SCREEN PRINTING TEXTILE INK

HIMALAYA

PHTHALATE-FREE LOW CURE

Plastisol ink, without phthalates, with very fast flash drying : HIMALAYA is designed to polymerize at low cure (140°C) without addition of hardener, ideal to meet the requirements of synthetic and/or colored textiles sensitive to temperature.These plastisol inks can be used for direct printing and transfer printing on light colored and dark textiles. It can be mixed with the CREATIVE CREA range.

The HIMALAYA range is ECO PASSPORT by OEKO-TEX® certified.

Technical specifications

■ **Composition :** Free of phthalates, heavy metal salts and azo derivatives.

■ **Aspect :** Satin.

■ **Touch feel :** Soft.

■ **Colors :** HIMALAYA inks can be color matched according to the Pantone® colors. Our Color Matching System software is available directly on our website www.tiflex.com.

■ **Average yield :** 62 t/cm screen : 25 sqm/l.

■ **Washing resistance** : Very good. Results of wash tests at 40°C, 60°C and 90°C available on request.

■ **Ironing** : On the reverse side.

■ **Shelf life :** Refer to the product labelling.

Inks : OEKO TEX® ECO PASSPORT ZH150 158200 TESTEX

Additives : OEKO TEX® ECO PASSPORT ZH150 216191 TESTEX

Use

■ **Drying :**

- 2 minutes at 140°C in infrared tunnel.

■ **Screens :**

- 36 t/cm for printable adhesives.
- 36 to 43 t/cm for antibleeding under base.
- 54 to 62 t/cm for white under base.
- 48 to 90 t/cm for colors and highlight whites.
- 90 to 120 t/cm for four-color process.

■ **Printing :**

- Manual, semi-automatic and automatic carousels.

■ **Emulsions :**

- Solvent resistant emulsions like Tiflex emulsions : 19S, 149S, UST, 400ST, 200S.

Depending on exposure system.

Squeegee*:

- 3C Green **(245604)** recommended.
- Scraping angle as straight as possible (15 to 22°).

■ **Adhesives for paletts :**

- Aerofix S **(25D1815)**, Takter 4000 **(25D1830)**, Takter 1 **(25D1720)**.
- Adhesive 0381 **(3344079)** for roller application, Water-based adhesive **(25D3911)** for spray application.

For time saving, you can apply an adhesive Tape on to the paletts (**25D9900**).

■ **Cleaning :**

-Manual : Solvents 2891, 2899, NS-91.
-Washer : Solvents 2881, NS-91.

After a cleaning with NS solvents, dry your material.

***** *This information is given as an indication and may vary according to the material used.*

Use

■ **Additives and thinners :**

Soft hardener 3600 (3470805) : Improved washability and textile adhesion. Add 5%.

HIMALAYA Accelerating thinner (3194030) : Reduce flashing time. Up to 2%. The use of this product reduces ink viscosity.

HIMALAYA Plasticizer thinner (3194034) : Reduced ink viscosity. Up to 2%.

Gelling agent (3952061) : Increase of deposit and viscosity. Add 0,2 to 1%. High density printing ; add up to 2%.

⚠️ Mechanical agitation required. This effect is optimal 24 hours after mixing ; it's recommended to prepare small quantities.

Direct printing

■ **Preparation :** Stir the ink first and, if necessary, add plasticizer to obtain the desired viscosity.

■ **Flash cure :** Very fast : 2 to 3 seconds.
For best results, flash settings should be made on warm paletts.
⚠️ Excessive flashing will dry ink on the surface but in the core.

■ **Wet on wet :** Possible with warm paletts. In case of backing, increase off-contact.

■ **Drying :** 2 minutes at 140°C in infrared dryer.

Polymerization conditions must be tested according to the washing program intended for the textile articles.

Transfer printing

■ **Transfer media :**
- Transfer paper*
- Polyester sheet for matte transfer*
- Polyester sheet for glossy transfer*

*Several formats available.

