

## **SilFORT™ AS4700-SP1 Hardcoat with SilFORT SHP470-FT2050 Primer Coat**

### **Description**

SilFORT AS4700-SP1 Hardcoat with SilFORT SHP470-FT2050 Primer Coat is a thermally cured, 2-layer coating system used principally for the protection of clear, tinted and black plastic substrates against chemicals, abrasion and weathering.

With its enhanced UV-absorber system, it offers exterior polycarbonate parts exceptional resistance against discoloration, yellowing, hazing and scratching.

While industry-known for its flow coat capability, this coating system can now also be applied by spray coating, allowing for even greater design freedom. Component curvatures, radii and orifices can now be managed in the coating process without making design compromises.

### **Key Features and Typical Benefits**

- Improved long-term part weatherability via increased coating layer thickness uniformity
- Enhanced part design flexibility
- High transmission rate of ADAS signal frequencies, such as optical, LiDAR and radar
- High scratch and abrasion resistance
- High resistance to chemicals
- Durable, easy-to-clean, high gloss finish

### Typical Physical Properties

Property <sup>(1)</sup>	Unit	SiIFORT SHP470-FT2050 Primer Coat	SiIFORT AS4700-SP1 Hardcoat
Physical Form	-	Liquid	Liquid
Color	-	Amber	Pale Orange
Solids Content	%	Approx. 9	Approx. 22.5
Density (@ 25°C)	g/cm <sup>3</sup>	Approx. 0.95	Approx. 0.94
Kinematic Viscosity (@ 25°C)	cSt	Approx. 85	Approx. 5
Acetic Acid Content	%	n/a	4,5 – 6,5
Electrical Resistance <sup>(2)</sup>	kOhm	approx. 40	0
Shelf Life <sup>(3)</sup>	Months	48 (below 43°C)	10 (at <10°C)

(1) As supplied. Typical properties are average data and are not to be used as or to develop specifications.

(2) DIN55667 / ASTM D5682

(3) From date of manufacture

### Potential Applications

- Automotive front modules for electric vehicles
- Polycarbonate exterior automotive glazing parts, e.g. sunroofs, windows
- Clear, black or dark tinted automotive exterior trim
- Forward headlight lenses
- ADAS sensor covers
- High performance polycarbonate sheet and film

### General Considerations for Use

	<b>SilFORT SHP470-FT2050 Primer Coat<sup>(4)</sup></b>	<b>SilFORT AS4700-SP1 Hardcoat</b>
Application Method	Spray, flow, dip	Spray, flow, dip
Reducing Solvents <sup>(5)</sup>	1- Methoxy-2-Propanol (CAS#107-98-2) Diacetonealcohol (CAS#123-42-2) 2- Butanone (CAS#78-93-3) 4-Methyl-2-Pentanone (CAS#108-10-1)	1- Butanol (CAS#71-36-3) 2- Propanol (CAS#67-63-0) 1-Methoxy-2-Propanol (CAS#107-98-2) Acetic Acid (CAS#64-19-7)
Recommended Coating Thickness <sup>(6)</sup>	1.2 – 4 µm <sup>(7)</sup>	4 – 8 µm, maximum 12 <sup>(7)</sup>

(4) To apply the primer coat properly by spray, it is necessary to dilute it with appropriate solvent(s)

(5) Other compatible solvents may be considered

(6) Interferometrical measurement FFT-methodology; nSHP470FT2050 = 1.53 / nAS4700F = 1.43

(7) System performance may vary within recommended film thickness window

SilFORT AS4700-SP1 Hardcoat, as well as some hardcoat solvents (e.g. water, acetic acid, alcohols), are not miscible with SilFORT SHP470-FT2050 Primer Coat because precipitation of the primer coat will typically occur.

Once ambient temperature has been reached, use SilFORT AS4700-SP1 Hardcoat within one week. Re-refrigeration of SilFORT AS4700-SP1 Hardcoat should be considered when not used within 24 hours.

For a particle-free part surface, processing of components in a climate-controlled cleanroom environment that complies with ISO14664-1, equal or lower class 6, is recommended.

Before applying any coating, part surface temperature should be < 35°C.

For information about the use of SilFORT AS4700-SP1 Hardcoat with primer systems other than SilFORT SHP470-FT2050 Primer Coat, please request the latest version of Momentive's processing guide or consult directly with one of our application development team members.

### **Packaging**

SilFORT AS4700-SP1 Hardcoat is currently available in:

- 25 kg Steel pail with PE liner

SilFORT SHP470-FT2050 Primer Coat is currently available in:

- 25 kg Steel pail with PE liner
- 180 kg Steel drum with PE liner
- 900 kg IBC

### **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](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.

### **Limitations**

Customers must evaluate Momentive 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

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

For literature and technical assistance, visit our website at: [www.momentive.com](http://www.momentive.com)

### DISCLAIMER:

**THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED**

**HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER'S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN.** Each user bears full responsibility for making its own determination as to the suitability of Supplier's materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

\*SilFORT™ is a trademark of Momentive Performance Materials Inc.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.