Mara® *Tech* SK

Marabu

Screen printing ink for plastics such as polyamide, TPU-ABS, pre-treated polyolefins (HDPE), mainly for printing ski topsheets

High gloss, high brilliance, medium opacity, silicone-free, fast curing 2-component ink

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Field of Application

Substrates

The screen printing ink Mara® Tech SK is excellently suited to print onto ski topsheets made of

- PA
- TPU-ABS
- HDPE

Since all the print substrates mentioned may be different in their printability even within an individual type, preliminary trials are essential to determine suitability for the intended use.

Field of use

Mara® *Tech* SK is primarily designed for printing ski topsheets and has been tested according to the standards of the ski industry.

Characteristics

Mara® *Tech* SK is silicone-free and formulated without the use of aromatic solvents.

For silicone-free products it is important to use only thoroughly cleaned stencils, squeegees, ink pumps, tubes (in the case of an automatic ink supply), and injectors for the manual ink filling of the stencil, etc.

If cleaning is carried out with automatic screen washing systems, we recommend prior to printing an additional manual cleaning with a fresh cleaner not having had any contact with ink residues containing silicone.
Care should be taken with some adhesive tapes, used to protect the outer areas of the print region, as the release agent of the tape may be silicone.

Ink Adjustment

The ink should be stirred homogeneously before printing and if necessary during production.
SK is a 2-component ink system. Prior to printing, it is essential to add hardener in the correct quantity and to stir homogeneously.

The recommendations are as follows:

Hardener H 5 (Isocyanat)
- 7,5 % for white shades
- 15 % for varnish 910

Hardener H 6 (Amin)
- 10 % for all shades

When using hardener, the processing and curing temperature must not be lower than 15 °C as irreversible damage can occur. Please also avoid high humidity for several hours after printing as the hardener is sensitive to humidity.

Pre-reaction time
It is recommended to allow the ink/ hardener mixture to pre-react for 15 minutes.

Pot life
The ink/hardener mixture is chemically reactive and must be processed within 4-6 h (referred to 20-25 °C and 45-60 % RH). Higher temperatures reduce the pot life. If the mentioned times are exceeded, the ink's adhesion and resistance may be reduced even if the ink still seems processable.

Drying

Parallel to physical drying, i. e. the evaporation of the solvents used, the actual hardening of the ink film is caused by the chemical cross-linking reaction between ink and hardener.
Generally, Mara® *Tech* SK can be dried under various conditions: At room temperature or channel drying with subsequent oven drying.

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The reaction time for the cross-linking in the ink film depends on the respective drying process! Preliminary tests are mandatory.

Fade resistance

Only pigments of good fade resistance are used in the Mara® *Tech* SK range. The pigments used are resistant to solvents and plasticizers.

Shades mixed by adding overprint varnish or other colour shades, and especially white, have a reduced fade and weather resistance depending on their mixing ratio. Fade resistance also decreases if the printed ink film thickness is reduced. The pigments used are resistant to solvents and plasticizers.

Stress resistance

After proper and thorough drying, the ink film exhibits outstanding adhesion, as well as rub, and scratch resistance and suitable for lamination. Additionally, it forms a composite with adhesives such as liquid glue and prepreg, as well as with PU back foaming.

Range

Basic Shades

920	Lemon
922	Light Yellow
924	Medium Yellow
926	Orange
930	Vermilion
932	Scarlet Red
934	Carmine Red
936	Magenta
950	Violet
952	Ultramarine Blue
954	Medium Blue
956	Brilliant Blue
960	Blue Green
962	Grass Green
970	White
980	Black

High Opaque Shades

170	Opaque White
171	Opaque White

Further Products

910	Overprint Varnish

Opaque White 171 has a satin gloss and structured surface.

All shades are intermixable. To maintain the special characteristics of this outstanding ink range (e. g. silicone free), Mara® *Tech* SK should not be mixed with other ink types or other auxiliaries.

Auxiliaries

H 6	Hardener	10%
H 5	Hardener	7.5-15%
GLV	Thinner	0-25%
TPV 3	Thinner	0-25%
UR 3	Cleaner (flp. 42°C)	
UR 4	Cleaner (flp. 52°C)	
UR 5	Cleaner (flp. 72°C)	

Thinner is added to the ink to adjust the printing viscosity.

The Hardeners H 5 and H 6 are sensitive to humidity and are always to be stored in a sealed container. Shortly before use, the hardener must be added to the ink and stirred homogeneously. The mixture ink/hardener is not storable and must be processed within pot life. For recommended quantities see chapter Ink Adjustment!

The cleaners UR 3 and UR 4 are recommended for manual cleaning of the working equipment. Cleaner UR 5 is recommended for manual or automatic cleaning of the working equipment.

Printing Parameters

All types of commercially available polyester fabrics and solvent-resistant stencils can be used. For a good opacity on coloured substrates, we recommend a mesh count between 43-80 and 77-55, for printing fine details 90-40 to 120-34.

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Shelf Life

Shelf life depends very much on the formula/ reactivity of the ink system as well as the storage temperature.
For an unopened ink container it is:

- 1 year for Opaque White 171
- 1.5 years for all other standard products

We recommend our products to be stored in a dark, dry and well-ventilated surrounding, providing an ambient temperature of 5 ° - 35 °C. Please protect from heat and direct sunlight. If storage conditions do not comply with this recommendation, the shelf life is no longer guaranteed.

Note

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

Labelling
For Mara® *Tech* SK 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.

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