

Ultra Jet DUV-MF



Versatile, UV-curable Inkjet printing ink developed for both flexible and rigid Substrates.

Suitable for hybrid machines with both flatbed and roll to roll Printing options.

Vers. 2
2018
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Field of Application

Substrates

The Ultra Jet DUV-MF substrate range includes:

Flexible substrates:

- PVC banner material such as COALA FRONTLIT ECO S
- Self-adhesive films up to 200µm
- PE/PET/PC/PVC films up to 200µm
- Printable fabrics such as Trevira®
- Artificial leather

Rigid substrates:

- Acrylics (PMMA)*
- Rigid PVC and PVC foam board
- Aluminium composite panels (Dibond®)
- Pretreated PP (e.g. corrugated plastic)
- Polycarbonate, Polystyrene, ABS
- Coated metal
- Glass* (with Primer P4)
- Wood and MDF boards
- Corrugated board, cardboard & Re-Board®

*Recommendations are available upon request. According to internal tests the above mentioned substrates achieve max GT 2.

In order to achieve best ink adhesion, the surface tension of PE/PP must not be lower than 44 mN/m. Even though these substrates are usually pre-treated by the manufacturer, this effect wears off during storage time, so adhesion may be reduced. Therefore, if the surface tension is lower than 44 mN/m, we recommend another pre-treatment with suitable methods like Corona, Plasma, or flame. It is important to ensure that the substrate is free of fingerprints.

Priming can significantly improve the adhesion properties on challenging substrates like glass, or metals (coated, anodized or powder coated surfaces). Very good results have been achieved with Ultra Jet DUV-MF in combination with the Marabu P4 and P2 Primers.

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.

Field of use

Ultra Jet DUV-MF is suitable for devices employing the below mentioned print heads:

- Toshiba Tec CE2
- Ricoh Gen4 + Gen5
- Konica Minolta 512 + 1024 including i series
- Dimatix Q-Class
- Seiko

Characteristics

Drying

Ultra Jet DUV-MF is a UV-curable ink. Best curing is achieved with medium pressure mercury lamps.

Ultra Jet DUV-MF is a post-curing UV ink which will achieve its final adhesion and resistances after 24 hours.

The curing speed of the ink is generally dependent 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.

Fade resistance

Only pigments of high fade resistance are used for the Ultra Jet DUV-MF range. All basic shades are suited for a 2-year vertical outdoor exposure, referred to the middle European climate and suitable Substrates.

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Range

Basic Shades

428	Yellow
434	Light Magenta
438	Magenta
455	Light Cyan
459	Cyan
489	Black

We do not recommend this ink for toys due to the foreseeable contact with the mouth since the possible presence of residual monomers and decomposition products of the photo-initiators cannot be excluded even when sufficiently cured.

Auxiliaries

Further Products

DI-UR 3	Cleaner
P 2	Primer
P 4	Primer

For the ink change-over, it is recommended to use DI-UR 3 for all ink-carrying components of the ink system. This cleaner has been chemically adjusted to the ink.

DI-UR 3 can also be used for cleaning print heads and other ink-carrying components, and can be used if any parts need to be soaked for awhile. Thanks to its higher viscosity it is especially suited for printers with automatic cleaning units.

Special Primer P 2 is used for manual pre-cleaning and pre-treatment of PP substrates and metals. In addition, improved adhesion properties can be obtained on powder coatings.

The adhesion properties of UV curable Inks on glass (screen printing and digital) are significantly improved by the use of Special Primer P 4. The application of this special "solvent" is possible, either by manually wiping it onto the entire surface with a cloth or using a spray gun.

Since no white is available in the Ultra Jet DUV-

MF product range it is recommended that Ultra Jet DUV-A 170 White is used in combination.

Shelf Life

The shelf life for an unopened ink container if stored in a dark room at a temperature of 15 - 25 °C is:

- 1 year

The ambient temperature may fall below this value only once for max. 2-3 days. Under different conditions, particularly other storage temperatures, the shelf life is reduced. In such cases, the warranty given by Marabu expires.

Change-over

Before changing over to Ultra Jet DUV-MF it is recommended to completely drain the ink system before rinsing all ink-carrying components with cleaner DI-UR 3. It is also advised to change ink filters and dampers if present. Then, choose your printer's automatic cleaning program (e. g. „head wash“ or „change ink type“) and follow the instructions.

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,

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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.

Recommendation

In order to ensure a smooth production workflow, please follow the guidelines issued by the manufacturer and Marabu.

We recommend to replace the dampers and cappings once a year.

Labelling

For Ultra Jet DUV-MF 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 the present EEC regulations as to health and safety labelling requirements. 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.