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Marabu

Marabu at InPrint – Printing Inks for Highest Demands

Marabu offers unparalleled expertise in integrating screen, pad, and digital printing into complex production processes – making the ink manufacturer the perfect development partner for industrial applications that take the next step.

Tamm, 17th of October 2017 –As an established ink manufacturer, Marabu (Hall A6, Stand 527) has the necessary expertise to develop solutions for integrating the printing process into complex industrial production processes and to master and advance the changes of the ongoing digitalization. For this purpose, Marabu offers a wide range of industrial applications and refers to the individual strengths of screen, pad and digital printing.

Smart printing solutions for the automotive industry

The speedometer discs in car cockpits have traditionally been screen-printed. However, even in the car cockpit digitization is not stopping there: more and more displays are being used instead of usual dashboard elements. The application changes, and with it the requirements of the printing ink. Thanks to a wide range of solutions, Marabu is able to address the changes in industrial printing applications and their immense variety and complexity in terms of surfaces, shapes and substrates. Be it with UV-curing and solvent-based screen and pad printing inks for traditional dashboard elements such as dials, switches and controls, or special screen printing inks for displays made of glass or plastic. Similar to the printing of touch panels for smartphones or tablets, Marabu offers suitable high-opacity inks such as Mara® *Glass* MG3C and Ultra *Glass* UVG3C.
The remaining interior of a vehicle also impresses with its many printed design and construction elements, depending on the equipment made of aluminum or plastic. Matte aluminum trim strips or glossy logo emblems are embossed, punched and formed after printing. Screen printing inks such as Mara® *Poly* P, Mara® *Pur* PU or the Mara® *Cure* HY dual-cure screen printing varnish for matte contrasts and gloss effects are ideally suited to the enormous chemical and mechanical requirements. Mara® *Mold* MPC, on the other hand, is suitable for directly back-injected plastic parts in the film insert moulding (FIM) process and convinces with its excellent adhesion to the injection moulding material and its high mechanical strength.
Marabu's Tampa® *Flex* TPF, Tampa® *Star* TPR, Tampa® *Pure* TPU and Tampa® *Pol* TPY pad printing inks are recommended for technical marking of engine covers, function buttons or tachoneedles. Strict ink tolerances apply here. The printed markings must also be resistant to temperature and climatic conditions, sweat, hot oil, abrasion and cleaning chemicals.
Marabus UV-curing digital inks are also suitable for printing on molded parts from the interior. For outdoor applications, solvent-based digital printing inks are mainly used, especially in the aerospace industry, in addition to the automotive market. Here Marabu is working on solutions for printing on 2D and 3D surfaces on the aircraft fairing.

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Combination of screen and digital printing on input devices

For control panels, Marabu recommends the use of a combination of screen and digital printing, exploiting the advantages of both methods. In this instance, the PET material used to make the switch is decorated by digital printing using the Ultra *Jet* DUV-A ink system – which is also compatible with screen printing. This approach accelerates printer set-up, and enables short production runs and customization of the individual switches for each print job. The blocking layer is created in a subsequent step by means of screen printing – as digital printing still has its limitations in terms of opacity in special cases. Screen printing can play a supporting role, building upon the digital ink layers. For the blocking layer, panel manufacturers can choose between the solvent-based Mara® *Switch* MSW system, with white, black and silver, or the UV-curable Ultra *Switch* UVSW system.
This two-pronged strategy can also be transferred to other manufacturing process. For example, the same series of steps and ink systems can be employed for rigid substrates such as polycarbonate and PMMA for the production of front panels. The pairing of screen and digital opens up new opportunities without neglecting cost or efficiency.

New special ink series for printing on front panels

The progressing digitalization is reaching our homes. Household appliances are networked with each other and can be remotely controlled via our mobile phones. For the technical operation on site, more and more devices require front panels that previously only had simple control buttons. Capacitive touch interfaces are no longer only used in washing machines, dryers, dishwashers and ovens, but also in fully automatic coffee machines or microwave ovens. Marabu has expanded its portfolio for décor printing on front panels. The new special ink series Mara® *Panel* MPA offers unbeatable high-opacity white and a deep, non-conductive black, which has been developed for printing on plastic (second surface) of the commonly used PMMA or PC materials. The decorative inks of the Mara® *Panel* MPA series have a very high electrical resistance, so as not to impair the functionality of the input system. At the same time, well-known manufacturers tested the resistance to water vapour and common cleaning chemicals. On request, special lacquers for metallic-looking silver-effects supplement the ink series. In household appliances, the plastic covers are often integrated into metal housings. The advantage here, Marabu offers printing inks for the complete device, be it the individual parts made of plastic, metal or glass. Glass fronts are also becoming more popular with household appliances. Glass combines noble design with high surface resistance, scratch resistance and dirt resistance. For front and decorative glass panels, Marabu offers the highly resistant, solvent-based two-component ink systems Mara® *Glass* MGL and Tampa *Glass* TPGL. For the use of UV inks, we recommend the tried and tested ink shades of Ultra *Glass* UVGL and the high-capacity Ultra *Glass* UVG3C.

