



# T 40 SERIES

## 1. APPLICATION FIELDS:

Versatile one or two component ink for pad printing on ABS, acrylic glass, rigid PVC, lacquered surfaces, SAN, polyamide, polycarbonate, pre-treated polyethylene (PE) and polypropylene (PP) as well as polystyrene and PET/PETG. 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 pad printing ink exhibits good mechanical and chemical resistance, as well as a good flexibility.

The T40 series is free from cyclohexanon and aromatic hydrocarbons. A special product test is recommended prior to production. The colour shades of T 40 are light fast, weather resistant and guarantee high opacity. The T40 series can be printed with fast drying units up to 4000 pieces/ hour.

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. The inks of this series may also be used for printing on the outside of food packaging.

## 3. RANGE OF COLOURS:

The basic ink mixing system consists of 10 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	M 1	T40-2002
Medium Yellow	M 2	T40-2003
Orange	M 3	T40-3003
Red	M 5	T40-3007
Pink	M 6	T40-3008
Violet	M 7	T40-5001
Blue	M 8	T40-5002
Green	M 91	T40-6000
White	M 11	T40-1000
Black	M 12	T40-9000
Clear Base		T40-0003

## 3.2 Special Products:

### 3.2.1 High Opacity Formulations:

White (high opacity) T40-1001

## 3.3 Bronze Colours:

Silver	T40 – 4141
Pale Gold	T40 – 4140
Rich Gold	T40 – 4139
Rich Pale Gold	T40 – 4136

## 4. ADDITIONAL PRODUCTS:

Overprinting Lacquer T40-0003

## 5. ADDITIVES:

### 5.1 Thinner:

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

Thinner, standard (add 15 - 25 %)	VD 100VR1279
Thinner, fast (add 15 - 25 %)	VD 100VR1185
Thinner, multicolour printing (add 15 - 25 %)	VD 100VR1406

### 5.2 Retarder

Retarder will influence the drying time of the ink under different climate conditions.

Retarder, standard (add 5 – 10 %) VZ 100VR1322

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

### 5.3 Hardener:

The mixing addition is approx. 7 %. At room temperature of 20° C a pot life of approximately 12 hours can be achieved.

Hardener 100VR1420

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

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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 36 hours. The completely dried ink can not be overprinted.

## 5.4 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 overprintability.

Levelling Agent (max. add.: 0,5-1 %) VM 100 VR 133

## 6. PROCESSING INSTRUCTIONS:

### 6.1 Pre-treatment:

Pre-treatment of polyolefines (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).

### 6.2 Cliché/Printing Equipment/Pad:

The T 40 series can be used with all pad printing machines with clichés and pads currently used for industrial applications. However, it has to be noted that type (screen) and etching depth of the cliché, mould and hardness of the pad, the adjustment of the ink (addition of thinner and/ or retarder) as well as printing speed may influence the printing result.

### 6.3 Curing Conditions:

At room temperatures (21° C) the inks of T 40 series are grip dry within 30-35 seconds. While adding hardener to the ink, drying of the ink will take approximately 36 hours at room temperature. To accelerate the ink drying onto the substrate the use of hot air blower or infrared lamps is recommended. It must be noted that after heat treatment a cooling section must be installed in order to avoid that the printed parts stick together.

## 7. CLEANING:

Clichés, squeegees and so on can be cleaned with the RUCO Universal cleaner 32 335. It must be noted that the pad does not come into contact with solvents. For the cleaning of the pad please see to the application references of the pad manufacturers. If cleaning is not performed by fully automatic cleaning equipment, protective gloves must be worn.

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

## 8. 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.

## 9. 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 Technical Application Department.

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