

## FLSC COLOURS (Emulsions & Ink for Pigment & Apparel Printing)

### PRODUCT CHARACTERISTICS

Most of the FLSC Colours/Inks available in the market have issue of Higher formaldehyde (>300 ppm) levels which makes them unsuitable for achieving RSL Compliant Prints.

To solve this problem, Zydex has launched **FLSC Inks & Emulsions** which will make final prints comply with RSL Standards of diff. retailers.

(Slight deterioration in Washing & Light Fastness is a trade off to achieve RSL Compliance.)

### PRODUCT RANGE

COLOUR	EMULSION	INK
Magenta	√	√
Orange	√	√
Pink	√	√
Rose	√	X
Red	√	√
Lemon	√	√
Yellow	X	√
Blue	X	√
Green	√	√
Violet	√	√

### FORMALDEHYDE LIMIT (COMPLIANCE TO RSL STANDARDS)

	Application	Max. Formaldehyde level	Maximum Dose	Application guideline for RSL Compliance		
				Application Dose in recipe (%)	Formaldehyde Limit 2018 (ppm)	Formaldehyde level expected
K2 FLSC Inks	For Printing on knits/high stretch fabrics (Light Ground)	Non-compliant with respect to Formaldehyde levels (Avg. 150 ppm) except blue.				
			Baby Wear	<3	5	4.5
			Adults	<40	75	60
			Outer Wear	Up to 100	75	150

**Note:** Both to be used for direct Printing on White/ Pastel Grounds/ making recipe with other colours. Use Base Coats for Blotch Printing on other grounds.

## METHODS OF USING FLSC COLOURS - K2 FLSC INKS

There are 2 methods of using FLSC Colours:

### 1. Direct Printing with 100% FLSC Colours\*

- Without Base Coat with Inks**

Both to be used for direct printing on white/pastel grounds /making recipes with other colours.

**With Base Coat :** On Dark Grounds

They should be printed with white as above, as these are highly transparent colours.

**For Yellow & Red Shades, it is advisable to tint the base coat with same shade as Top Coat.**

### 2. Blending /over printing to improve brightness of basic spot colours:

These colours have to be mixed with basic colours in correct combination to get desired results.

Blending option guideline are given below:

Spot Colours →	Violet	Red	Marine	Scarlet	Yellow	Blue 1	Green	Blue 2
FLSC Shade for Brightness ↓								
Magenta (136**)/4*	√ (51)	√ (21)	√ (52)	√ (12)				
Lemon (113**)/7*	√ (6)	√ (13)		√ (31)	√ (16)	√ (9)	√ (19)	√ (11)
Violet (49**)/3*	√ (25)	√ (16)	√ (8)					
Pink (15**)/2*	√ (9)	√ (6)						
Orange (13**)/1*					√ (13)			
Blue (10**)/1*						√ (10)		
Green (6**)/1*							√ (6)	
Red (6**)/1*		√ (6)						

\*\* Indicates No. of recipes possible with that colour.

\*Indicates No. of basic colours in which the FLSC colour will give brightness.

Second option is to over print these colours on existing colours like glitter to get shiny effect through reflection. These colours work on the principle of reflection hence mixing them with other colours is not very cost effective method to achieve desired results.

## DISADVANTAGE

- Formaldehyde level is high.

**Slight deterioration in Light Fastness is a trade off to achieve RSL Compliance in FLSC Inks**  
Please find below Light Fastness test results:

	Magenta	Pink	Orange	Lemon	Red	Yellow	Green	Violet	Blue
Ink	3	3	3	3-4	2-3	2	4	1-2	4

For RSL Compliance you can add Regular Pigment Emulsions/ Inks to achieve desired standard.

## METHODS OF USING FLSC COLOURS - ZYCOL FLSC EMULSIONS

Pigment Paste (%)	Zycol FLSC Emulsions (%)	Additive for achieving washing Fastness
92 to 95	6 to 8	Use 2 to 3% Formaldehyde Free Fixer (Catalyst KX) /3-5% K2 Clear/ 1-2% Catalyst 90X to achieve desired results.

We recommended to use 2-3% White for Solidity of Pastel to Medium Colour Printing on Pastel to medium ground fabric.

Above recipes are guidance purpose only. Please adjust the recipe at your end as per colour depth requirement.

**Note:**

- These are subject to correct fabric quality & and application procedure.
- It is advisable to test all the parameters before bulk production.

