Maqua® Tex MAXT+

Marabu

Water-based, one- or two-component screen printing ink for heat transfer textile decoration and for direct printing on various materials.

Good opacity, highly flexible, excellent wash resistance, good mechanical and chemical resistance. Certified according to ECO PASSPORT by OEKO-TEX®.

Vers. 4
2026
18. Aug

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.

The transfers are ideally suited for textiles made of
• Cotton
• Nylon
• Polyester
• Polyamide
• Elastane
• Blended fabrics

Good adhesion and scratch resistance are also achieved in direct printing on other substrates, such as
• Cork and wood
• Artificial leather
• Neoprene substrates (mouse pads)
• Rubber materials (foot mats)
• Yoga mats

Prior to printing, pretreatment, e. g. corona treatment, may be required in order to increase the surface tension.

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.
In direct printing, the ink is suitable for flexible and rigid materials, e. g. sports accessories such as yoga mats.

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

• The ink must be stirred homogeneously before and, if necessary, during production
• Depending on local climatic conditions, design, and printing speed, dilution with up to 20 % Thinner WV 2 may be necessary

Use as 2-component ink

• For maximum resistance, add the specified amount of hardener into the undiluted ink and mix thoroughly
• Allow the ink-hardener mixture to rest for 5–10 minutes before processing.

Pot life

The mixture must be processed within 16 h at 20-25 °C and 45–60 % RH. Higher temperatures will shorten the pot life. After the pot life has expired, adhesion and resistance may decrease, even if the ink still appears usable.

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Drying

Before further processing, check substrate drying and integrate intermediate or final drying if needed.
In multi-color printing, intermediate (air) drying is essential to to print multiple ink layers.

Avoid excessive temperatures and short drying times - they may trap moisture in the ink film, causing a cloudy print result. High temperatures can also deform the substrate and lead to register issues (follow substrate manufacturer's guidelines).

Ink film thickness, image size, drying equipment, and mesh influence the drying process. For tunnel dryers, a temperature of 80-140 °C for 80 sec to 2 min is recommended.

When using a hardener, curing occurs through chemical crosslinking between ink and hardener. This reaction is accelerated by higher temperatures.

Fade resistance

Pigments of medium to high fade resistance (blue wool scale > 6) are used.

Stress resistance

The moisture content of the substrate significantly affects transfer properties, especially with fabrics that can absorb up to 30 % moisture.

A full compatibility test with the selected fabric should be conducted before starting production, as variations may occur between materials and even across different fabric batches.

After completing the laminate (a composite of ink, migration blocker, and printable adhesive), a resting period of 24 h is recommended. The transfer can then be carried out at 130-165 °C and 2.5-6 bar – preliminary testing is essential.

For optimal resistance, the textile-laminate composite should rest for at least 72 h after transfer. Final wash resistance depends on the adhesive or hotmelt used, the hardener, and the substrate.

For directly printed substrates, the ink film exhibits excellent wipe, scratch and adhesion resistance after proper drying.

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
980	Black

High Opaque Shades

170	Opaque White

Further Products

409	Transparent Base
MB	Migration Blocker

MAXT+ 170 is outstanding for its high opacity even at low ink film thickness.

MAXT+ MB is used for decorating synthetic textiles. During transfer, dye molecules are released from the fibers and gradually migrate through the laminate to the surface of the printed design. The migration blocker fixes these dye molecules, effectively preventing them from passing through the ink layers.

All color shades can be mixed with each other, but not with other ink systems or their auxiliaries.

Auxiliaries

WV 2	Retarder	1-20%
HW 2	Hardener	1-10%

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HW 1	Hardener	1-5%
WR 1	Cleaner, see above*	

Hardeners: sensitive to humidity, must be stored in a sealed container. Improve resistance and adhesion, stir homogeneously into the ink shortly before use. The mixture is not storable and must be processed within pot life.
HW 1: for maximum resistance. Not suitable when using a printable adhesive.
HW 2: when using a printable adhesive and for overprinting digital prints for the entire ink deposit.
WV 2: for fine designs, slow printing cycles, or non-climate-controlled environments. Combines the properties of a thinner and a retarder. Minimal to no addition is needed when overprinting digital prints.
WR 1: recommended for heavily dried ink; otherwise, tools and equipment can be cleaned with lukewarm water.

Printing Parameters

Mesh:
MAXT+ Basic shades / 409: up to 120-34
MAXT+170: up to 77-48
Stencils: Commercially available waterproof stencils and emulsions. Combination products are also possible (solvent and water-resistant).

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 all standard products

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 area at 5 °C - 35 °C, protected from heat and direct sunlight. If storage conditions do not comply with this recommendation, 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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