



Test Product

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Magnetic Effect Screen Printing Ink 750

In various solvent based ink systems Proell offers the special color shade 750, which represents a screen printing ink to produce a three-dimensional impression by the effect of a magnetic field.

- Color Shades** Magnetic Effect Screen Printing Ink 750 is silvery, but can be mixed with various basic colors to produce metallic colors as well as multicolor effects to a certain extent.
- Printing** The corresponding Technical Information for the respective ink system is basically valid for color shade 750. There, significant information on the printing as well as on the drying process can be found. Specific parameters for color shade 750, other than given in the respective Technical Information, are described below.
- Fabric** 100-40 threads/cm (255 threads/inch) or coarser.
- 3D Effect** To produce the 3D effect, follow the below processing steps:
1. Screen print the ink onto an appropriate substrate (e.g. transparent films). The substrate must not interact with the magnetic field (see below)!
 2. Place the freshly printed substrate, while the ink is still liquid, into the magnetic field produced by an electromagnet or permanent magnet. The pigment particles will align with the lines of the magnetic flux, which, on their part, depends on the arrangement of the magnets. So the pattern of the lines of the magnetic flux is transformed into the printing ink. On thin substrates the alignment can be carried out from the second surface. If the orientation occurs from the front side, a minimum distance between the wet ink and the magnet is necessary to avoid smudging of the printed ink film.
 3. After removing or turning off the magnetic field the ink must be dried immediately to avoid flowing together or diminishment of the pattern. Using a warm air tunnel dryer is recommended.

Supplement to the Technical Information Sheets
Solvent Based Ink Systems
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Additional Information

Adding retarder extends the period in which the pigment particles are free to move and can orient towards the magnetic field by about 10 to 20 seconds.

Further requirements to guarantee process stability:

- constant magnetic field as well as consistent positioning of the print in the magnetic field until the ink is touch-dry
- constant temperature during the printing process
- steady-going workflow with regard to time, positioning of the substrate and influence of the magnetic field, advantageously by employing robots
- the magnets or magnetic foils should be placed close to the conveyor belt of the drying tunnel.

Following this advice will result in a consistent production quality. The method described makes it possible to carry out a multitude of effect designs.

Certain subsequent processing steps such as thermoforming or heat sealing can interfere with the original three-dimensional effect or diminish it.

The suitability of the respective ink system or the respective color shade 750 has to be checked carefully by performing thorough pre-tests before doing any production runs.

The information contained in the technical information/instruction sheets or other product information sheets is based on product testing conducted by Pröll. Because printing and environmental factors critically affect each individual ink application, the above mentioned information and instructions represent only general recommendations concerning product characteristics and directions for use and should not be construed as representing express warranties regarding the product. The information and instructions in no way release the purchaser from his obligation to verify and test the inks and their application for the specific request, regarding: product characteristics, weather resistance, mixing proportions, gloss, thinning, special mixtures, printability, drying speed, cleaning, effects on or of other materials to be contacted and safety precautions. All details contained in the instruction sheet "General Information on Screen Printing Inks" are to be considered. The further manufacture and use of products containing our inks by the purchaser takes place beyond our control, and the responsibility for further application and use of our product resides solely with the purchaser. Pröll disclaims any warranties, express or implied.

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