Technical Information

Screen Inks I Packaging Printing

Two Pack Ink

Quick drying, Glossy finish, Opaque

Substrates

Pre - treated HDPE & PP, Aluminium & other Metals, Glass & Powder Coated material and for PCB – as board marking ink

Application

Two pack ink are two component inks based on special epoxy resin system to print packaging containers and articles of polyethylene, HDPE, polypropylene. The surface of these substrates should be pre - treated by flaming or corona discharge so as to get surface tension of 42 - 48 dynes / cm. which is necessary for the adhesion of these inks. For polypropylene, the surface can also be pre-treated by applying a thin coat of PP Primer AX - 701

Two Pack inks provide excellent resistance to common solvents and various chemicals. These inks can also be used to print on thermosetting plastics, coated substrates, powder coated articles and metals. These inks can be used for printing on glass and ceramic substrates for decorating purpose

- Packaging containers and articles of polyethylene, HDPE, polypropylene
- Thermosetting plastics, coated substrates, powder coated articles and metals
- Glass and ceramic substrates for decoration purpose

Characteristics

These are two - component inks based on epoxy resin to provide the following outstanding features

- Resistant to common solvents and chemicals
- Excellent adhesion and mechanical resistance for long life
- High gloss finish

Mixing ratio

Ink and hardener HS 6221 are to be thoroughly mixed in the ratio 80:20 by weight (Ink 4 parts: Hardener 1 part)
Ink and hardener HS 6205 are to be thoroughly mixed in the ratio 60:40 by weight (Ink 1.5 parts: Hardener 1 part)

Pot life of mixed ink and hardener

4 - 5 hours at ambient temperature (around 25º C.)
Increase in the room temperature than 25º C can lead to reduced pot-life. The addition of freshly prepared ink + hardener mixture can extend the pot life

Drying

Drying of the ink film takes place by evaporation of the solvents used & further drying and hardening is caused by chemical cross - linking reaction between ink and hardener

The print becomes tack free dry in 25 - 30 min. and can be ready for overprinting in 40 - 50 min. at ambient temperature (25º C) and also making them suitable for stacking

It takes about 5 - 7 min. to become tack - free dry when passed through a tunnel oven at 80 - 90º C

The drying time depends on the printed ink film thickness, humidity, drying conditions and the auxiliaries used such as reducer and/or retarder

We recommend to carry out the overprinting within 4 - 6 hours in order to achieve good adhesion between the ink layers

The prints get fully cured after 72 hours when the tests for adhesion, solvent / chemical resistance can be performed

Stoving

120 - 150ºC for 20-30 min. in box oven can completely cure the ink for glass and metal. These inks can be used for decorative purpose when used for glass and ceramic substrates and are not resistant to dish - washing

Range

Process Colours

Cyan	HS 6048	Density 1.5
Magenta	HS 6047	Density 1.4
Yellow	HS 6046	Density 1.3
Black	HS 6022	Density 1.8

L/F Process Colours

Cyan	HS 8512	Density 1.5
Magenta	HS 8513	Density 1.4
Yellow	HS 8514	Density 1.3
Black	HS 6022	Density 1.8

Spot Colours

Two Pack Rich Royal Blue	HS 6001
Two Pack Brilliant White	HS 6002 [Equivalent shade to PEPSI WHITE]
Two Pack Coke White	HS 6099

Two Pack Signal Red	HS 6003 [Equivalent shade to PEPSI RED]
Two Pack Green	HS 6005
Two Pack Mid Yellow	HS 6015
Two Pack Sky Blue (Nuvan)	HS 6016
Two Pack Monocil Blue	HS 6017
Two Pack Violet	HS 6018
Two Pack Orange (Umercon)	HS 6019
Two Pack Monocil Red	HS 6020
Two Pack Deep Blue (Nycil)	HS 6021
Two Pack Black	HS 6022
Two Pack Process Yellow	HS 6046
Two Pack Process Magenta	HS 6047
Two Pack Process Blue	HS 6048

The density values are arrived at by using 150.31 T mesh at a dilution of 10 % with Reducer. By adding Extender Base EX - 192, the ink density can be reduced. The ink density can be increased by adding ink concentrates for the process colours in required proportion or by using a coarser mesh

A coat of Over Print Varnish EX - 193 on the whole printed area will extend the period of out-door fade resistance (Mixing ratio: Ink & EX - 193 is 3:1)

Coverage

60 - 70 sq. meters. (with 120 mesh/cm. and 10 - 15% dilution with Reducer/ Retarder)

Metallic Inks (Bronzes)

Rich Gold	SH - 801
Rich Pale Gold	SH - 802
Silver	SH - 804
Metallic Clear Base	EX - 191

Recommended mixing ratio of Metallic Gold Pigment with EX - 191(without hardener) is 1:4
Recommended mixing ratio of Metallic Silver Pigment with EX - 191 (without hardener) is 1:6
Mixing ratio of mixture of metallic pigment & Clear Base with Hardener HS 6221 is 4 : 1 The metallic ink made by mixing the metallic paste with metallic binder should be processed within 4 - 5 hours

Auxiliaries

Rheology Improver - SRITP - 9001 can be added 10 to 20 % to the ink to get a desired consistency

Rheology Slow Improver - SRITP - 9010 can be added 10 to 20 % to the ink to get a desired consistency when required to make the ink slow drying. Even a suitable combination of the both rheology improver can be used to get a desired retarding effect
Quick Dry Rheology Improver - SRIGL - 903 can be used instead of SRITP - 9001 for very high speed printing jobs.
Over Print Varnish EX - 193 - For improvement of fade resistance of the print

Printing Parameter

Fabrics - Polyester or Nylon mesh of 100 - 140T are suitable. Even 77 - 90T can be used depending upon the type job & the substrate to be printed to achieve desired opacity or print effect

Stencils - All solvent resistant Emulsions & Films can be used
Squeeze - 65 to 75 durometer sharp edge squeezes are suitable

Storage

Store in clean & dry place & do not exceed the temperature above 30°C

Shelf Life

At least 12 months when stored under the correct condition
(Protected against heat and light at 30°C)

Note - Material Safety Data Sheet is available on request