

# **SilFORT™ AS4700 with SilFORT™ SHP470-FT205 Basecoat**

## **SilFORT\* AS4700 with SilFORT\* SHP470-FT2050 Basecoat**

### **Description**

The SilFORT AS4700 hardcoat with the SilFORT SHP470-FT2050 basecoat is a thermally cured abrasion resistant, weatherable silicone hardcoat system, designed primarily to protect dark colored to black polycarbonate substrates against the effects of harsh environmental components and ultraviolet radiation. With its new generation of UV absorbers, this protective hardcoat system for polycarbonate is an excellent candidate to consider for imparting greater protection of black and other parts than other coating systems.

### **Key Features and Benefits**

- Excellent ultraviolet radiation protection for colored polycarbonate
- Excellent resistance to microcracking
- Abrasion and mar resistance
- Solvent and chemical resistance
- Good clarity
- Thermal resistance
- Reduced basecoat application viscosity

### **Typical Physical Properties**

|                 |                                |                                       |
|-----------------|--------------------------------|---------------------------------------|
| <b>Property</b> | <b>SilFORT AS4700 Hardcoat</b> | <b>SilFORT SHP470-FT2050 Basecoat</b> |
|-----------------|--------------------------------|---------------------------------------|

|                                   |                                 |   |
|-----------------------------------|---------------------------------|---|
| Solids Content, % by weight       | 24 - 27                         | 8,7 - 9,3   |
| Solvent                           | 2-Propanol, 1-Butanol, Methanol | 1-Methoxy-2-Propanol, Diacetonolcohol, Methyl-Isobutylketon |
| Density, g/cm <sup>3</sup> @ 25°C | 0.92                            | 0.94 - 0.96   |
| pH                                | 4 - 6                           | N/A   |
| Viscosity, cSt @ 25°C             | 3 -7                            | 75 - 95   |

## Instructions for Use

### General Requirements

Areas where coated, wet parts are handled, should be clean and dust-free (Class 1,000 acc. to US Federal Standard 209e or class <6 acc. to ISO 14644-1). If necessary, parts should be washed or wiped clean with e.g. 2-Propanol, followed by an ionized air blow-off. Cleanliness is critical for the production of good parts.

Both basecoat and hardcoat solutions should be filtered continuously through a 5 to 8 µm pre-filter followed by a gel-filter of 1 µm.

For curing, electric or indirect gas fired ovens with good convection and air exchange and an overall temperature variation of +/- 2 °C are recommended.

Both products have to be oven cured.

For the best optical results of basecoat & hardcoat, especially on transparent parts, flow- or dip-coating are strongly recommended.

### SiIFORT SHP470FT-2050 Basecoat

The basecoat can be applied by dip, spray or flowcoating to polycarbonate parts that have an initial stress level of less than 1000 psi (6.9 MPa). If a higher stress level is

found to exist, the tool and molding conditions should be adjusted to reduce residual stress on parts. Alternatively, parts can be annealed to reduce stress, (for example, 30 minutes at 130°C for each 2.5 mm of part thickness). If necessary, basecoat solids may be reduced by adding solvent.

### **SiIFORT AS4700F Hardcoat**

The hardcoat can be applied by dip, spray or flowcoating to polycarbonate parts with the basecoat on. If necessary, hardcoat solids may be reduced by adding solvent.

### **CAUTION**

Do not use hardcoat solvents, to dilute basecoat or flush basecoat piping system.

For further information on application, flash off and curing conditions of both products, refer to Momentive Performance Materials' processing recommendations or consult one of our application experts.

### **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**

#### **SiIFORT SHP470FT-2050 Basecoat**

Store and ship at ambient temperature approximately +2°C to +38°C. When stored in original sealed container, SiIFORT SHP470FT-2050 will have a shelf life period of 4 years. Exposures to very low temperatures may cause some solid precipitation. If this occurs, the precipitate may be re-dissolved by submerging the vented closed container in a warm water bath. Mix until homogeneous.

#### **SiIFORT AS4700F Hardcoat**

Refrigeration is required. The shelf life period is 3 months from date of shipment if stored in the original unopened container between 4 - 10°C or below.

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.

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