

## IcoFlex Performance IF

PVC / Phthalate Free Transfer System

PART OF THE ICON PERFORMANCE SERIES OF TRANSFER INKS

Issue No. 103/2013

**IcoFlex Performance IF** is a dedicated range of super-stretch, ultra-soft water-based transfers for Sportswear and Tagless textile decoration applications. Uniquely formulated to provide the highest level of stretch, yet give adhesion onto a wide range of natural and synthetic materials – **IcoFlex IF** inks are the latest development in transfer technology.

### Curing Information

It is vital to ensure full through-cure before overprinting and sealing the ink layer. Excessive temperatures and too short drying time should be avoided to maximize the cure of the ink, so that no water remains trapped in the ink film.

Factors including ink film thickness, colour, drying equipment and fabric all influence the curing schedule needed. Normally the oven temperature will need to be set approx 70 - 100°C for 40 secs - 1.5 mins. **IcoFlex IF** will air dry, although force drying is recommended. Typically racking for 1-2 hours will be sufficient.

Powdered prints are recommended to heat cure to maximise print & wash performance, suggested cure schedule 130-150°C for 1-2 mins.

### Transfer Temperature

**IcoFlex IF** products have a wide range of transfer conditions variant on the fabric, adhesive and performance conditions required. The following conditions are recommended :

Conventional Fabrics	130 - 160°C for 15 secs	(IFSSP)
Workwear Transfers	170 - 180°C for 15-20 sec.	(IFHWP)
Performance Fabrics	130 - 150°C for 10-15 sec.	(IFLBP)

Please see further details in the Adhesives section.

### Fastness

The full washfastness of the system is dependent on the adhesive and base used. Generally 50x domestic washfastness is achievable with **IcoFlex IF** ink series. In addition the following properties can be generated :

IcoFlex Super Stretch	(SSP)	50x 40°C
IcoFlex High Wash	(HWP or IF458)	50x 60°C
IcoFlex Sportswear	(IFLBP)	50x 60°C

As with all transfer recommendations – it is vital to ensure suitability on the Customer supplied fabric. Due to variation in fabrics and even between batches of fabrics, full compatibility testing should be conducted prior to commencing production.

Please note that moisture content in the substrate has an influence on transferability (fabric can absorb up to 30% moisture).

### Main Characteristics

#### Properties

Formulated on non-PVC containing resins and non-phthalate plasticisers. Lead-free. Unprecedented stretch properties. Superb screen stability, Excellent wash resistance, Dye Bleed resistant options.

- Maximum stretch on difficult fabrics
- Excellent opacity- High impact prints
- Low tack finish
- Excellent “memory” – prints return to pre-stretched size
- Soft gel – easy to handle – on and off screen
- Soft handle – transfers are comfortable to wear

#### Curing

The ink film must be fully cured to generate the best wash and stretch.

#### Thinning

Supplied press-ready. Up to 5% Water may be added if necessary. For hot-shop conditions, 1-5% **IFRET** retarder may be added to maximize print performance and screen stability.

#### Wash-up

Wash up with water. For dried in ink – wash up with ZTC639. Soaking and adding solvent to wet ink should be avoided.

#### Mesh

Monofilament 62-120 Thread/cm

#### Stencil Systems

Most water resistant direct stencil materials are suitable. Recommended: Dirasol 25 or Dirasol 125.

#### Coverage and Mesh No.

55-65m<sup>2</sup>/ltr. No 90 monofilament

#### Applications

Most knitted and woven fabrics typically used for T-shirts, Sweat Shirts, Sports and Fashion Wear, Badges, Hats and Caps, Travel Bags, Footwear.

#### Fabrics

Suitable for most common natural and synthetic fibres, including, Cotton and Cotton/Polyester blends. Many grades of synthetics. Use **IFLBK** Migration Resistant Black onto most sublimated fabrics

#### Colour Range

PANTONE®\* 1000 Matching Formulae available using the Textile Concentrate TK formulae.

#### Intermixing and Compatibility with Other Inks

Must be used in conjunction with Textile Pigment Concentrates TK.

**IMPORTANT :** Stir well before every use. Users should satisfy themselves that **IcoFlex IF** is compatible with specific textiles and that rub, stretch and other resistance properties are acceptable before commencing production runs. No guarantees can be offered with respect to dye bleed due to the wide range of dyes used.

\*PANTONE® is the property of Pantone, Inc

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### Powder Adhesives

**IcoFlex IF** is designed to work with the following adhesives :

#### Super Stretch Powder – IFSSP

For situations where the highest stretch and comfort is required. Designed to meet 50 x 40°C washfastness (AATCC & ISO).

#### High Wash Performance Powder – IFHWP

For a high level of stretch but where higher wash performance is required. Designed to meet 50 x 60°C washfastness (AATCC & ISO).

