



Thermo-Jet®

Screen Printing Ink and Pad Printing Ink

Area of Application and General Characteristics

Thermo-Jet® is suitable for printing on rigid and soft PVC (for example PVC-coated awnings for trucks), artificial leather, acrylics, polycarbonate, ABS and pre-treated polyester for the production of membrane switches.

Printed on thermoplastic substrates, Thermo-Jet® is hf-weldable and thermo-formable, with the exceptions of 944 White Opaque, 952 Black Highly Opaque and 948/097 Black Highly Opaque. High frequency sealing can be improved by adding approx. 20 % Welding Additive L 25564

Weather Resistance

When printed on suitable substrates, Thermo-Jet® shows excellent weather resistance. To ensure outdoor durability, a mesh not finer than 77 threads/cm (195 threads/inch) should be used. A high concentration of white ink can cause chalking when used for outdoor purposes.

Thermo-Jet® 940: Specially pigmented white with improved resistance to chalking for the white shade itself as well as for mixing with other colors.

Due to its high pigment load, Thermo-Jet® 944 White Opaque shall not be used for outdoor applications.

Finish

Glossy

Thermo-Jet® 950: Thermo-Jet® 950 (Brilliant Black) shows higher gloss and opacity than Thermo-Jet® 948. The color shade is more intense.

Color Shades

Basic Colors for the Proell Matching System	093	Colorless	467	Pink Transparent
	102	Citron	472	Violet
	104	Yellow* ¹	566	Blue Transparent
	207	Orange* ¹	669	Green Transparent
	312	Red* ²	945	White* ³
	368	Red Transparent	948	Black
	429	Red Violet		
	Standard Colors	101	Yellow Light	522
115		Yellow Dark	523	Blue Dark
135		Ochre	610	Green Medium
209		Orange	615	Green Dark
314		Red Dark	627	Green Loud
315		Red Medium	628	Green Light
320		Bright Red* ²	836	Brown
417		Violet	940	White* ³⁺⁴
518		Blue Light	944	White Opaque* ³
520		Ultra Blue	950	Brilliant Black
521		Blue Medium		

*¹ = Not to be used for printing on soft PVC or plastics containing high amounts of plasticizers. Not suitable for vacuum forming.

*² = Mono-pigmented standard color shade 320 should be used for outdoor applications.

*³ = Not suitable for printing tarpaulins as the highly-pigmented inks is not elastic enough. We recommend Thermo-Jet® 945/605.

*⁴ = Specially pigmented white with improved resistance to chalking (see chapter "Weather Resistance").

Thermo-Jet®

Special Colors

171	Yellow Transparent	862	Rich Pale Gold
220	Orange	863	Pale Gold
371	Red Transparent	864	Copper
747	Obliterating Silver	945/102	Backing Bright White
734	Silver	945/605	Tarpaulin White
770	Silver (abrasion resistant)	948/097	Black High Opaque
861	Rich Gold	952	Black High Opaque* ⁵

Metallic Colors

Further Metallic Colors are available on request. Please ask for our latest Color Information.

Process Inks for Screen Printing (satin gloss)

156	Process Yellow	949	Process Black
357	Process Magenta	099	Process Paste
558	Cyan		

Highly Opaque Formulations for Pad Printing

132	Yellow Highly Opaque	532	Blue Highly Opaque
332	Red Highly Opaque	632	Green Highly Opaque

Universal-Fluorescent Inks

180	Fluo Yellow	386	Fluo Red
284	Fluo Orange Yellow	482	Fluo Pink
285	Fluo Red Orange	683	Fluo Green

Further information on Universal-Fluorescent Inks please see separate Technical Information sheet "Thermo-Jet® Universal-Fluorescent Inks".

Matting

Matt Paste 098: addition of 10 – 20 %

or

Matting Agent 2009: addition of 1 – 3 %

depending on the desired matting level. Matted ink films are not as weather resistant as original color shades.

Thinning

Screen printing:

Thinner M 204
Thinner S 402, Thinner S 404, Retarder Paste VZ4-P or a corresponding mixture
Addition: approx. 20 – 30 %

Pad printing:

Thinner F 001 (very fast)
Thinner F 002 (fast)
Thinner M 202 (medium)
Thinner M 203 (slow)
Thinner S 402 (very slow)
Addition: approx. 30 – 40 %

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 Pröll Diazo-UV-Polymer Emulsion Norikop 10 HQ.

Drying

Thermo-Jet® is a physically drying ink system which dries by evaporation of the solvents in a jet dryer. Rack drying is possible.

*⁵ = Not suitable for pad printing. Contains magnetizable pigments.

Other Directions for Processing

For printing fine lines in the screen printing process, we recommend to add approx. 10 % Crystal Paste 077 (Thickening Paste).

When decorating PVC-coated awnings for trucks, the color shade Thermo-Jet® 945 White has to be mixed with AZ-Additive 9524 (mix ratio 10 : 1) prior to use.

For illuminated advertising applications (second surface printing on PMMA sheets), solely Standard Color 320 Bright Red shall be used, if a red shade is to be printed.

Overprinting

Overprint Varnish Thermo-Jet® 093 Colorless

Overspraying (for Inelastic Substrates)

Spray Lacquer 096 with Thinner F 002. Adjust spraying viscosity with DIN-4 cup to 16 – 18 sec. flow time.

Cleaning Screens and Utensils

Screens and utensils can be cleaned with UNI-CLEANER FP61 or UNI-REIN A III.

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 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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