

# Ultra Pack UVCP



UV-curable screen printing ink for pre-treated polyethylene PE and polypropylene PP, and polycarbonate PC

Very fast curing, high degree of gloss, excellent water and filler resistance, thixotropic adjustment, flexible ink film, very universal use

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## Field of Application

### Substrates

Ultra Pack UVCP is suited for the following substrates:

- Pre-treated polyethylene (HDPE/LDPE)
- Pre-treated polypropylene (PP)
- polycarbonate (PC)

Before printing onto PE and PP, please keep in mind that the substrate surface must be pretreated by flaming. With this process, surface tension will rise and a very good adhesion from 44 mN/m is possible. The surface treatment can be tested by appropriate test inks. The substrate surface must be absolutely free of contaminating residues such as grease, oil, and finger 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

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

For the processing of Ultra Pack UVCP it is important to use only thoroughly cleaned stencils, squeegees, ink pumps, as well as tubes (in the case of an automatic ink supply), and injectors for the manual ink filling of the stencil, etc.

### Drying

Ultra Pack UVCP is a very fast curing UV ink. A UV-curing unit (medium-pressure mercury lamp) of 120 to 200 W/cm is therefore necessary.

Ultra Pack UVCP is a post-curing UV ink which will achieve its final adhesion and resistances after 24 hours. The ink film should pass a cross hatch 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.

### Stress resistance

After proper and thorough drying, the ink film exhibits outstanding adhesion as well as rub, scratch and block resistance and is resistant to solvents (see DIN 16 524), alcohol (96% ethanol), finger sweat, and further common alkaline and acid fillers.

## Range

### Basic Shades

922	Light Yellow
924	Medium Yellow
926	Orange
932	Scarlet Red
934	Carmine Red
936	Magenta
950	Violet
952	Ultramarine Blue
956	Brilliant Blue
960	Blue Green
962	Grass Green
970	White
980	Black

### High Opaque Shades

170	Opaque White
180	Opaque Black

### Further Products

904	Special Binder
910	Overprint Varnish

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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

Only the below mentioned auxiliaries can be used for Ultra Pack UVCP.

UV-B 3	Accelerator	1-2%
STM	Thickening Agent	0.5-2%
UV-VM	Levelling Agent	0.5-1.5%
UV-TA 1	Thickening Agent	0.1-0.5%
UR 4	Cleaner (flp. 52°C)	
UR 5	Cleaner (flp. 72°C)	

UV-B 3 accelerates the curing speed 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 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 liquid Thickening Agent UV-TA 1 increases the viscosity and improves the dot definition at higher processing temperatures.

Cleaner UR 4 is recommended for manual cleaning of the working equipment. Cleaner UR 5 is recommended for manual or automatic cleaning of the working equipment.

## Printing Parameters

Selection of the fabric depends on the printing conditions, the required curing speed and productivity, as well as the requested opacity. Generally, fabrics of 140-31 to 180-31 can be used. All commercially available capillary films (15-20 µm) or solvent resistant photo emulsions and combined stencils can be used for UV-inks.

## Shelf Life

Shelf life depends very much on the formula/reactivity of the ink system as well as the storage temperature. It is 2 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 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 Pack UVCP 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 printing inks

UV-inks contain some substances which may

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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.

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