

SELECTION & SPECIFICATION DATA

Generic Type	Aliphatic Acrylic-Polyester Polyurethane
Description	High solids, high build, weatherable coating that provides a tough attractive finish while exhibiting outstanding performance properties. Demonstrates extremely good resistance to abrasion, corrosion and chemical exposure when applied over recommended Carboline primers and/or intermediate coats.
Features	<ul style="list-style-type: none"> • Outstanding performance properties in virtually all industrial markets • High build; suitable for many two coat systems • High solids formulation allows for improved edge protection • Suitable for application direct to inorganic and organic zinc primers • Indefinite recoatability • VOC compliant to 100 g/l VOC regulations
Color	Refer to Carboline Color Guide. Certain colors may require multiple coats to hide.
Finish	Satin to Low Sheen Semi-Gloss Color K791 is available in semi-gloss sheen.
Primer	Refer to Substrates & Surface Preparation.
Dry Film Thickness	3 - 5 mils (76 - 127 microns) per coat
Solids Content	By Volume 63% +/- 2%
Theoretical Coverage Rate	1011 ft ² /gal at 1.0 mils (24.8 m ² /l at 25 microns) 337 ft ² /gal at 3.0 mils (8.3 m ² /l at 75 microns) 202 ft ² /gal at 5.0 mils (5.0 m ² /l at 125 microns) Allow for loss in mixing and application.
VOC Value(s)	Per EPA Method 24: 0.81 lbs/gal (97 g/l) Thinner 236 E: 16 oz/gal: 0.81 lbs/gal (97 g/l) These are nominal values and may vary slightly with color. Product contains VOC-exempt t-butyl acetate. Check local regulations regarding product usage.
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).
Topcoats	Carbothane Clear Coat when required

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. For all surfaces, prime with specific Carboline primers as recommended by your Carboline sales representative.
Steel	SSPC-SP6 with a 1.5-2.5 mil (37.5-62.5 microns) surface profile for maximum protection. SSPC-SP2 or SP3 as minimum requirement.

SUBSTRATES & SURFACE PREPARATION

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

MIXING & THINNING

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

Thinning | **Spray/Brush/Roller:** Up to 16 oz/gal w/ Thinner 236E
Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Ratio | 6:1 Ratio (A to B)
1.0 Gal. Kit
Part A: 1 gal. can (partial filled)
UC 811: 1 qt. (partial filled)
5.0 Gal. Kit
Part A: 5 gal. can
UC 811: 1 gal. (partial filled)

Pot Life | 6 Hours at 75 °F (24 °C) and less at higher temperatures.
Pot life ends when coating becomes too viscous to use. MOISTURE CONTAMINATION WILL SHORTEN POT LIFE AND CAUSE GELLATION.

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.

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, 0.070" 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: 0.015-0.017"
Output PSI: 2100-2400
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 re-rolling. For best results, tie-in within 10 minutes at 75 °F (24 °C).

Brush | Recommended for touch-up only. Use a medium, natural bristle brush.

Roller | Use a medium-nap mohair roller cover with solvent resistant core.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	50°F (10°C)	35°F (2°C)	35°F (2°C)	0%
Maximum	100°F (38°C)	120°F (49°C)	95°F (35°C)	80%

Industry standards are for substrate temperatures to be 5 °F (3 °C) above the dew point.

Caution: This Product is moisture sensitive in the liquid stage and until fully cured. Protect from heavy humidity, dew and direct moisture contact until fully cured. Application and/or curing in humidities above maximum, or exposure to moisture from rain or dew may result in a loss of gloss and/or micro-bubbling of the product.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Recoat	Final Cure General
35°F (2°C)	36 Hours	36 Hours	14 Days
50°F (10°C)	16 Hours	16 Hours	10 Days
75°F (24°C)	8 Hours	8 Hours	7 Days
90°F (32°C)	4 Hours	4 Hours	5 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.

***Maximum recoat times are indefinite.** Surface must be clean and dry. As part of good painting practice it is recommended to test for adhesion by wiping the surface with Thinner 25. If the film shows a slight "tack" the surface is suitable for recoating without extensive surface preparation such as abrading.

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 SDS for this product. Employ normal workmanlike safety precautions. Use adequate ventilation. Keep container closed when not in use.
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.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: Min. 36 months at 75 °F (24 °C) Part B (Urethane Converter 811): 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
Storage Temperature & Humidity	40-110 °F (4-43 °C) 0-80% Relative Humidity

Carbothane[®] 133 MC

PRODUCT DATA SHEET



PACKAGING, HANDLING & STORAGE

Storage | Store Indoors.

Shipping Weight (Approximate) | 0.875 Gallon Kit - 13 lbs (6 kg)
5 Gallon Kit - 73 lbs (33 kg)

Flash Point (Setaflash) | Part A: 68 °F (22 °C)
Part B (Urethane Converter 811): 127 °F (53 °C)

WARRANTY

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, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. 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. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.