



# SCREEN PRINTING

## TEXTILE INK

### EVEREST

## PHTHALATE FREE

*EVEREST range - **PHTHALATE FREE** flexible plastisol based ink (fast flash drying). Suitable for direct printing and transfer printing on cotton, polyester and blends.*

### Features

**Composition:** The EVEREST range is formulated **PHTHALATE FREE, HEAVY METAL SALTS FREE and AZOIC DYES FREE** and complies with the norm EN 71-3.

**Appearance:** from satin to shiny finish

**Touch:** soft

**Color matching:** Pantone® shades are available directly on our website by using our colour matching system. See [http://www.tiflex.com/color/cms\\_fr.html](http://www.tiflex.com/color/cms_fr.html)

**Surface yield with mesh 62th.cm:** 25 sqm/L

**Washing resistance:** very good at 40°C

**Ironing:** on the reverse side

**Shelf life:** refer to the label

### Use

#### Meshes:

Mesh 36 th.cm to screen print liquid adhesives (transfer printing) and low bleed underlayer

Mesh 62 th.cm to screen print white under-layers

From mesh 43 th.cm to mesh 90 th.cm to screen print colours and top whites

From mesh 90 th.cm to mesh 120 th.cm to screen print CMYK shades.

#### Screen printing:

Manual , half automatic, full automatic

3C PU Squeege (60/90/60). Squeege angle : 45 – 60°C

**Pallet adhesives:** Aerofix S (ref. 25D1815), Tacker 1 (ref. 25D1720), pallet adhesive for pneumatic pistol gun (ref. 25D3910), water based pallet adhesive applied with roll foam code 0381 (ref. 3344079)

#### Diluents Plasticizers:

**Everest fast flash additive 7158 (ref. 3194020)** will reduce the flash cure time and to avoid the rough touch of the print.

**Everest thinner (ref. 3194024)** will reduce the viscosity of the Everest ink. This thinner can also be added to limit a fast drying.

Before adding this additive, the ink must be stirred.

**Gelling agent (ref. 3952061):** this additive has been formulated to thicken the ink when it requires to increase the layer of ink or to get special effects. In order to increase lightly the viscosity of the ink, add from 0,2% to 1%, for high density prints, add max 2% in the ink.

#### CLEANING:

Solvents 2881, 2891, 2899, NS91.

## Direct printing

**Fast –flash** curing from 3 to 4 sec.

After flash-curing the surface of the fabric will not be so sensitive to the temperature therefore pulling a second later will not be necessary.

The efficiency of the flash curing may vary according to pallets (aluminium, wooden or other materials), the flash cure technology, the distance between the flash dryer and the fabric, the colour of the ink, the colour of the fabrics and its composition.

**Attention:** To avoid weak curing of white inks, settle the flash time and flash power correctly. Parameters should be adjusted (different than standard plastisol inks) and preliminary trials must be done.

**Curing:** 2 mn at 150°C-160°C IR Drying.

The curing parameters may vary according to the dryer and its location inside the work shop (beware of cool draught), the thickness of the print, the printed colour, the colour of the fabrics and its composition.

**The curing parameters must be tested according to the wash programs dedicated to textile fabrics.**

## Transfer printing

**Substrates:** Paper (ref. 2543100) or polyester mat (ref. 2543600).

The substrates must be pre-dried in the dryer before printing to evacuate the humidity. Then the substrates should be stored in a dry area to avoid the humidity to penetrate the carrier while printing. Otherwise positioning the colours on the screen may be difficult.

Inks: the full **EVEREST** range can be used for transfer printing. Inks can be transferred on fabric with powder or printable adhesive.

### TRANSFER ADHESIVE

Clear adhesive EVEREST (ref. 39C4099)

White adhesive EVEREST (ref. 39C4098)

PET Powder adhesive (ref. 3863327)

**Drying of the carrier:** 1 min at 100 – 110°C

**Heating press time/temp:** 20-30 sec from 170 – 190°C.  
Pressure: 3 to 5 bars

Parameters may vary according to the fabrics and the material used.

Please note that the ink must not be completely cured before the press. Otherwise, Powder Adhesive is imperative.

**Preliminary trials must be done.**

## Whites

**Flash cure (ref. 39C4086):** underlayer white. Fast flash-curing time under TIFLEX flash dryer.

**Standard white (ref. 39C4000):** fast flash extra opaque white. High viscosity of the ink may appear therefore the curing time in the dryer should be adapted according to the printing mode (either manual or automatic).

**Kilimanjaro (ref. 3954010):** top white-light blue shade.

**Polar white (ref. 39C4089):** fast flash curing time-light purple shade.

**Low bleed white (ref. 39C4095):** blocks pigments migration on sportswear fabrics for direct printing and direct printing.

**Low bleed white colorcatcher (ref. 39C4087):** blocks pigments migration on hard fabrics such as sweat shirts and hoodies.

## Special effects

FOUR COLOURS PROCESS (CMYK): available  
SPARKLED GOLD – SPARKLED SILVER: available  
NEON COLOURS: contact us  
LUMINESCENT aka "glow in the dark": contact us  
RETRO-REFLECTIVE: contact us  
PEARL BASE/PEARL EFFETCS: contact us  
MATT BASE/PUFF BASE: contact us

### HIGH DENSITY

The stretchable base (ref. 39C4097) or the shiny elastic base (ref. 39C4092) can be added (30%) directly in the inks from the EVEREST range to guarantee a flexible thick printed layer. By adding 5% of hardener **XD150** you will ensure a deep curing of the printed ink.

