

HINTS & TIPS



SERICOL Water based Textile Transfer System

Textile transfers are used to apply logos and other branding identification to garments as well as for general garment labelling. It is a requirement of these transfers that once they are applied they are highly resilient, have good elastic memory and are resistant to most washing and drying cycles.

Water based inks and adhesives are often used for producing these transfers, and this document outlines suggestions that will help the printer to optimise the performance of transfers produced using these inks. This Hints and Tips information sheet should be used in conjunction with the Product Information sheet entitled 'Water Based Transfer TB Inks'.

Transfer Substrate

The use of PET film designed for textile transfer production is strongly recommended. Suitable coated papers such as TRB20 T105 Transfer Paper may also be used, but care should be taken to avoid cockling and loss of register that can be caused by water absorption into paper stocks.

Inks

Water based Transfer TB inks are supplied as a base plus concentrate system. Colours can be produced by tinting TB381 extender with TK Colour Concentrates in the ratios shown below. TB021 white may be printed as a white and should also be used as a back up colour to improve opacity. Inks should be thinned with up to 5% with ZE592 Retarder.

TK Pigment Concentrate additions

The following additions of TK Pigment Concentrates should be added to TB381 and used as a starting point. These additions will produce colour similar to those achieved with Taxiscreen Aqua AJ inks.

TK001	Black	8.1%
TK021	White	9.0%
TK057	Primrose	3.6%
TK046	Golden Yellow	5.8%
TK103	Orange	4.3%
TK122	Scarlet	5.6%
TK152	Brick Red	4.3%
TK153	Carmine	6.2%
TK126	Magenta	4.3%
TK154	Fuchsia	6.0%
TK132	Violet	3.2%
TK218	Azure	3.2%
TK219	Oxford Blue	5.5%
TK316	Sea Green	6.1%
TK315	Emerald Green	2.4%
TK343	Brown	4.5%

Adhesive

Pioneer TO Sportswear Adhesive TO458 is recommended. Optimum performance is obtained if this is printed unthinned. However, in hot shop conditions or when printing fine detail up to 3% ZE592 retarder can be added. It is important that this amount is not exceeded or adhesion of the finished transfer may be impaired.

Catalyst

It is recommended that 3% of OK444 Pioneer OK catalyst is added to all inks in order to improve the durability and wash resistance of the transfers. Once added, inks can be expected to have a usable pot life of up to eight hours in normal shop conditions after which the ink should be discarded. OK444 should not be added to TO458 adhesive.

Mesh

Colours should be printed through 43-90 thread per cm mesh. Finer meshes should be used for printing fine detail, but it should be noted that opacity and flexibility can be impaired. TB021 white should be used to back up fine detail prints where possible.

TB021 white should be printed through a 43-62 mesh.
TO458 adhesive should be printed through a 28-32 mesh.

Drying

It is important that each layer of ink is completely dried before subsequent layers are applied and it is recommended that inks are dried at a minimum of 100 degrees centigrade. **Failure to dry prints thoroughly can lead to serious curl or blistering of the prints.**

Squeegee

Use of a soft (65 shore) squeegee is recommended for printing TO458 adhesive, for TB021 white and for block areas of colour. A medium squeegee (75 shore) is recommended for printing fine detail.

Emulsion

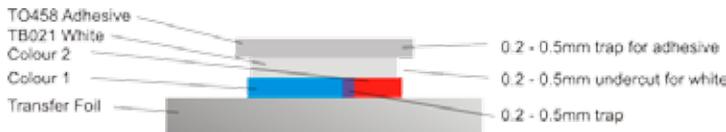
A 2 + 1 coating of Dirasol 916 (DM 916) is recommended. This can be treated with Sericure SCK81 if a highly resistant permanent stencil is required.

Controlling Reticulation

Some highly siliconised release papers may cause inks to reticulate. Adding up to 1% ZEA09 flow aid can help to minimise reticulation. This product should be used with care as intercoat adhesion and adhesion of the finished transfer may be impaired and tests should be carried out before starting a production run.

Transfer Construction

The construction of a basic transfer is shown in this diagram. Colours should be backed with white to improve opacity and increase durability of the transfer. The trapping for colours and adhesive and undercut for white should be as illustrated.



Fabrics

When printed and transferred in accordance with our instructions, transfers produced with Water based Transfer TB inks can be expected to have good adhesion and durability when applied to most cotton, cotton blends and synthetic fabrics. Transfers are not suitable for transferring onto Nylon. As fabrics can vary in their performance, checks should be made to ensure that adhesion and durability are adequate on the specific fabric to be used before starting a production run.

Transfer

This is performed with a heat press, typically set at 160-190°C, although this is largely dependent upon the fabric being used. The garment is placed on the lower platen of the heat press and the transfer is placed on top of the garment, print side down. The press is closed, typically at pressures of 40 - 60 psi, and left for 10-20 seconds.

After the pressure has been released, the garment is carefully removed from the press with the print still in place. When the print is fully cooled, the transfer paper is carefully peeled from the garment, leaving the print in place.

Washing

When printed and transferred in accordance with our recommendations, transfers may be expected to be resistant to washing temperatures of up to 60 degrees centigrade for multiple cycles. Garments bearing transfers should not be bleached or dry cleaned. Transfers should be tested for wash resistance on the specific fabric to which they will be applied to ensure that this is satisfactory before starting a production run.

Troubleshooting

Problem ~ Possible Reason / Solution

1. Poor registration

Substrate distortion. Pre-shrink substrate prior to printing by passing it through the dryer. Pre-shrunk paper should be stored hot to minimise further distortion. Release films will not distort further once pre-shrunk.

2. Paper cockle

Low weight paper. Use heavier grade paper or switch to polyester release film.

3. Print on paper is delicate and easily damaged.

- Drying temperature too high. Reduce temperature.
- Ink deposit too low. Use coarser mesh or print multiple coats.

4. Ink does not release from paper / film.

- Insufficient transfer dwell time. Increase temperature and dwell time.
- Incorrect side of release film being used. Ensure correct side is printed.

5. Poor adhesion between ink layers

- Ink film not fully dried. Increase time between printing layers and backing up with adhesive.
- Ink film over-dried. Reduce drying time.
- Ink over-catalysed. Ensure no more than 3% catalyst is added.

6. Poor adhesion to garment

- Unsuitable synthetic fabric. See "fabrics."
- Insufficient transfer pressure. Increase pressure of transfer press.
- Insufficient transfer temperature. Increase temperature of transfer press.
- Insufficient transfer time. Increase dwell time of transfer press.
- Ink deposit too low. Use coarser mesh for adhesive.

7. Print distorts on washing.

Water not fully removed from ink film on setting. Increase setting temperature.

8. Blotchy print.

- Inks not mixed correctly. Stir and re-check.
- Variation of ink deposit. Check print base and squeegee.
- Variation of pressure across transfer press. Check press platen.
- Variation in paper coating. Use alternate batch.

9. Bubbles / flat areas in transferred prints.

Water / Solvent trapped in ink film. Ensure film is fully dried before over-printing.

The information and recommendations contained in this Product Information sheet, as well as technical advice otherwise given by representatives of our company, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason, our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this sheet out of date and users are requested to ensure that they follow current recommendations

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