Put your blank transfer media in Infrared dryer before printing to remove moisture. Protect your transfer media after each pre-gelling to avoid moisture pick-up again. These are harmful to color registration.

■ **Inks :** The HIMALAYA series can be used in its entirety. Results are optimized by the use of screen-printable or polyester powder adhesives.

■ **Transfer adhesive :**
- PET Adhesive powder **(3863327)**
- HIMALAYA White printable adhesive **(39H4098)**
- HIMALAYA Transparent printable adhesive **(39H4099)**
- HIMALAYA Ribbon printable adhesive **(3864042)**

■ **Pre-drying on transfer media :**
- 1 minute to 100-110°C for printable adhesives.
- 30 secondes to 1 minute at 120-150°C for PET adhesive powder **(3863327).**

■ **Heat press :** 15 seconds at 160 - 170°C.
The dryer and press conditions must be revalidated by washing tests.

■ **Peeling :** Hot/Cold peel.
Remove glossy polyester **only after complete cooling** (cold peel). For other transfer media, hot peel or cold peel can be applyed depending on the desired aspect.

Whites

■ **White (39H4000)* :** Very fast flashing. To be used an under base or highlight and for processing of Pantone® colors.

■ **High opacity white (39H4078)* :** Fast flashing. To be used an under base or highlight.

*For their creaminess and stable whiteness, even in hot tunnels.

■ **Flash cure white (39H4086) :** To be used an under base.
⚠️ Fast flashing only on TIFLEX flash cure.

■ **Antibleeding white (39H4095)** : To be used an under base. Highly effective against colorant run-off. **Tests are imperative.**

If required, its action can be reinforced by the use of **CREATIVE CREA Antibleeding dark (39L4044).**

Special effects

■ High density :

Mix 30% of Extensible base **(39C4097)** or Glossy Elastic Base **(39H4092)** into HIMALAYA inks paste to guarantee thick-coat layer.

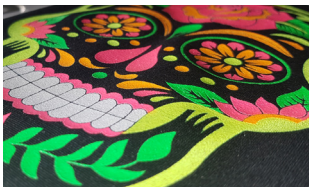
Thickness is obtained by using thick capillary film type 400 µ **(2044020)** or multi-coats of emulsion 400ST **(25C2050)** or Textil PV **(2572062)**.

Where prints are to have corners, it is necessary to use Gelling Agent **(3952061)** ; add 0,5 to 2%.

■ Sparkle gold (39H4094) and Sparkle silver (39H4091) :

Many special effects are available in the CREATIVE CREA range, to be used alone or with the HIMALAYA range. Please refer to the data sheet for the CREATIVE CREA range.

Puff inks



Neon colors

Special recommendations

■ Washability :

Insufficiently cured ink is the main cause of poor washout resistance.

Polymerization parameters should be adapted to suit the material and the customer's conditions of use.

The white under base has been over-flashed and the core cure is insufficient.

Polymerization conditions must be tested according to the washing program intended for the textile articles. Poor transfer hold is due to non-compliance with recommended parameters.

Waterproofing treatments on certain fabrics can prevent ink adhesion and reduce wash fastness.

When direct printing with HIMALAYA + Hardener 3600 **(3470805)** gives insufficient results, we recommend using two-component PU solvent inks : **POLYWORKS**.

■ Fibrillation :

Appears when printing on cotton textile with short and loose fibers (uncombed).

The fibers tend to straighten by capillary action through the ink film. Higher ink deposit increase fibrillation effect resulting in a grainy aspect and a rough feel. Too low ink deposit will fade after first print wash given a vintage effect to the print.

The solution is to print the underlay with a 62 t/cm mesh screen. Doins so, the fibers will be fixed and the final finish will be soft.

If the viscosity of the ink is too low, the deposit will be reduced. In this case, use Gelling Agent **(3952061)**.

■ Low elasticity :

Origins of the problem can be :

- Ink is not polymerized enough. Heat pressing or second pass through the drying tunnel is necessary.
- Ink deposit is not enough. Prefer two passes.
- Under base is over-flashed and core cure is insufficient. Reduce flash cure time.

