

## Selection & Specification Data

<b>Generic Type</b>	Aliphatic Acrylic Polyurethane
<b>Description</b>	High solids, high build, satin finish 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.
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Outstanding performance properties in virtually all industrial markets</li> <li>▪ High build; suitable for many two-coat systems</li> <li>▪ High solids formulation allows for improved edge protection</li> <li>▪ Suitable for application direct to inorganic and organic zinc primers</li> <li>▪ Indefinite recoatability</li> <li>▪ VOC compliant to 100 g/l VOC regulations</li> </ul>
<b>Color *</b>	Refer to Carboline Color Guide. Certain colors require multiple coats to hide.
<b>Finish</b>	Satin to Semi-Gloss
<b>Primers</b>	Refer to <i>Substrates &amp; Surface Preparation</i>
<b>Topcoats</b>	Carbothane® Clear Coats when required
<b>Dry Film Thickness</b>	3.0-5.0 mils (75-125 microns) per coat
<b>Solids Content</b>	By Volume: 63% ± 2%
<b>Theoretical Coverage Rate</b>	1010 mil ft <sup>2</sup> (24.8 m <sup>2</sup> /l at 25 microns) Allow for loss in mixing and application
<b>VOC Values</b>	As supplied: 0.81 lbs/gal (97 g/l) Thinned: 16 oz/gal w/ #236E: 0.81 lbs/gal (97 g/l) These are nominal values and may vary slightly with color.
<b>Dry Temp. Resistance</b>	Continuous: 200°F (93°C) Non-Continuous: 250°F (121°C) Discoloration and loss of gloss is observed above 200°F (93°C).

\* The alignment of aluminum flakes in aluminum-filled finishes is very dependent on application conditions and techniques. Care must be taken to keep conditions as constant as possible to reduce variations in final appearance. It is also advisable to work from a single batch of material since variations can occur from batch to batch. For more information consult Carboline Technical Service Department.

## 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>For all surfaces</b> , prime with specific Carboline primers as recommended by your Carboline sales representative.
<b>Steel</b>	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.
<b>Previously Painted Surfaces</b>	Lightly sand or abrade to roughen surface and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 "X-Scribe" adhesion test.

# Carbothane® 133 MC

## 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:	.015-.017"
Output PSI:	2100-2400
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.

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

**Roller** Use a medium-nap mohair roller cover with phenolic core.

## Mixing & Thinning

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

**Ratio** 6:1 Ratio (A to B)

**Thinning** Spray/Brush/Roller: Up to 16 oz/gal w/ #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.

**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.

## 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°-29°C)	60°-85°F (16°-29°C)	60°-85°F (16°-29°C)	40-60%
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. & 50% Relative Humidity	Dry to Handle	Dry to Recoat*	Final Cure
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.

## Packaging, Handling & Storage

<b>Shipping Weight (Approximate)</b>	<u>.88 Gallon Kit</u> 13 lbs (6 kg)	<u>5 Gallon Kit</u> 73 lbs (33 kg)
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**Flash Point (Setaflash)** Part A: 68°F (22°C)  
Part B (Urethane Converter): 106°F (41°C)

**Storage (General)** Store Indoors.

**Storage Temperature & Humidity** 40° - 110°F (4°-43°C)  
0-80% Relative Humidity

**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.**



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