

# 940 UVG SERIES



## Technical Data Sheet

## UV screen printing inks

### 1. APPLICATION FIELDS:

Universal UV process printing inks for the graphic market, suitable for PVC, polystyrene, pre-treated polyolefines, polyethylene (PE), polypropylene (PP) and other plastic types, paper and 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:

This glossy UV ink series is very reactive in nature, assuring good curing and adhesion even when printing at high machine speeds. This ink needs low UV energy, therefore the material temperature is low and the material is not blocking.

Advantage of 940UVG:

- Low UV energy
- Very fast curing and excellent reactivity
- Low material heating
- Low deformation
- No blocking

The inks of the 940UVG series are constitutionally free from toxic elements and solvents. The raw materials used meet with the limits stipulated by the EEC regulation EN 71 (Safety of Toys), part 3 (Migration of Certain Elements) of December 1994.

### 3. RANGE OF COLOURS:

For 4-colour process printing according to ISO 2846-4, 4 Euro-basic colours are available:

#### 3.1 4-Colour Process Printing Inks:

Euro-Yellow	940 UV 2020 G
Euro-Magenta	940 UV 3056 G
Euro-Cyan	940 UV 5044 G
Halftone Black	940 UV 9014 G

### 3.2 Special Products:

HD White	940 UV 1012 G
Clear Base	940 UV 0026 G
Thixotropic paste (max. addition: 10 %)	940 UV 0025 G

The Thixopie Paste can be used to reduce the colour density of the process colours. Raster paste can be added to reduce "Dot Gain" and to achieve sharper dots.

Products with high lightfastness by request.

### 4. ADDITIVES:

Thinner:

The inks of the 940 UVG series are ready to use. If further viscosity reduction is desired, an UV thinner can be used. In general, no solvent-based thinners should be used due to flammable nature of the solvents

UV-Thinner (max. addition: 2-5 %)	940UV 0014 G
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### 5. PROCESSING INSTRUCTIONS:

#### 5.1 Stencils / Printing Equipment:

Screen printing meshes between 140-34 threads/cm and 180-31 threads/cm are suitable for printing with UV inks.

However, test prints and approval of the colour are generally recommended for the respective print job. The 940 UVG series can be used with all screen-printing machines with screen printing stencils currently used for industrial applications. Any acrylic ester resistant squeegee material may be used.

Due to the high reactivity, 940 UVG can be used for multi colour lines, flatbed machines and format cylinder machines.

#### 5.2 Curing Conditions:

The optimum energy output is 80 - 250 mJ/cm<sup>2</sup>. UV curing is followed by a 12 hour post-cure phase after which the ink film is fully cured and has its final properties.

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The varying UV absorption of the individual colours results in a range of curing properties depending on colour and opacity. All colours of the 940 UVG series can be cured by the use of medium pressure mercury vapour lamps (at least 80 W/cm).

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.

Uncured 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.

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 Technical Application Department.

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## 6. CLEANING:

Screens and squeegees as well as other working materials can be cleaned with the RUCO screen cleaner 32 335. 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.

Universal Cleaner	UR	32 335
Cleaner for cleaning equipment	WR	100 VR 1240C
Bio degradable Cleaner	BR	100 VR 1272

## 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.



The above statements are accurate to our best knowledge and belief. However, due to the great number of possible influences during the manufacture of the substrate and the variation in the application process we suggest that suitability testing take place under actual conditions before production. No legally binding guarantee of certain properties or of the suitability for a definite application purpose can be derived from the above information.

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