

## SilFORT™ AS4700 with Basecoat SilFORT™ SHP47

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

#### Description

SilFORT AS4700 hardcoat with the SilFORT SHP470 basecoat is a thermally cured abrasion resistant, weatherable silicone hardcoat designed to protect not only clear polycarbonate but also dark colored to black polycarbonate substrates against the effects of harsh environmental components and ultraviolet radiation. This protective hardcoat system for polycarbonate imparts excellent protection for black parts exceeding those of other coating systems with its new generation of UV absorbers.

#### 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

#### Typical Physical Properties

Property	SilFORT AS4700 Hardcoat	SilFORT SHP470 Basecoat
Solids content, % by weight	25	9.5 - 11.0
Solvent	Isopropanol, n-butanol, methanol	1-methoxy-2-propanol, diacetone alcohol
Viscosity, cstk @	3 - 7	100 - 300

25°C		
Density, g/cm <sup>3</sup>	0.92	0.95

## 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. Isopropanol, 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.

### SilFORT SHP470 Basecoat

The basecoat can be applied by dip, spray or flow coating 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.

### SilFORT AS4700 Hardcoat

The hardcoat can be applied by dip, spray or flow coating 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 Momenitive 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 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**

**SilFORT AS4700 Hardcoat** - Refrigeration is required. The warranty period is 3 months from date of shipment if stored in the original unopened container <10°C (50°F).

**SilFORT SHP470 Basecoat** - Store and ship at ambient temperature approximately +2 to +38°C. When stored in original sealed container, SilFORT© SHP470 will have a warranty period of 4 years. Exposures to 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.

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any Momenitive Performance Materials (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 Momenitive Performance Materials products and make their own determination as to fitness of use in their particular applications.

## Contact Information

Email

[commercial.services@momentive.com](mailto:commercial.services@momentive.com)

## Telephone

Americas	Latin America	EMEAI- Europe, Middle East, Africa & India	ASIA PACIFIC
+1 800 295 2392	<b>Brazil</b>	<b>Europe</b>	<b>China</b>
Toll free*	+55 11 4534 9650	+390510924300	800 820 0202
+704 805 6946	Direct Number	Direct number	Toll free
Direct Number			+86 21 3860 4892
			Direct number
*All American countries	<b>Mexico</b>	<b>India, Middle East &amp; Africa</b>	<b>Japan</b>
	+52 55 2169 7670	+ 91 44 71212207	+81 3 5544 3111
	Direct Number	Direct number*	Direct number
		<b>*All Middle Eastern countries, Africa, India,</b>	<b>Korea</b>
			+82 2 6201 4600

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