Ultra *Board* UVBR

Marabu

UV-curable screen printing ink for corrugated board, cardboard, paper, self-adhesive foils, rigid & soft PVC, and polystyrene

Satin gloss, fast curing, suited for single or multi-colour lines, press-ready, excellent detail printing, high chemical resistance, flexible ink film for post-processing steps like folding, stamping, grooving

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Field of Application

Substrates

Ultra *Board* UVBR is suited for the following substrates:

- corrugated board, cardboard, and paper
- self-adhesive PVC foils
- rigid PVC
- softPVC (preliminary trials essential)
- polystyrene PS

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.
Especially plasticised PVC requires suitable preliminary trials, owing to the diversity of qualities offered.

Characteristics

All UVBR basic shades are satin gloss (printed on non-absorbent substrates). On absorbent substrates, such as corrugated board or cardboard, the ink film appears matt. The printed ink film is very flexible so that it is ideal for post-processing.

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

Drying

UVBR is a fast curing UV-ink. A UV-curing unit with two medium-pressure mercury lamps (80-120 W/cm) cures UVBR at a belt speed of 40 m/min.

UVBR is a post-curing UV ink which will achieve its final adhesion and resistances after 24 hours. The ink film should pass a tape test after having cooled down to room temperature.

The curing speed of the ink is generally dependant upon the kind of UV-curing unit (reflectors), number, age, and power of the UV-lamps, the printed ink film thickness, colour shade, substrate in use, as well as the printing speed.

As with all UV-curable printing inks, the presence of residual monomers and photoinitiators' decomposition products cannot be completely ruled out even after sufficient curing. If these traces are relevant for the application, this must be taken into account in individual cases, as this depends on the actual printing and curing conditions.

Fade resistance

Process blue and process black are two highly fade resistant 4-colour process shades, suitable for 2 years outdoor exposure, while process yellow & process red feature 6 months fade resistance, referred to the middle European climate north of the forty-fifth degree of latitude.

Stress resistance

After proper and thorough drying, the ink film exhibits outstanding adhesion, as well as rub, scratch and block resistance. Furthermore, UVBR is very well suited for post-processing steps such as stamping, cutting, folding, and grooving.

Range

4-Colour Process Shades Standard

424	Process Yellow
434	Process Magenta
455	Process Cyan
485	Process Black

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Further Products

409	Transparent Base

All shades are intermixable. Mixing with other ink types or auxiliaries must be avoided in order to maintain the special characteristics of this ink.

Auxiliaries

UVV 2	Thinner	1-5%
UVV 6	Thinner, flexible	1-5%
UV-B 5	UV Accelerator	1-4%
UV-B1	UV Accelerator	1-2%
STM	Thickening Agent	0.5-2%
UV-TA 1	Thickening Agent	0.1-0.5%
UV-VM	Levelling Agent	0-0.5%
UR 3	Cleaner (flp. 42°C)	
UR 4	Cleaner (flp. 52°C)	
UR 5	Cleaner (flp. 72°C)	

The addition of thinner reduces the ink viscosity if necessary. An excessive addition of thinner will cause a reduction of the curing speed, as well as of the printed ink film's surface hardness. The thinner becomes part of the cross-linked matrix when UV-cured and may slightly change the inherent odour of the printed and cured ink film.

UV-B 5 accelerates the surface curing.

UV-B 1 accelerates the curing speed if necessary and may increase the adhesion to the substrate owing to a better depth curing.

The Thickening Agent STM enhances the ink's viscosity without significantly influencing the degree of gloss. Please stir well, the use of an automatic mixing machine is recommended.

The liquid Thickening Agent UV-TA 1 increases the viscosity and improves the dot definition at higher processing temperatures.

The Levelling Agent UV-VM helps to eliminate flow problems which may arise due to residuals on the substrate's surface or incorrect adjustment of the machines. An excessive amount may reduce the ink's adhesion when overprinting. UV-VM must be stirred homogeneously before printing.

The cleaners UR 3 and UR 4 are recommended for manual cleaning of the working equipment. Cleaner UR 5 is recommended for manual or automatic cleaning of the working equipment.

Printing Parameters

Control and reduction of the printed ink film are fundamental for 4-colour process printing with UV-curable inks. We recommend a mesh count (plain weave) between 150-27 and 180-31 threads. A uniform screen tension (> 16 N) of all fabrics used is further important.

UVBR can be processed with all commercially available stencil techniques such as capillary films (15-20 mμ) or solvent-resistant photo emulsions.

Shelf Life

Shelf life depends very much on the formula/ reactivity of the ink system as well as the storage temperature.
It is 2.5 years for an unopened ink container if stored in a dark room at a temperature of 15-25°C. Under different conditions, particularly higher 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 foregoing information is based on our experience and should not be used for specification purposes. All characteristics described in this Technical Data Sheet refer exclusively to

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the standard products listed under "Range", provided that they are processed in accordance with their intended use and only when used with the recommended auxiliaries. 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 utilised by you with respect to any and all damages not caused intentionally or by gross negligence.

Labelling
For Ultra *Board* UVBR 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 EC regulation 1272/2008 (CLP regulation). Such health and safety data may also be derived from the respective label.

Safety rules for UV screen printing inks
UV-inks contain some substances which may irritate the skin. Therefore, we recommend to take utmost care when working with UV-curable screen printing inks. Parts of the skin dirtied with ink are to be cleaned immediately with water and soap. Please pay also attention to the notes on labels and safety data sheets.

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