

# Product Data Sheet

# Screen Printing Varnish

**SunChemical**<sup>®</sup>  
Coates Screen Inks

## Structure Varnishes:

## UV 70/623 (Rough Structure)

## UV 70/635-MT (Fine Structure)

### UV-Curing Screen Structure Varnishes, 1-Component

#### APPLICATION

UV-curing screen printing structure varnishes for printing of pre-treated (primer-coated) polyester foils (decorative foils for membrane switches), PVC, polycarbonate as well as paper and cardboard.

#### PROPERTIES

- Solvent-free UV-curing screen varnishes UV 70/623 and UV 70/635-MT have a medium reactivity.
- Both varnishes are delivered in a ready-to-print adjustment with a medium to high viscosity. After curing UV 70/623 and UV 70/635-MT are stack proof and show a matt structured finish.
- As binder systems of UV 70/623 and UV 70/635-MT are different these two varnishes cannot be mixed.
- UV 70/623 shows a very rigid finish, good mechanical and abrasion resistance. Guide value for the surface roughness is an Rz-value of approx. 15-20 $\mu$ .
- UV 70/635-MT forms an ink film with limited flexibility, also good mechanical abrasion resistance and medium chemical resistance. Guide value for the surface roughness is an Rz-value of approx. 10 $\mu$ .
- UV 70/623 and UV 70/635-MT are only suitable for indoor applications.
- Note: Generally, pre-tests to determine suitability of UV 70/623 and UV 70/635-MT are essential, especially if used as structure varnish on the front sides of primer-coated polyester or polycarbonate foils for membrane switches. It is also essential to carry out these tests in reference to local production conditions and the required quality properties and further processing.

#### PRODUCT - OVERVIEW

- Clear varnish: UV 70/623 Medium viscosity, rough structure, Rz-value approx. 15-20 $\mu$ , matt transparent
- Clear varnish: UV 70/635-MT Medium viscosity, fine structure, Rz-value approx. 10 $\mu$ , matt transparent

#### LIGHT FASTNESS

UV 70/623 and UV 70/635-MT are only suitable for indoor applications.

#### ADJUSTMENT FOR SCREEN PRINTING

- Screen printing varnishes UV 70/623 and UV 70/635-MT are supplied in a ready-to-print adjustment.
- Generally, addition of auxiliary agents is not necessary. For some rare and special applications and depending on local conditions, addition of certain agents/additives is possible.
- Prior to printing, both varnishes should be stirred well to obtain a homogeneous dispersion of all ingredients.

#### AUXILIARY AGENTS

Application	Product	Addition in % by weight	Additional Information
Thinning	Additive UV/V*	Max. 5%	Standard thinner
Reactivity increase	LAB-N 560700	1 - 3%	Photoinitiator

\* Thinner Additive UV/V is a reactive UV monomer, not a commercial solvent!

## DRYING / UV-CURING

- UV 70/623 and UV 70/635-MT only dry/cure under UV-radiation.
- Suitable UV-driers with Hg medium-pressure lamps (250 – 400 nm) and an efficiency between 80 and 200 W/cm have to be used.
- Preferably, use reflectors with a focussed radiation.
- Ensure an even radiation (intensity/distance to the lamps) of the whole printed image.
- The UV-energy required depends on construction/performance of the UV drier, the thickness of the printed varnish layer and type of substrate. Hence, printers should determine the exact required energy with their own UV-drier.
- **UV-curing energy guide values:**  
(printed with 120-34 fabric, white substrate)  
**UV-energy: 250-300 mJ/cm<sup>2</sup>**  
(measured with Kühnast UV-integrator, 250 – 410 nm, max. 365 nm)  
**Belt speed: UV-radiator: 1 x 120 W/cm: 8 - 10 m/min.**  
**2 x 120 W/cm: 16 - 20 m/min.**
- Adhesion should only be checked several minutes after curing. Due to the post-curing process of the varnish and depending on the substrate, sufficient adhesion may sometimes only be achieved after up to 24 hours.

## SCREEN FABRIC / STENCILS

UV 70/623 and UV 70/635-MT have been formulated for printing with specified fabrics (threads/cm).

- UV 70/623 rough structure fabric: 100-40 to max. 120-34
- UV 70/635-MT fine structure fabric: 120-34 to max. 150-31

Printing with coarser or finer fabrics is not recommended. Coarser or finer fabrics will cause a significant change of structure properties.

All copy emulsions and capillary films suitable for solvent based and UV-curing screen inks can be used, such as our program of SunCoat or Murakami products.

## CLEANING

Uncured UV varnishes can be removed from stencils and tools using our solvent based universal cleaning agents of the URS range.

Cleaning of cured UV varnishes is very time-consuming and hardly ever possible.

Note: As the acrylates contained in these UV varnishes may cause skin irritation, clean contaminated skin with water and soap immediately. Remove and clean contaminated clothing straightaway.

## PACK SIZE

Screen printing varnishes UV 70/623 and UV 70/635-MT are delivered in 1 and 5 litre containers. Other pack sizes are available upon request.

## SHELF LIFE

In closed original containers, UV 70/623 and UV 70/635-MT screen varnishes generally have a shelf life of 1 year from date of production.

For exact date of expiry, please refer to the label.

## SAFETY DATA SHEETS

Read safety data sheet prior to processing.

Safety data sheets comply with Regulation (EC) No. 1907/2006 (REACH), Appendix II.

## CLASSIFICATION AND LABELLING

Hazard classification and labelling comply with Regulation (EC) No. 1272/2008 (CLP/GHS).

**CONFORMITY**

Coates Screen Inks GmbH does not use any of the substances or mixtures for the production of printing inks, which are banned according to the EUPIA (European Association of the Printing Inks Industry) exclusion policy. Further compliance confirmations are available upon request.

**ADDITIONAL INFORMATION ABOUT OUR PRODUCTS**

Product data sheets: Auxiliary Agents for UV-Curing Screen Printing Inks  
Brochures: UV-Curing Screen Printing Inks  
Internet: Various technical articles are available for download on [www.coates.de](http://www.coates.de), section "SN-Online"

*The statements in our product and safety data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship. We provide these details to inform customers about our products and their possible applications. However, on account of various factors influencing processing of our products it is absolutely essential to carry out printing trials under local production conditions. Choice of individual ink types and their suitability for the intended application is the sole and entire responsibility of the user. We do not assume any liability for any problems of technical or process-related nature. Any liability shall be limited to the value of the goods delivered by us and processed by the user.*

*All former product data sheets are no longer valid.*

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