

# SERIES 380DD

## Technical Data Sheet

## Screen printing inks

### 1. APPLICATION FIELDS:

Versatile two component ink for screen printing on acrylic glass, lacquered surfaces, metal, pre-treated polyethylene (PE) and polypropylene (PP).

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, physically drying and chemical reactive screen printing ink exhibits very high mechanical and chemical resistance, as well as a good flexibility. The colour shades of 380DD are weather resistant and guarantee high opacity. A special product test is recommended prior to production.

### 3. RANGE OF COLOURS:

The basic ink mixing system consists of 12 basic colours and may be used for the mixing of a wide colour shade range. Field proven mixing formulations exist for Pantone®, HKS, RAL, NCS, etc.

#### 3.1 Basic colours:

|               |      |           |
|---------------|------|-----------|
| Light Yellow  | G 1  | 380DD2057 |
| Medium Yellow | G 2  | 380DD2087 |
| Orange        | G 3  | 380DD3196 |
| Light Red     | G 4  | 380DD3319 |
| Red           | G 5  | 380DD3376 |
| Pink          | G 6  | 380DD3199 |
| Violet        | G 7  | 380DD5155 |
| Blue          | G 8  | 380DD5156 |
| Green         | G 91 | 380DD6165 |
| White         | G 11 | 380DD1025 |
| Black         | G 12 | 380DD9012 |
| Clear Base    |      | 380DD0017 |

#### 3.2 Special Products:

##### 3.2.1 High Opacity Formulations:

|       |                |           |
|-------|----------------|-----------|
| White | (high opacity) | 380DD102  |
| Black | (high opacity) | 380DD9015 |

### 4. ADDITIVES:

#### 4.1 Thinner:

Prior to production, the screen printing ink has to be adjusted to the printing viscosity by the addition of thinner.

|                    |                     |       |
|--------------------|---------------------|-------|
| Thinner, very fast | (addition 15 – 25%) | 35353 |
| Thinner, standard  | (addition 15 – 25%) | 38571 |

#### 4.2 Retarder

Retarder will influence the drying time of the ink under different climate conditions. Retarder 35928 is a medium drying retarder, 34392 is a very slow drying retarder. While using the ink under extreme climate conditions (Temperature higher than 28°C) it is recommended to use the retarder 35928 as a thinner to adjust the viscosity of the ink.

|                    |                    |       |
|--------------------|--------------------|-------|
| Retarder, standard | (addition 5 – 10%) | 35928 |
| Retarder, slow     | (max. addition 5%) | 34392 |

It must be noted that an excessive addition of retarder may negatively influence the ink transfer and bulk good resistance, due to the slow evaporation of the retarder.

Retarder 34392 should only be used in conjunction with thinner 38571 or retarder 35928.

#### 4.3 Hardener:

Hardener 100VR1433 is the standard hardener. The mixing ratio is 2 parts of ink with 1 part of hardener. At room temperature of 20°C a pot life of approximately 12 hours can be achieved.

Hardener 100VR1491 is recommended in order to achieve a higher weather resistance. The reactivity of the hardener is lower in comparison with the hardener 100VR1433, so the pot life will be 12 – 14 hours. The final hardening of the film will be finished after 2 days.

|                    |                |           |
|--------------------|----------------|-----------|
| Hardener, standard | (addition 50%) | 100VR1433 |
| Hardener           | (addition 50%) | 100VR1491 |

Please note that the final chemical and physical resistance of the inks of series 380DD is only achieved after 36 hours at room temperature of 20°C.

During processing and drying of the printed ink, the temperature should not be lower than 15°C otherwise the chemical crosslinking is stopped. Also avoid high humidity for several hours after printing as the hardener is sensitive to humidity. While using hardener please note that multi-colour jobs have to be printed during 24 hours. The completely dried ink can not be overprinted.

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## 4.4 Levelling Agent:

The levelling of the ink surface can be optimised by the use of a levelling agent. It must be noted that excessive addition of levelling agent can have a negative influence on the overprint ability.

Levelling Agent (max. addition 0,5 – 1%) 100VR133

## 5. PROCESSING INSTRUCTIONS:

### 5.1 Pre-treatment:

Pre-treatment of polyolefins (PE/PP) must be performed by Flame Treatment or 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 Stencils / Printing Equipment:

The inks of 380DD series can be printed with all commonly available screen printing meshes. They can be used with all screen printing machines with printing speeds of about 800 – 1.200 pieces/hour with screen printing stencils currently used for industrial applications. The colour mixing formulations are based on a 120-34 threads/cm mesh.

### 5.3 Curing Conditions:

The inks of 380DD series are physically drying through the evaporation of solvent within 1 hour. While multi-colour printing we recommend an intermediate drying process by infrared lamps or hot air blower. The finally drying will be achieved at 60°C during 3 – 4 minutes.

## 6. CLEANING:

Screens and squeegees and as well as other working materials can be cleaned with the RUCO screen cleaner 32335. If cleaning is not performed by fully automatic cleaning equipment, protective gloves must be worn.

|                                |            |
|--------------------------------|------------|
| Universal Cleaner              | 32335      |
| Cleaner for cleaning equipment | 100VR1240C |
| Bio degradable Cleaner         | 100VR1272  |

## 7. SHELF LIFE:

A shelf life of 24 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:

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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