

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 including marine exposure, Carbothane 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 • Exceeds SSPC Paint 36 specification for a Level 3 urethane • Available in full lead-free colour range • Excellent flow characteristics allow for application by spray or roller • Superior impact and abrasion resistance • Indefinite recoatability • VOC compliant to current AIM regulations
Gloss	Gloss
Colour	<p><u>Standard:</u> White, Black & Yellow LF</p> <p><u>Tinted:</u> Full range of lead-free tinted AS, BS & RAL colours and custom colours</p> <p>Check colour suitability before use.</p>
Primers	Refer to <i>Substrates & Surface Preparation</i>
Topcoats	Carbothane® Clear Coat when required
Dry Film Thickness	50-70 microns
Solids Content	By Volume: 70% ± 2%
Theoretical Coverage Rate	14 m ² /l at 50 microns Allow for loss in mixing and application
Mix Ratio	4:1 by volume (Part A : Part B)
VOC Values	<p>As supplied: 264 g/l</p> <p>Thinned: 20% with #25: 366 g/l</p> <p>20% with #214: 348 g/l</p> <p>20% with #215: 362 g/l</p> <p>These are nominal values and may vary slightly with colour.</p>
Dry Temp. Resistance	<p>Continuous: 93°C</p> <p>Non-Continuous: 121°C</p> <p>Discolouration and loss of gloss is observed above 93°C.</p>

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	Report #
ASTM D4541 Adhesion	Blasted Steel 1 ct Epoxy 1 ct 134 HG	18.3 MPa (2652 psi) (Pneumatic)	09360
ASTM D3359 Adhesion	Blasted Steel 1 ct Epoxy 1 ct 134 HG	5A	09360
ASTM D4060 Abrasion	Blasted Steel 1 ct 134 HG	70 mg loss after 1000 cycles, CS17 wheel, 1000 gm load	09360
ASTM G26 Weatherometer	Blasted Steel 1 ct Epoxy 1 ct 134 HG	No blistering, rusting or cracking; gloss retention of 85%; colour change 1 McAdam unit after 2000 hours	09360
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	03390
ASTM B117 Salt Fog	Blasted Steel 1 ct Org. Zinc 1 ct Epoxy 1 ct 134 HG	No rusting, blistering or loss of adhesion or any measurable creepage from scribe after 3000 hours	03390
ASTM D3363 Hardness	Blasted Steel 1 ct Epoxy 1 ct 134 HG	H	09360
ASTM D2794 Impact Resistance	Blasted Steel 1 ct 134 HG	179 kg-cm (155 Inch-lb) no visible cracking. Gardner Impact Tester	03359
ASTM D870 Immersion Resistance	Blasted Steel 1 ct Org. Zinc 1 ct Epoxy 1 ct 134 HG	No rusting in the scribe; no blistering, softening or discolouration after either 30 days freshwater immersion or 30 days of salt water immersion at 24°C	03390

Test reports and additional data available on written request.

Approvals:

NORSOK M-501, Revision 5, System 1: ISO 20340
 Carbothane 134 HG 1 coat 60-75 microns DFT*
 *As finish coat over various approved priming & intermediate coats.
 Reference N.I.T, Oslo, Norway;
 Report N^o.s
 3410-05-0060 Mt01, Mt02, Mt03 & Mt08

Carbothane® 134 HG

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 DeVilbiss and Graco.

Conventional Spray Pressure pot equipped with dual regulators, 9mm (3/8") I.D. minimum material hose, 1.8mm (.070") I.D. fluid tip and appropriate air cap.

Airless Spray Pump Ratio: 30:1 (min.)*
Output: 10 lt/min (min.)
Material Hose: 9mm (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 24°C.

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

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

Mixing & Thinning

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

Ratio 4:1 by volume (Part A : Part B)

Thinning Spray: Up to 20% with #214 or #25
Brush: Up to 20% with #215
Roller: Up to 20% with #215
Carboline Thinner #236E may also be used to thin this product to minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance.
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 (Thinned) 4 Hours at 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 Caution Contains isocyanate. When sprayed may be harmful by inhalation - do not breath vapour or spray. Wear suitable clothing, gloves, eye and face protection, including suitable breathing protection such as an air supplied respirator or hood.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	16°-29°C	18°-29°C	18°-29°C	40-60%
Minimum	10°C	2°C	2°C	10%
Maximum	38°C	49°C	35°C	80%

Industry standards are for substrate temperatures to be 3°C 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 micro-bubbling of the product.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Minimum Dry to Recoat*	Final Cure
2°C	36 hours	36 hours	14 days
10°C	16 hours	16 hours	10 days
24°C	8 hours	8 hours	7 days
32°C	4 hours	4 hours	5 days

These times are based on a 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

Pack Sizes Std Colours: 5 litre kits
Tinted Colours: 5 litre & 10 litre kits

Flash Point (Setflash) Carbothane 134 HG Part A: 10°C
Carbothane 134 HG Part B: 41°C

Storage Temperature & Humidity Store under cover. KEEP DRY
4°-43°C
0-80% Relative Humidity

Shelf Life Part A: Min. 36 months at 24°C
Part B: Min. 24 months at 24°C

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

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An RPM Company

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