

## iIFORT™ PHC587B

### SilFORT\* PHC587B

#### Description

SilFORT PHC587B premium-performance hard coat is a clear, non-yellowing silicone coating that provides optimal protection against deterioration from weather, including ultraviolet rays, heat, cold, rain, snow and ice comparable to Momentive Performance Materials SilFORT AS4000. It also resists damage from sand and dirt. Additionally, SilFORT PHC587B provides improved productivity with primerless adhesion coupled with faster curing at 130°C. There is no need for a primer coat. SilFORT PHC587B complies with the ECE Automotive Regulations for European forward lighting applications.

#### Key Features and Benefits

- Ultraviolet resistance
- Thermal resistance
- Abrasion and mar resistance
- Good clarity
- Solvent/chemical resistance
- Primerless adhesion to polycarbonate
- Single coating process step

#### Typical Physical Properties

Property	SilFORT PHC587B Hard Coat Values
Solids Content, % by weight	24.2 - 26.8
Solvent	Methanol, 1-butanol, 2-propanol
Flash Point Penske Martens, Closed Cup	19.4°C

Density, g/cm <sup>3</sup>	0.875 - 0.995
pH	5.5 ± 1
Viscosity cst @ 25°C	3 - 10

### iiFORT PHC 587 Hard Coat on polycarbonate (thickness, 6 - 8µm)

Taber Abrasion <sup>1</sup>	≤15D% Haze
Water Immersion <sup>2</sup>	≥250 Hrs.

1 Taber Abrader with 500g load CS10F wheels at 500 cycles. Haze % measured per ASTM D1003. Higher haze indicates greater abrasion. Humidity during coating and Taber wheel variability will affect final values.

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	Paste Auto Polish
Heavy Duty Detergent	Petrol or leaded gasoline
Diesel Fuel	Battery Acid

### Containers

25 kg steel pail

### 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

#### CAUTION

Compatibility of Momentive Performance Materials hard coat and polycarbonate resin, including Momentive Performance Materials® resin, is dependent on a number of factors including operational stresses, chemical exposure, temperature levels, impact and exposure to ultraviolet light.

While it is up to the end user to determine what application specific testing is appropriate, it is suggested that all polycarbonate resin applications be tested for at least thirty (30) days for compatibility and crazing with this hard coat use. There is no dependable substitute for careful testing of prototypes of production parts in typical operating environments.

### **Refrigeration is required.**

The warranty period is 3 months from date of shipment from Momentive Performance Materials if stored in the original unopened container at 4 - 10° C.

### **Preparation From Cold Storage**

Allow SiIFORT PHC587B to return to room temperature in original container. When the coating reaches 15° C, gently mix the coating to re-constitute any material that may have separated. Solution should appear homogeneous at room temperature.

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](http://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.

### **Processing Recommendations**

#### **General Requirements**

Coating area should be clean, dust-free (Class 10,000 or better), well-ventilated and with the relative humidity controlled to 40 ± 10%. Only if necessary, parts may be washed or wiped clean with isopropyl alcohol, a mild detergent solution and clean water rinse, or ultrasonic bath followed by a filtered-air blowoff 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 to approximately 0.5 to 1.0 µm, using a 5 to 8 µm prefilter. Electric or indirect gas-fired ovens with good temperature distribution and air exchange are recommended.

### **SilFORT PHC587B Hard Coat**

The hard coat can be applied to parts by dip, spray, or flow coating methods. For spray applications and large part flow coating, SilFORT PHC587B can be reduced if desired with an appropriate solvent (e.g. 2-propanol, 1-butanol). Coating should be applied to result in a dry film thickness of 6 - 8 µm or thicker, depending on application. The coating should be allowed to dry at room temperature until tack free for approximately 5 to 10 minutes depending on the part size.

### **Curing**

After the part reaches a temperature of 130°C (266°F) SilFORT PHC587B cures to an abrasion resistant hard coat in 30 minutes.

### **Limitations**

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

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