900LED1700

ROTARY LED-SCREEN PRINTING OPAQUE WHITE

Technical Data Sheet **UV screen printing ink**

1. Application fields:

Universal, **low viscosity** and **silicone-free** LED curable opaque white for printing on plastic films in rotary screen printing is suitable for printing on the following substrates:

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

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-viscosity and highly opaqueVery good flow characteristics
- High reactive premium white for printing speeds up to 120 m/min
- Fast scratching and tesa strength even at lower curing energies
- Excellent printability of the very smooth surface with UV flexo, offset and **inkjet inks** as well as very good embossable in hot and cold foil stamping process
- Very good solvent and water resistance after 12 hours
- Excellent filling resistance after 48 hours

3. PRODUCTINFORMATION:

3.1 Combination printing with other ink systems:

Specially matched ink systems for label printing are ensuring highest safety in the printing of cosmetic packaging.

4. Additives:

Opaque white **900LED1700** is ready to use.

4.2 Adhesion Modifier:

In the case of particularly high resistance requirements the addition of adhesion modifier is recommended. However, the addition of adhesion modifier to UV curable ink will lead to a processing time (pot life) of 4 - 8 hours at 21 °C depending on the colour shade.

Higher processing temperatures will result in a shorter pot life.

Overprinting must take place within 12 hours at 21 °C in case an adhesion modifier is added.

Adhesion Modifier (max. addition 2 - 4 %) 100VR1491

5. Process instructions:

5. 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).

5.2 Stencils / Printing Equipment:

Suitable mesh types are: RotaMesh® RM 305/17%, RM 305/13% or mesh type Screeny® KM and KS or S-Line® RSS which are used on rotary screen printing machines.

Any acrylic acid ester resistant squeegee material may be used.

5.3 Curing conditions:

The white **900LED1700** is formulated for LED lamps (radiation intensity: at least 8 W/cm²) with a wave length of **395 nm**. The printing speed depends on the capacity of the LED unit and the distance to the substrate. Can also be cured with a UV unit.

The LED curing is followed by a post-curing phase. This is completed after about 48 hours. Then the color film 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.

5.4 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!

6. 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.

7. 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.

8. 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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