

Ultra Pack UVFP



Vers. 5
2018
13. Sep

UV-curable screen printing ink for pretreated polyethylene and polypropylene, designed as food packaging ink for printing on the non-food contact side, proven low migration based on real-life parameters

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

Field of Application

Substrates

Ultra Pack UVFP is suited for the following substrates:

- Pre-treated Polyethylene (HDPE/MDPE/LDPE)
- Pre-treated Polypropylene (PP)

Before printing onto PE and PP, please keep in mind that the substrate surface must be pretreated by flaming or corona. 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

All Ultra Pack UVFP shades are brilliant and high-gloss at best possible opacity.

Ink Adjustment

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

All data referencing low migration of specific substances have taken place with only the supplied ink. Other chemicals added to the ink may affect the properties of this ink.

For the processing of the low-migration ink UVFP 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. in order to avoid any contamination with other chemicals.

Drying

Ultra Pack UVFP is a fast curing UV ink for a printing speed of up to 5000 bottles per hour. A UV-curing unit (medium-pressure mercury lamp or fusion) of 120 to 200 W/cm is therefore necessary. The curing speed of the ink is generally depending on the kind of UV-curing unit (reflector), the number, age and power of the UV-lamps, the printed ink film thickness, the colour shade, the substrate in use, as well as the printing speed.

Adhesion of the ink is usually controlled by a tape test after the printed bottles have cooled down to room temperature.

Ultra Pack UVFP shows extremely good tape and scratch resistance straight from the printing press, but is yet a post-curing UV ink which will achieve its best adhesion and resistances after 24 hours.

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.

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 certain solvents like alcohol, petrol, MEK (100 double rub strokes), and limited resistance to finger sweat, and common alkaline and acid fillers. High opaque shades may have reduced resistances.

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Range

Basic Shades

| | |
|-----|------------------|
| 922 | Light Yellow |
| 924 | Medium Yellow |
| 926 | Orange |
| 932 | Scarlet Red |
| 934 | Carmin 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 |
| 171 | Opaque White, silicone-free |
| 180 | Opaque Black |

Further Products

| | |
|-----|----------------|
| 904 | Special Binder |
|-----|----------------|

The silicone-free opaque white 171 is used as pre-print for flexo overprints.

All shades are intermixable (except 171). Mixing with other ink types or auxiliaries must be avoided in order to maintain the special characteristics of this ink.

Auxiliaries

We cannot recommend the use of any auxiliaries for printing Ultra Pack UVFP. All data referencing low migration of specific substances have taken place with only the supplied ink. Other chemicals added to the ink may affect the properties of this ink.

| | |
|------|---------------------|
| UR 4 | Cleaner (flp. 52°C) |
| UR 5 | Cleaner (flp. 72°C) |

Cleaner UR 4 is only recommended for the final 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 1 year 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.

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Labelling

For Ultra Pack UVFP 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 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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