## DISADVANTAGE

### FLSC Emulsions

- **Washing Bleeding resistance is poorer compare to K2 FLSC Inks.**

	Washing Fastness	Remarks
<b>Emulsion</b>	Washing fastness of Pigment Printing Pastes likely to be lower than inks	Use 2 to 3% Formaldehyde Free Fixer (Catalyst KX) /3-5% K2 Clear/ 1-2% Catalyst 90X to achieve desired results.

- **Tonal Variation – FLSC Emulsions**

<b>Primary products (all colours)</b>	Colour tone may vary* (lot to lot) Check before use.
<b>After Curing Curing Standards : Cure at 150°C for 3 minutes</b>	Colour tone may change after curing* in direct printing. With few colours viz. Magenta, Orange & lemon (Match Shade after curing)

### Light Fastness

	Magenta	Pink	Orange	Lemon	Red	Yellow	Green	Violet	Blue
Emulsion	3-4	4	3-4	3-4	-	-	-	-	N.A.

For RSL Compliance you can add Regular Pigment Emulsions/ Inks to achieve desired standard.

## SETTLING GUARANTEE – FLSC EMULSIONS

- These Colours are produced to eliminate hard settling,
- Soft settling is likely after storage (15-20 days) which can be remixed easily.
- After long storage, it is advisable to check carboy or bottle before use.

Light stirring is recommended before every application.

## MIXING & WEIGHING

Weighing should be done accurate with a suitable weighing Scale & Mixing should be done with Auto Ink Mixer for Proper Mixing.

## TECHNICAL SERVICE

Zydex can offer Technical Service for Recipe making of :

**1. Colours:**

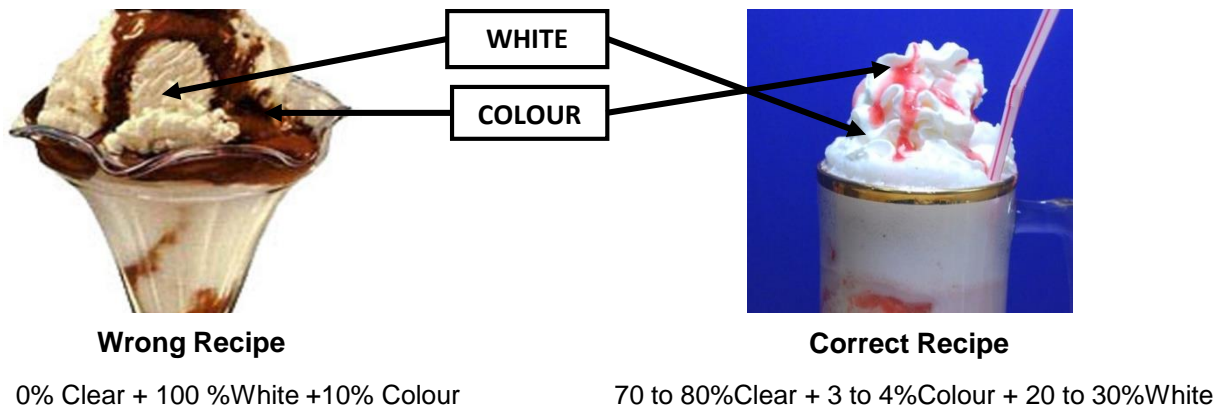
We can assist our customers in matching the colours/shades depending on type of Shade Viz. Pantone or Non Pantone based (from our database over 2000 Shades)



**2. Pastes**

In addition to colour management, we can also help in optimizing colour consumption in final paste with correct recipes. This will reduce also reduce/eliminate use of fixers, softeners, anti choking agent etc. & achieve good quality prints. (See below)

**Note:** These are subject to correct fabric quality and application procedure.  
It is advisable to test all parameters before bulk production.



This can lead to saving of 20 to 30% costs of Inks.

**Zydex Colours are sold with total knowledge package to improve customers profitability.**

## STORAGE

- Do not store in direct sun or at a temperature higher than 45°C.
- Always keep the lid closed after withdrawal of material from the can.
- Minimum shelf life of the product is 18-24 months.

## DISCLAIMER

The information & data contained herein are given in good faith but without warranty. We recommend that before using our products, the customer should make his/her own tests to determine the suitability of the products for his/her own purpose under his/her operating conditions. As the circumstances under which our products are stored, handled and used are beyond our control, we cannot assume any responsibility for their use by the customers.