



Plastisol Inks (PTS)

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PROPERTIES

PTS is a plastisol ink which can be used for direct printing on fabrics and iron-on transfer printing. These plastisol inks have excellent screen stability, high opacity and colour brightness and excellent wash resistance-for both directly printed fabrics and transfer printed ones. PTS has good adhesion to a variety of fabrics giving a print with a soft feel. PTS inks are suitable for printing fabrics made from natural fibres such as cotton and wool as well as synthetic ones. Compatibility with the textile should be carried out prior to use.

INSTRUCTIONS FOR USE

Thinning and Cleaning

- Stir well before use.
- PTS inks are supplied press ready and do not need to be thinned. However, they can be thinned by mixing with 5% PTS901 if required.
- PTS Flow Thinner (PTS901) can be used to increase the ink absorption into the fabric and give the print a softer handle. Addition of PTS901 is not recommended when printing dark coloured fabrics as a higher opacity is usually required.
- Cleaner 2940 should be used to clean PTS from the screen. For heavy ink stains, Screensolve or Thinner 2938 can be used. Please refer to the relevant P.I. Sheets for more information.

Printing

- PTS can be printed through a variety of stencils, such as Diazol Plus Ultra (U016), DiazolTex (T326) and Polyzol Tex (FT426).
- For dark coloured printing or transfer printing, screen mesh no. P43-80 to P61-64 is recommended. For single colour printing or multicolour printing that requires curing after printing each colour, mesh counts. P21-140 to P43-80 are required to optimize individual colour opacity. (See "**Drying and Curing**".)
- Apply Spray Way SW84 or Drystick AH388X all over the print table to firmly hold the substrate in place during printing.

Drying And Curing

PTS inks can only be dried through heat curing. The curing times will vary for different colours and different fabrics. For optimum printing results, the procedure below should be followed:

- For long/medium wave infra-red (IR) stoving, the temperature must be set at 150-170°C (300-340°F) for 30-60 seconds. For short wave IR stoving, the curing time is 15-20 seconds.
- For short wave IR stoving, the curing time for each colour differs; black cures more quickly than lighter colours. These recommendations are only guidelines. Compatibility with each curing condition should be tested prior to printing.

Direct Wet On Dry Printing:

In multicolour printing with coarse meshes, each colour (apart from the final colour) must be cured at a low temperature. Once the last colour has been printed it should be cured at the maximum temperature required.

Low Temperature Setting:

The temperature for convection oven stoving/jet air drying should be set at 100-130°C (210-265°F) for 30-60 seconds. For long/medium wave IR stoving, the temperature must be set at 100-130°C (210-265°F) for 15-30 seconds.

Final Curing:

The temperature for convection oven stoving must be set at 150-170°C (300-340°F) for 2-3 minutes.

Transfer Printing:

In multicolour transfer printing, each colour must be cured at low temperature first before the next colour is printed.

Heat Setting:

The temperature for convention oven stoving/jet air drying should be set at 100°C (210°F) for 30-60 seconds. For long/medium wave infrared stoving, the temperature should be set at 100°C (210°F) for 15-30 seconds. It is important that the curing of the transfer not exceed the required duration or the maximum temperature, as this will result in poor adhesion.

Transfer Application

Transfer prints must be cured in the heat-pressing unit at 180-190°C (355-375°F) for 10-15 seconds. Precaution against potential overheating of transfer print pressing should be taken because fabrics are subject to shrinkage or burn. Allow the transfer paper to cool prior to removal. If a pressing unit is not available, heat from ironing can be an alternative but it is not as effective due to inconsistent heat and pressure.

Fastness

PTS inks have good wash resistance according to ISO Test Numbers 1, 2 and 3 and according to United Kingdom Home Laundering Consultative Council Recommendations No. 3. Prints may be ironed from the back of the fabric with a cool iron and with a cloth over it printed area. **Prints will not resist dry-cleaning and garments should be marked to this effect.**

PROPERTIES AND APPLICATION FOR PTS PIGMENT CONCENTRATE

PTS Pigment Concentrate can be mixed with PTS090 or PTS093* to create desired colour. PTS Pigment Concentrates are not suitable for direct printing.

*Note: PTS090 has high viscosity and PTS093 has low viscosity .

COLOUR RANGE

The PTS range consists of 37 unleaded colours : 8 PTS Pigment Concentrate , 8 CMS (Chaiyaboon Matching System) Base Colours, 11 Standard Colours , 5 Fluorescent Colours , 1 Phosphorescent Colour and 4 Trichromatic Colours.

