

Technical Data Sheet

Pad printing inks

1. APPLICATION FIELDS:

Versatile one component ink for pad printing on ABS, acrylic glass, lacquered surfaces, rigid PVC, paper, carton, polyamide, polycarbonate, polystyrole. 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 colour shades of T 45 are light fast, weather resistant and guarantee high opacity. A special product test is recommended prior to production.

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:

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	B 1	T45-2025
Medium Yellow	B 2	T45-2026
Orange	B 3	T45-3078
Light Red	B 4	T45-3079
Red	B 5	T45-3080
Pink	B 6	T45-3081
Violet	B 7	T45-5058
Blue	B 8	T45-5059
Green	B 91	T45-6311
Brown	B 10	T45-8011
White	B 11	T45-1006
Black	B 12	T45-9008
Clear Base		T45-0003

3.2 Special Products:

3.2.1 High Opacity Formulations:

White	(high opacity)	T45-1041
Black	(high opacity)	T45-9022

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

For 4-colour process printing according to DIN 16538, 4 Euro-basic colours are available:

Euro-Yellow	T45-2013
Euro-Magenta	T45-3035
Euro-Cyan	T45-5027
Halftone Black	T45-9016

3.4 Bronze Colours:

see separate "Bronze Colours" leaflet

4. ADDITIONAL PRODUCTS:

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

Overprinting Lacquer	T45-0011
Raster Paste (max. addition: 10 %)	T45-0002

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, very fast (addition: 15 - 25 %)	VS 35 353
Thinner, standard (addition: 15 - 25 %)	VD 38 571

While printing on plastics such as ABS, acrylic glass and styrene tension corrosion can appear while using certain solvents. In order to avoid such effect the special thinner 35 696 should be used.

Special Thinner (addition: 15 - 25 %)	35 696
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T45 SERIES

5.2 Retarder

Retarder will influence the drying time of the ink under different climate conditions. Retarder VZ 35 928 is a medium drying retarder, VZ 34 392 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 VZ 35 928 as a thinner to adjust the viscosity of the ink.

Retarder, standard (addition 5 – 10 %)	VZ 35 928
Retarder, slow (addition max. 5 %)	VZ 34 392

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. Retarder VZ 34 392 should only be used in conjunction with thinner VD 38 571 or retarder VZ 35 928.

Special Retarder, very slow (addition max. 10%) 100 VR 1170

5.3 Adhesion Modifier:

In order to achieve an adhesion onto not pre-treated Polypropylene (PP) the addition of adhesion modifier HV 100 VR 1260 is recommended. Please note that the addition of adhesion modifier HV 100 VR 1260 will increase the drying of the ink.

Adhesion Modifier (addition 10 – 20 %) HV 100 VR 1260

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 Cliché/Printing Equipment/Pad:

The T 45 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.

6.2 Curing Conditions:

At room temperatures (21° C) the inks of T 45 series are grip dry within 5 minutes. 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	UR32 335
Cleaner for cleaning equipment	WR100 VR1240C
Bio degradable Cleaner	BR100 VR1272

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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