NoriCure® MPF

for deep-drawing applications

UV Curing Screen Printing Ink

Area of Application

NoriCure® MPF is a deep-drawable UV curing screen printing ink for printing on rigid PVC, self-adhesive PVC films, polystyrene (PS), polycarbonate (PC) and pre-treated polyester (PET) substrates.

Whether NoriCure® MPF is suitable for other materials such as acrylonitrile-butadiene-styrene (ABS), polymethylmethacrylate (PMMA) and polypropylene (PP) must be determined by precise and adequate testing.

Characteristics

NoriCure® MPF

- excellent flexibility and formability, e.g. by thermo forming or high pressure forming
- outstanding adhesion to various plastic substrates
- high gloss
- easy processability (press-ready formulation)
- unlimited screen open time
- good adhesion to UV and solvent-based screen printing inks
- NVP and NVC free
- solvent free

Color Shades

Basic Colors for the NoriCure® MPF Matching System	092 Blending Lacquer Colorless 109 Citron 112 Yellow 171 Yellow Transparent 213 Orange (not available in the USA)	312 Red 318 Red Transparent 467 Pink Transparent 472 Violet 570 Deep Blue	669 Green Transparent 945 White 948 Black
Standard Color	944 White Opaque		
Process Inks satin gloss (not available from stock - on request)	156 Process Yellow 357 Process Magenta	558 Cyan 949 Process Black	099 Process Paste
Bronze Pastes	2708 Silver (12 : 1) Mixing ratio with NoriCure® MPF 092: 12 : 1	2753 Silver Coarse (7 : 1) Mixing ratio with NoriCure® MPF 092: 7 : 1	

Mesh

Polyester fabrics of 150 to 180 threads/cm (380 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 emulsion Norikop 11.

Squeegee

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

Light Fastness

High quality pigments are used for NoriCure® MPF Basic Colors. The light fastness is 8 (blue wool scale) with exception 312 and 109 (blue wool scale 6).

Overprint Varnish

NoriCure® MPF 093 for overprinting on NoriCure® MPF prints and printing on rigid PVC, self-adhesive PVC films, polystyrene (PS), polycarbonate (PC) and pre-treated polyester (PET) substrates.

Whether NoriCure® MPF is suitable for other materials such as acrylonitrile-butadiene-styrene (ABS), polymethylmethacrylate (PMMA) and polypropylene (PP) must be determined by precise and adequate testing (please see the separate Technical Information).

Auxiliaries

NoriCure® MPF is press-ready.

For special processing or application conditions, the following auxiliaries are available:

Thinner NoriCure® MPF 090
addition up to maximum 5 % to reduce viscosity

Blending Lacquer NoriCure® MPF 092 (not suitable as overprinting lacquer)
for lighthening the Basic Colors as well as for increasing the transparency. Miscible with NoriCure® MPF Basic Colors (in any ratio).

Process Paste NoriCure® MPF 099
– for adjusting the color density
– by adding NoriCure® MPF 099 the viscosity of NoriCure® MPF inks can be increased, if necessary

Adhesion Promoter NoriCure® HV-M (adhesive additive)
can be used to improve adhesion to metal, wood or other plastic substrates: Addition of approx. 5 %

UV Curing

NoriCure® MPF is cured under UV light using high-output mercury lamps. When using a mesh 150-31Y (380 threads/inch), a dose of approximately 200 – 400 mJ/cm² (Kühnast UV integrator, wavelength range 250–410 nm, max. 365 nm) is required to cure the coating system.

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.

Post-curing

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

Processing

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

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

UV inks which have not been cured 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 inks and auxiliaries. 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 respective safety data sheets.

Supplementary information regarding the safe use of UV inks/lacquers can be found in the brochure "UV-Drying", of the Berufsgenossenschaft Energie Textil Elektro Medienerzeugnisse, Gustav-Heinemann-Ufer 130, 50968 Köln, can be downloaded from https://medien.bgetem.de/medienportal/artikel/TUIwMzQ-

Important

Allow the ink as well as all the auxiliaries to be added to adjust to ambient 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. Some substrates and printing inks may have been treated with or contain sliding agents, antistatics or other additives which will impair the adhesion of the ink.

Ink adhesion and scratch resistance on the printed substrates have to be tested. Also the formability of the printed substrate has to be checked.

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 ink film.

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.).

The information contained in the technical information/instruction sheets or other product information sheets is based on product testing conducted by Pröll. Because printing and environmental factors critically affect each individual ink application, the above mentioned information and instructions represent only general recommendations concerning product characteristics and directions for use and should not be construed as representing express warranties regarding the product. The information and instructions in no way release the purchaser from his obligation to verify and test the inks and their application for the specific request, regarding: product characteristics, weather resistance, mixing proportions, gloss, thinning, special mixtures, printability, drying speed, cleaning, effects on or of other materials to be contacted and safety precautions. All details contained in the instruction sheet "General Information on Screen Printing Inks" are to be considered. The further manufacture and use of products containing our inks by the purchaser takes place beyond our control, and the responsibility for further application and use of our product resides solely with the purchaser. Pröll disclaims any warranties, express or implied.

This information supersedes all previous technical information.