

SilFORT™ UVHC9000

Product Description

SilFORT UVHC9000 cures to a chemically resistant, highly-weatherable and abrasion resistant, matt finish, clearcoat. It protects digital printing inks from degradation. It is typically applied in an ink-jetting process and can be cured by different UV-radiation sources.

Key Features and Typical Benefits

- Protection of ink-jetted surfaces from natural radiation
- Non-yellowing
- Translucent, low gloss (matte finish)
- Adhesion to other thermoplastic materials such as PC, PMMA
- High abrasion resistance
- Good chemical resistance

Key Features and Typical Benefits

SilFORT UVHC9000 provides enhanced physical, chemical and mechanical protection to ink-jetted surfaces. When a high class, long lasting smooth finish is required, SilFORT UVHC9000 can protect UV-light sensitive decor surfaces from deterioration and fading out. Generally, numerous UV- and scratch sensitive substrates can be coated with SilFORT UVHC 9000.

Typical Physical Properties

Property	Unit	Typical Value
Physical form	-	Liquid
Appearance	-	Yellow
Solids content	% by weight	Approx. 53
Viscosity @ 50°C	mPa*s	Approx. 8
Surface tension @ 25°C	mN/m	Approx. 23
Density @ 25°C	g/cm ³	Approx. 1,03
Shelf life ^①	Months	15

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

^① From date of manufacturing, in original, unopened container

General Considerations for Use

Application Methods	Industrial piezo print head
Reducing solvents ^②	1-Methoxy-2-propanol (CAS#107-98-2)
Relative humidity (application and ambient flash off)	Max. 65%
Room temperature flash off	20 – 30°C for 0,5 – 2 minutes
Pre-heating	1 - 2 minutes to reach 65 – 85°C part surface temperature ^③
Intermediate cool down	Optional
Typical UV-cure	In 2 stages
Stage 1 (UV-Excimer)	> 6mJ/cm ² UV-C ^④
Stage 2 (UV-arc or -microwave powered mercury lamp)	1 – 2 J/cm ² UV-A ^⑤
Recommended hardcoat thickness	10 – 16 µm

For best results in applying clear coat, filter the coating solution by combining a 5 µm pre-filter, followed by a 1 µm absolute filter.

To help ensure adequate UV-cure, work with the UV-lamp supplier to select UV-reflectors that are appropriate for the parts to be treated. Do not expose product to any source of visible white light prior to UV-cure. To avoid exposure when white light is present, do not use semi-transparent pipework.

Packaging

Currently available in:

- 25 kg pail
- 180 kg drum

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.

^② Other compatible solvents may be considered

^③ Longer pre-heating times may be required when using convection heating instead of IR-heating

^④ UV-Excimer lamp 172 nm, measured with ExciTrack from IOT Oberflächentechnologien GmbH Device

^⑤ To achieve proper matting and cure, a residual oxygen level < 100 ppm is recommended in the UV-curing chamber

^⑥ > 0,2 W/cm² measured with EIT20 LLC: Power Puck II Device

Contact Information

Email

commercial.services@momentive.com

Telephone

Americas

+1 800 295 2392
Toll free*
+704 805 6946
Direct Number

Latin America

Brazil
+55 11 4534 9650
Direct Number

EMEAI- Europe, Middle East, Africa & India

Europe
+390510924300
Direct number

ASIA PACIFIC

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, Pakistan, Bangladesh, Sri Lanka.

Korea
+82 2 6201 4600
Direct number

South East Asia, Australia & New Zealand
+60 3 9206 1543
Direct number*

*South East Asia countries (Malaysia, Singapore, Thailand, Indonesia, Vietnam, Philippines, Cambodia, Myanmar / other countries located in Pacific region).

For literature and technical assistance, visit our website at: www.momentive.com

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2750 Balltown Road,
Niskayuna, NY 12309, USA
momentive.com

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