900UV1600

UV SCREEN PRINTING HIGH END OPAQUE WHITE

Technical Data Sheet **UV screen printing ink**

1. APPLICATION FIELDS:

Universal use, low viscosity and silicone-free UV curable **premium white** for printing on plastic films in **rotary screen** and **flexo printing**, applicable for

- Polyolefins like Polyethylene (PE), Polypropylene (PP)
- TC Polyethylene (PE)
- TC Polypropylene (PP)
- TC Polyester
- PVC and other plastic films
- Coated paper and coated cardboard

Substrates may differ in their chemical structure or method of manufacture. A test for suitability must always be carried out before printing. Antistatic, Mould Release Agents and Slip Additives may have negative effects on adhesion, and should be detected and removed prior to printing.

2. CHARACTERISTICS:

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- New development with future-oriented raw materials
- Opaque white for combination printing in rotary screen and flexo printing
- Silicone-free, low visosity and highly opaque
- High reactive premium white for printing speeds of up to **120 m/min**
- Excellent flow characteristics
- Fast scratching and tesa strength even lower curing energies
- Excellent printability of the very smooth surface with UV flexo, offset and inkjet inks as well as very embossable in hot and cold foil stamping process
- Very good solvent and water resistance after 12 hours
- Excellent filling resistance after 48 hours

A test for suitability must always be carried out.

The used raw materials also comply with the limits of metal elements stipulated by the actual EEC regulation *EN 71 (Safety of Toys), part 3* (Migration of Certain Elements).

3. ADDITIVES:

The opaque white **900UV1600** is ready to use.

4. PROCESS INSTRUCTIONS:

4.1 Pre-treatment:

Pre-treatment of polyolefins (PE/PP) must be performed by CORONA-discharge in order to insure the adhesion of the UV screen printing ink to the substrate. In case of PE, surface tension needs to be at least 42 mN/m (Dynes/cm), in case of PP at least 48 mN/m (Dynes/cm).

4.2 Preparation for printing with silicone-free inks:

When printing with silicone-free inks, we must take into consideration that equipment like pumps, syringes, containers, squeegees and screens have to be silicone-free.

Therefore they have to be cleaned with alcohol for example isopropanol.

Screens from washers/automated screen cleaning equipment must be cleaned by hand prior to using to insure that no silicone contamination/residue is left remaining on the screen.

Before printing, we recommend to stir the white!

4.3 Stencils / Printing Equipment:

Suitable mesh types are: RotaMesh® RM 305/17%, RM 305/13%, RotaPlate® 305 S or mesh type Screeny® KM, KS or S-Line® RSS, which are used on rotary screen printing machines. Any acrylic acid ester resistant squeegee material may be used.

For flexo printing we recommend the use of anilox roller with a pick-up volume of 12 - 20 cm^3/m^2.

4.4 Curing conditions:

The opaque white **900UV1600** can be cured by the use of medium pressure mercury vapour lamps (at least 120 W/cm).

The optimum energy output is 100 - 150 millijoule/cm^2. UV curing is followed by a 12 hour post-cure phase after which the ink film is fully cured and has its final properties.

However, it must be noted, that low radiation intensity, excessive machine speeds or excessive film thickness can have a negative influence on the curing properties and adhesion.

Un-cured prints are considered a hazardous waste. Therefore, it is recommended to cure misprints under the UV lamp as a matter of principle. After curing, spoilage can be disposed by conventional methods and may be incinerated without causing any difficulties.

5. CLEANING:

Screens and squeegees as well as other operating materials can be cleaned with the **RUCOINX** screen cleaner 100VR1272.

The cleaning has to be done carefully and separate from the cleaning of silicon added inks. Any contamination by silicone has to be carefully avoided.

If cleaning is not performed by fully automatic cleaning equipment, protective gloves must be worn. Cleaning liquids that are contaminated with UV products should not be used for the washing of working materials that were used with conventional screen printing inks.

Solvents that contain UV residue are not suitable for reclamation and must be treated as a separate waste.

Biodegradable Cleaner	100VR1272

6. SHELF LIFE:

A shelf life of 12 months is guaranteed when storing the inks at 21 °C and in the original packing container. At higher storage temperatures the shelf life will be reduced.

7. PRECAUTIONS:

UV inks may cause irritations and can increase the sensitivity of the skin, possibly leading to hypersensitivity. Therefore, the use of disposable gloves and protective goggles is strongly recommended.

For further information on the safety, storage and environmental aspects concerning these products please refer to the Material Safety Data Sheet (MSDS).

Additional technical information may be obtained from our staff of the Product Management Department.

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