



# 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 exception of 944 White 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.

### 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

<b>Basic Colors for the Proell Matching System</b>	093 Colorless	368 Red Transparent	669 Green Transparent
	102 Citron	429 Red Violet	945 White* <sup>3</sup>
	104 Yellow* <sup>1</sup>	467 Pink Transparent	948 Black
	207 Orange* <sup>1</sup>	472 Violet	
	312 Red* <sup>2</sup>	566 Blue Transparent	
<b>Standard Colors</b>	101 Yellow Light	417 Violet	615 Green Dark
	115 Yellow Dark	518 Blue Light	627 Green Loud
	135 Ochre	520 Ultra Blue	628 Green Light
	209 Orange	521 Blue Medium	836 Brown
	314 Red Dark	522 Marine Blue	940 White* <sup>3+4</sup>
	315 Red Medium	523 Blue Dark	944 White Opaque* <sup>3</sup>
	320 Bright Red* <sup>2</sup>	610 Green Medium	950 Brilliant Black
	<b>Special Colors</b>	171 Yellow Transparent	770 Silver (abrasion resistant)
220 Orange		861 Rich Gold	945/102 Backing Bright White
371 Red Transparent		862 Rich Pale Gold	945/605 Tarpaulin White
747 Obliterating Silver		863 Pale Gold	952 Black Highly Opaque* <sup>5</sup>
733 Silver			

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

\*<sup>2</sup> = Mono-pigmented standard color shade 320 should be used for outdoor applications.

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

\*<sup>4</sup> = Specially pigmented white with improved resistance to chalking (see chapter "Weather Resistance").

\*<sup>5</sup> = Not suitable for pad printing. Contains magnetizable pigments.

## Thermo-Jet®

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

Further information on outdoor, oxidation and wipe resistance as well as suitability for HF welding can be seen from the chart on page 4.

**Process Inks for Screen Printing (satin gloss)**

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

**Highly Opaque Formulations for Pad Printing**

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

**Universal-Fluorescent Inks**

180	Fluo Yellow	285	Fluo Red Orange	482	Fluo Pink
284	Fluo Orange Yellow	386	Fluo Red	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.

### 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](http://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.

This information supersedes all previous technical information.

## Thermo-Jet® Special Metallic Colors

Thermo-Jet®	Outdoor Use	Oxidation Resistant	High Frequency Welding	Wipe Resistant
<b>701 Silver Glossy</b>		✓	✓	✓
<b>746/066 Silver</b>	✓	✓		
<b>752 Silver Coarse</b>	✓	✓	✓	
<b>732 Silver Coarse</b>	✓	✓	✓	
<b>746/054 Gray Aluminium</b>	✓	✓	✓	
<b>742 Silver Glitter</b>	✓	✓	✓	✓
<b>878/113 Gold</b>		✓	✓	
<b>878/079 Gold High Glossy</b>		✓	✓	✓
<b>801 Gold Glossy</b>		✓	✓	✓
<b>878/080 Gold</b>		✓	✓	✓
<b>803 Gold Transparent</b>		✓	✓	
<b>878/114 Gold</b>	✓	✓	✓	
<b>887 Gold Coarse</b>	✓	✓	✓	
<b>878/104 Copper</b>	✓	✓	✓	
<b>800/001 Copper Iriodin® 500</b>	✓	✓	✓	✓
<b>733 Silver</b>	✓	✓		✓
<b>861 Rich Gold</b>	✓	✓	✓	✓
<b>862 Rich Pale Gold</b>	✓	✓	✓	✓
<b>863 Pale Gold</b>	✓	✓	✓	✓
<b>864 Copper</b>	✓	✓	✓	✓

✓ = applicable

None of the above mentioned colors can be laminated.