

Fields of application

Two component screen/pad printing ink suited for the following substrates:

- ABS
- Pre-treated polyethylene (PE)
- Pre-treated polypropylene (PP)
- Polyurethane (PU)
- Polyamide (PA)
- Metal (incl. thinly anodised aluminium)
- Varnished surfaces
- Powder-coated surfaces
- Rigid polyester
- Knitted fabrics made of cotton
- Wood
- Glass (for decorative purposes only)

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

Application Process

These inks are more suitable for screen/pad printing

For printing onto polyethylene and polypropylene-treat the surface of the substrate by flaming or Corona discharge.

You can achieve a very good adhesion with the FarbaPur with a surface tension of at least 42-52 mN/m for PE and PP substrate.

These inks are used when extremely high mechanical and chemical resistance on thermosetting plastics, polyethylene, polypropylene, and metals are needed

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.

These inks are suitable for both indoor and outdoor applications.

Characteristics

This ink is glossy, physically drying and chemically reactive .

This ink exhibits good mechanical and chemical resistance, as well as a good flexibility.

The colour shades of Farbapur are light fast, weather resistant and guarantee high opacity

Since this is a 2-component ink system, it is required to add hardener in the right percentage and stir homogeneously. The ink should be stirred homogeneously before and during printing

While processing with hardener the temperature should not go below 15°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 7-8 hrs at 20-25°C and 50% humidity.

Inks adhesion may decrease after the mentioned hours.

Drying

Apart from evaporation of solvent, ink drying includes cross-linking 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.

Chemical cross-linking can be accelerated by higher temperatures. Drying in oven may depend upon substrate, auxiliary, cliché and drying conditions. Generally oven treatment at 150 C for 30 mins is recommended.

Fade Resistance

Pigments of high fade resistance are used in the colour shades. The fade resistance also decreases if the printed ink film thickness is reduced. In the case the prints are intended for outdoor applications, special hardener must be used. The pigments used are resistant to solvents and plasticizers.

Colors

Basic shades

The basic shades consist of 17 basic colors and can be used to produce wide color shades for Pantone, HKS, RAL, NCS, etc.

Farbapur		
BASIC COLOR	SHADES	CODE
Yellow	lemon	YD 200
	medium yellow	YD 201
	Light Yellow	YD 202
Orange		YD 203
Red	scarlet	YD 300
	carmine	YD 301
	Magenta	YD 302
	Vermillion	YD 303
Dark Brown		YD 400
Blue	UltraMarine	YD 500
	Medium	YD 501
	Brilliant	YD 502
Violet		YD 505
Green	Blue green	YD 600
	Grass green	YD 601
White	standard	YD 100
	opaque	YD 101
Black	standard	YD 900
	opaque	YD 901
	overprint varnish	YD 001
	overprint varnish with uv protection	YD 010
Rich gold		AU198
silver		AG109

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 25-40% CAT 135

Catalyst 20-25% CAT 141 (special hardener for outdoor resistance)

Catalyst 25-40% CAT 137 (high weather resistance)

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.

Dilutant:

Dilutant helps in adjusting the viscosity of the printing ink.

Dilutant 20-25% DLT 132 (fast)

Dilutant 15-25% DLT 130 (standard)

Dilutant 15-25% DLT 124 (slow)

Retarders and thinners can be used interchangeably at high temperature conditions. The above mentioned dilutant DLT 130 can be used as both retarder and dilutant in high temperature conditions to control drying.

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.

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.

FARBAPUR



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