



UNION INKS

Product Information

TPP PAD INKS

TPP SERIES

PROPERTIES

Flexible, high visual impact glossy ink specifically formulated for pad printing onto ABS, rigid PVC, treated polyethylene and polypropylene, varnished surfaces, sometimes onto enamelled metal and thermosetting plastics.

- Good resistant to a wide range of products
- Rapid drying giving high production yields
- Good adhesion on Polyethylene with a treatment level of 42 - 48 (Union Carbide Surface Tension)
- Easy printability with exceptional covering power and opacity
- Excellent weather resistance and lightfastness (blue wool scale 6 to 8)

APPLICATIONS

TPP Pad Printing Ink is designed for pad printing onto treated polyethylene (PE) and polypropylene (PP). When printing onto polyethylene or polypropylene, please make sure to pre-treat the surface of your substrate by flaming or corona discharge as usual. From laboratory testing, you can achieve good adhesion with TPP inks with a surface tension of at least 42 – 48 mN/m. On polypropylene, you can apply a thin film of our colourless Primer UPP AP 2 for surface pre-treatment.

For multiple colour printing, please consider that you should not flame the substrate between print sequences, as this may reduce intercoat adhesion.

Since all the print substrates mentioned may be different in printability even within an individual type, preliminary trials are essential to determine the suitability for the intended use.

THINNING

- Fast Reducer: TPP 102
- Normal Reducer: TPP 104
- Slow Retarder: TPP 106

To adjust printing viscosity, it is generally sufficient to add 10-20% of Reducer TPP 102 to the ink.

DRYING

Physically the ink dries rapidly by evaporation of solvents and can be flame or jet dried in a few seconds allowing high production speeds. Touch dry at 20-25⁰ C in about 2 minutes and at 30-35⁰ C in about 30 – 40 seconds.

The times mentioned above may vary accordingly to substrate, depth of cliché, drying conditions and the reducers used.

PRODUCT RANGE

The standard basic shades are in the SSI screen ink colour guide.

- Trichromatic colours for process colour printing.
- TPP 185 Extender medium to reduce unit cost of the ink.
- TPP 187 Gel medium to lower shade intensity without affecting ink original physical properties.

- TPP 195 Transparent medium to modify the properties of pigmented ink or as an overprint varnish.
- TPP - D100 Base medium for the preparation of metallic ink.
- TPP- C191 Catalyst to be added at a level of 5 - 10% to give improved adhesion with borderline treatment levels or to improve water resistance and resistance to other products. Ink mixed with catalyst has a pot life of 12 - 24 hours.

The basic ink shades are:-

Code	Colours	Code	Colours
TPP - P114	N.T. Yellow	TPP - G100	Green
TPP - S123	Orange	TPP - W100	White
TPP - R100	Red	TPP - K100	Black
TPP - M100	Magenta		
TPP - V100	Violet		
TPP - B100	Blue		

The pigments used in the above mentioned standard shades, based on their chemical structure, correspond to the EEC regulations EN 71/part 3, safety of toys – migration of specific elements. All colours are suited for printing onto toys.

STOCK AND SURFACE TREATMENT

This ink is designed to give adhesion on to pretreated polyethylene. Untreated polyethylene has an inert surface which does not give ink adhesion. To render the surface ink receptive and to ensure good ink adhesion, it must be activated by flame treatment. It is recommended that printing is carried out as soon as possible after flaming.

It is emphasized that while chemical methods such as methylene blue/nitroethane may give an indication of whether or not a bottle has been treated, they do not necessarily show whether the treatment is satisfactory. The most successful method of assessing treatment level is by the Union Carbide Wetting Tension Test. However, a variety of additives are included in the polymer and on some occasions, these may have a detrimental effect on ink adhesion. The only reliable test is to make a print and assess adhesion both immediately after printing and after storage.

It has been established that for a given ink, there is an optimum level of treatment that gives maximum adhesion and product resistance. Over flaming can result in print with good adhesion but little or no product resistance. This optimum level should be established to suit the printer's particular conditions. The use of treatment level for all ink will not necessarily give the best results in all circumstances.

PRECAUTIONS FOR USE AND STORAGE

This material is not hazardous when used with a reasonable standard of hygiene and safe working practice. However, as with all chemicals, skin contact should be avoided and any contamination must be washed with plenty of water. In case of eye contamination, irrigate with plenty of water and seek medical advice. Store product in a cool place and shelf life is about 12 months at 25^o C.

WARNING

This information is given in good faith, but without any guarantee as the printing conditions of our inks are beyond our control. In the event of complaints, the ink supplier may replace free of charge the unused ink, declining any other responsibilities.