Ultra *Jet* DLE-A

Marabu

Versatile UV-LED-curable Inkjet ink for a wide range of flexible and rigid substrates

Compatible with various print heads commonly employed on UV printers

Vers. 6
2016
23. Aug

Field of Application

Substrates

The Ultra *Jet* DLE-A substrate range includes:

Flexible substrates:
- PVC banner material
- 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*
- 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* DLE-A in combination with the roller-coating primer Mara® *Shield* UV-PGL, Ultra *Glass* UVGO, or Ultra *Graph* UVAR (screen printing).

Particularly good adhesion was achieved on a material called „DIBOND® Digital“ by ALCAN (3A Composites Holding AG).
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* DLE-A is suited for devices employing the below mentioned print heads:
- Ricoh Gen3 and Gen4
- Konica Minolta 512 and 1024
- Dimatix Q-Class
- Xaar 1001

Characteristics

Drying

Ultra *Jet* DLE-A is a LED curable ink, and best curing is achieved at a wavelength of 395 nm. Ultra *Jet* DLE-A 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 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.

Fade resistance

Only pigments of high fade resistance are used for the Ultra *Jet* DLE-A 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

Further Products

170	White
910	Varnish

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

DI-UR	Cleaner
DI-UR 3	Cleaner
P 2	Primer
P 4	Primer

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

DI-UR 3 can be used for cleaning print heads and other ink-carrying components, and should be used if any parts need to be soaked for awhile. This cleaner has been chemically adjusted to the ink. 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.

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 for 428-489, 910
- 9 months for 170

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* DLE-A it is generally recommended to completely drain the ink system before rinsing all ink-carrying components with cleaner DI-UR. Ultra *Jet* DLE-A is a alternative to the Mimaki LH100 ink. However, the Mimaki UJF printers can also be equipped with Mimaki LF 140 ink. In this case, intermediate cleaning is essential to maintain the print quality. 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.
The selection and testing of the ink for specific

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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.

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* DLE-A 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.

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