



NoriScreen® ALU

Two-Component Screen Printing Ink for Aluminium, Metals
and Pre-treated PET Films

Area of Application

NoriScreen® ALU is a solvent-based two-component screen printing ink for printing on various metals and pre-treated PET films.

Due to the silicone-free formulation, NoriScreen® ALU can be used for the manufacture of high quality transfers and decals.

Characteristics

- **excellent adhesion to metals**
- **free of halogens, depending on the color shade**
- **free of silicone**
- **free of cyclohexanone**
- **good weather resistance on suitable substrates**

Finish

Glossy

The gloss level is influenced by the structure of the substrate.

Pigmentation

NoriScreen® ALU inks are based on high brilliance pigments.
Nearly all color shades can be mixed using Basic Colors.

Color Shades

Halogen Free	093 Colorless HF	533 Blue (Opaque) HF
Basic Colors	108 Citron HF	566 Blue Transparent HF
	112 Yellow HF	570 Deep Blue HF
<i>HF = halogen free</i>	225 Orange HF	633 Green (Opaque) HF
	318 Red Transparent HF	665 Green HF
	321 Bright Red HF	944 White Opaque HF
	372 Bright Red Transparent HF	945 White HF
	412 Pink Transparent HF	952 Black Satin Gloss HF
	445 Violet HF	953 Deep Black Glossy HF
	471 Violet Transparent HF (not available in the USA)	
Basic Colors	109 Citron	320 Bright Red
	133 Yellow (Opaque)	333 Red Opaque
	171 Yellow Transparent	472 Violet
	213 Orange (not available in the USA)	669 Green Transparent
	308 Red	812 Brown
Halogen Free	770 Silver HF	790 Silver Glossy HF
Special Colors	780 Silver Coarse HF	(press-ready)

Silver inks may be used to mix gold and other metallic colors.

Effect Pigment colors

Further metallic, color-flop, pearl effect, fluorescent and other colors are available on request.

Mesh Count

Polyester mesh 77-48 threads/cm to 150-31 threads/cm (195-48 threads/inch to 380-31 threads/inch).
A stainless steel mesh may be used for special requirements.

The following mesh counts are recommended for standard silver:

NoriScreen® ALU 770 – 120-34 threads/cm (305-34 threads/inch) or coarser

NoriScreen® ALU 780 – 77-48 threads/cm (150-31 threads/inch) or coarser

NoriScreen® ALU 790 – 100-40 threads/cm (255-40 threads/inch) or coarser

Stencil

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

Auxiliaries

All of the auxiliaries mentioned below are free of halogens (HF).

Hardener

Printing on metals:

In this case, addition of Hardener 004 (up to 10 %) is necessary.

Hardener and ink have to be mixed thoroughly.

Pre-tests are necessary!

Printing on pre-treated PET films:

Hardener 004 – Addition: 2 %, hardener and ink have to be mixed thoroughly.

Pot life: 8 – 12 hours, depending on quantity and room temperature.

Manufacture of high quality transfers and decals:

without hardener

Pre-tests are necessary!

Thinner

Thinner F 003 (fast)

Thinner M 212 (medium)

Thinner S 403 (slow)

Addition: 5 – 25 %

The three thinners can be mixed in any ratio to achieve an optimized printing and drying result.

Antistatic-Additive

NORILIN® C To prevent static charging, especially when printing metallic inks.

Addition: 0.5 %

Defoamer

Defoamer 9319 Depending on printing speed and thinning percentage, additional defoamer may be necessary.

Addition: 0.2 – 0.5 %

Cleaning of Screens and Utensils

UNI-REIN A III

Drying

NoriScreen® ALU dries by evaporation of solvents in a jet dryer. The chemical curing process of the printed films continues in stack with no additional air supply.

The adhesion to metals can be improved by drying at higher temperatures (e.g. 160 °C / 320 °F, 30 min.) in most cases.

Tips on Drying

To achieve optimum results, drying in a tunnel dryer should be done immediately after printing.

Drying performance can be improved by:

- drying at higher temperatures
- using dryers with good air exchange.

The following settings are recommended for use with 3 zone dryers:

- First zone: 80 °C (175 °F).
- The last zone with high air exchange is for cooling the printed films to room temperature to avoid blocking in the stack.

Drying results depend on a number of parameters such as combination of thinner and retarder along with thickness of ink layer and efficiency of dryer.

Safety Precautions

NoriScreen® ALU inks are inflammable. Smoking or open flames are strictly prohibited during use of these products.

Processing NoriScreen® ALU inks requires normal hygiene. Please see recommendations on label and read the material safety data sheets before use.

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).

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 before performing 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 contain sliding agents, antistatics or other additives which may 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.

Before starting a production run, it is necessary to test samples of each newly designed part systematically with regard to the specifications for the intended use (e.g. climatic chamber, resistance, etc.).

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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