PTS Pigment Concentrate

PPC327	PTS Pigment Conc.	CMS Yellow GS
PPC407	PTS Pigment Conc.	CMS Orange
PPC550	PTS Pigment Conc.	CMS Red BS
PPC560	PTS Pigment Conc.	CMS Magenta
PPC590	PTS Pigment Conc.	CMS Violet
PPC623	PTS Pigment Conc.	Mid Blue
PPC640	PTS Pigment Conc.	Deep Blue
PPC700	PTS Pigment Conc.	CMS Green

CMS Base Colours

The following CMS colours are suitable for direct printing or colour-matching:

PTS327	Plastisol Ink	Light Yellow/CMS Yellow GS
PTS347	Plastisol Ink	Mid Chrome/CMS Yellow RS
PTS407	Plastisol Ink	Deep Orange/CMS Orange
PTS540	Plastisol Ink	CMS Deep Red
PTS550	Plastisol Ink	CMS Red
PTS560	Plastisol Ink	CMS Magenta
PTS590	Plastisol Ink	CMS Violet
PTS700	Plastisol Ink	CMS Green

Standard Colours

The standard colours are available as follows:

PTS100	Plastisol Ink	Black
PTS150	Plastisol Ink	Gray
PTS200	Plastisol Ink	White
PTS290	Plastisol Ink	Opaque White
PTS623	Plastisol Ink	Mid Blue
PTS640	Plastisol Ink	Deep Blue
PTS645	Plastisol Ink	Navy Blue
PTS720	Plastisol Ink	Briliant Green
PTS721	Plastisol Ink	Bright Green
PTS791	Plastisol Ink	Light Brown
PTS792	Plastisol Ink	Dark Brown
PTS090	PTS Extender Base	Clear
PTS093	PTS Medium	Clear

Fluorescent Colours

PTS381	Plastisol Ink	Fluorescent Yellow
PTS481	Plastisol Ink	Fluorescent Orange
PTS581	Plastisol Ink	Fluorescent Red
PTS583	Plastisol Ink	Fluorescent Magenta
PTS781	Plastisol Ink	Fluorescent Green

Phosphorescent Colour

PTS009	Plastisol Ink	Phosphorescent Green
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Trichromatic Colours

PTS110	Plastisol Ink	Trichromatic Black
PTS310	Plastisol Ink	Trichromatic Yellow
PTS510	Plastisol Ink	Trichromatic Magenta
PTS610	Plastisol Ink	Trichromatic Cyan

Remarks:

CMS	Chaiyaboon Matching Systems
RS	Red Shade
BS	Blue Shade
GS	Green Shade
YS	Yellow Shade

Additive

PTSE001	PTS Expanding Powder
PTS073	Nylon Catalyst for Plastisol Ink

Solvents

PTS901	Plastisol Flow Thinner
2900	Thinner
6032	Retarder
2940	Cleaner

STANDARD PACKING

PTS inks are available in 25Kg, 5Kg and 1Kg containers.
 PTS Expander (Powder) is available in 1Kg, 500g and 200g containers.
 Nylon Catalyst for Plastisol Ink is available in a 1 Kg container.
 The Solvents are available in 200 ltr, 20 ltr, 5 ltr and 1 ltr containers.

COLOUR MATCHING SERVICE

CHAIYABOON BROTHERS COMPANY (CBC) offer a quality colour matching service. Colours can be matched to prints, wet ink samples or to PANTONE references. When placing an order, please include a sample of the substrate to be printed, along with any other relevant information, such as the type of mesh and squeegees that are to be used and the product resistance required. The minimum order for a colour match is 3Kg.

STORAGE

PTS inks should be stored away from heat, between 5-25°C. and in a sealed container.

SAFETY AND HANDLING

- PTS inks should be used with care. Wear suitable PPE, for example, appropriate gloves and safety glasses.
- PTS inks are formulated to be free from any toxic, carcinogenic, mutagenic or reprotoxic chemicals.
- PTS inks are suitable for printing children's products. All colours comply with the following standards: EN71 Standard of the European Economic Community, the United Kingdom Toys (Safety) Regulation 1974, the DIN EN 71 Standard of Germany and French Toys Standard NF 551204, Part 1303, Title 16, Code of Federal Regulations of U.S.A.
- PTS inks do not have a flashpoint and are therefore exempt from the Highly Flammable Liquid Regulation.
- Whilst working with the ink, the consumption of food and drink, and smoking are not recommended.

Please consult the information on ***The Safety and Handling of PTS inks*** in the Chaiyaboon Material Safety Data Sheet.

ENVIRONMENTAL INFORMATION

PTS Inks:

- Are formulated free from ozone depleting chemicals as described in the Montreal Convention.
- Do not contain heavy metals.
- Are formulated to be free from aromatic hydrocarbons known to have an adverse effect on the environment.
- Do not have any volatile solvents (VOCs) and are therefore less harmful to the environment when compared with solvent-based products.

TECHNICAL SERVICE AND INFORMATION

For further information or other relevant data, please do not hesitate to contact us. Chaiyaboon Brothers Company (CBC) has a team of well-trained personnel who are ready to give help and advise regarding product information and application.