

## **SilFORT™ AS4000**

Used With SilFort SHP401 Primer

### **Product Description**

SilFORT AS4000 hardcoat with SilFORT SHP401 primer is a clear, non-yellowing siloxane coating, which offers protection against deterioration from weather elements, such as ultraviolet rays, heat, cold, rain, snow, and ice. It also offers damage resistance from sand and dirt. It is an excellent candidate to consider for use on polycarbonate headlamp lenses. It is compliant with the ECE automotive forward lighting regulations<sup>®</sup> and is accepted by AMECA for three years of Florida and Arizona weathering.

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

- Excellent optical clarity
- Excellent chemical resistance
- Easy-to-clean properties
- Excellent abrasion and mar resistance
- Good ultraviolet resistance

### **Potential Applications**

- Automotive headlamp lenses
- High performance sheets and films
- Polycarbonate glazing

## Typical Physical Properties

Property	Unit	Typical Value SiIFORT SHP401 Primer	Typical Value SiIFORT AS4000 Hardcoat
Physical Form	—	liquid	liquid
pH	-	n/a	7
Appearance	—	amber	pale yellow
Solids Content	% by weight	approx. 2	approx. 20
Kinematic Viscosity (at 25 °C)	cSt	n/a	approx. 5.5
Density (at 25 °C)	g/cm <sup>3</sup>	approx. 0.92	approx. 0.91
Shelf Life <sup>②</sup>	Months	24 (below 43°C)	15 (below 10°C)

Typical properties are average data and are not to be used as or to develop specifications.

① Based on the requirements as of April 2022

② From date of manufacture in original, unopened container

## General Considerations for Use

Typical Processing <sup>③</sup>	SiIFORT SHP401 Primer	SiIFORT AS4000 Hardcoat
Application Method	Spray, flow, dip coating	
Reducing Solvents <sup>④</sup>	1-Methoxy-2-Propanol (CAS#107-98-2) Diacetonalcohol (CAS#123-42-2)	2-Butanol (CAS#78-92-2) 2-Propanol (CAS#67-63-0) 1-Methoxy-2-Propanol (CAS#107-98-2)
Relative Humidity (Application & Ambient Flash Off)	Typically 30 - 50%	Typically 30 - 50%
Room Temperature Flash Off	20 – 30 °C for 5 – 20 minutes	20 – 25 °C for 5 – 20 minutes
Cure Conditions <sup>⑤</sup>	No baking is required	130 °C for 30 minutes <sup>⑥</sup>
Recommended Layer Thickness	0.3 – 1.2 µm	4.5 – 12 µm

③ Recommended typical processing conditions might be adapted due to customer specific requirements

④ Other solvents may be considered

⑤ Use only an indirect gas-fired or electrically heated convection oven. IR-irradiators may be used to accelerate substrate heating

⑥ Dwell time at recommended part surface temperature

To ensure coating solutions free from particles, filtration of the primer and hardcoat, combining a 5 µm pre-filter, in line with a 1 µm absolute gel-filter is recommended. Avoid mixing any portion of SilFORT AS4000 hardcoat or its reducing solvents with SilFORT SHP401 primer, as they are not compatible and precipitation of primer may occur.

### **Packaging**

Currently available in:

- 25 kg Steel Pail with PE liner
- 180 kg Steel Drum with PE liner
- 05G-HDPE plastic pail (35.0 lbs-15.89 kg)
- 55G-Drum (400 lbs-181.6 kg)

### **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	<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

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.

\*SiIFORT™是 Momentive Performance Materials Inc. 的商标

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.