

Selection & Specification Data

Generic Type	Acrylic aliphatic polyurethane.
Description	A high performance polyurethane topcoat that provides outstanding protection in a smooth, attractive, high gloss finish. It has been formulated to provide maximum long-term gloss and color retention, even under the most severe environmental conditions.
Features	<ul style="list-style-type: none"> Outstanding high gloss appearance. Excellent weatherability, gloss and color retention. Excellent chemical resistance. Long-term corrosion protection. Easy to apply and fast dry. Impact and abrasion resistant. Excellent flexibility. High solids, VOC compliant.
Color	Available in a variety of colors. Certain colors particularly in non-lead safety oranges, reds and yellows may require multiple coats for adequate hiding. Check color suitability before use.
Finish	Gloss
Primers	Carboguard 877 is the recommended primer. May also be used over epoxies and other coatings as recommended.
Dry Film Thickness	2 mils (50 microns) over smooth surfaces. Additional thickness may be required over rough surfaces for appearance. Dry film thickness in excess of 4 mils per coat is not recommended.
Solids Content	By Volume: 70% ± 2%
Theoretical Coverage Rate	1123 mil ft ² (27.5 m ² /l at 25 microns) 561 ft ² at 2 mils (13.7 m ² /l at 50 microns) Allow for loss in mixing and application.
VOC Values	As supplied: 2.2 lbs./gal (264 g/l) Thinned: 20 oz/gal w/ #214: 2.8 lbs./gal (333 g/l) 25 oz/gal w/ #215: 2.9 lbs./gal (352 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).

Substrates & Surface Preparation

General	Remove all oil or grease from the surface to be coated with Thinner #2 or Carboline Surface Cleaner 3 (refer to Surface Cleaner 3 Product Data sheet) in accordance with SSPC-SP 1.
Steel	Apply over properly prepared Carboguard 877 or other primers or metals as recommended.

Chemical Resistance Guide

Exposure	Splash & Spillage	Fumes
Acids (1)	Very Good	Excellent
Alkalies (1)	Very Good	Excellent
Solvents (2)	Very Good	Excellent
Salt	Excellent	Excellent
Water	Excellent	Excellent

(1) Certain colors may discolor.

(2) Resistance may vary depending on the type of solvent.

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, .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: .015-.017" Output PSI: 2100-2400 Filter Size: 60 mesh *Teflon packings are recommended and available from the pump manufacturer.
Brush & Roller (General)	May be brushed or rolled for touch-up or field maintenance.
Brush	Brushing is recommended only for touchup of small areas. Use natural bristle brush applying with full strokes. Avoid rebrushing.
Roller	For roller application, use a short nap mohair roller with phenolic core. Avoid rerolling.

Carbothane 170 HS

Mixing & Thinning

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:

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

Ratio Carbothane Part A 1 Gallon Kit 5 Gallon Kit
.80 gallon 4 gallons
Urethane Converter .20 gallon 1 gallon
811 (Part B)

Thinning May be thinned up to 25 oz/gal (20%) with Thinner #214 for normal spray application. For brush or roller application, may be thinned up to 25 oz/gal (20%) with Thinner #215. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and will void product warranty, whether express or implied.

Pot Life 4 hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating becomes too viscous to use. THIS PRODUCT IS MOISTURE SENSITIVE. AVOID MOISTURE CONTAMINATION.

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, 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.

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°-30°C)	60°-85°F (16°-30°C)	60°-85°F (16°-30°C)	40-60%
Minimum	50°F (10°C)	35°F (2°C)	35°F (2°C)	10%
Maximum	100°F (38°C)	120°F (49°C)	95°F (35°C)	80%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can 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 Recoat	Final Cure
35°F (2°C)	36 Hours	14 Days
50°F (10°C)	16 Hours	10 Days
75°F (24°C)	8 Hours	7 Days
90°F (32°C)	4 Hours	5 Days

These times are based on a 2 mils (50 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. During high humidity conditions, it is recommended that the application be done while temperatures are increasing.

Packaging, Handling & Storage

Shipping Weight (Approximate)	<u>1 Gallon Kit</u> 14 Lbs. (6.4 kg)	<u>5 Gallon Kit</u> 50 Lbs. (22.7 kg)
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Flash Point (Setaflash)	50°F (10°C) for Part A 170 HS 106°F (41°C) for Urethane Converter 811
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Storage Temperature & Humidity	40° - 119°F (4° - 43°C) Store indoors. 0-80% Relative Humidity
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Shelf Life	Part A: Min. 36 months at 75°F (24°C) Part B: Min. 24 months at 75°F (24°C)
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***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**



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