

SilFORT UVHC7400 clear coat

Description

SilFORT UVHC7400 clear coat is a highly abrasion resistant UV-curable coating used on a range of interior automotive applications to provide protection against typical substances such as creams, sun lotions and perspiration, as well as an enhanced surface appearance to components requiring a high gloss finish. Additionally, SilFORT UVHC7400 clear coat typically exhibits low edge build up that, in combination with its fast UV-cure response, can allow increased productivity even on existing coating lines.

Key Features and Typical Benefits

- Good weatherability
- Excellent abrasion resistance
- Easy-to-clean properties
- Excellent transparency
- Excellent chemical resistance
- Good adhesion to various PC, PMMA grades, PET and TAC films
- Good adhesion to printed surfaces

Typical Physical Properties

Property	Unit	Typical Value
Physical Form	-	Liquid
Appearance	-	Clear, pale yellow
Solids Content	% by weight	Approx. 62
Dynamic Viscosity (at 25 °C)	mPa•s	Approx. 43
Density	g/cm ³	Approx. 1.16

Shelf Life ⁽¹⁾	Months	15
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(1) From date of manufacturing, in original unopened container.

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

Potential Applications

SiIFORT UVHC7400 clear coat is an excellent candidate to consider for use as a coating for: displays, door handles, automotive trims, gear shift knobs or similar.

General Considerations for Use

Application Methods	Spray, flow, dip, roller coating, digital printing
Reducing Solvents	1-Methoxy-2-propanol (CAS#107-98-2) 2-Butanol (CAS#78-92-2) 2-Propanol (CAS#67-63-0) ⁽²⁾
Relative Humidity (application and ambient flash off)	Max. 65%
Room Temperature Flash Off	20 – 30 °C for 1 – 3 minutes
Pre-heating	1 to 6 minutes to Reach 65 – 95 °C part surface temperature ^{(3), (4)}
Intermediate Cool Down	Optional
UV-Cure	1 – 2 J/cm ² UV-A (EIT Inc. Power Puck II Device) ^{(5), (6)}
Recommended Hardcoat Thickness ⁽⁷⁾	8 – 16 µm
Recommended Thickness of Interpenetrating Layer	>1 µm ⁽⁸⁾

(2) Other compatible solvents may be considered.

(3) Longer pre-heating times may be required when using convection heating instead of IR-heating.

(4) Modified, high heat resistant PC grades may require higher pre-heat temperatures.

(5) Use of un-doped, medium pressure mercury arc lamps or microwave powered Hg lamps with > 80 W/cm power is recommended. Typical UV-irradiance is 0.2 to 0.6 W/cm² UV-A irradiance. 0.25 W/cm² or higher may be required to achieve desired

adhesion results after harsh humidity cycles.

(6) For applications that mainly require chemical resistance against solvents such as ketones, SilFORT UVHC7400 clear coat may be cured at a lower UV-dosage (0.5 J/cm²).

(7) Refractive Index $n = 1.5$

(8) Higher thickness up to 6 µm may further improve adhesion after harsh humidity cycles.

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

To help ensure adequate UV-cure, contact the UV-lamp supplier to assist in selection of appropriate UV-reflectors for the parts to be treated.

Do not expose product to any source of visible white light prior to UV-cure. Special care should be taken to not use semi-transparent pipework, when white light is present.

Packaging

Currently available in:

25 kg Steel Pail with PE liner

180 kg Steel Drum with PE liner

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.

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