

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	<ul style="list-style-type: none"> ▪ High solids, low VOC content ▪ Excellent weatherability ▪ Far exceeds SSPC Paint 36 specification for a Level 3 urethane ▪ Available in a variety of 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
Color	Refer to Carboline Color Guide. 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	Refer to <i>Substrates & Surface Preparation</i>
Topcoats	Carbothane® 130 Clear Coat when required
Dry Film Thickness	2.0-3.0 mils (50-75 μ) May be applied up to 4 mils (100 μ) as needed
Solids Content	By Volume: 70% \pm 2%
Theoretical Coverage Rate	1123 mil ft ² (27.5 m ² /l at 25 μ) Allow for loss in mixing and application
VOC Values	As supplied: 2.2 lbs./gal (264 g/l) Thinned: 25 oz/gal w/ #25: 3.06 lbs./gal (366 g/l) 25 oz/gal w/ #214: 2.9 lbs./gal (348 g/l) 25 oz/gal w/ #215: 3.0 lbs./gal (362 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).

* 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

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 primer as recommended by your Carboline sales representative. Refer to the specific primer's Product Data Sheet for detailed requirements of the specified primer.
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	Lightly sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 "X-Scribe" adhesion test.

Performance Data

Test Method	System	Results
ASTM D4541 Adhesion	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	2562 psi (Pneumatic)
ASTM D3359 Adhesion	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	5A
ASTM D4060 Abrasion	Blasted Steel 1 ct. 134 HG	70 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load
ASTM G26 Weatherometer	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	No blistering, rusting or cracking; gloss retention of 85%; color change of 1 McAdam unit after 2000 hours.
ASTM G53 ASTM D4587 Accelerated Weathering	Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG	No rusting, blistering or loss of adhesion; less than 5% gloss loss after 3000 hours
ASTM B117 Salt Fog	Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG	No rusting, blistering, loss of bond or any measurable creepage from the scribe after 3000 hours.
ASTM D3363 Hardness	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	H
ASTM D2794 Impact Resistance	Blasted Steel 1 ct. 134 HG	155 inch-pounds; no visible cracking. Gardner Impact Tester
ASTM D870 Water/Saltwater Resistance	Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG	No rusting in the scribe; no blistering, softening or discoloration after either 30 days of freshwater immersion or 30 days of salt water immersion at 75°F.

Carbothane® 134 HG

Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modification 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 (24°C).

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

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

Mixing & Thinning

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

Ratio (By Volume) 4:1 Ratio (A to B)

Thinning
Spray: Up to 25 oz/gal (20%) w/ #214 or #25
Brush: Up to 25 oz/gal (20%) w/ #215
Roller: Up to 25 oz/gal (20%) w/ #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 thin this product to minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance.

Pot Life 4 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 respirator.

Cleanup & Safety Cont.

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)	65°-85°F (18°-29°C)	65°-85°F (18°-29°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)	85%

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

Caution: This product is moisture sensitive in the liquid stage and during initial cure. Protect from direct moisture (rain or dew) contact during initial curing period. Excessive exposure to moisture may result in a loss of gloss and/or microbubbling of the product.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Minimum 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 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.

Packaging, Handling & Storage

Shipping Weight (Approximate)	<u>1 Gallon Kit</u> 13 lbs (5kg)	<u>5 Gallon Kit</u> 57 lbs (26 kg)
Flash Point (Setaflash)	Carbothane 134 HG Part A: 50°F (10°C) Urethane Converter 811 Part B: 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: 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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