The thickness of the film will be obtained thanks to a thick photopolymer films 400 µ (ref. 2044010) or alternatively with several coated layers of emulsion 400 ST (ref. 25C2050).

In case the print should be shape angles, we recommend to the gelling agent (ref. 3952061) (0.5 à 2%). After a certain period of time, the ink may thicken again and will not be functional any longer. Therefore we suggest to preparer smaller quantities of the mix.

### WEAK WASH RESISTANCE

The poor wash resistance is the result of a low curing of the printed ink.

Regarding the transfer printing, a poor resistance will be either the result of a too high temperature of the dryer or a low pressure of the heating press or even a wrong curing of the prints on the textile.

The water proof treatments performed on fabrics may prevent adhesion of the ink and then may limit the wash resistance. As a complement, it will be possible to perform a plasma treatment to allow the print.

If these various options will not be successful, we recommend switching to a PU solvent based ink like the POLYTHANE range.

Fibrillation may appear on textiles. If these textiles will be printed with a thin layer of ink then the wash resistance will be weak and will create an unexpected "vintage" effect.

### FIBRILLATION

On the surface of cotton tee-shirts may appear small size fibers. These fibers will go up through the white under-layer of inks if this layer will be too thick. Finally the touch of the print will be rough and sharp.

The solution will be to print this white under-layer with a fine mesh like 62th.cm. Then the fibers will be bent on the fabric with a clean and plane surface of the print.

To avoid increase of fibrillation, do not use the diluent accelerator 7158 (ref. 3194020).

**LOW ELASTICITY:** the ink printed on the fabric is not enough cured and should be dried a second time or heat under a heating press.

For stretchable fabrics, it will be possible to improve the elasticity by adding 3% of extensible base (ref. 39C4097).



### BLEEDING

The bleeding may be defined as a migration of the pigments in the ink. The coloration of the white inks (or others shades printed) may appear quickly or slowly after several days or week. For example a white print will turn to pink on a red fabric.

To resolve this issue, we recommend pre-drying of the fabrics in the dryer in order to control and limit the humidity (90 sec – 120°C)

After a first drying, a special under-layer will be printed with low bleed inks: low bleed white (ref. 39C4095), low bleed Colorcatcher (ref. 39C4087) or low bleed grey (ref. 39C4043).

Beware of long time drying or drying at high temperature. The migration effect may be increased while pulling out the fabrics after the drying.

Please remember to dry completely and correctly each layer of inks printed combined with a suitable low bleed ink, otherwise the chemical reaction between the plasticizers and the PVC resin will not proceed and pigments from the fabric will start to migrate to the ink.



The **EVEREST** inks comply with the norm EN 71-3.

# PHTHALATE FREE

**TIFLEX would like to draw you attention to the following points:**

Before starting production, you are recommended to check the ink compatibility and resistance on a textile by washing the finished article according to the conditions indicated on its label.

Washing resistance may be reduced with some dyes rich in bases or white (transparent or pastel colours). The washing resistance may also be reduced due to fibrillation (fibres projecting through the printing). This phenomenon is independent of the ink polymerisation.

High washing temperatures associated with powerful detergents may lead to colour changes with some colours including gold and silver.

STANDARD COLOURS	Ref. 1 l	Ref. 5 l
White*	39C2000	39C4000
Kilimandjaro white		3954010
Antibleeding white	39C2095	39C4095
Colorcatcher white		39C4087
Antibleeding gray		39C4043
Flash cure white	39C2086	39C4086
 Lemon yellow*	39C2002	39C4002
 Medium yellow	39C2003	39C4003
 Gold yellow*	39C2004	39C4004
 Orange	39C2006	39C4006
 Solid red*	39C2013	39C4013
 Rubis red	39C2012	39C4012
 Fuchsia*	39C2015	39C4015
 Purple / Violet*	39C2016	39C4016
 Royal blue	39C2024	39C4024
 Mid blue	39C2021	39C4021
 Primary blue*	39C2020	39C4020
 Reflex blue	39C2025	39C4025
 Deep blue	39C2026	39C4026
 Green	39C2031	39C4031
 Mint green*	39C2035	39C4035
 Emerald green	39C2033	39C4033
 Black*	39C2044	39C4044



STANDARD COLOURS	Ref. 1 l	Ref. 5 l
<b>4-COLOURS PROCESS</b>		
4-colours yellow	39C2050	39C4050
4-colours magenta	39C2052	39C4052
4-colours cyan	39C2054	39C4054
4-colours black	39C2056	39C4056
<b>BASES</b>		
Thinner base*	39C2066	39C4066
Shiny elastic base	39C2092	39C4092
Extensible base		39C4097
<b>SPECIAL EFFECT</b>		
Sparkle silver	39C2091	39C4091
Sparkle gold	39C2094	39C4094
Disco varnish		39C4058
<b>ADHESIVES</b>		
White adhesive, 5 l		39C4098
Transparent adhesive, 5 l		39C4099
Powder adhesive, 3 kg		3863327

Non contractual colours and pictures  
On simple request, we can propose you a color panel card displaying accurate shades.

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