UNION INKS

Product Information

UVI-PLAST SCREEN INKS
75-00 SERIES

TIL NO: 806

PROPERTIES

Flexible, high visual impact glossy ink specifically formulated for screen-printing onto treated polyethylene bottles.

- 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 polyethylene with a treatment level of 46 - 48 dynes / cm^2 (Union Carbide Surface Tension)
-Excellent flexibility
-Excellent gloss

APPLICATIONS

Uvi-Plast ink is single pack ultraviolet curable ink designed for decorating treated polyethylene bottles. 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 PE bottles.

SCREENS

Stencils must be solvent resistant. For fine details use 180 threads/cm fabrics, while 140 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-Plast is a pre-initiated, one part system, and ready to print from the container. If necessary, UV Reducer 75-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-Plast 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 200-250 millijoules / cm^{-1} on a UV-V spectral response.

Continue ... 2

PRODUCT RANGE

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

- Trichromatic colours for process colour printing. (75-Y200 Yellow, 75-M200 Magenta, 75-B200 Blue and 75-K200 Black.
- 75-185 Extender medium to reduce unit cost of the ink.
- 75-187 Process medium to lower shade intensity without affecting ink original physical properties.
- 75-195 Transparent medium to modify the properties of pigmented ink or as an overprint varnish.

The basic ink shades are: -

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

STOCK AND SURFACE TREATMENT

This ink is designed to give adhesion on to pre-treated 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 be carried out as soon as possible after flaming.

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 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.