

SILFORT* AS4700 silicone hardcoat and SILFORT SHP470 basecoat

ENGINEERED MATERIALS - HARDCOATS & WSC'S



The SiLFORT AS4700 hardcoat with the SiLFORT SHP470 basecoat is a thermally cured abrasion resistant, weatherable silicone hardcoat designed 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 Typical 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	10
Solvent	Isopropanol, n-butanol, methanol	1-methoxy 2-propanol
Viscosity, cstk @ 25°C	3 - 7	100 - 300
Weatherability:	Resistance to microcracking and delamination	
Substrate:	Polycarbonate plaques	
Fresnel accelerated exposure with night time wetting in Arizona per ASTM D4364	1250 MJ/m ² UV	
Xenon arc accelerated exposure per SAE J1960 with boro-boro filters	11,000 hours	
Outdoor exposures at 45 degrees to the horizontal and facing South in Florida and Arizona: 5 years on-going.		

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General Instructions for Use

General Requirements

Coating area should be clean, dust-free (Class 10,000 or better), well ventilated and with the relative humidity controlled at 40% or lower. If necessary, parts should be washed or wiped clean with isopropyl alcohol, or a mild detergent solution and clean water rinse, or an 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. Both basecoat and hardcoat solutions should be filtered continuously or just prior to use to approximately 0.5 to 1.0 micron, using a 3 to 5 micron pre-filter. Electric or indirect gas fired ovens with good convection and air exchange are recommended.

SilFORT SHP470 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. If a higher stress level is found, the tool and molding conditions should be adjusted to reduce the residual stress on the parts. Alternatively, parts can be annealed to reduce stress. If necessary, basecoat solids may be reduced by adding solvent. The basecoat should be applied to obtain a dry film thickness of about 3 microns. After application, the basecoat may be air dried until tack free and may be oven dried further at 120°C for about 20 minutes. Primed parts should be allowed to cool to room temperature prior to application of the SilFORT AS4700 silicone hardcoat.

SilFORT AS4700 Silicone 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. The hardcoat should be applied to obtain a dry film thickness of about 6 microns. After application, the hardcoat should be air dried until tack free. After the part reaches a temperature of 130°C, SilFORT AS4700 silicone hardcoat typically cures to an abrasion resistant coating in about 60 minutes.

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 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 or, upon request, from any Momentive 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 Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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Emergency Service

Momentive Performance Materials maintains an around-the-clock emergency service for its products.

<u>Location</u>	<u>Emergency Service Provider</u>	<u>Emergency Contact Number</u>
Mainland U.S., Puerto Rico	CHEMTREC	1-800-424-9300
Alaska, Hawaii	CHEMTREC	1-800-424-9300
Canada	CHEMTREC	1-800-424-9300
Europe, Israel	NCEC	+44 (0) 1235239670
Middle East	NCEC	+44 (0) 1235239671
Asia Pacific (except China)	NCEC	+44 (0) 1235239670
China	NCEC	+86-10-5100-3039
Latin America (except Brazil)	NCEC	+44 (0) 1235239670
Brazil	SOS Cotec	08000111767 or 08007071767
All other locations world wide	NCEC	+44 (0) 1235239670
At sea	Radio U.S. Coast Guard in U.S. waters NCEC in International waters	+44 (0) 1235239670

For Health related calls, contact Momentive Performance Materials at +1-518-233-2500 (English only).

DO NOT WAIT. Phone if in doubt. You will be referred to a specialist for advice.

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