Carbothane® 134 HG

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Aliphatic Acrylic Polyurethane
Description	Thin film, high gloss finish with exceptional weathering performance characteristics. Used extensively in virtually all industrial markets, 134 HG provides a smooth, durable finish that has superior resistance to corrosion, abrasion and chemical exposure.
Features	• High solids, low VOC content • Excellent weatherability • Exceeds SSPC Paint 36 specification for a Level 3 urethane • Available in all Carboline colors including metallic-pigmented colors • Excellent flow characteristics allow for application by spray or roller • Superior impact and abrasion resistance • Indefinite recoatability • VOC compliant to current AIM regulations • Topcoat for AWWA D102 Outside System #6 and #7 • Suitable for use in USDA inspected facilities • Meets the performance requirements of MIL-PRF-85285E Type II, Class H Polyurethane • Meets the performance requirements of UFGS 09 97 13.27 Polyurethane Topcoat
Color	1864 (White), S800 (White), 6666 (Safety Yellow), 1675 (Ignition Yellow), 5555 (Safety Red), C703 (Grey), C705 (Light Grey), C900 (Black). Other colors are available on request. Contact your Carboline Representative for availability
Finish	Gloss
Primer	Refer to Substrates & Surface Preparation.
Dry Film Thickness	2 - 3 mils (51 - 76 microns) per coat
Solids Content	By Volume 70% +/- 2%
Theoretical Coverage Rate	1123 ft²/gal at 1.0 mils (27.6 m²/l at 25 microns) 561 ft²/gal at 2.0 mils (13.8 m²/l at 50 microns) 374 ft²/gal at 3.0 mils (9.2 m²/l at 75 microns) Allow for loss in mixing and application.
VOC Values	**As Supplied** : 2.2 lbs./gal (264 g/l) Thinner 214 : 25 oz/gal 2.9 lbs./gal (348 g/l) Thinner 215 : 25 oz/gal 3.0 lbs./gal (362 g/l) Thinner 25 : 25 oz/gal 3.06 lbs./gal (366 g/l) Thinner 72 : 25 oz/gal 3.05 lbs./gal. (366 g/l) These are nominal values and may vary slightly with color.
Dry Temp. Resistance	Continuous: 300°F (149°C) Some discoloration and loss of gloss may be experienced at elevated temperatures.
Limitations	*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.
Topcoats	Carbothane® 134 Clear Coat if required.

SUBSTRATES & SURFACE PREPARATION

General	All surfaces must be clean, dry and free of oil, grease, dirt, dust or other materials which would impair the bond of the product to the substrate in accordance with SSPC-SP 1. For all surfaces prime with specific Carboline primer as recommended by your Carboline Sales Representative. Refer to the specific primer's Product Data Sheet for detailed requirements.
Galvanized Steel	Prime with specific Carboline primer as recommended by your Carboline Sales Representative. Refer to the specific primer's Product Data Sheet for substrate preparation requirements.
Previously Painted Surfaces	All surfaces must be clean, dry and free of oil, grease, dirt, dust or other materials which would impair the bond of the product to the substrate in accordance with SSPC-SP 1. It is recommended to lightly abrade the existing coating to roughen and degloss the coating. Existing coatings must attain a minimum 3A rating in accordance with ASTM D3359 Measuring Adhesion by Tape Test.

MIXING & THINNING

Mixing	Power mix Part A separately, then combine with Part B and power mix. DO NOT MIX PARTIAL KITS.
Thinning	Spray: Up to 25 oz/gal (20%) w/ Thinner 214, Thinner 25 or Thinner 72 Brush: Up to 25 oz/gal (20%) w/ Thinner 215 Roller: Up to 25 oz/gal (20%) w/ Thinner 215 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 236E may also be used to minimize HAP and VOC emissions.
Ratio	4:1 Ratio (A to B)
Pot Life	4 Hours at 75°F (24°C) and less at higher temps. 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. Spray equipment is available from manufacturers such as Binks, DeVilbiss and Graco.
Conventional Spray	Pressure pot equipped with dual regulators, 3/8" (0.95 cm) I.D. minimum material hose, 0.070" (0.18 cm) 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. (0.95 cm) (min.) Tip Size: 0.015-0.017" (0.038-0.043 cm) Output PSI: 2100-2400 Filter Size: 60 mesh *PTFE packings are recommended and available from the pump manufacturer.

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Brush & Roller (General) | Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive brushing or rolling. For best results, tie-in within 10 minutes at 75°F (24°C).

Brush | It is recommended to use a natural bristle brush.

Roller | Use a short-nap roller 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 above 5°F (3°C) the dew point. Caution: This product is moisture sensitive in the liquid stage and until fully cured. Protect from high humidity, dew and 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 microbubbling of the product.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Recoat & Topcoat w/ other finishes	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 2.0 mil (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.
***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 214 or 215. If the film shows a slight “tack” the surface is suitable for recoating without extensive surface preparation such as abrading.
Carboline Additive 101 can be used to accelerate the film forming process in this product for conditions outside of the parameters of this data sheet. Carboline Additive 101 is added at a rate of 1.0-2.0 oz per mixed gallon or a maximum of 6 oz per mixed five gallons. At this addition rate, Additive 101 will accelerate the cure rate of the urethane product between 25-40% depending on the substrate temperature range and reduce the pot life of the product by approximately 40-50% of that stated on the product data sheet. With the use of Additive 101, this product will continue to cure at temperatures as low as 20°F (-7°C).

CLEANUP & SAFETY

Cleanup | Use Thinner 2 or Acetone. In case of spillage, 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

CLEANUP & SAFETY

	concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator.

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: when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	40° -110°F (4°-43°C) 0-80% Relative Humidity
Storage	Store Indoors. This product is solvent based and not affected by excursions below these published storage temperatures, down to 10°F, for a duration of no more than 14 days. Always inspect the product prior to use to make sure it is smooth and homogeneous when properly mixed.
Shipping Weight (Approximate)	1 Gallon Kit - 13 lbs (5kg) 5 Gallon Kit - 57 lbs (26 kg)
Flash Point (Setaflash)	Carbothane 134 HG Part A: 50°F (10°C) Urethane Converter 811 Part B: 127°F (53°C)

WARRANTY

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