



Technical Data Sheet

UV Letterpress ink

1. APPLICATIONS FIELDS:

Especially designed UV curing inks for the rotation letterpress printing onto paper, cardboard and plastics made of Polypropylene (PE/PP), PVC and polystyrene.

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:

The highly reactive UV letterpress inks of series 010 UV show good printability and fast curing. The inks of 010UV series can be combined with UV screen printing inks. The following processes as embossing and varnishing are possible.

A special product test is recommended prior to production.

The inks of the 010 UV 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:

3.1 Basic Colours:

| | | |
|---------------|------|-------------|
| Yellow | P 01 | 010 UV 2051 |
| Yellow | P 02 | 010 UV 3132 |
| Orange | P 03 | 010 UV 3133 |
| Warm red | P 04 | 010 UV 3134 |
| Rhodamine red | P 06 | 010 UV 5116 |
| Violet | P 07 | 010 UV 5119 |
| Blue | P 08 | 010 UV 5118 |
| Green | P 09 | 010 UV 6079 |
| White | P 11 | 010 UV 1008 |
| Black | P 12 | 010 UV 9042 |
| Clear Base | | 010 UV 0019 |

3.2 High Opacity Formulations:

| | | |
|-------|----------------|-------------|
| White | (high opacity) | 010 UV 1013 |
| Black | (high opacity) | 010 UV 9013 |

3.3 Euro- Colours/4-colour Process Printing Inks:

| | |
|----------------|-------------|
| Euro-Yellow | 010 UV 2108 |
| Euro-Magenta | 010 UV 3260 |
| Euro-Cyan | 010 UV 5238 |
| Halftone Black | 010 UV 9044 |

4. ADDITIVES:

4.1 Thinner:

The inks of the 010 UV series are ready to use. If further viscosity reduction is desired, an UV thinner may be added. To avoid toning, the addition should only be a few percent.

| | | |
|------------|------------------------|-------------|
| UV Thinner | (max. addition 1 - 3%) | 010 UV 0014 |
|------------|------------------------|-------------|

4.2 Raster Paste:

Raster Paste can be added to reduce "Dot Gain" and to achieve sharper dots.

| | | |
|--------------|---------------------|-------------|
| Raster Paste | (max. addition 10%) | 010 UV 0028 |
|--------------|---------------------|-------------|

5. PROCESSING INSTRUCTIONS:

5.1 Pre-treatment:

Pre-treatment of polyolefines (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 52 mN/m (Dynes/cm).

5.2 Curing Conditions:

The varying UV absorption of the individual colours results in a range of curing properties depending on colour and opacity. All colours of the 010 UV series can be cured by the use of medium pressure mercury vapour lamps (at 120 - 160 W/cm).

The optimum energy output is 250 - 300 Millijoule/cm². 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.

010 UV

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.

6. CLEANING:

Clichés can be cleaned with the plate cleaner 35352 and the rollers of the ink fountains should be cleaned with the roller cleaner 34622. 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.

| | |
|----------------|-------|
| Plate cleaner | 35352 |
| Roller cleaner | 34622 |

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 Technical Application Department.

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