

# NewV lac<sup>®</sup>

## UV lacquering of prints produced with conventional offset inks

All UV lacquering of dry prints with printed with conventional offset inks poses a particular problem: there is a possibility of lacquer trapping problems arising that result in inadequate keying and repelling of the lacquer and to effects such as orange peeling and cratering. This is caused by the generation of decomposition products, which may form to a greater or lesser degree during oxidative drying of conventional printing inks. The generation of such decomposition products is often directly related to the vehicle constituents used in the ink. There are also secondary factors that influence the drying process of conventional offset inks and the generation of decomposition products, such as the climatic conditions at the workplace, the type of substrate and its surface structure, the amount of ink applied, the type and concentration of the pigments used in the ink, the composition of the fount solution and the amount of emulsified fount solution.

Another significant factor that affects keying of the UV lacquer is the degree to which the conventional inks have dried. Poorly or insufficiently dried conventional inks have a negative influence on keying.

Cast-coated stock and substrates of low absorbency as well as films and foils often create conditions that do not assist keying of UV-cured lacquers on dry conventional offset inks.

Conventional inks that are not solvent-, spirit-, and alkali-fast in the shades HKS<sup>®</sup> 13, 27, 33 and 43, PANTONE<sup>®</sup> Warm Red, Rhodamine Red, Purple, Blue 072, Reflex Blue and mixtures of these may change colour after UV lacquering!

Jobs requiring finishing with UV lacquer should be printed with conventional offset inks that generate few and low levels of decomposition products during oxidative drying.

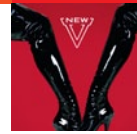
Duct-stable, inhibited offset inks formulated for retarded oxidative drying are not particularly suitable for this purpose.

Whenever possible, additives such as driers and concentrates with an unknown and different vehicle composition should be avoided, because they may lead to more decomposition products being generated.

Without assuming any guarantee, the following procedure is recommended to ensure maximum safety when UV lacquering jobs that have previously been printed with conventional inks:

- Use quick-setting inks
- Avoid ink additives
- Keep fount solution application to a minimum
- Make sure the conventional inks are completely dry after printing. (Aerate the stacks if necessary!)
- Use UV lacquers formulated to suit the system
- Test the suitability of new substrates

The risk of poor lacquer trapping can be reduced by corona discharge pretreatment of the dry conventional prints. Moreover, keying may be improved by wet-on-wet coating with a water-based primer (ACRYLAC<sup>®</sup> Primer 570572/40).



UV lacquering over conventional metallic inks may lead to increased trapping and keying problems caused by the presence of ingredients which are necessary for impasting bronze.

UV-curing metallic inks are less likely to cause trapping and keying problems with either UV lacquers or water-based coatings. UV-curing inks can be used only in conjunction with a UV curing unit.

The wetting properties of UV lacquers without slip agents for film lamination and hot foil stamping on dry conventional offset ink films are less favourable than those of UV lacquers that contain slip agents.