NoriPUR®

one and two-component screen & pad printing ink in combination with NIR curing

Proell Color Information. A wide range of color shades, including metallic and highly opaque inks, is available from stock.

The versatile ink system can be used as a one or two-component ink for printing on PVC, pre-treated polyester and polyolefins, acrylic, polycarbonate, wood, metals and more.
Processed as a two-component ink, NoriPUR® has excellent chemical and mechanical resistances.

Processing / Pretreatment of substrates

Polyethylene (PE) or polypropylene (PP), for example PE-HD, are difficult printing substrates. Therefore, flame treatment of the surface is essential for good ink adhesion. A surface energy above 40 mN/m often results in good wettability and good adhesion of the ink and thus higher mechanical resistance.

NoriPUR® in combination with NIR curing

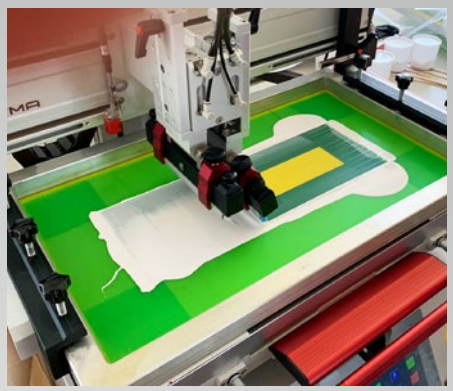
Instead of a conventional hardener, NoriPUR® inks can be processed with a NIR-activatable hardener (Hardener 047), which is specifically adapted to the NIR curing process. The use of this NIR hardener significantly accelerates the curing of the two-component ink layers. The hardener can be used with all NoriPUR® color shades.
The accelerated curing/drying can be advantageous for decorating front panels (control panels for white goods), beverage crates, as well as metals and many other substrates.
NoriPUR® processed with Hardener 047 makes it possible to complete the curing process in just a few seconds. The enormous time advantage over conventional drying is impressive and opens new fields of application in screen printing with even faster and more efficient process chains.

Screen printing on PE crates

Highly opaque white inks (e.g. NoriPUR® 944/013) have been specially created for printing on beverage crates. Even these screen printing inks, which are applied in thick layers, can be cured within a few seconds thanks to the targeted and intensive NIR drying process.
Once the substrates have cooled down, adhesion and scratch resistance tests can be carried out. These tests are passed immediately and demonstrate how quickly and efficiently the NIR concept, in combination with NoriPUR®, works.

NIR

Drying with Near Infrared (NIR) is particularly suitable for curing specialized screen and pad printing inks on a variety of substrates.
Especially in the NIR wavelength spectrum from 800 nm to 1,200 nm, very high energy densities can be applied to the smallest substrate areas without damaging the substrate.
NIR radiation quickly enters into the depth of the coating to remove solvents and moisture from the entire thickness of the ink layers.
In the NIR process, curing occurs simultaneously throughout the entire printed substrate. Issues such as skin and air bubble formation or pinholes are rarely encountered. The surface remains smooth and free of surface defects. The surface of the screen printing inks remain stable, do not flow, and dry in seconds.
One major advantage of the fast NIR curing process is the omission of indoor drying/storing of the crates in large halls.



NoriPUR® 944/013 (white, highly opaque) processed with Hardener 047 is printed with a 77-48 screen fabric on a pretreated PE.

Drying with a "Multiple-IR-Curing" NIR module.

The crates can be further processed within minutes and storing can be done in exterior due to weather resistance of the printed film

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