



# UNION INKS

## Product Information

### ***UVI-PP SCREEN INKS***

### ***174-00 SERIES***

TIL NO: 704

#### **PROPERTIES**

Flexible, high visual impact glossy ink specifically formulated for screen-printing onto treated HDPE, LDPE and Polypropylene bottles and sheets.

- Fast cure rate giving high production yield
- Good resistant to a wide range of products
- Resistant to water, alcohol and other chemicals
- Excellent adhesion on polypropylene with a treatment level of 38 - 42 dynes / cm<sup>2</sup> (Union Carbide Surface Tension)
- Excellent flexibility
- Excellent gloss

#### **APPLICATIONS**

**Uvi-PP ink is single pack ultraviolet curable ink designed for decorating treated PE, polypropylene bottles and sheets.** Best results are achieved by using freshly treated containers. Properly cured, these inks will exhibit excellent adhesion, as well as resistance to solvents, chemicals and products normally packaged in PP/PE bottles.

#### **SCREENS**

Stencils must be solvent resistant. For fine details use 165-27 threads/cm fabrics, while 140–31 threads/cm fabrics are recommended for large areas or where higher opacity is demanded. For screen wash-up, use Universal Wash 99-SW113.

#### **THINNING**

Uvi-PP is a pre-initiated, one part system, and ready to print from the container. If necessary, UV Reducer 174-T102 may be used. Thinning ratio varies depending on printing conditions but do not exceed 5% by weight.

#### **PRINTING**

Prior to use ink must be thoroughly stirred and if necessary, thinned according to printing parameters. Printing should be off contact with well-sharpened polyurethane squeegee of average shore hardness of 70-75 shore. Soon after use clean the screen and other equipment with proper solvents.

#### **CURING**

Uvi-PP ink will cure on all commercially available bottle and container UV dryers. Cure speeds will depend on exposure time or line speed, wattage output, ink deposit and UV intensity. As a guide, printing using 140 threads / cm, UV energy required to cure the ink film is about 350-500 millijoules / cm<sup>-1</sup> on a UV-V spectral response.

## PRODUCT RANGE

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

- Trichromatic colours for process colour printing. (174-Y200 Yellow, 174-M200 Magenta, 174-B200 Blue and 174-K200 Black.
- 174-185 Extender medium to reduce unit cost of the ink.
- 174-187 Process medium to lower shade intensity without affecting ink original physical properties.
- 174-195 Transparent medium to modify the properties of pigmented ink or as an overprint varnish.

The basic ink shades are: -

CODE	COLOURS
174-P113	PRIMROSE YELLOW
174-Y114	GOLDEN YELLOW
174-S123	ORANGE
174-R100	RED
174-M100	MAGENTA
174-V100	VIOLET
174-B100	BLUE
174-G100	GREEN
174-K100	BLACK
174-W100	WHITE

## STOCK AND SURFACE TREATMENT

This ink is designed to give adhesion on to pre-treated Polyethylene & Polypropylene. Untreated Polyethylene & Polypropylene has an inert surface that does not give ink adhesion. To render the surface ink receptive and to ensure good ink adhesion, it must be activated by flame treatment or corona treatment. It is recommended that printing be carried out as soon as possible after flaming or treatment.

It is emphasize 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 necessary 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 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 or treatment can results 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

Direct or prolonged ink exposure to light sources with UV contents should be avoided. Avoid contact with skins and eyes. If the ink comes in contact with the skin, promptly wash off with water and soap. If eye contact occurs, immediately wash off with water for 15 minutes and seek medical advice. Wash area has to be effectively ventilated.

Store product in a cool place and shelf life is about 6 months at 25 degrees 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.