

NewV[®] opaque white for UV printing

Among all the colouring agents (pigments, dyes) available, titanium dioxide is a white pigment that offers very good coverage properties (opacity) and provides a high degree of whiteness. This is why all types of Opaque White contain a very high concentration of this pigment.

Opaque White is used in coloured printing inks to give them an opaque appearance or for direct printing of substrates in order to mask them. High quantities of opaque white can slow down the UV curing process.

One or two applications of Opaque White may be needed depending on the substrate. Due to the limited thickness of ink film that can be transferred in the offset process, varying results with respect to the degree of whiteness are obtained on different substrates (e.g. black board).

Printing labels on aluminium-vaporised paper is a classic application for Opaque White. It enables areas that are not to appear metallic to be masked and show up pure white. That said, UV opaque white is regarded to be unsuitable for printing labels for deposit bottles due to its lye resistance and lye penetration characteristics.

To obtain a good white shade from one pass, an ink application rate of 2.0 – 25 g/m² is required. Application using 2 plates produces even better results and smoother coating quality. By tinting Opaque White (giving it a slightly bluish tinge), you can obtain an even whiter effect on aluminium-vaporised paper.

Applications

Range of applications

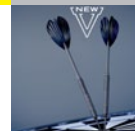
The series of opaque whites listed below is suitable for:

- Pretreated PE, PVC and PP (corona or gas flame) or preprimed material*
- Aluminium-vaporised paper and board*
- Aluminium foils*

We recommend application of a UV varnish in order to provide effective protection of the print image (see TI 5.10.02 entitled "NewV lac for UV curing").

The adhesion (keying) of UV-curing inks and varnishes to plastic films, cast-coated stocks and pretreated metal surfaces may be negatively affected by separating agents, slip agents and plasticisers adhering to these surfaces (especially plastic films). (We advise against printing on unpretreated metal surfaces due to unfavourable adhesion characteristics between UV ink/varnish films and the substrate surface.) Good resistance to the adhesive (Scotch) tape test does not necessarily imply good scratch resistance (nail test). In such cases, overvarnishing with UV-curing varnishes can help improve scratch resistance. At any rate, UV-cured inks and varnishes must have good tape resistance in order to ensure trouble-free further processing. Due to the differences between the various materials mentioned above, we recommend you carry out tests prior to beginning the print run.

* Non-absorbent substrates must have a surface tension of at least 38 mN/m in order to ensure optimum ink adhesion. In view of the large number of substrate suppliers and different substrates and substrate grades available, we recommend you carry out an adhesion test prior to beginning the print run.



	Paper / board	Film	Properties
Opaque White, untoned	suitable for letterpress and offset		
47 UP 0035	+	+	good adhesion, low-yellowing, high opacity
47 UP 0028	+	+	good adhesion, very fast curing
Opaque White, toned	suitable for letterpress and offset		
47 UP 0036	+	+	adhesion, curing, low-yellowing, high opacity, very high degree of whiteness
Opaque White, untoned	for reverse printing		
47 UP 0023*	+	+	good adhesion, low-yellowing, high opacity, good scratch resistance
* Not suitable for UV varnishing and other methods of finishing			

When changing over to printing with Opaque White, the ink rollers must be cleaned very thoroughly (possibly by inking up the rollers with Opaque White and scraping them off several times) in order to avoid contamination of the White.

Printing auxiliaries

The inks are always supplied ready to use. The following auxiliaries are available to help you adjust the Opaque White in exceptional cases:

- NewV sup Paste Reducer 40 U 1002 (reduces tack)
- NewV sup Activator Paste 40 U 1011

For further auxiliaries, see TI 5.12.01 entitled "NewV sup UV printing auxiliaries".

Classification

Safety Data Sheet available on request.

Shelf life

At least 12 months when stored under the correct conditions (20°C, protected against heat and light).

How supplied

- 3-kg Opaque White in 2.5-kg cans (specific gravity approx. 1.6 g/cm³)
- 1.5-kg Opaque White in 1-kg cans