

## Product Information



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Specialty Inks and Colors

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## INKS FOR INK JET PRINTING USING PIEZO DROP ON DEMAND TECHNOLOGY

### Elvajet TS-E 600 for direct printing on cotton T-shirts

## INKS

The *Elvajet TS-E 600* series is suitable for most T-shirt printers using the Epson<sup>®</sup> piezoelectric printheads compatible with water-based inks (MS, Texjet, Polyprint, Anajet...).

The following colors are available:

<u>Article #</u>	<u>Designation</u>
508600TS	Elvajet White TS-E 600
518600TS	Elvajet Yellow TS-E 600
538600TS	Elvajet Magenta TS-E 600
548600TS	Elvajet Cyan TS-E 600
578600TS	Elvajet Black TS-E 600
598601TS	Elvajet Dark Pretreatment TS-E 601
598602TS	Elvajet Light Pretreatment TS-E 602
698600	Cleaning Solution TS-E 600
698800	Cleaning Solution 800

## SHELF LIFE

The shelf life of the inks at room temperature is superior to six months for the CMYK colors and limited to 6 months for the white ink.

## STANDARD PACKING

1kg

# INK INSTALLATION PROCEDURE

## New machine installation procedure.

- If the Epson unit has original firmware the first boot up will initiate a three part purge similar to a power clean. This should be done with cleaner to wet out the mesh filters in the dampers. Not pigmented ink. Once done follow the cleaner with fresh ink by means of two power cleans performed from the Epson UI or the rip if the facility exists. If the firmware has been modified perform one power clean from the Epson UI.

## Conversion from another ink.

- If the machine is more than six months old it is recommended to change the white dampers for pre wetted new ones. A simple pipe and 90 degree connector is attached to the top of the damper and a syringe inserted in the print head receptor. Draw cleaner through the pipe attached to the damper gently until the mesh is wet. Do not push the cleaner through, this must be sucked from the print head end.
- Disconnect the ink lines from the dampers and draw cleaner through until pipes are clear of the White ink. The cmyk can be done but this is not normally necessary unless you suspect water or another additive has been used in the original cmyk. Once the system is clean purge with fresh ink by means of two power cleans from the Epson UI or the rip if available.
- DO NOT SHAKE THE WHITE INK, simple turning of the bottle is enough to maintain a good dispersion. Please make sure the customer understands this ink does not need shaking, it is different from the ink they are used to using and requires very little agitation.

# APPLICATION ADVICE

## Option A: printing with CMYK on a light coloured garment

- Set your heat press to 165°C
- Pre-press the shirt under the heat press for 10 seconds to remove any moisture from the garment.
- Place the garment on the shirt platen, making sure that the surface is completely flat with no creases.
- Print settings for the CMYK ink should be 1440/720 dpi High Speed. For more vibrant images, you may need to add a second pass to boost the colour.
- Remove the shirt from the printer being careful not to smudge the image, and place under the heat press. Using a top sheet of silicone paper, press the shirt for 90 seconds.

*NB:* it is normal to see a slightly less vibrant image after curing.

## Option B: printing with white/colour ink on a dark shirt.

**Warning:** You need to pre-treat dark shirts before you can print on them. **You must never pre-treat in the same room as the printer.** The fine spray in the surrounding air will cause the print head to clog.

- Set your heat press to 165°C
- First press the t-shirt for 10 seconds to remove excess moisture and flatten any creases out.
- Spray the shirt with the *Elvajet Dark Pretreatment TS-E 601*; you will need to experiment to get this correct and it will take you a few shirts before you do this correctly.

- Once you have sprayed the shirt with a sufficient amount, place it on the heat press. Put a piece of non silicone parchment paper on the shirt, press for 10 seconds (no more no less) under very light pressure, remove the paper and press for a further 20 seconds on high pressure. Dab any overspray with a damp cloth and wipe the sides of the heat press under the shirt to remove any drops of water before they get onto the shirt. Your heat press must have a clean high quality Teflon coating; if the coating is worn or damaged this will contaminate the dry pre treatment. This will not become visibly apparent until curing the shirt.
- Now print the shirt:
  - The optimum settings for printing a dark shirt are 1440 x 1440 High Speed for the under base and 1440 x 720 High Speed for the colour layer. You will need to experiment with settings in order to find your preferred density. When printing white shirts it is normal to print the image twice to create a strong vibrant print.
- Before you start to cure the shirt you must insert a piece of silicone paper into the shirt. The moisture from the printed image will stain the back of the shirt if you do not follow this process.
- Place the printed shirt on the heat press and do a hover dry for 1 minute, now put a piece of silicone curing paper onto the shirt and press on light pressure for 3 to 4 minutes depending on the ink coverage. If your shirt is still steaming hover dry for a further minute with no paper on the shirt.

This sounds very straight forward but it will take you some time to master this process.

Any contamination in the pre-treatment process will cause symptoms like, flecks of white showing through the colour layer, orange peel effect, streaks in solid print areas, dull images with poor reds and insufficient white coverage.

## FASTNESSES

The fastnesses given below have been evaluated on a 120 g/m<sup>2</sup> woven cotton ready to print fabric without optical brightener. Fixation conditions were 165°C (330°F) for 90 seconds.

The rubbing fastnesses (according to the ISO-105/X12 norm) have been evaluated around 3-4 on this fabric depending on the colour intensity and should be determined for each newly employed fabric.

Product	Light	Water (severe)	Washing (60°C)	Persp. (acid)	Persp. (alkali)
	ISO 105 /B02 100% / 10%	ISO 105 /E01 ch./st.	ISO 105 /C03 ch./st.	ISO 105 /E04 ch./st.	ISO 105 /E04 ch./st.
Yellow TS-E 600	7-8 / 6	5/5	5/5	5/5	5/5
Magenta TS-E 600	7 / 6-7	5/5	5/5	5/5	5/5
Cyan TS-E 600	8 / 7-8	5/5	5/5	5/5	5/5
Black TS-E 600	8 / 7-8	5/5	5/5	5/5	5/5

\* The light fastnesses have been measured at 100% and 10% coverage and 1440 dpi.  
All other fastnesses have been measured at 100% coverage and 1440 dpi.

To the best of our knowledge the information contained herein is true and accurate but all recommendations or suggestions are made without guarantee.