



Silk Screen Inks

Products Information

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Polypac Inks (PP)

PROPERTIES

PP is a gloss finish solvent-based, single-pack ink specially designed for printing pretreated polyethylene and polypropylene. When thinned, PP can be used with high-speed automatic or semi-automatic printing machines.

PP is very fast drying and has excellent adhesion resulting in durable ink films with good resistance against a wide range of products including bleaches, motor oils and most detergents. However, PP is not resistant to cosmetics or products containing alcohol, such as certain lotions or perfumes. PP is also suitable for printing various types of aluminum. Please see “ the detail information in Metal printing.”

INSTRUCTIONS FOR USE

Thinning and Cleaning

- Stir well before use.
- PP inks should be thinned 10-20% with Thinner 13019 before printing.
- 10-20% Retarder 13018 can be used to make the ink dry more slowly when printing in a warm room or when using screens with high mesh counts.
- To increase the drying speed of PP, 5-10% Fast Thinner 2938 should be added. This may be necessary when printing with automatic printing machines.
- Cleaner 2940 should be used to clean PP from the screen. For heavy ink stains, Screen solve can be used. Please refer to the relevant P.I. Sheets for more information.

Catalyst

PP can be used for printing immediately after it has been mixed with appropriate amount of solvent (see above). For certain applications where product resistance needs to be developed very soon after printing, Polypac PP Catalyst is available. These applications include ‘in line’ filling manufacturing plants where products, such as bleach and washing-up liquid, are filled into the printed container immediately after printing and drying. PP should be catalyzed as follows:

PP ink 95 parts (by weight) Polypac PP Catalyst. 5 parts (by weight)

Note Once catalyzed, PP has a pot life of about 24 hours. To avoid any problems with thickening, only mix up enough ink for one day’s use.

Pre-Treatment

For optimum adhesion, it is recommended that the substrate be given flame treatment or corona discharge immediately prior to printing. The most appropriate pre-treatment is flame treatment using constant force and circulation of propane or butane gas with air. Discharge of static electricity can be found with some packaging products and this may reduce the adhesion feature of the ink. To prevent this from occurring, pass the container through ionized air immediately prior to printing

Printing

- PP can be printed through any type of mesh, but for the best printing results it is recommended that monofilament P90-48 or higher be used.
- PP can be printed through a variety of solvent resistant stencils, such as Diazol (PU220),
- A snap distance of about 2-3 mm is required for a good release of the print from the screen.
- Apply Spray Way SW82 all over the print table to firmly hold the substrate in place during printing.
- 1Kg of ink will print an area of 23-43 m² through a P90-48 to P140-34 mesh.

Due to the wide range of substrates available, it is advisable that the ink be tested fully prior to printing.

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Drying

PP can be cured at 80-85 °C in 30-120 seconds. This ink can also be dried at the normal room temperature in about 3-10 minutes, depending on the ambient temperature. It is recommended that the prints pass through a convection oven or fan dry before handling. The dried ink film will have optimum product resistance after 24 hours at room temperature.

Plastics

Always fully test the ink before beginning a production run, as there is often considerable variation in plastics from different manufacturers and even between different batches.

Metallic Colors

Metallic shades can be obtained by mixing Polypac PP Varnish with Gold or Silver Powder. Once mixed, these metallic colors will have a short shelf life. The product resistance of metallic inks is usually inferior to the non-metallic colors.

Product Resistance

Polypac PP inks have resistance to:

1. Bleaches
2. Motor oils
3. Most detergents However, they are not resistant to cosmetics or products containing alcohol (such as certain lotions or perfumes). Extra Pac Ink EA2000 is recommended for printing these products. It is recommended that Polypac inks are tested in conjunction with the product intended to be packed before embarking on production runs. Polypac inks are not recommended for outdoor exposure.

Metal Printing

Below is the adhesion comparison test result of Polypac PP inks with a dull mill-finished aluminum a bright polished aluminum and a stove enamel coated metal: The above test result is obtained after the printed substrates have been cured in the oven at 120 °C for two minutes. The printing surface should be cleaned before PP is printed onto the metal. Ink and substrate compatibility tests should be carried out prior to printing.

Dull Mill Finished Aluminum

Good

Bright Polished Aluminum

Very Good

Stove Enamel Coated Metal

Very Good

The above test result is obtained after the printed substrates have been cured in the oven at 120 °C for two minutes. The printing surface should be cleaned before PP is printed onto the metal. Ink and substrate compatibility tests should be

Solvents

Carried out prior to printing.

13019 /	Thinner
139A –SPX17	Slow Retarder
13018	Retarder
2938 - 5099	Fast Thinner
SWT139S	Cleaner

STORAGE

PP inks should be stored in a sealed container between 5-25 °C.

SAFETY AND HANDLING

PP inks should be used with care. Wear suitable PPE, for example, appropriate gloves and safety glasses.

All colors comply with the following standards: Standard of the European Economic Community, the United Kingdom Toys (Safety) Regulation 1974, Standard of Germany and French Toys Standard .PP inks are flammable with a flash point of 46 °C/115 °F. Whilst working with the ink, the consumption of food and drink, and smoking are not recommended.

ENVIRONMENTAL INFORMATION PP Inks:

- Are formulated free from ozone depleting chemicals as described in the Montreal Convention.
- Do not contain heavy metals.

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