Carbothane® 134 Clear Coat

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Aliphatic Acrylic Polyurethane
Description	A clear coat finish that provides added UV protection over pigmented Carboline polyurethanes. Exceptionally hard film and excellent depth-of-image provide extended service life to the Carbothane® topcoats, especially when deeptone and metallic colors are used.
Features	• Hard finish with excellent impact and abrasion resistance • Excellent resistance to UV degradation • Attractive gloss finish • Suitable for airless, conventional spray or roller application • VOC compliant to current AIM regulations • Indefinite recoatability • Improves resistance to graffiti over traditional urethane topcoats • Suitable for use as a metalizing sealer* *Consult Carboline Technical Service or sales representative for details
Color	Clear (0910)
Finish	Gloss
Dry Film Thickness	1 - 2 mils (25 - 51 microns) per coat
Solids Content	By Volume 59% +/- 2%
Theoretical Coverage Rate	946 ft²/gal at 1.0 mils (23.2 m²/l at 25 microns) 473 ft²/gal at 2.0 mils (11.6 m²/l at 50 microns) Allow for loss in mixing and application.
VOC Value(s)	Per EPA Method 24: 2.0 lbs/gal (240 g/l) Thinner 236 E (12.8 oz/gal): 2.0 lbs/gal (240 g/l) Thinner 242 E (12.8 oz/gal): 2.0 lbs/gal (240 g/l) Thinner 25 (12.8 oz/gal): 2.59 lbs/gal (310 g/l) These are nominal values and may vary slightly with color. Product contains VOC-exempt dimethyl carbonate and t-butyl acetate. Check local regulations regarding product usage. *** NOTE Check your local VOC regulations before choosing thinner. Use of Thinner 236 E or Thinner 242 E may be REQUIRED due to restrictions.
Dry Temp. Resistance	Continuous: 300°F (149°C) Some discoloration and loss of gloss may be experienced at elevated temperatures.
Substrates & Compatable Coatings	Apply over other pigmented Carboline finishes or others as recommended by Carboline

SUBSTRATES & SURFACE PREPARATION

General	Apply over Carbothane topcoats that are clean and dry, and within the recoat time allotment. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Previously Painted Surfaces	Consult Carboline Technical Services for information.

MIXING & THINNING

Mixing	Power mix Part A separately at low speed, then combine with Part B and power mix at low speed. DO NOT MIX PARTIAL KITS.
Thinning	Thin up to 12.8 oz/gal (10%) with the recommended thinner (see VOC values). 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	4:1 Ratio (A to B)
Pot Life	2-3 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 various manufacturers.
Conventional Spray	Pressure pot equipped with dual regulators, 3/8” I.D. minimum material hose, 0.043” I.D. fluid tip and appropriate air cap.
Airless Spray	The following equipment has been found suitable: Pump Ratio: 30:1 (min) GPM Output: 3 gal/min Output psi:2100-2400 Material Hose: 3/8” I.D. (min) Tip Size: 0.011-0.013” (FF) Filter: 100 mesh *PTFE packings are recommended.
Brush	Recommended for touch-up only. Use a medium, natural bristle brush and avoid excessive rebrushing.
Roller	Use a ½"-nap roller cover with solvent resistant core and avoid excessive rerolling.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
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)	85%

Industry standards are for substrate temperatures to be above the dew point. **Caution:** This Product is moisture sensitive in the liquid stage and until fully cured. Protect from high 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 microbubbling of the product.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Topcoat Minimum	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 1.0-2.0 mil (25-50 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 25. 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. 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, 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.
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, workers 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: Min. (Convertor 811): 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
Storage	Store Indoors
Shipping Weight (Approximate)	1.0 Gallon Kit - 9 lbs (4 kg) 5.0 Gallon Kit - 45 lbs (21 kg)
Flash Point (Setaflash)	Part A: 50°F (10°C) Part B: 127°F (52°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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.