



## SCREEN PRINTING TEXTILE INK

# FLASHCOLOR

*FLASHCOLOR range - Plastisol based ink (fast flash drying). Suitable for direct printing and transfer printing on cotton, polyester and blends.*

*This range contains a wide selection of shades and special effects.*

### Features

**Composition:** 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:** 2 years

### Use

#### Meshes:

Mesh 36 th.cm to screen print liquid adhesives (transfer printing).

Mesh 62 th.cm to screen print white underlayers

From mesh 43 th.cm to mesh 90 th.cm to screen print colors 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

Squeegee triple layers (60/90/60). Squeegee 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 0380 (ref. 3344078)

#### Diluents Plasticizer:

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

**Plasticizer diluent XD835** (ref. 3194040) will help to reduce fast drying time of the ink in the mesh. It will be used in case of hot temperature inside the screen-printing shop.

**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.

**Catalyst XD150** (ref. 3982099): by adding 5% catalyst you may decrease the parameters of the dryer either the time or the temperature.

**Textile Adhesion agent** (ref. 472090): by adding 3% in the ink you may increase the adhesion treated substrates.

#### CLEANING:

Solvents 2881, 2891, 2899, NS91.

## Direct printing

### **Fast –flash** curing from 2 to 4 sec

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

The efficiency of the flash curing may vary according to the 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 cure 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

**Curing:** 2 min 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 **FLASHCOLOR** range (except shiny gold and shiny silver) can be used for transfer printing. Inks can be transferred on fabric with powder or printable adhesive.

### **TRANSFER ADHESIVE**

Clear adhesive Flashcolor (ref. 3864021)

White adhesive Flashcolor (ref. 3864022)

PET powder adhesive (ref. 3863327)

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

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

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. 3964010):** underlayer white. Quick flash curing time on TIFLEX flash dryer.

**Standard white (ref. 3964012)** multi-purpose and fast flash white and **extra opaque white (ref. 3964078):** Both

of these whites are creamy with a genuine white shade even when the temperature in the dryer is quite high.

**Extra opaque matt white (ref. 3964077):** very opaque white.

## Special effects

**FOUR COLOURS PROCESS (CMYK):** standard

**SHINY GOLD – SHINY SILVER :** standard

**NEON COLOURS (YELLOW,PINK,ORANGE,RED,GREEN):** standard

**LUMINESCENT aka “glow in the dark”:** standard

**RETROREFLECTIVE:** standard

**PEARL BASE/PEARL EFFETCS:** standard

**PUFF BASE:** standard

**TRANSFERT PUFF BASE:** standard

### **HIGH DENSITY**

The stretchable base (ref. 3954091) can be added (30%) directly in the inks from the FLASHCOLOR 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 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 prepare 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. Then additional trials must be done by adding the catalyst **XD 150** or the adhesion agent (ref. **3472090**). 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 PU solvent based inks 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.

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

For stretchable fabrics, it will be possible to improve the elasticity by adding 3% of shiny elastic base (ref. **3954091**).

### 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 to predry the fabrics in the dryer in order to control and limit the humidity (90 sec – 120°C).

The action of these inks on an identical fabric may differ therefore preliminary trials are essential. You may add the hardener **XD150** (ref. **3982099**) to lower the curing temperature.

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 **FLASHCOLOR** inks comply with EN 71-3 standard.

### 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. XD 150 catalyst will be used either to ensure complete polymerisation of a thick layer or when using a fabric with poor temperature resistance. High washing temperatures associated with powerful detergents may lead to colour changes with some colours including gold and silver.

STANDARD COLOURS	Ref. 1 I	Ref. 5 I
White*	3962012	3964012
Flash cure white	3962010	3964010
 Lemon yellow*	3962015	3964015
 Medium yellow	3962016	3964016
 Gold yellow*	3962018	3964018
 Orange*	3962019	3964019
 Solid red*	3962009	3964009
 Rubis red	3962027	3964027
 Fuchsia*	3962032	3964032
 Violet*	3962039	3964039
 Royal blue	3962041	3964041
 Ultramarine blue	3962044	3964044
 Mid blue	3962046	3964046
 Primary blue*	3962048	3964048
 Reflex blue	3962025	3964025
 Deep blue	3962050	3964050
 Steel blue	3962054	3964054
 Bright green	3962060	3964060
 Medium green	3962062	3964062
 Green	3962064	3964064
 Mint green*	3962066	3964066
 Emerald green	3962068	3964068
 Caramel	3962073	3964073
 Black*	3962034	3964034



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



STANDARD COLOURS	Ref. 1 I	Ref. 5 I
<b>OPAQUE</b>		
High opacity white		3964078
High opacity mat white		3964077
Opacity yellow		3964002
Opacity red		3964008
<b>THIXO 4-COLOURS PROCESS</b>		
Thixo 4-colours yellow	3962080	3964080
Thixo 4-colours magenta	3962081	3964081
Thixo 4-colours cyan	3962082	3964082
Thixo 4-colours black	3962083	3964083
<b>FLUO</b>		
Fluo yellow	3962085	3964085
Fluo orange	3962086	3964086
Fluo red	3962087	3964087
Fluo pink	3962088	3964088
Fluo green	3962089	3964089
<b>METALLIC AND SPECIAL EFFECT</b>		
Shiny silver	3962090	3964090
Sparkle silver	3962091	3964091
Gold	3962095	3964095
Sparkle gold	3962094	3964094
Shiny gold	3962093	3964093
Luminescent	3962096	3964096
Silver reflective	3962098	3964098
<b>ADDITIONAL BASES</b>		
Thinner base*	3962005	3964005
Thinner base soft	3962006	3964006
Pearl base	3962007	3964007
Puff agent plastisol	3952090	3954090
Glitter base		3954096
Sparkle glue		3954099
Puff transfer base		3954095
Glossy elastic base		3954091
<b>COMPLEMENTARY PRODUCTS</b>		
Catalyst XD 150, 250 g	3981299	
Catalyst XD 150, per kg	3982099	
Gelling agent, per kg	3952061	

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