

SilFORT™ UVHC3000K1-50 clear coat

Description

SilFORT UVHC3000K1-50 clear coat is a UV-curable, silica-modified coating that can provide weathering, chemical and abrasion protection to Polycarbonate. It is an excellent candidate to consider for use on products requiring improved weathering and mar resistance, such as on vehicle headlamp lenses. SilFORT UVHC3000K1-50 clear coat is supplied in a mild 2-butanol/1-Methoxy-2-propanol solvent mix.

Key Features and Benefits

- Has shown > 3-years weatherability
- Has passed Renault & PSA Xe-weathering test (> 3000 hrs)
- Has passed VW PV 3929 (> 4500 hrs) & PV 3930 (> 4800 hrs)
- AMECA listed
- Transparent
- Helps impart easy-to-clean properties
- High chemical resistance
- Overspray can be recovered and re-used
- High cure response
- Dual solvent formulation
- May be applied by spray, dip, roller and flow

Typical Physical Properties

Property	Unit	Typical Value
Physical Form	-	Liquid
Appearance	-	clear, slightly yellow
Solids content	% by weight	50
Kinematic Viscosity (@ 25 °C)	cSt	approx. 13
Density (@ 25 °C)	g/cm ³	approx. 0.97

Shelf Life ⁽¹⁾	Months	15
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(1) From manufacturing day, @ 2- 38 °C.

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

Potential Applications

After cure, SilFORT UVHC3000K1-50 clear coat forms a UV-, abrasion and chemically resistant coating, able to provide extended protection against premature deterioration of automotive forward headlight lenses. Based on SilFORT UVHC3000K clear coat, it can comply with many applicable standards for lighting devices.

General Considerations for Use

Application Method	Spray, flow, dip or roller coating
Reducing Solvents	1-methoxy-2-propanol (Dowanol PM), 2-butanol, 2-propanol ⁽²⁾
Relative Humidity (application and ambient flash off)	Max. 65%
Room Temperature Flash Off	20 - 30 °C for 1 - 3 minutes
Pre Heating	1.5 - 6 minutes ⁽³⁾ to reach 65 - 95 °C part surface temperature
Intermediate Cool Down	If required by coating line design
UV-Cure	3 - 8 J/cm ² UV-A (EIT Inc. PowerPuckII Device) ⁽⁴⁾
Recommended Hardcoat Thickness	7 - 15 µm ⁽⁵⁾
Recommended Thickness of Interpenetrating Layer	1.5 - 5.5 µm

(2) Alternative solvents upon request

3) Depending on the heating system used, pre-heat timing may need to be extended

(4) Use of >80 W/cm, un-doped, medium pressure mercury arc lamps or microwave powered Hg lamps is recommended. 3J/cm² UV-cure energy @ 0.2 W/cm² may be sufficient, depending on customer specific test requirements

(5) Depending on performance requirements of customer

For best results in clear coat application, a filtration of the coating solution combining a 5 µm pre-filter followed by a 1 µm absolute gel-filter is advised.

To ensure adequate UV-cure, it is suggested to contact the UV-lamp supplier to select

suitable UV-reflectors for the parts to be treated. Do not expose product to any source of visible white light prior to UV-cure. The use of black plastic or stainless steel piping is recommended.

Packaging

Currently available in:

25 kg Steel Pail with PE liner (SAP# 110331)

180 kg Steel Drum with PE liner (SAP# 110330)

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 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

Telephone

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

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