In the case of use of stretch fabric, add some stretch base up to 30% into the ink :

- Extensible Base **(39C4097)** : Highly stretchable.
- Glossy Elastic Base **(39H4092)** : Standard stretch properties.

■ Bleeding :

Bleeding (or dye migration in inks) is visualized by an instantaneous or slow coloration of white (or light) inks. For example, a white print will turn pink on red fabric.

Phenomenon appears mainly on 100% polyester or recycled polyester mainly black, red, dark blue.

To prevent dye migration, pass the polyester textile through the drying tunnel before printing to evacuate the humidity.

An under base is printed with antibleeding inks : HIMALAYA white antibleeding **(39H4095)** for blended polyester or CREATIVE CREA black antibleeding **(39L4044)** for 100% polyester textile.These inks are no active on the same colorants, and trials are imperative to find the right combination.

For long-lasting results, the ink must be sufficiently polymerized.

TIFLEX would like to draw your attention to the following points :

Before starting production, we recommend that you check the ink's various compatibilities and resistances on a textile by washing the finished article under the conditions stipulated on its label. Wash fastness may also be reduced by fibrillation (fibers rising through the print). This phenomenon is independent of ink polymerization. High washing temperatures, combined with powerful detergents, can cause color changes in certain shades, including gold and silver.

Compliance

HIMALAYA inks are **ECO PASSPORT by OEKO-TEX®** certified. They comply with **EN 71-3**, the **ROHS directive** and **REACH/CLP regulations.**

Product range

STANDARD COLORS	Ref. 1 l	Ref. 5 l
White*	39H2000	39H4000
Flash cure white	39H2086	39H4086
High opacity white	39H2078	39H4078
Antibleeding white	39H2095	39H4095
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
Violet*	39H2016	39H4016
Royal blue	39H2024	39H4024
Meed blue	39H2021	39H4021
Primary blue*	39H2020	39H4020
Reflex blue	39H2025	39H4025
Dark blue	39H2026	39H4026
Marin blue	39H2023	39H4023
Green	39H2031	39H4031
Mint green*	39H2035	39H4035
Emerald green	39H2033	39H4033
Black*	39H2044	39H4044

FOUR-COLORS PROCESS	Ref. 1 l	Ref. 5 l
Four-color yellow	39H2050	39H4050
Four-color magenta	39H2052	39H4052
Four-color cyan	39H2054	39H4054
Four-color black	39H2056	39H4056

BASES	Ref. 1 l	Ref. 5 l
Mixing base*	39H2066	39H4066
Soft mixing base		39H4068
Glossy elastic base		39H4092
Extensible base		39C4097

SPECIAL EFFECTS	Ref. 1 l	Ref. 5 l
Sparkle silver	39H2091	39H4091
Sparkle gold	39H2094	39H4094

ADDITIVES AND THINNERS	Ref. 1 l	Ref. 5 l
HIMALAYA Accelerating thinner		3194030
HIMALAYA Plasticizer thinner		3194034
Soft hardener 3600, 130 g	3470805	
Gelling agent, 1 kg	3952061	

TRANSFER ADHESIVES	Ref. 1 l	Ref. 5 l
HIMALAYA White printable adhesive	39H2098	39H4098
HIMALAYA Transparent printable adhesive		39H4099
HIMALAYA Ribbon printable adhesive		3864042
PET Adhesive powder, 3 kg		3863327

Inks :

OEKO TEX® ECO PASSPORT ZH150 158200 TESTEX

Additives :

OEKO TEX® ECO PASSPORT ZH150 216191 TESTEX

* Color Matching System

Pantone® Formulation guide online : The inks marked with an asterisk *, can be color matched according to the PANTONE® colors. PANTONE® colors are available directly on our website by using our Color Matching System software.
The colors reproduced on this document are not contractual. Upon request, we can provide you with a color chart reproducing the colors in a more faithful way.