

UV/LED-curable screen printing ink for PET, PETG.

Very fast curing, high gloss, excellent water and alcohol resistance, very universal use.

Field of Application

Substrates 9102 is an universal UV/LED-curable screen printing ink which is suited for the following substrates:

- Unpretreated PET, PETG
- PVC films or sheets
- Polycarbonate (PC)
- ABS
- Flaming pre-treated PP/PE

Before printing on PE and PP, please keep in mind that the substrates must have a surface tension of 44mN/m, usually achieved by flaming pre-treatment, then process the verification.

The substrates must completely avoid contamination residue, as grease, oil or hand sweat.

Since all the print substrates mentioned may be different in printability even within an individual type, preliminary trials are essential to determine the suitability for the intended use.

Characteristics

After complete curing, Marab@ 9102 is

- Brilliant colour and gloss
- High colour saturation
- High gloss
- Excellent chemical resistance

Physical properties

After complete curing, the surface of substrate printed 9102 is excellently abrasion and scratch resistant. It's also alcohol (>75% ethanol) and hand sweat resistant.

The adhesion is improved by adding hardener MH 3, as adhesion promoter, which improves its chemical resistance and water resistance.

Ink adjustment

The ink should be stirred homogeneously before printing and if necessary during production.

Printing Parameters

- Mesh: 140-31 – 180-27

Please be noted that when use mesh lower than 140T, the ink layer will be thicker, which influence the curing phase.

- UV mercury lamp:
emitting output millijoules (mJ) and milliwatts (mW) of:
80-120mW/cm², with 120mJ/cm².

Colour Range

9102/904	Toning varnish
9102/910	Cover print varnish
9102/922	Light Yellow
9102/924	Medium Yellow
9102/926	Orange
9102/932	Scarlet Red
9102/934	Carmine Red
9102/936	Magenta
9102/950	Violet
9102/952	Ultramarine Blue
9102/956	Brilliant Blue
9102/960	Blue Green
9102/962	Grass Green
9102/970	White
9102/980	Black
9102/170	Opaque White
9102/180	Opaque Black

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Process Shades

9102/409	Varnish
9102/425	Process Yellow
9102/435	Process Red (Magenta)
9102/455	Process Blue Cyan)
9102/485	Process Black

Auxiliaries

UV-T 2	Thinner (5% - 10%)
UV-AP 1	Photo initiator (for varnish) (1% - 4%)
UV-AP 2	Photo initiator (deep curing) (1% - 4%)
UV-AP 3	Photo initiator (for colour ink) (1% - 4%)
MH 3	Hardener (2% - 4%)
UV-AM 2	Adhesion promotor (2 - 4%)

Hardener MH 3 and adhesion promotor UV-AM 2 are sensitive to humidity, and are always to be stored in a sealed container. Adding into ink can increase resistance and adhesion. The mixture ink/hardener is to be stirred well and homogeneously. The mixture ink/hardener is not storable and must be processed within pot life 6 hours. (White shades max. addition 2%, Black & colour shades 2-4%)

The addition of thinner reduces the ink viscosity if necessary. The thinner becomes part of the crosslinked matrix when UV-cured and may slightly change the inherent odour of the printed and cured ink film.

If necessary, the auxiliary UV-AP 1 accelerates the surface curing and may increase the adhesion to the substrate owing to a better depth curing.

The UV-AP 3 accelerates deep curing.

The UV-AP 2 accelerates curing speed for dark color ink series.

Shelf Life

Shelf life depends very much on the formula/reactivity of the ink system as well as the storage temperature. The shelf life for an unopened ink container if stored in a dark room at a temperature of 15-25°C is 1.5 years.

Under different conditions, particularly other storage temperatures, the shelf life is reduced. In such cases, the warranty given by Marabu expires.

Note

Our technical advice whether spoken, written or through test trials corresponds to our current knowledge to inform about our products and their use. This is not meant as an assurance for certain properties of the products nor their suitability for each application. You are, therefore, obliged to conduct your own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for specific applications is exclusively your responsibility. Should, however, any liability claims arise, they shall be limited to the value of the goods delivered by us and used by you with respect to any and all damages not caused intentionally or by gross negligence. Labelling For 9102 and its auxiliaries, there are current Material Safety Data Sheets available according to EC regulation 1907/2006, informing in detail about all relevant safety data including labelling according to GB 15258-2009. Such health and safety data may also be derived from the respective label. Safety rules for UV printing inks UV-inks contain some substances which may irritate the skin. Therefore, we recommend to take utmost care when working with UV-curable printing inks. Parts of the skin soiled with ink are to be cleaned immediately with water and soap. Please read the notes on labels and safety data sheets.

More information

The above technical information is only for products under-development phase. It will be renewed after full market launch.

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