TIFLEX
marquer le monde

SCREEN PRINTING TEXTILE INK

HIMALAYA

PHTHALATE FREE / LOW TEMPERATURE

For several years now, together with the evolution of the fabrics, textile production have changed. The way to color the fabric may be problematic either by classic dying operations or by sublimation. Therefore printing with classic plastisol based ink will not allow getting a fair result.

The new HIMALAYA plastisol serie is suitable for direct and transfer printing curable at 140°C (no catalyst required). It will be dedicated to print on cotton, polyester, blends, nylon as well as on fragile fabrics for which a standard plastisol based ink curable at high temperature (around 160°C) will not

Features

Composition: The Himalaya serie is formulated PHTHALATE FREE, HEAVEY METAL SALTS FREE and AZOÏC DYES FREE and complies with the norm EN 71-3

Appearance: satin 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

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

Washing resistance: very good
Tests performed at 40°C, 60°C and 90°C. Results avaible on request

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
Squeege triple layers (60/90/60). Squeege angle : 45 – 60°C
Pallet adhesives: Aerofix S, Tacker 1, pallet adhesive for pneumatic pistol gun (**ref. 25D3910**), water based pallet adhesive applied with roll foam code 0381 (**ref. 3344079**)

Diluents Plasticizer:
Fast flash additive Himalaya (**ref. 3194030**) will reduce the flash cure time and to avoid the rough touch of the print.

Thinner Himalaya (**ref. 3194034**) will reduce the viscosity of the Himalaya 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 thick 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 2 to 3 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.

Printing wet on wet: Ink can be printed wet on wet when the pallets are warm.

Polymerisation: 2 mn at 130-140°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 **HIMALAYA** serie can be used for transfer printing. Inks can be transferred on fabric with powder or printable adhesive.

TRANSFER ADHESIVE

Clear adhesive Himalaya (**ref. 39H4099**).

Powder adhesive (**ref. 3863327**).

Drying of the substrates: 1 min at 100 - 110°C.

Pressing: 15 sec from 160 - 170°C. Parameters may vary according to the fabrics and the material used.

Please note that the ink must be completely cured before heating under the press.

Preliminary trials must be done.

Whites

Flash cure (**ref. 39H4086**): underlayer white. Quick flash drying time on TIFLEX flash dryer.

Standard white (**ref. 39H4000**) (can be also used as a fast flash white) and **extra opaque white** (**ref. 39H4078**): Both of these whites are creamy with a genuine white shade even when the temperature in the dryer is quite high.

Low bleed white (**ref. 39H4095**): purely efficient in case of pigments migration. Suitable both for transfer and direct printing.

Low bleed white colorcatcher (**ref. 39H4087**) is an alternative to **low bleed white** (**ref. 39H4087**) and specially dedicated to particular "difficult" cottons or polyester. **Preliminary tests are recommended.**

Special effects

FOUR COLOURS PROCESS (CMYK)
SPARKLED GOLD – SPARKLED SILVER

HIGH DENSITY

The stretchable base (**ref. 39C4097**) can be added (30%) directly in the inks from the HIMALAYA serie to guarantee a flexible thick printed layer.

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 400ST (**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 thick again and will not be functional any longer. Therefore we suggest to preparer smaller quantities of the mix.

PUFF BASE INK / MATT INK / FLUO INK
Consult us.

Sparkle silver

High opacity white

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.

If these various options will not be successful, we recommend to switch to PU solvent based inks like the POLYTHANE serie.

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 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 bend on the fabric with a clean and plane surface of the print.

LOW ELASTICITY: the ink printed on the fabric is not be enough cured and should be dryed a second time or heat under a press.
For stretchable fabrics, it will be possible to improve the elasticity by adding 3% of extensible base (**ref. 39C4097**).

BLEEDING

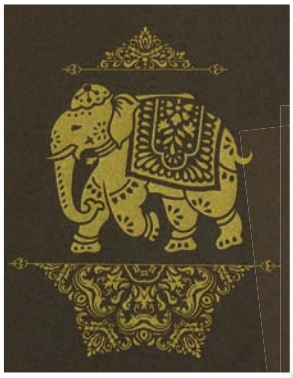
The bleedding may be defined as a migration of the pigments in the ink. The coloration of the white inks (or others shades printed) may appear quickly or slowly after several days or week. For example a white print will turn to pink on a red fabric.

To resolve this issue, we recommend to pre-dry 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. 39H4095**), low bleed Colorcatcher (**ref. 39H4087**) or low bleed grey (**ref. 39H4043**). The action of these inks on an identical fabric may differ therefore preliminary trials are essential.

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.



Sparkle gold

Thinner base soft

Toxicology

The **HIMALAYA** serie is formulated PHTHALATE FREE, HEAVEY METAL SALTS FREE and AZOÏC DYES FREE, complies with the norm EN 71-3.

PHTHALATE FREE / LOW TEMPERATURE

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*	39H2000	39H4000
Flash cure white	39H2086	39H4086
High opacity white	39H2078	39H4078
Antibleeding white	39H2095	39H4095
Colorcatcher white	39H2087	39H4087
Antibleeding gray	39H2043	39H4043
Lemon yellow*	39H2002	39H4002
Medium yellow	39H2003	39H4003
Gold yellow*	39H2004	39H4004
Orange	39H2006	39H4006
Solid red*	39H2013	39H4013
Rubis red	39H2012	39H4012
Fuchsia*	39H2015	39H4015
Purple / Violet*	39H2016	39H4016
Royal blue	39H2024	39H4024
Mid blue	39H2021	39H4021
Primary blue*	39H2020	39H4020
Reflex blue	39H2025	39H4025
Deep blue	39H2026	39H4026
Marine blue	39H2023	39H4023
Green	39H2031	39H4031
Mint green*	39H2035	39H4035
Emerald green	39H2033	39H4033
Black*	39H2044	39H4044

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

STANDARD COLOURS	Ref. 1 l	Ref. 5 l
4-COLOURS PROCESS		
4-colours yellow	39H2050	39H4050
4-colours magenta	39H2052	39H4052
4-colours cyan	39H2054	39H4054
4-colours black	39H2056	39H4056
BASES		
Thinner base*	39H2066	39H4066
Thinner base soft		39H4068
Elastic base		39H4092
Extensible base		39C4097
SPECIAL EFFECT		
Sparkle silver	39H2091	39H4091
Sparkle gold	39H2094	39H4094
ADHESIVES		
white adhesive	39H2098	39H4098
Transparent adhesive, 5 l		39H4099
Powder adhesive, 3 kg		3863327
ADDITIVES		
Gelling agent, per kg	3952061	

Pantone® colour matching
All the marked inks with an asterisk *, can be colour matched according to the Pantone® colour guide through the online Colour Matching System developped by Tiflex.

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