



ZK-Ink

(ZK-Two-Component Ink)

Screen Printing Ink

Area of Application and General Characteristics

ZK-Ink to print on pre-treated polyolefins, metal, glass, wood, thermosets, paper and cardboard. Main use is printing on packing materials made of pre-treated polyolefins.

ZK-Ink is used to achieve high resistance to aggressive media and to mechanical stress. Therefore, it is also used for printing on bottle crates as well as on plastic containers for chemicals and cosmetics.

Finish

High gloss finish. However, it should be considered that the surface structure of the substrate can decisively influence the finish of the ink film.

Color Shades

Basic Colors	093	Colorless	429	Red Violet	669	Green Transparent
	102	Citron	467	Pink Transparent	941	Blending White
	312	Red	472	Violet	951	Blending Black
	368	Red Transparent	566	Blue Transparent		
Special Colors	171	Yellow Transparent	945	White		
	770	Silver (limited resistance to alcohol)	948	Black (bluish, not opaque)		

Mixing Ratio with Hardener

ZK-Ink is mixed with ZK-Hardener prior to thinning. For Basic and Standard Colors, the mix ratio is 100 : 20 parts by weight:

1 mass unit of ink (700 g) : 1 mass unit of Hardener 032 (140 g)

or

1 mass unit of ink (700 g) : 1 mass unit of Glass Hardener 034 (140 g)

Exception: For ZK-Ink 944 the mix ratio is 100 : 15.

1 mass unit of ink (930 g) : 1 mass unit of Hardener 032 (140 g)

or

1 mass unit of ink (930 g) : 1 mass unit of Glass Hardener 034 (140 g)

In case of special colors, differing additions are noted on the label.

In any case, the compounds should be stirred thoroughly in order to achieve a homogeneous mixture. Supply in user-friendly mass units makes it possible to mix ink, hardener and thinner in the can. In any case, the mixture has to be stirred thoroughly, to ensure homogeneous distribution of the components.

Metallic Colors

Occasionally, mixtures of ZK-Ink 093 and bronze pastes may have a short shelf life or may not be storable for longer periods of time. Therefore, just the required quantity for the particular print run should be mixed.

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Pot Life

The pot life, i.e. the processability of the press-ready mixture of ink, hardener and thinner, especially depends on the temperature: The higher the storage or room temperature, the shorter the pot life.

Mixtures of approx. 1 kg have a pot life of about 8 hours at a temperature of 20 °C (68 °F).

Thinning

Thinner M 204

Thinner M 203 or Thinner S 404 or a corresponding mixture

Retarder Paste VZ4-P for printing fine lines.

Addition: approx. 10 – 20 %

In case of special colors, the recommended addition may differ (see label).

Fabric

All usual screen printing fabrics and mesh counts are suitable.

Stencil

Solvent resistant emulsions must be used. Excellent results during long production runs are achieved by using Präll Diazo-UV-Polymer Emulsion Norikop 10 HQ.

Drying

At ambient temperature of approx. 20 °C (68 °F), within approx. 4 hours, the ink dries sufficiently to enable further processing. Below 15 °C (60 °F) the ink cures significantly slower. Below 10 °C (50 °F) the curing or hardening process stops.

Higher temperatures shorten the drying or curing period. Adhesion, hardness and resistance increase.

Drying temperature for further processing:	60 °C (140 °F)	80 °C (176 °F)	120 °C (248 °F)
Drying time approx.	5 minutes	3 minutes	1.5 minutes

For reasons of stability, the drying/curing temperature should not exceed 180 °C (355 °F).

Before performing resistance tests with ink films, please make sure that the prints are completely cured.

At room temperature the chemical reaction is finished after 7 days. Comparable results are achieved after about 2 days when drying/curing the ink films at 60 °C (140 °F).

Resistance

ZK-Ink is resistant to detergent solutions, mixtures containing alcohol, fuels, lubricants, mineral oils, hydraulic oils, vegetable oils and fat, aqueous acids and alkalis.

ZK-Ink is not recommended for long-term outdoor use.

Overprinting

Overprint Varnish ZK-Ink 093 Colorless is suitable for overprinting two-component inks. When printing overlapping layers, make sure that the previously printed ink film is not completely cured.

Cleaning Screens and Utensils

Thinner M 204, UNI-CLEANER FP61, UNI-REIN A III

Screens and utensils must be cleaned immediately as cured two-component inks become solvent resistant.

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).

Opened containers of hardener must be tightly closed immediately again.

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Important

Allow the ink as well as all the auxiliaries to be added to adjust to room 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 ⇒ Solvent-Based Screen Printing Inks.

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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