NoriCure® CSR 01
UV Curing Scratch Resistant Lacquer for ID and Credit Cards

Area of Application

NoriCure® CSR 01 is suitable for PC Overlay films, coated PET films, diverse PVC substrates as well as for overprinting the ink systems NoriCure® CCI and NoriCard.

Characteristics

NoriCure® CSR 01 shows
- excellent scratch and abrasion resistance
- excellent chemical resistance
- easy processability (press-ready formulation)
- unlimited screen open time
- high gloss

Mesh

Polyester fabrics of 140 to 180 threads/cm (355 to 460 threads/inch) are suitable.

Stencil

UV ink and solvent resistant emulsions must be used. Excellent results during long production runs are achieved by using Pröll Diazo-UV-Polymer Emulsion Norikop 10 HQ.

Squeegee

All commercially available squeegees with an average hardness of 75° up to 80° Shore A.

Overprinting of Inks

Overprinting of UV, water-based or solvent-based screen and offset printed ink systems is possible. However, the compatibility of the systems has to be checked before starting any production runs.

UV Curing

Guideline: For curing NoriCure® CSR 01 layers which were printed with a mesh 150-31 Y (380 threads/inch), an UV dose (Kühnast UV-Integrator, spectral range: UV 250 – 410 nm, max. 365 nm) of approx. 150 mJ/cm² is necessary.

The UV dose for sufficient curing depends on color shade, ink layer thickness (printing mesh) as well as the type and color of the substrate. Depending on such parameters the dose must be adjusted.

Processing

Depending on substrate and ink system, the maximum temperature for lamination is 180 °C (356 °F). The optimum optical properties and resistances are achieved if NoriCure® CSR 01 is applied to the overlay film (A) or directly to the decorative ink film (B), respectively, prior to lamination.
NoriCure® CSR 01

Direct sun light on open ink cans or on the ink in the stencil must be avoided!

**Post-curing**

Printed NoriCure® CSR 01 post-cure even without UV light. The optimum product characteristics are not achieved before the curing process is finished (approx. 24 – 48 hours).

**Cleaning of Screens and Utensils**

UNI-REIN A III or UNI-CLEANER FP61.

**Shelf Life**

The shelf life stated on the label assures the ink’s quality and refers to unopened original cans stored in a dry place at temperatures between 5 °C (40 °F) and 25 °C (75 °F).

**Safety Precautions**

Uncured UV lacquers may have an irritating and sensitizing effect to the skin and may cause allergic, hypersensitive reactions. Please use an accurate and clean working method when processing UV lacquers. You should wear suitable personal protection equipment (gloves, safety goggles, working clothes)!

Uncured sheets are considered special waste and should therefore be cured under UV light before disposal. Please pay attention to the safety data sheets for the ink system NoriCure® CSR 01.

Supplementary information regarding the safe use of UV inks and lacquers can be found in the brochure “UV-Drying” (Reference no. 205) of the Berufsgenossenschaft Druck und Papierverarbeitung, Rheinstr. 6 – 8, D-65185 Wiesbaden and can be downloaded from http://www.bgdp.de/pages/service/download/medien/205.pdf

**Important**

Allow the product to adjust to room temperature in the closed container before use.

Printing results, to a large extent, depend on the substrate as well as the printing and application conditions. We recommend checking your printing materials under your conditions of use prior to any production runs. Materials that are supposed to be identical may vary from manufacturer to manufacturer and even from batch to batch. Substrates and printing inks may have been treated with or contain sliding agents, antistatics or other additives which will impair the adhesion of the lacquer.

When using UV-curing lacquers such as NoriCure® CSR 01 the compatibility between the lacquer and the ink system to be overprinted must be tested. Tests concerning adhesion and scratch resistance as well as the suitability for further processing or converting steps are necessary.

The curing of UV systems is influenced by the output and the emission spectrum of the UV bulb, thus affecting the adhesion and scratch resistance of the cured lacquer film.

This is a test product which is still in development. For this reason, no assurances are currently given as to type conformity, processability or long-term performance characteristics. Therefore, the customer uses the product entirely at their own risk with no guarantee.

Before starting a production run, it is necessary to test samples of each newly designed part systematically with regard to the specifications for the intended use (e. g. climatic chamber, resistance, etc.).