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Printing on glass: Tactile effects

Much of the world is experienced through the sense of touch. That is something manufacturers in the glass industry are well aware of - and seek to make the most of, by adorning their products with three-dimensional effects. For the first time, printing inks specialist Marabu has developed a screen printing method for decorating glass that does away with the need for complex and costly glass moulds. As a result, raised elements can be achieved cost-efficiently, even for low production volumes.

Glass is an ancient material, yet it continues to be highly popular and to find new uses - for everyday objects as well as for industrial applications. No matter what the purpose of the end product, decorative elements, lettering and other markings play a pivotal role.

Until now, manufacturers have employed casting technology to create visual effects on bottles and other glass items. This requires the design and fabrication of complex and costly moulds. And this is

generally only commercially viable for very large production volumes. However, Marabu has recently developed an attractive alternative: A two-component ink system from the Ultra Glass UVGL range can be harnessed to create tactile effects and decorative elements on flat glass and containers.

HIGH QUALITY RESULTS

Thick film inks (for tactile effects) are suitable for a wide variety of applications and are easy to use

in printing processes. The coating is applied with great precision to previously screen printed wording or patterns on flat glass or containers, precisely matching the existing contours. The ink is then cured using UV light to produce the desired three-dimensional effect.

The ratio of the thick film ink's two components (one high viscosity, the other low viscosity; eg 50:50; 70:30; 60:40) can be adjusted in line with the required result and printing process parameters. Blends with a high proportion of the more viscous component (UVGL RH) are employed to create raised prints on small surface areas, such as lines, lettering and logos.

Blends with a predominantly low viscosity component (UVGL RL) flow evenly and quickly, making them ideal for larger surface areas, such as key visuals. This remarkably simple method will allow printing businesses cost-effectively to create highly personalised and customised items, even in small quantities.



FLEXIBILITY AND VERSATILITY

The Ultra Glass UVGL-RH/-RL line of inks for tactile effects is exceptionally flexible. There are two application methods:

- Method 1: The visual image is first screen printed on glass and UV cured. It is then overprinted with a transparent, pre-mixed thick-film layer - with exactly the same contours - and cured again to create the desired visual and haptic effect. This approach is ideal for logos and patterns with multiple colours.
- Method 2: This approach is recommended for decorative elements of a single colour. Prior to the printing process, the thick film ink is mixed with the desired UVGL pigment (up to 15%). Consequently, this method does not require a second curing to create the tactile effect, accelerating printing and enhancing efficiency.

Both methods deliver first class results that are dishwasher-safe and have good resistance to abrasion, alkaline substances and chemicals. In other words, Marabu's UVGL RH/RL line of tactile inks enables a distinct process for the application of highly attractive, three-dimensional decorations to glass objects. ■



Ultra Glass UVGL range can be harnessed to create tactile effects and decorative elements.



Ultra Glass UVGL-RH/-RL line of inks for tactile effects is exceptionally flexible.

FURTHER INFORMATION:

Marabu GmbH & Co KG, Tamm, Germany
 tel: +49 7141 691 360
 email: export@marabu.de
 web: www.marabu-inks.com