AquaTex C

Water-based Textile Screen Printing Ink

Area of Application

Water-based screen printing ink for printing on non-finished cotton, cotton blends as well as on non-finished synthetics made from polyester, polyamide, viscose, lycra and acetate fibres.

Metallic colors are only available in the water-based ink line Nori-Tex.

Please pay attention to the Technical Information "Nori-Tex"!

Ecological Information

AquaTex C conforms to the requirements on the substances listed in appendices 4 and 5 of the Oeko-Tex® Standard 100 (Product Class I to IV).

AquaTex C is a water-based ink system and does constitutionally not contain any petrol, other solvents or formaldehyde.

Color Shades

Basic Colors for the AquaTex C Matching System	076 Colorless 103 Yellow Light 106 Yellow Dark 208 Orange 309 Red Light	313 Red Dark 415 Pink 417 Violet 520 Ultra Blue 625 Green Light	630 Green Medium 836 Brown 945 White 948 Black
Standard Colors	944 White Opaque *with low viscosity*	944/002 White Opaque *with higher viscosity*	948/002 Black *with higher viscosity*
Process Inks	156 Process Yellow 357 Process Magenta	558 Process Cyan 949 Process Black	099 Process Paste
Fluorescent Inks	184 Fluo Yellow 287 Fluo Orange	385 Fluo Red 488 Fluo Pink	686 Fluo Green

Note

Textile fabrics have different weaving structures and may be starched which may reduce the ink's adhesion and the ink's fastness. In the same way, finishes may lead to yellowing when exposed to heat. Preliminary tests for this reason are necessary on cotton fabrics as well as on synthetics.

Characteristics

AquaTex C produces soft-feel and smooth prints; the grip of the textiles is practically not influenced.

White Opaque has a higher solid content, this results in a thicker ink film.

Printing

AquaTex C does not tend to clogging. The hiding power of **White Opaque AquaTex C 944 and AquaTex C 944/002** can be considerably increased by immediate drying (infrared dryers).

If the White Opaque has to be overprinted with chromatic color, it should be dried just physically with low heat, and the colors should be printed as soon as possible within about four hours.

After the complete reaction of the White with the crosslinker, the adhesion between White and color can be poor.

In addition, please refer to our technical leaflet "Printing with Water-based Screen Printing Inks" which may be downloaded from our website www.proell.de, click Downloads ⇒ Water-Based Screen Printing Inks ⇒ Printing with Water-Based Screen Printing Inks.

Fabric

Depending on the motives and the substrate to be printed, polyester fabrics with 21 to 80 threads/cm (50 to 200 threads/inch) are used whereas for fine details and process printing up to 120 threads/cm (300 threads/inch) are used. For **White Opaque AquaTex C 944 and AquaTex C 944/002** polyester fabrics in the range from 15 – 43 threads/cm (38 – 110 threads/inch) are recommended.

Stencil

Water resistant emulsions must be used. Excellent results during long production runs are achieved by using Pröll Diazo Emulsion Norikop 6 GT. Sufficient drying of the emulsion is essential, residual moisture before exposure reduces print run resistance. The exposure time should be as long as possible.

Drying and Fixing of the Ink

AquaTex C dries in the air, at ambient temperature (approx. 30 – 40 min.) as well as in hot air and IR-textile dryers. The drying time depends on the performance of the respective textile dryer.

The ink can be fixed in 2 ways:

1. **Cold fixing with Crosslinker:**

   Before printing, 2 % of crosslinker (White Opaque AquaTex C 944 and AquaTex C 944/002 3 % of crosslinker) are carefully stirred in the ink. This is to achieve a very good wash resistance without any change of color.

   (DIN 54014, mechanical wash at 40 °C (104 °F), DIN 54010, mechanical wash at 60 °C (140 °F), washing machine at 95 °C (203 °F))

2. **Heat Setting:**

   If it is not wanted to add crosslinker, very good wash resistance according to the tests mentioned under "cold fixing" can be achieved by heat setting. After drying, the prints are thermo fixed in hot air for approx. 3 min. at 150 °C (300 °F).

   For heat setting also infrared dryers can be used. Ironing presses and irons are suitable as well. However, it must be taken into consideration that the hot ironing area must cover the printed area during the whole curing time.

   Before heat setting, synthetics as well as natural fibres should be checked regarding their temperature resistance.

High opaque color shade White Opaque AquaTex C 944 and AquaTex C 944/002:

Only by a combination of Crosslinker + heat, good long-term wash resistance can be achieved.

Add 3 % of crosslinker to the ink **and** after drying subject the print to heat setting for 5 to 10 min. at 150 °C (300 °F).

Washing Instructions

It is recommended to wash textiles, which are printed with high opaque color shades, on the left side.
Washing temperatures max. 40 °C (100 °F).

Fixed prints with AquaTex C can be cleaned chemically.

Cleaning of Screens and Utensils

Wet ink residues on the screen can be removed with water. Slightly dried ink is removed either with Aqua-Jet® Liquid Cleaner L47603 or Cleaner Concentrate 6953 (see Technical Information „Cleaner Concentrate 6953").

Avoid eye and skin contact with alkaline cleaners, use personal protective equipment (e.g. gloves and glasses).

Disposal

Before pouring waste into the sewage, it should be pretreated according to state-of-the-art technology.

Safety precautions – General indications:
When working with chemicals, the usual safety precautions are to be observed. These are besides the rules of the Accident Prevention & Insurance Associations a good ventilation of the work place as well as good skin care and protection.

Auxiliaries

The textile ink **AquaTex C** is supplied press ready.

The following auxiliaries can expand the area off application:

AquaTex Thickener Paste:
By adding 5 %, the viscosity can be increased, if necessary.

AquaTex Thinner L38023
Adding 3 – 5 % reduces the viscosity without noticeable changes of color.

AquaTex Thinner L66784
Thickened inks can be homogenized by adding 5 % Thinner L66784 and stirring with an electric stirrer.

AquaTex C may also be **thinned with water.**
Addition of 15 – 20 % of water may light up the color.

Aqua-Jet® Retarder VZ 100
Adding max. 5 % reduces drying in the screen.

Crosslinker WB 001
Adding 2 % (in case of AquaTex C 944 and AquaTex C 944/002 3 % is necessary) results in a very good wash resistance.

Pot life of AquaTex C with crosslinker: 8 hours.
After expiry of the pot life ink – crosslinker-mixtures should not be used any longer.

Shelf Life

The shelf life stated on the label assures the ink's quality and refers to unopened original cans stored in a dry place at temperatures between 5 °C (40 °F) and 25 °C (75 °F).

Close ink containers immediately after use.

Inks mixed with crosslinker should be stored by cool temperature and processed within 8 hours.

Important

Allow the ink as well as all the auxiliaries to be added to adjust to ambient temperature in the closed container before use.

Printing results, to a large extent, depend on the substrate as well as the printing and application conditions. We recommend checking your printing materials under your conditions of use prior to any production runs. Materials that are supposed to be identical may vary from manufacturer to manufacturer and even from batch to batch. Some substrates may have been treated with or can contain sliding agents, antistatics or other additives which will impair the adhesion of the inks.

In general please refer to our technical leaflet "General Information on Screen Printing Inks" which may be downloaded from our website www.proell.de, click Downloads ⇒ Water-Based Screen Printing Inks.