

SilFORT™ PHC587 Hardcoat

Product Description

SilFORT PHC587 hardcoat is a clear, non-yellowing siloxane coating, which adheres well to various grades of Polycarbonates, without the need of a primer coat. It offers protection against deterioration from weather elements, such as ultraviolet rays, heat, cold, rain, snow and ice. It also offers damage resistance from sand and dirt. SilFORT PHC587 hardcoat is an excellent candidate to consider for use on polycarbonate headlamp lenses. It is compliant with the ECE automotive forward lighting regulations^① and is accepted by AMECA for three years of Florida and Arizona weathering.

Key Features and Typical Benefits

- Primerless adhesion to Polycarbonate
- Excellent optical clarity
- Excellent chemical resistance
- Easy-to-clean properties
- Excellent abrasion and mar resistance
- Good ultraviolet resistance

Potential Applications

- Exterior polycarbonate components

Typical Physical Properties

Property	Unit	Typical Value
Physical Form	-	liquid
pH	-	approx. 7.5
Appearance	-	pale yellow
Solids Content	% by weight	approx. 20,5
Kinematic Viscosity (at 25 °C)	cSt	approx. 6
Density (at 25 °C)	g/cm ³	approx. 0.91
Shelf Life ^②	months	12 (below 10°C)

Typical properties are average data and are not to be used as or to develop specifications.

^① Based on the requirements as of October 2022

^② From date of manufacture in original, unopened container

General Considerations for Use

Typical Processing ^③	SilFORT PHC587 hardcoat
Application method	spray, flow, dip coating
Reducing solvents ^④	1-Butanol (CAS#71-36-3) 2-Propanol (CAS#67-63-0) 1-Methoxy-2-Propanol (CAS#107-98-2)
Relative humidity (application & ambient flash off)	typically 25 – 55 %
Room temperature flash off	20 – 30 °C for 5 – 30 minutes
Cure conditions	126 - 130 °C for 30 minutes ^⑤ ^⑥
Recommended layer thickness	6 – 12 µm

To ensure coating solution is free from particles, filtration of the hardcoat, combining a 5 µm pre-filter, in line with a 1 µm absolute filter is recommended.

Packaging

Currently available in:

25 kg pail
180 kg drum
5G-pail (15.89 kg)
55G-drum (181.6 kg)

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the 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 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.

Limitations

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

^③ Recommended typical processing conditions might be adapted due to customer specific requirements

^④ Other solvents may be considered

^⑤ Dwell time at recommended part surface temperature, for polycarbonate

^⑥ When higher-heat resistant thermoplastic materials are selected, use the recommended annealing temperature of the respective plastic grade and manufacturer to choose the adequate cure temperature for the coating

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