

SilFORT™ PHC587C2 Clear Coat

Description

SilFORT* PHC587C2 clear coat is a non-yellowing siloxane resin coating, which provides improved protection against coating- and/or substrate-deterioration from weather and ultraviolet rays. It is particularly improved in its resistance to long term cracking as a function of UV exposure. As an acidic coating, it provides excellent productivity with its primerless adhesion to Polycarbonate, coupled with a curing at 130°C. The product complies to the ECE regulation for European forward lighting applications.

Key Features and Benefits

- Improved Long Term Crack Resistance
- UV-Resistance
- Primerless Adhesion to Polycarbonate
- Abrasion- & Scratch-Resistance
- Good Transparency
- Solvent- & Chemical Resistance
- Heat Resistance
- Single-Coat-Process

Typical Physical Properties

Property	Hard Coat values
Solids Content [% by weight]	1-Butanol, Isopropanol
Solvents	1.12
Flash Point Penske Martens (closed cup)	19.4°C
Density [g/cm3] @ 25°C	0.875 – 0.995

pH	4.7 - 6.7
Kin. Viscosity [cSt] @ 25°C	7 – 16
Shelf Life (@ +2 to +10°C)	12 months from date of manufacturing in unopened container

Hard Coat on Polycarbonate (Film Thickness: 6-12 µm)

Water Immersion ²	> 250 hrs.
Taber Abrasion ¹	<10%  Haze

¹ Taber Abrader® with 500g load, CS10F, Gen. IV abrasion wheel, 500 cycles. haze % measured acc. to ASTM D1003. Higher haze indicates higher abrasion. Humidity during coating and Taber® wheel variability will affect final results.

² Temperature = 65°C.

Chemical- / Solvent-Resistance

10W30 Motor Oil	Power Steering Fluid
Ethylene Glycol Antifreeze	0.1N Sulfuric Acid
Heavy Duty Brake Fluid (Glycol)	0.1N Sodium Hydroxide
Windshield Washer Fluid	Auto Polishing Paste
Heavy Duty Detergent	Petrol or Leaded Gasoline
Diesel Fuel	Battery Acid

Packaging

180 kg Drum (#119250)

25 kg Pail (#114072)

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-

the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Preparation from cold storage

Allow the product to return to room temperature in original container. When the coating reaches 15°C, gently mix it to re-constitute any material which may have separated. Solution should appear homogeneous at room temperature.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Processing Recommendations

General Requirements:

Coating area should be clean, dust-free (Class 10,000 or better, acc. to US fed. std. 209e or  class 7 acc. to ISO 14644-1), well-ventilated and with the relative humidity controlled to 40 ± 15%. If necessary, parts should be washed or wiped clean with isopropyl alcohol, a mild detergent solution and clean water rinse, or ultrasonic bath followed by a filtered-air blow off and a final ionized-air blow-off. Cleanliness is critical for the production of good parts. Coating solution should be filtered continuously or just prior to use through a 1.0 µm absolute gel filter, using a 3 to 5 µm pre-filter. electric or indirect gas-fired ovens with good temperature distribution and air exchange are recommended for cure.

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The hard coat can be applied to parts by dip, spray or flow coating methods. For spray applications and large-part flow coating, the product can be reduced with an appropriate solvent (e.g. IPA, 1-Butanol). Coating should be applied to result in a cured film thickness of 6-12 microns or thicker, depending on application. The coating should be allowed to dry at room temperature until tack free approximately 10 to 20 minutes. After the part reaches a temperature of 130°C, the product cures to an abrasion

resistant hard coat in  30 minutes. Particularly for flow coating applications, for best performance, it is favorable to maintain an acetic acid level of 4% to ideally maximum of 7% in the re-circulating solution.

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For literature and technical assistance, visit our website at: www.momentive.com

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