Maqua® *Tex* MAXT+

Marabu

Water-based, one- or two-component screen printing ink for heat transfer textile decoration

Good opacity, highly flexible, excellent wash resistance
Certified according to ECO PASSPORT by OEKO-TEX®
GOTS and ZDHC in preparation

Vers. 3
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Field of Application

Substrates

Maqua® *Tex* MAXT+ is a water-based screen printing ink for the manufacture of high-quality textile transfers on release-coated films and papers.

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

Field of use

Maqua® *Tex* MAXT+ is designed for transfers onto natural and synthetic fibres, also in combination with digitally printed motifs. Typical applications include knitted, woven and non-woven fabrics in the fields of fashion, sports and workwear, outdoor textiles, shoes, and advertising material.

Characteristics

Maqua® *Tex* MAXT+ is formulated on a PVC-free binder base.
The ink system is characterized by

- outstanding printability
- excellent stretch properties and wash resistance
- pleasant feel
- very good scratch resistance
- process reliability (only a few auxiliaries required)
- very good compatibility with digitally printed motif

Ink Adjustment

Maqua® *Tex* MAXT+ is press-ready and can be adjusted with Retarder WV 2, if required. The addition is highly dependent upon the local climate, motif, and printing speed.
The ink should be stirred homogeneously before printing and, if necessary, during production. For maximum resistance, a hardener should be added to the undiluted ink. It is recommended to allow the ink/hardener mixture to pre-react for 15 min.

Pot life

The ink/hardener mixture is chemically reactive and must be processed within 16 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

Generally, it is necessary to check drying before further processing and to implement an intermediate or final drying process. Especially for multi-colour printing, adequate air drying is necessary to print multiple ink layers.

Avoid excessively high temperatures and short drying times to ensure that the ink dries properly and to prevent water from remaining trapped in the ink film and making the printed image look cloudy.

If the drying temperature is too high, the substrate may deform and cause register problems (> check the substrate manufacturer's instructions).

Factors including ink film thickness, image size, drying equipment, and fabric all influence the drying process. If a tunnel dryer is used, temperature should be set at 80 - 140 °C for 80 sec - 2 min.

When using a hardener, the actual hardening of

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the ink film is caused by the chemical cross-linking reaction between ink and hardener. This reaction can be accelerated by higher temperatures.

Fade resistance

Pigments of medium to high fade resistance are used for the Maqua® *Tex* MAXT+ range (blue wool scale > 6).

Stress resistance

Please note that moisture content in the substrate affects the transferability (the fabric can absorb up to 30 % moisture).

It is vital to ensure compatibility with the fabric used. Due to variation in fabrics and even between different batches of fabrics, full compatibility testing should be performed prior to starting production.

After completion of the laminate (= composite of ink, migration blocker and printable adhesive), we recommend waiting 24 hours. The laminate can then be transferred to the textile at 130 - 165 °C at 2.5 - 6 bar. Preliminary tests are necessary for this.

After the transfer, we recommend leaving the textile-transfer composite for at least 72 hours to ensure optimum resistance. The full wash resistance depends on the printable adhesive or hotmelt, hardener, and substrate used.

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
960	Blue Green
962	Grass Green
980	Black

High Opaque Shades

170	Opaque White

Further Products

409	Transparent Base
MB	Migration Blocker

170 Opaque white is outstanding for its high opacity and low film thickness.

MB Migration Blocker is used for the decoration of synthetic textiles. During transfer, dye molecules are released from the fibers and gradually migrate through the laminate to the surface of the transferred motif. The migration blocker fixes these dye molecules and prevents them from migrating through the ink layers.

All shades are intermixable. Mixing with other ink types or auxiliaries must be avoided in order to maintain the special characteristics of this ink.

Auxiliaries

* Please note:
- Cleaner WR 1 is not certified according to ECO PASSPORT by OEKO-TEX®

WV 2	Retarder	1-20%
HW 2	Hardener	1-10%
HW 1	Hardener	1-5%
WR 1	Cleaner, see above*	

All hardeners are sensitive to humidity and always to be stored in a sealed container. They can be added for increased resistance and adhesion and must be stirred well and homogeneously into the undiluted ink shortly before use. The mixture ink/hardener is not storable and must be processed within pot life.

Hardener HW 1 may be added for maximum resistance. However, HW 1 is not suited if a printable adhesive is used.
When using a printable adhesive and for overprinting digital prints, we recommend HW 2 for the entire ink deposit.

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Retarder WV 2 may be added to adjust the printing viscosity for particularly fine motifs, slow printing sequences or in non-air-conditioned facilities. WV 2 combines the properties of a thinner and a retarder. Little or no addition is necessary when overprinting digitally printed motifs.

Clean tools with lukewarm water. We recommend using Cleaner WR 1 for dried out ink.

Printing Parameters

All fabrics available on the market as well as waterproof stencils and coatings can be used. Combination products are also possible (solvent and water-resistant).

Recommendation:

MAXT+170:	up to 77-48
MAXT+ 409:	up to 120-34
MAXT+ basic shades:	up to 120-34

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.

Maqua® *Tex* MAXT+ is a water-based ink system and in order to avoid frost damages, it should under no circumstances (not even shortly) be exposed to temperatures lower than 5 °C during transport and storage.

We recommend our products to be stored in a dark, dry and well-ventilated surrounding, providing an ambient temperature of 5 °C - 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 Maqua® *Tex* MAXT+ 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.

Water-based products typically contain isothiazolinone biocides, including methyl isothiazolinone, as in-can preservatives. Such biocides may cause allergic skin reactions in already sensitised individuals.

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