primers 5.0 mils (125 microns) over unprimed steel and existing coatings. 10.0 mils (250 microns) applied in two coats for immersion service. Do not exceed 8.0 mils (200 microns) in a single coat.
<b>Solids Content</b>	By Volume: 62% ± 2%
<b>Theoretical Coverage Rate</b>	994 mil ft <sup>2</sup> (24.5 m <sup>2</sup> /l at 25 microns) Allow for loss in mixing and application
<b>VOC Values</b>	As supplied: 2.73 lbs/gal (327 g/l) Thinned: 6 oz/gal w/ #76: 2.92 lbs/gal (350 g/l) 13 oz/gal w/ #76: 3.09 lbs/gal (370 g/l) 25 oz/gal w/ #76: 3.39 lbs/gal (406 g/l) These are nominal values.
<b>Dry Temp. Resistance</b>	Continuous: 180°F (82°C) Non-Continuous: 200°F (121°C) Discoloration is observed above 180°F (82°C).
<b>Limitations</b>	<ul style="list-style-type: none"> <li>▪ Not recommended for hot weather applications above 80°F (27°C).</li> <li>▪ Do not use over rusted steel in severe environments.</li> </ul>

## Substrates & Surface Preparation

<b>General</b>	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.
<b>Steel</b>	<p><u>Immersion:</u> SSPC-SP5 with a 2.0-3.0 mil (50-75 micron) surface profile.</p> <p><u>Non-Immersion:</u> 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.</p>
<b>Galvanized Steel (Aged)</b>	SSPC-SP1
<b>Galvanized Steel (New)</b>	SSPC-SP7
<b>Previously Painted Surfaces</b>	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 4541 Adhesion (Elcometer)	A) Blasted steel B) Rusted steel	A) 710 psi. B) 658 psi.	03220
ASTM D 4541 Adhesion (Pneumatic)	A) Blasted steel B) Rusted steel	A) 1511 psi. B) 1213 psi.	03220
ASTM D 522 Elongation	Conical Mandrel 1ct. cured at: A) 73°F B) 40°F	Distance from end of mandrel to end of first crack: A) ½ inch avg. Actual elongation: 40% avg. B) ¼ inch avg. Actual elongation: 74% avg.	02829
ASTM D 3363 Pencil Hardness	1 ct. applied at 6 mils DFT	Harder than 8H pencil	02775
ASTM D 4060 Abrasion	1000 cycles, 1000 gm. Load, CS-17 wheel 2 cts.	169 mg loss	03216
ASTM B 117 Salt Spray	2 cts over blasted steel	No blistering or rusting; No loss of adhesion; Rust in scribe Less than 3/16 inch undercutting at scribe	03222

Test reports and additional data available upon written request.

November 1999

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 or injuries resulting from use. Liability, if any, is limited to replacement of products. 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. Carboline® and Carbomastic® are registered trademarks of Carboline Company.

## Application Equipment

**Spray Application (General)** This is a high solids coating and may require slight 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, .086" 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: 1900-2100  
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 short-nap mohair roller cover with phenolic core.

## Mixing & Thinning

**Mixing** Power mix separately, then add Part B to Part A and power mix. DO NOT MIX PARTIAL KITS.

**Ratio** 4:1 Ratio (A to B)

**Thinning** May be thinned up to 25 oz/gal (20%) with #76 for spray, brush or roller applications. For warmer temperatures, may be thinned up to 26 oz/gal (20%) with #72. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

**Pot Life** 6 Hours at 35°F (2°C); 3 Hours at 75°F (24°C). This material is moisture sensitive. Moisture contamination will shorten pot life and cause gelation. Pot life ends when coating become too viscous to use.

## Cleanup & Safety

**Cleanup** Use #2 Thinner 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.

**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	45°-60°F (7°-16°C)	20°-75°F (-7°-24°C)	20°-75°F (-7°-24°C)	70%
Minimum	35°F (2°C)	0°F (-18°C)	0°F (-18°C)	0%
Maximum	75°F (24°C)	80°F (27°C)	80°F (27°C)	80%

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. **Note:** In warm conditions, it is important to control film thickness, especially in overlap areas as excessive thickness may cause blistering.

## Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Dry to Recoat / Topcoat	Final Cure for Immersion Service
0°F (-18°C)	36 Hours	36 Hours	N/A
20°F (-7°C)	24 Hours	24 Hours	N/A
50°F (10°C)	12 Hours	12 Hours	N/A
75°F (24°C)	4 Hours	4 Hours	5 Days

These times are based on a 5.0 mil (125 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. Any haze or bluish must be removed by water washing before recoating. If the maximum recoat time is 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.

## Packaging, Handling & Storage

**Shipping Weight (Approximate)**

1.25 Gallon Kit	5 Gallon Kit
13 lbs (6 kg)	53 lbs (24 kg)

**Flash Point (Setaflash)**

Part A:	60°F (16°C)
Part B:	>212°F (100°C)

**Storage (General)** Store Indoors.

**Storage Temperature & Humidity** 35° - 110°F (2°-43°C)  
0-90% Relative Humidity

**Shelf Life** 24 months at 75°F (24°C)



350 Hanley Industrial Court St. Louis, MO 63144-1599  
314-644-1000 314-644-4617 (fax) www.carboline.com

November 1999

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 or injuries resulting from use. Liability, if any, is limited to replacement of products. 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. Carboline® and Carbomastic® are registered trademarks of Carboline Company.