



UV varnish-coating of jobs produced with conventional offset inks

UV varnish-coating on dried conventional offset inks constitutes a special problem. From time to time difficulties of varnish trapping may occur causing insufficient keying and repelling, and creating effects such as orange peel and dimples. This is caused by fission products larger or smaller quantities of which may form during the oxidative drying of conventional printing inks. The generation of such fission products is often directly related to the vehicle constituents used in the ink. There are, however, also secondary influences on the drying process such as the climatic conditions in the processing area, type and surface of the stock, ink quantity applied, type of pigments, type and composition of the fount solution, and the amount of fount solution emulsified into the ink, which additionally influence the formation of fission products.

Another significant factor that affects keying of UV varnish 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 varnishes on dried conventional inks.

Conventional inks which are not nitrocellulose-, spirit-, and alkali-fast in the shades HKS® 13, 27, 33, 43 and PANTONE® Warm Red, Rhodamine Red, Purple, Blue 072, Reflex Blue and mixtures of these may change colour after UV varnish-coating!

Jobs requiring a finish with UV varnish should be printed with conventional offset inks which produce little oxidative fission products during oxidative drying.

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

Whenever possible, additives such as driers and concentrates with an unknown differing vehicle composition should be avoided because they may increase the formation of fission products.

For maximum safety of UV varnish-coating on jobs printed with conventional inks we recommend the following measures without, however, assuming any guarantee:

- Use special mainly penetration-drying inks.
- Avoid ink additives.
- Use suitable fount concentrates such as **HYDROFIX®-B 8013 39** in combination with 5 – 8% isopropyl alcohol.
(On films and foils use only IPA if possible.)
- Reduce fount application to a minimum.
- Make sure the conventional inks are completely dry.
(Aerate piles if necessary.)
- Use UV varnishes adapted to the system.
- Test the suitability of new substrates.

Pretreatment of the dried, conventionally printed sheets with corona discharge gives maximum safety concerning the trapping of varnish. Moreover, keying may be improved by wet-on-wet coating with a dispersion varnish (ACRYLAC® 500) containing no slip agents.

UV varnishing 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 of either UV varnishes or dispersion coatings. UV-curing inks can be used only in conjunction with a UV drier.

The wetting properties of UV varnishes without slip agents for film lamination and heat seal stamping on dried conventional offset ink films are less favourable than those of UV varnishes containing slip agents.

Contact addresses for advice and further information: **www.hubergroup.de**

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