



AquaCard®

Water-based Screen Printing Ink for lamination of credit- and identity cards

Area of Application and Characteristics

AquaCard® is a water-based screen printing ink for the production of PVC, PETG and PC cards.

Corefilms or overlays printed with AquaCard® can be laminated at the following temperatures:

PVC films: 140 °C (285 °F)

PETG films: 140 °C (285 °F)

PC films: 180 °C (355 °F)

The adhesion of the laminated card with uncoated overlay shows high peel strength.

Range of Colors and used mesh

Basic Colors	L68060	Lacquer colorless	mesh	100-40
	L68092	Matt paste		
	L68932	Black		
	L69382	Yellow		
	L69383	Red		
	L70256	White color shade 945		
	L70257	Opaque white color shade 944		
Standard Colors Silver	L68757	Silver color shade 776	mesh	77-48
	L68758	Silver color shade 781	mesh	77-48
	L68759	Silver color shade 786	mesh	61-64

Further color shades and effects on request.

Defoamer

Before printing, add 0.5 % **Defoamer 9331** and stir well to reach good printing results.

Thinner

If required, add water or up to 3 % **Thinner S 413** in AquaCard® to adjust the printing viscosity.

Hardener

AquaPress® Hardener CA

Using AquaPress® Hardener CA offers the following durability benefits for the finished card

- improved temperature resistance
- improved resistance against water and humidity
- improved long-term strength of the laminate

Mixing

After adding and stirring Defoamer and Thinner into AquaCard®, add 2 – 3 % **AquaPress® Hardener CA** and stir well to receive a good homogeneous distribution.

Pot Life

The mixture should be used within 6 – 8 hours. The pot life depends on temperature and ink mixture quantity.

Stencil

Water resistant emulsions must be used. Excellent results during long production runs are achieved by using Pröll Diazo-UV-Polymer Emulsion Norikop 10 HQ. Sufficient drying of the emulsion is essential, residual moisture before exposure to light reduces print run resistance.

Printing

The temperature in the printing room should be between 18 °C and 25 °C (65 °F and 75 °F), the air humidity should be at least 50 %, better 60 % to 70 %.

Wet the stencil with water prior to the printing process.

By wetting the stencil, the flow of the ink is not hindered through the mesh.



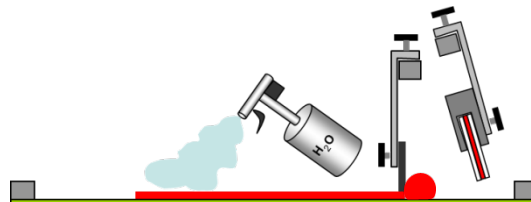
Put a thick layer of ink on the stencil (1 – 2 mm (0.04 – 0.08 inch)). For partly or fully automatic machines, the use of a flood bar whose edge is thick and rounded, and which only lies slightly on the stencil is recommended.

After each print, fill the stencil again with ink immediately (approx. 1 – 2 mm (0.04 – 0.08 inch)).



Handling the ink in this way assures a trouble-free production. Short printing stops up to 3 minutes are possible.

Longer printing stops should be avoided. If necessary, the screen must be filled thickly with ink and must be sprayed additionally with water as shown in the picture.



This prevents water from evaporating out of the ink and thus prevents ink from drying in the mesh.

After the stop, waste sheets should be printed until the motives are sharp again.

Drying

AquaCard® dries in tunnel dryers due to the evaporation of water. Suitable temperatures for PVC and PETG substrates are in the range between 50 and 70 °C (120 and 160 °F) and for PC between 70 and 90 °C (160 and 195 °F). Please note that these values depend, among others, on the thickness of substrate and ink film. The belt speed depends on the efficiency of the dryer, belt speed settings are typically in the range of 3 to 7 m/min.

Cleaning

Remove residual ink from the screen and do not place residues of the ink into the original container. Spray water on the screen to avoid drying and clean immediately with water or a mixture of water and **Cleaner Concentrate 6953** (look at separate technical information).

Strongly dried ink can be removed with solvent based **Thinner S 413**.

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 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.

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.

This is a test product which is still in development. For this reason, no assurances are currently given as to type conformity, processability or long-term performance characteristics. Therefore, the customer uses the product entirely at their own risk with no guarantee.

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, outdoor 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.

This information supersedes all previous technical information.