

Selection & Specification Data

Generic Type	Cycloaliphatic Amine Epoxy
Description	High solids corrosion resistant primer and intermediate. Used either as a primer or an intermediate coat over steel and inorganic zinc primers. Can be topcoated with a broad variety of high performance finish coats.
Features	<ul style="list-style-type: none"> ▪ Excellent corrosion protection ▪ Excellent film build and edge protection ▪ Used as a primer or an intermediate coating ▪ Good abrasion resistance ▪ VOC compliant to current AIM regulations ▪ Tested for Nuclear Service Level 1
Color	Red (0500); Gray (0700); White (0800); Yellow (0600)
Finish	Eggshell
Primers	Self-priming. May be applied over organic and inorganic zinc rich primers. A mist coat may be required to minimize bubbling over zinc rich primers.
Topcoats	Acrylics, Alkyds, Epoxies, Polyurethanes
Dry Film Thickness	<p>3.0 mils (75 microns) for mild environments and as an intermediate coat over inorganic zincs.</p> <p>4.0-6.0 mils (100-150 microns) for more severe environments.</p> <p>Do not exceed 10.0 mils (250 microns) in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.</p>
Solids Content	By Volume: 77% ± 2%
Theoretical Coverage Rate	<p>1235 mil ft² (30.8 m²/l at 25 microns)</p> <p>412 ft² at 3 mils (10.3 m²/l at 75 microns)</p> <p>Allow for loss in mixing and application</p>
VOC Values	<p>As supplied: 1.6 lbs/gal (195 g/l)</p> <p>Thinned:*</p> <p>16 oz/gal w/ #2: 2.2 lbs/gal (261 g/l)</p> <p>32 oz/gal w/ #33: 2.7 lbs/gal (329 g/l)</p> <p>These are nominal values and may vary slightly with color.</p> <p>*Maximum thinning for 250 g/l restricted areas is 12 oz/gal with Thinner #2, and 11 oz/gal with Thinner #33. Use Thinner #76 where non-photochemically reactive solvents are required (up to 11 oz/gal).</p>
Dry Temp. Resistance	<p>Continuous: 200°F (93°C)</p> <p>Non-Continuous: 250°F (121°C)</p> <p>Discoloration and loss of gloss is observed above 200°F (93°C).</p>
Limitations	Not recommended for immersion service

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	SSPC-SP6 with a 1.0-2.0 mil (25-50 micron) surface profile.
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	Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D42582 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

Performance Data

Test Method	System	Results	Report #
ASTM D4060 Abrasion	Blasted Steel 1 ct. 893	88 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load	L401-28
ASTM B117 Salt Fog	Blasted Steel 1 ct. IOZ 1 ct. 893	No blistering, rusting and no creepage at scribe after 4000 hrs	03120
ASTM D1735 Water Fog	Blasted Steel 1 ct. IOZ 1 ct. 893	No blistering, softening or rusting after 5000 hours	02514,5
ASTM D2583 Hardness	Blasted Steel 1 ct. 893	73, Barcol Test, 1 week cure, 5 mils DFT	L401-28
ASTM G26 Weatherometer	Blasted Steel 1 ct. IOZ 1 ct. 893	No blistering, softening or rusting after 4000 hours	03120

Test reports and additional data available upon written request.

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Carboguard® 893

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) 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.

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 re-rolling. 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.

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 16 oz/gal (12%) w/ #2
Brush: Up to 32 oz/gal (25%) w/ #33
Roller: Up to 32 oz/gal (25%) w/ #33
Mist coating: Thin up to 32 oz/gal. with Thinner #2 or #33 in VOC restricted (2.8lb/gal) areas. May thin up to 48 oz/gal. where VOC restricted levels are at 3.5 lb/gal. for mist coat only.
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)
Pot life ends when coating loses body and begins to sag. Pot life times will be less at higher temperatures. Thinning rates above 16 oz/gal will shorten the working time to 2 hours.

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 in enclosed areas and product is thinned, 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. 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.

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°-85°F (16°-29°C)	60°-85°F (16°-29°C)	60°-90°F (16°-32°C)	0-80%
Minimum	50°F (10°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	90°F (32°C)	135°F (57°C)	110°F (43°C)	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. & 50% Relative Humidity	Dry to Touch	Dry to Handle	Dry to Topcoat
50°F (10°C)	5 Hours	16 Hours	24 Hours
60°F (16°C)	4 Hours	12 Hours	16 Hours
75°F (24°C)	3 Hours	6 Hours	8 Hours
90°F (32°C)	2 Hours	3 Hours	4 Hours

Surface Temp. & 50% Relative Humidity	Maximum Recoat Time w/ Epoxies	Maximum Recoat Time w/ Polyurethanes	Maximum Recoat Time w/ Acrylics
50°F (10°C)	30 Days	90 Days	14 Days
75°F (24°C)	30 Days	90 Days	14 Days
90°F (32°C)	15 Days	30 Days	14 Days

These times are based on a 4.0 mil (100 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. 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. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting or sanding before the application of additional coats.

Packaging, Handling & Storage

Shipping Weight (Approximate)	2 Gallon Kit 29 lbs (13 kg)	10 Gallon Kit 143 lbs (65 kg)
Flash Point (Setaflash)	Carboguard 893 Part A: 61°F (16°C) Carboguard 893 Part B: 59°F (15°C)	
Storage Temperature & Humidity	40° - 110°F (4°-43°C) Store indoors. 0-90% Relative Humidity	
Shelf Life	Part A: Min. 36 months at 75°F (24°C) Part B: Min. 24 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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