

# Technical Data Sheet



## Mara®Shape DUV-HBV High-Build-Varnish

The Mara®Shape DUV-HBV is a UV-curable digital ink, which has been specially developed for the decoration of haptic structures for digital direct printing on packaging and hollow containers. It is ideal for the industrial single-pass process.



### Key features

- Can be used with DUV-C to combine visual and haptic effects
- High layer build-up with constant contour sharpness
- Layer thicknesses up to 1mm printable
- Excellent reproduction of glass structures
- Economical replacement for conventional embossing decoration

### Field of application

#### Substrates

The Mara®Shape DUV-HBV substrate range includes:

- Glass\*

\*in combination with Pre-Treatment and Primer P5 for full adhesion properties. The adhesion properties of the Mara®Shape DUV-HBV inks on glass are significantly improved by the use of the special Primer P5. The application of this special "solvent" is possible, either by manually wiping it onto the entire surface with a cloth, using a spray gun or by means of a spray nozzle integrated in printing machine. To meet the specifications of direct to container or packaging Pre-Treatment may also be needed for example with flame treatment including PYROSIL®. 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

Mara®Shape DUV-HBV is suitable for the following Printheads:

- Xaar 1003

In combination with Xaar's high-laydown technology, it is possible to achieve extremely high layer thicknesses.

### Ink properties

#### Curing

The Mara®Shape DUV-HBV is optimized for curing and pinning LEDs as required in industrial single-pass printing. The best curing is achieved with 395 or 385nm LED lamps.

To achieve the final resistance required for some industrial applications, the Mara®Shape DUV-HBV should be final cured with a medium pressure mercury lamp.

The Mara®Shape DUV-HBV reaches its maximum adhesion and chemical resistance after 24 hours.

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

## Colour Range

### Varnish

- DUV-HBV "High Build Varnish"

## Auxiliaries

### DI-UR Cleaner

#### DI-UR 3 Cleaner

#### P 5 Primer

For the ink changeover, 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 a while. This cleaner has been chemically adjusted to the ink. Thanks to its higher viscosity, it is especially developed for printers with automatic cleaning units.

By using the special primer P5, the adhesion properties of UV-curing inks (screen printing as well as digital printing) on glass are significantly improved. The application is possible either by manual wiping or with the help of spraying systems.

## Shelf Life

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

- 9 months

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 will be reduced. In such cases, the warranty given by Marabu expires.

## Change-Over

Before changing over to **Mara®Shape DUV-HBV** it is generally recommended to completely drain the ink system before rinsing all ink-carrying components with cleaner DI-UR.



Depending on the current ink type and your colour match requirements there are three different options for a changeover:

- Switch & Print = full chemical and colour compatibility
- Switch & Swap = Flushing is required
- Switch & Match = Colour profiling is required for the best colour match

**Please contact Marabu to confirm the necessary process for your printer**



## Note

Our technical advice whether spoken, written, or through test trials corresponds to our current knowledge to inform about our products and their purpose. This is not meant as an assurance for certain properties of the products nor their suitability for each application.

Therefore, you are 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.

## Labeling

For **Mara®Shape DUV-HBV** 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 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 on safety data sheets.

## Marabu – Colors made for life

- Certification to international standards ISO 9001, 14001 & OHSAS 18001
- Leading-edge research and development enables us to design innovative products to meet the very latest real-world challenges of our customers
- Corporate responsibility – particularly environmental protection – is at the heart of our business. We have underlined this commitment by creating a dedicated department for product and environmental safety
- We systematically reduce hazardous substances in our products, making our standards among the highest in the industry
- Our international service and support network of subsidiaries and partners offers assistance and advice wherever you are



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