Container printing - Solutions for glass and plastic objects

Glass is a versatile and attractive material with unique properties and appearance that make it suitable for a wide variety of industrial applications.

A highlight in screen printing is the relief or thick-film coating for the noticeable difference. The two-component system of the Ultra *Glass* UVGL ink series impresses with its versatile application and the ultimate haptic effect. The motif, which has already been pre-printed with screen printing on container or flat glass, is overlaid with a thick-layer coating and cured under UV light. High-viscosity, especially rheologically transparent

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varnish settings allow very fine, high-structured details in the print motif. A low-viscosity transparent varnish setting is suitable for flat areas of the motif, e. g. for a broader lettering integrated in the motif.

Tampa® *Glass* TPGL was developed on the basis of state-of-the-art raw materials specifically for pad printing decorations on 3D objects. It offers ease of use, brilliant results, and exceptionally high chemical and mechanical resistance. This ink is suitable for glass and ceramic items, metals, chrome-plated and varnished substrates, and thermosetting plastics. The already comprehensive product line has now been extended to include 4C process inks. The entire offering can be employed on both screen and pad printing presses, ensuring great flexibility. The recent addition enables the generation of photorealistic images on 3D glass objects, such as bottles for perfumes and beverages, and drinking glasses.

Digital printing is clearly gaining traction in the manufacturing sector, with applications including the decoration of beverage bottles made of glass or plastic. It is possible to print up to 36,000 bottles per hour using an in-line method, with a different design on each bottle (e.g. in various languages, with modifications to the design, or with sequential numbering). Other applications are in the advertising materials industry (e.g. container glass) and interior design (e.g. kitchens and furniture). Flexible digital printing offers manufacturers unlimited possibilities, and supports the adoption of new, innovative technologies.

Sensitive ink solutions for sensitive products


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Tampa® *Tex* TPX system was developed specifically for textiles, and offers very high adhesion and high opacity in conjunction with a flexible ink. As numerous test prints and quality checks have now demonstrated, this best-selling pad-printing ink is also ideal for other, highly demanding tasks. The extremely carefully sourced, high-purity raw materials mean this line not only complies with the strict specifications of clothing manufacturers, such as Adidas A01 und Nike RSL, it also fulfil requirements for baby products, toys and packaging. As a result, Tampa® *Tex* TPX is no longer restricted to prints on T-shirts, shoes and similar items. It is now perfect for other sensitive products, such as babies' bottles, dummies (pacifiers), toys, and packaging for personal care products and foodstuffs.
For decorating toys, Marabu offers water-based inks with spray guns and brushes. This innovative, eco-friendly line consists of Maqua® *Coat* MAF base shades and Maqua® *Color* MAC concentrates. The rapid-drying blend of the two elements can be applied to non-absorbent materials with airbrush equipment, spray guns, or with brushes with synthetic bristles – and is perfect for decorating toys. Recommended substrates include soft PVC (polyvinylchloride), and other materials that have been suitably pre-treated. Low-pressure plasma ensures excellent ink adhesion on polyester, thermoplastic polyurethanes (TPUs), certain thermoplastic elastomers and biopolymers.
Water-based digital printing inks are also in great demand. The focus is on products that come into direct contact with the skin or foodstuffs. In close cooperation with the industry, Marabu develops digital printing solutions for flexible packaging such as food packaging, cardboard boxes, toys or digitally printed wallpapers.

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„Cold-Peel" – Digital Transfer Printing For Textiles

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The Texa® *Jet* DX-DTE digital printing ink based on pigmented resin boasts all the major advantages of transfer technology. The image is printed using the CMYK process onto a specially coated film, without the need for complex pre-press work. Screen printing is only required for the white blocking layer or, if needed, the application of adhesive. The final patches are produced by means of a heat press. The patches are extremely thin, ensuring the final result has a soft handle, and safeguarding the comfort of the T-shirt. When deployed on the Mutho Value Jet 628, cost-effective and efficient small and mid-size production runs are possible. Further strengths are wash resistance, and the ability to generate high-resolution images in bright colours.

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Marabu is a leading global manufacturer of liquid coatings and screen, digital, and pad inks with headquarters near Stuttgart, Germany. Marabu's track record of innovation stretches back to 1859, featuring many industry-first solutions for both industrial applications and graphic design. With its 14 subsidiaries and exclusive distribution partners, Marabu offers high-quality products and customer-specific services in more than 80 countries. Exceptional technical support, hands-on customer training, and environmental protection are core elements of its corporate philosophy. Sustainable business practices are also key to Marabu's vision. These have been implemented through a number of initiatives, with concrete results – and the company is committed to maintaining this course of action in future. Marabu has been certified to ISO 9001 since 1995 and to ISO 14001 since 2003.

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