

# COMBINED USE OF SCREEN AND DIGITAL PRINTING IN GLASS FINISHING

Alexander Suckfüll (Technical Project Manager, Packaging Screen and Pad Printing Inks), Tobias Lang (Product Manager, Digital Inks) and Pascal Iffland (Sales Director, Packaging Screen and Pad Printing Inks) discuss Marabu's ability to choose the best options for digital and screen printing in glass finishing



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Both screen and digital printing technologies have their own unique advantages in glass finishing and can often complement one another. Marabu has both printing processes under one roof and offers its customers and partners high quality, technical expertise. Pascal Iffland and Tobias Lang agree that the current trend is to use screen printing and digital printing together on glass in order to take advantage of the combination. For customers, the final appearance of the

finished product is what counts. However, manufacturers must prioritise the economic aspects of achieving high-quality results.

### THE STRENGTHS

Screen printing is often preferred when the time and expense of producing a given quantity needs to be considered. It also offers more possibilities in terms of finishing processes. In addition, screen-printing inks come in a large range of highly opaque and

transparent colours. In direct comparison, screen printing outperforms digital printing when very high production volumes are required. Even though screens must be prepared for each motif in the pre-press stage, the process pays off in this scenario.

***“Marabu has a great deal of specialised knowledge in glass finishing”***

In contrast, digital printing is the method of choice for custom jobs. There is no pre-press stage. This means that decorators can take advantage of print-on-demand services, giving them maximum flexibility when producing one-off items or changing motifs within a batch. Unlike screen printing, digital printing can accommodate customers' wishes with standard CMYK colours plus, if required, a white background.

### HIGHLIGHTS AND SPECIAL ACCENTS

Both printing applications can create effective decoration on bottles, jars and vials to give products a high-quality appearance. Screen printing is not restricted to a certain pigment particle size. This enables the production of an attractive metallic look amongst other effects.

Digital printing opens up additional decorating options. It can generate layered structures with a thickness of up to 3mm and, if necessary, highly intricate details. Convex



Ultra Jet DUV-C

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or concave geometries on glass can be achieved, with eye-catching results. Besides building up layers, inkjet-printing processes can shoot drops into recesses, creating 3D shapes that can be printed onto glass. This process is gaining increasing favour among glass manufacturers and finishers due to the tremendous range of decoration options available. It also saves the time and expense of casting glass in a special shape for each product.

### **“Screen printing outperforms digital printing when very high production volumes are required”**

For fine lines, such as those in decorative lettering, screen printing is the best choice. Ink is applied with high precision through a fine-meshed fabric. When a UV screen-printing ink is used, the fabric will not dry out, permitting results of incomparably high quality, even with very fine letters. Digital printing can be used here too, but the limit of this application is determined by the minimum and maximum drop size imposed by the inkjet process.

#### **USING A COMBINATION**

The following example illustrates the benefits of combining both screen and digital technologies. A customer needs a glass bottle with labels that give an impression of high quality, but need to be printed economically. The requirements include attractive metallic effects, an elegant brand logo and a personalised area for printing the customer's name. For a good haptic impression, the design must be distinctive, with complex geometric shapes, transparent areas or coloured elements. Assuming the use of both processes and a small batch of bottles, part of the job will be done with screen printing. This would require the use of forms, but these are just what is needed for printing the area with metallic effects. Screen printing also makes it easier to apply the brand logo and other areas of text at the required quality. The remaining part would then be decorated using digital printing, with layering and areas that are transparent or coloured. Digital printing also provides an easy means of applying the customer's name. In other

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Digital printing – Ultra JET DUV-C in combination with Mara Shape DUV-HBV



Ultra Glass LEDGL



Ultra Glass UVGL

words, each method can make a valuable contribution to glass finishing and, when combined, offer great benefits.

**CONCLUSION**

Marabu has a great deal of specialised knowledge in glass finishing. The company works hand-in-hand with project partners and customers, co-operating across disciplines. Marabu's goal is to bring about improvements in printing inks, thus contributing to progress in finishing.

Marabu currently supplies two very popular ink systems for glass decoration using screen printing – Ultra Glass UVGL and the LED-curing variant Ultra Glass LEDGL. For achieving special effects, the 902 Bronze Binder permits gold and silver applications of exceptional quality.

The high-build varnish Mara Shape DUV-HBV, combined with products such as Ultra Jet DUV-C and the primer P5, is well regarded in the industry for its possibilities in digital printing. With these, elaborate, highly detailed 3D effects can be achieved. ■



Digital printing – Mara Shape DUV-HBV

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*“For fine lines, such as those in decorative lettering, screen printing is the best choice”*

Screen printing – Ultra Glass LEDGL

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Mara Shape DUV-HBV

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