

Fields of application

Versatile one and two component ink for screen and pad printing on

- Bottle closures made of pre-treated polyethylene (PE) and polypropylene (PP)
- Polyester (PET)
- ABS,
- Acrylic glass,
- Lacquered surfaces,
- Metal,
- Polyamide,
- Polycarbonate
- Polystyrene,
- Polyurethane and
- Rigid PVC

Different substrates may differ in printability due to difference in surface properties hence preliminary trials are essential before printing.

Application Process

These inks are suitable for both screen and pad printing.

These inks can be used with all pad printing machines with clichés and pads currently used for industrial applications. The printing result may be affected by the type of screen, depth of the pad printing cliché plate and shape, and hardness of the printing pad.

A temperature between 20-25°C and humidity around 40-60% will be ideal for printing processes to achieve optimum adhesion.

Pre/post treatment generally improves adhesion with this 2-component ink.

These inks are suitable for both indoor and outdoor applications.

Characteristics

These inks are **Halogen free**, cyclohexanone-free also **free from BPA**, butyl glycolate and aromatic solvents. These are **low VOC** inks and comply with the **EN71 part 3** toy regulations. These inks can be applied to the non-food contact surface of food packaging materials and articles.

This ink is glossy, physically drying, and chemical cross linking. Also it exhibits good mechanical and chemical resistance.

The colour shades of FARBACLOSURE are light fast, weather resistant and show high opacity. Hence suitable for outdoor application.

The ink should be stirred homogeneously before and during printing.

When used as a 2-component ink system, it is required to add hardener in the right percentage and stir homogeneously.

While processing with hardener the temperature should not go below 20°C as the proper mixing won't occur at low temperatures. Also, high humidity should be avoided for proper curing.

Pre-reaction time

The ink mixture should be kept around 15 mins for pre reaction to occur.

Pot life

The pot life of ink hardener mixture is 6-8 hrs at 20-25°C and 50% humidity.

Inks adhesion may decrease after the mentioned hours.

FARBACLOSURE HF



Drying

Apart from evaporation of solvent, ink drying includes crosslinking between ink and hardener which ultimately leads to hardening of ink film. Though touch dry occurs in minutes (5-10), the actual adhesion of ink occurs in approximately 36-48 hrs depending upon the hardener used.

Colors

Basic shades

The basic shades consist of 12 basic colors and can be used to produce wide color shades for Pantone, HKS, RAL, NCS, etc.

FARBACLOSURE		
BASIC COLOR	SHADES	CODE
Yellow	Light	FJ4 203
	Medium	FJ4 201
Red	orange	FJ4 306
	Standard Red	FJ4 308
	Pink	FJ4 309
Blue	Violet	FJ4 505
	Standard Blue	FJ4 506
Green		FJ4 603
White	standard	FJ4 100
	opaque	FJ4 101
Black	standard	FJ4 900
	opaque	FJ4 901

Additives

Catalysts:

Catalyst helps in increasing adhesion of ink film to the surface by chemically cross linking with the ink pigments. Hence, there are standard catalysts based on the ink composition.

Standard catalyst for this ink is CAT 135:

Catalyst 5-10% CAT 135 (for optimum adhesion)

Catalyst 5-10% CAT 133 (for higher weather resistance and used for closed systems)

It should be noted that proper adhesion with hardener (chemical and physical resistance) can be attained after minimum 36 hrs of printing at 20-25 C. Therefore, any adhesion test should be done after 36-48 hrs for proper results.

Temperature lower than 15°C should be avoided as cross linking does not occur at low temperatures. For this reason, post treatment is desirable in many cases. Heating at 150 -180 C for 20-30 minutes helps in improving adhesion of ink film over surface.

THINNER:

Dilutant helps in adjusting the viscosity of the printing ink.

Dilutant (fast) 15-25% DLT 132

Dilutant (fast) 15-25% DLT 126

Dilutant (slow) 15-25% DLT 124

Dilutant (standard) 15-25% DLT 138

Retarders:

Retarder is used for influencing the drying of ink mixture at different temperatures (climatic conditions)

Retarder 5-10% ANX 233

Retarders and thinners can be used interchangeably at high temperature conditions.

FARBACLOSURE HF



Levelling agents:

These agents fix the ink pigments uniformly which enables to obtain uniform shade of desired colour.

Excessive addition should be avoided since high percentage can negatively influence printability.

Levelling agent 5-10% EQS 223

Cleaners:

The cleaner RFR 197 is recommended for manual cleaning or automatic cleaning of the working equipment.

Marketed By:

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Shelf Life:

Shelf life depends upon the formula/reactivity of the ink system as well as the storage temperature. The shelf life for an unopened ink container if stored in a dark room at a temperature of 15 - 25 °C is 2 years.

Precautions:

For further information on safety, storage and environmental aspects concerning these products please refer to Safety Data Sheet.

Addition Technical information can be obtained from our product safety department.