**IcoFlex IF** High Wash Powder is also suitable for Industrial Wash Applications (See Workwear Transfers) below.

#### Low Bleed Powder – IFLBP

Designed for use with **IcoFlex IFLBK** Migration Resistant Black to create highly heat resistant dye blocking transfers for previously sublimated materials, and those where dye bleed is an issue.

### Printable Adhesives

To maximise print options and ease of use for the **IcoFlex IF** Performance transfer series the following printable adhesives are also available;

<b>IF012</b>	Litho Back-up White Adhesive	(160°C x 15 Seconds)
<b>IF458</b>	High Wash Transfer Adhesive	(165-175°C x 15 Seconds)
<b>LT458</b>	Low Temperature Adhesive	(130-140°C x 15 Seconds)

These systems are designed to be printed through 24-48 threads / cm mesh counts. Best performance is achieved by backing and waiting 24 hours prior to transfer.

In line with all transfer recommendations best washfastness is generated a minimum of 24 hours after application.

### Catalyst

For Workwear applications and where maximum washfastness is required, 3-5% **IF386** Catalyst should be added.

Addition of catalyst will result in a pot-life of approx 6-8 hours.

### PANTONE® \* Matching System

When used in conjunction with the Textile Pigment Concentrates TK from Sericol – Pantone matching system is available.

The **ICONINKS** package includes:

- 1 PANTONE® Color Formula Guide
- 2 Sericol Formula Guide

A booklet containing formulations given in percentages by weight.

- 3 Colour Manager Software

For use with IBM Compatible computers. This package enable use of the PANTONE® formulations plus:

Storage facility for user's own formulations.

Automatic batch sizing and costing.

Ink coverage estimator and stock control system.

- 4 PANTONE® Formula Scales

Pre-programmed with the Sericol formulations of PANTONE® references to ensure maximum accuracy, speed and cost savings.

5. Automatic Dispenser

Preprogrammed with the Sericol formulations for PANTONE®, and including the capability of dispensing preweighed colour machines with manual control. Utilises the 13 Seritone base colours. Capable of dispensing from 100g up to 10kg.

### IcoFlex Colour Range

**IFPCB IcoFlex** Performance Clear Base

**IFPWH IcoFlex** Performance White

**IFLBK IcoFlex** Performance Migration Resistant Black

Available in 15 Kg containers

**IFSSP IcoFlex** Super Stretch Powder

**IFHWP IcoFlex** High Wash Performance Powder

**IFLBP IcoFlex** Low Bleed Powder

Available in 10 Kg containers

**IF458 IcoFlex** High Wash Adhesive

**LT458 IcoFlex** Low Temperature Adhesive

**IF012 IcoFlex** Litho Back-up White Adhesive

Available in 15 Kg containers

### Pigment Concentrates

Full details of the Sericol Pigment Concentrate TK are found on the relevant TK Product Information Sheet, available online or on request.

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### Migration Resistant Black

To achieve high impact on previously sublimated fabrics use of an interlayer of Icoflex **IFLBK** Migration Resistant Black should be used.

Designed for printing through a 24-43 threads / cm mesh.

Best results are achieved by printing a sandwich layer based on colour, white, migration resistant black and then backed with clear and powder to generate a halo-free (no glue mark) finish.

**It is vital to ensure that all moisture has been removed from the IFLBK Migration Resistant Black layer.** Any remaining moisture may lead to bubbling or reduced performance in the end transfer.

### Thinners / Retarders

**IFRET** IcoFlex Retarder

**IF386** IcoFlex Catalyst

Available in 1 Ltr containers

### Safety and Handling

#### IcoFlex IF:

- Is formulated to be free from any chemicals toxic to health, carcinogenic, mutagenic or reprotoxic according to Directive 67/548/EC.
- Is formulated free from lead and other heavy free metals and is to comply to the EN71-3: 1995 Toy Safety Standard.
- Should be stored in a cool (air conditioned) place. Storage conditions above 30°C will significantly reduce the shelf of the product. In cases where ink has been exposed to elevated temperatures for prolonged periods, it may gel and be rendered unusable. Inks that have been catalysed, should not be returned to the container.
- Is formulated free from phthalate plasticisers.

Comprehensive information on safety and handling is given in the **ICONINKS** Safety Data Sheet for this product.

### Environmental Information

#### IcoFlex IF:

- Does not contain ozone-depleting chemicals as described in the Montreal Convention.
- Is formulated free from aromatic hydrocarbons which are known to have an adverse effect on the environment.
- Is water-based, free of any volatile solvent and can be considered to have less impact on the environment, when compared with solvent-based products.
- Is formulated free from PVC containing resins.

**IMPORTANT:** The **IcoFlex IF** range has been developed using non-phthalate plasticisers and non-PVC resins.

However users must be aware of other potential sources of contamination, e.g. squeegees, flood coaters, screens and curing equipment which may all contribute trace amounts of phthalate and PVC from previous use with other inks.

The **IcoFlex IF** product range should only be used in conjunction with the Textile Pigment TK range.

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 Product Information sheet out of date and users are requested to ensure that they follow current recommendations.

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