product data carboline®

Carboguard® 888

Selection & Specification Data

Generic Type
Epoxy Polyamide

Description
Low-temperature and rapid curing primer/finish with an extended recoat window. Provides excellent corrosion resistance as a primer, intermediate or finish on steel substrates. Selfpriming on steel, galvanized steel and concrete, 888 offers user-friendly characteristics which facilitate application in a wide range of environmental conditions.

Features
- Low temperature cure characteristics
- Rapid handling for in-shop applications
- One-year recoat window
- Low yellowing compared to other epoxies
- VOC compliant to current AIM regulations
- Meets the requirements of:
- Class "A" slip coefficient and creep testing criteria for use on faying surfaces.

Color
Red (0500); Gray (0700); White (0800); Yellow (0600)

Finish
Satin

Primers
Self-priming. May be applied over organic and inorganic zinc primers, epoxies and others as recommended. A mist coat may be required to minimize bubbling over zinc rich primers.

Topcoats
May be coated with Acrylics, Epoxies, or Polyurethanes depending on exposure and need.

Dry Film Thickness
3.0 - 5.0 mils (76 - 127 microns) per coat

Do not exceed 10 mils in a single coat.

Solids Content
By Volume 63% +/- 2%

Theoretical Coverage Rate
1011 ft^2 at 1 mil (25 m^2/l at 25 microns)
337 ft^2 at 3 mils (8 m^2/l at 75 microns)
202 ft^2 at 5 mils (5 m^2/l at 125 microns)

Allow for loss in mixing and application.

VOC Values

Thinner 15	19 oz/gal 3.3 lbs./gal 403 g/l
Thinner 225 E	19 oz/gal 2.7 lbs./gal 330 g/l
Thinner 236 E	19 oz/gal 2.7 lbs./gal 330 g/l
Thinner 255 E	19 oz/gal 2.7 lbs./gal 330 g/l
Thinner 33	19 oz/gal 3.3 lbs./gal 403 g/l
As Supplied	2.7 lbs./gal 330 g/l

These are nominal values and may vary slightly with color.

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

Discoloration and loss of gloss is observed above 200°F (93°C).

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
SSPC-SP6
Surface Profile: 1.5-3.0 mils (38-75 microns)

Galvanized Steel
SSPC-SP7
Consult your Carboline Sales Representative for specific recommendations.

Concrete or CMU
Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Laitance, form oils, curing agents and hardeners should be removed by suitable method before coating application.

Performance Data

Test Method	System	Results
ASTM A-490 Slip Coefficient	Blasted Steel 1ct. 888	Meets requirements for Class "A" rating
ASTM B117 Salt Fog	Blasted Steel With organic zinc primer 2 cts. 888	No effect on plane, rust in scribe, less than 1/32 (0.7mm) undercutting at scribe at 7000 hours
ASTM D 1653 Water Vapor Transmission	2cts. 888	WVP of 0.6 perms. Method B - Wet cup; Condition C - R.H. 0% Temperature 73.1°F
ASTM D2247 Humidity Test	Blasted Steel 2cts. 888	No blistering, no rusting; color change less than 2 DE (CieLab units) after 8000 hours
ASTM D4060 Abrasion	Blasted Steel 1ct. 888	138 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load
ASTM D4213 Scrub Resistance	Blasted Steel 1ct. 888	Erosion Rate: .0039 microliters after 100 cycles w/Abrasive scrub medium
ASTM D4541 Adhesion	Blasted Steel 2cts. 888	1167 psi Elcometer
ASTM D5894 QUV/Prohesion	Blasted Steel 1ct. 888	No rusting, blistering or chalking on plane; rust in scribe; less than 1/8" undercutting at scribe after 1000 hours
Midwest Weathering	Blasted Steel 2 cts. 888	No effect on plane area, except #6 slight chalking after 1 year outdoor exposure at 45° angle.

Test reports and additional data available upon written request.

November 2012

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Mixing & Thinning

Mixing Power mix separately, then combine and power mix. At material temperatures below 75°F sweat-in the mixed material for 30 minutes. DO NOT MIX PARTIAL KITS.

Thinning May be thinned up to 19 oz/gal (15%) with Thinner #15 or Thinner #33. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Carboline Thinner #225E (for colder months), Thinner #236E, and Thinner #255E may also be used to thin this product to minimize VOC and HAP emissions.

Ratio 1:1 Ratio (A to B)

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.

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.

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
**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 3/8" nap solvent resistant roller.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum	50 °F (10 °C)	35 °F (2 °C)	35 °F (2 °C)	0%
Maximum	90 °F (32 °C)	135 °F (57 °C)	120 °F (49 °C)	85%

Industry standards are for the substrate temperatures to be 5°F (3°C) 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 Handle	Dry to Recoat & Topcoat w/ other finishes	Final Cure
35 °F (2 °C)	16 Hours	18 Hours	3 Days
50 °F (10 °C)	9 Hours	8 Hours	2 Days
75 °F (24 °C)	3 Hours	4 Hours	24 Hours
90 °F (32 °C)	90.0 Minutes	2 Hours	12 Hours

These times are based on a 3.0-5.0 mil (75-125 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. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface blush or haze. Any haze or blush must be removed by water washing before recoating. Maximum recoat time is one year without special surface preparation. "Loose" chalk must be removed in accordance with good painting practice. Specific topcoat products can be used in a much shorter re-coat interval. Consult Carboline for recommendations and test results. If the maximum recoat time has been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. Carboguard 888 applied below 40°F (4°C) may temporarily soften for several hours, after temperatures rise to 60°F (16°C). This is a normal condition and will not effect performance.

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.

Ventilation When used 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. 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 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, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

Packaging, Handling & Storage

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.

Shipping Weight (Approximate) 2 Gallon Kit - 29 lbs (13 kg)
10 Gallon Kit - 137 lbs (62 kg)

Storage Temperature & Humidity 40° -110°F (4°-43°C)
0-100% Relative Humidity

Flash Point (Setaflash) Part A: 54°F (12°C)
Part B: 56°F (13°C)

Storage Store Indoors.

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November 2012
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