



Coates Screen

# Product Data Sheet

## UV-CURING PAD PRINTING INKS TP/UV-K

### BASE

Produced based on UV- curing epoxy resin.

### APPLICATION

UV-curing pad printing ink range TP/UV-K is a new system for universal applications. Due to the high quality resins contained it meets highest demands.

A variety of substrates can be printed with these pad printing inks. In addition to rigid and plasticised PVC, pre-treated polyolefines, polycarbonate and various polystyrene modifications TP/UV-K inks are also suitable for glass, paper, duroplastics and metal surfaces.

Due to the different properties of printing materials, even within the same material range, printing tests are absolutely necessary.

### PROPERTIES

UV- curing pad printing inks TP/UV-K show the following properties:

- good opacity
- low tendency to yellowing
- good adhesion on different substrates
- high gloss
- adjustable flexibility
- very good transfer properties from pad to substrate (16 - 19 µm plate)
- additional post-curing by heat application is possible after UV-curing
- shadow free print with good contour sharpness

### COLOUR SHADES

The colour shades of the TP/UV-K range show heavy metal free pigmentation and correspond to EN 71, part 3, safety of toys, migration of certain elements.

### AUXILIARY AGENTS

Adhesion promoter VH (addition up to 10%).

Printing consistency is adjusted with 10-20% thinner.

Thinner	<b>Additive A</b>
	<b>Additive B</b>
	<b>Additive C</b>

For retardation use TPD. If retarder TPD is too slow, also thinner VD 60 can be used as retarder.

## **PROCESSING**

The following processing parameters have to be followed:

### **Plate:**

All kinds of clichés can be used, however due to their better resistance steel plates are preferred. Criteria for choice of plates are comparable to those of conventionally drying pad printing inks.

### **Plate depths:**

Plate with an etching depth of approx. 16 - 19 µm.

### **Type and quality of pad:**

Processing of TP/UV-K should be carried out with pads with an unworn surface (hardness 6 Shore)

## **UV-CURING**

Pad printing inks TP/UV-K only cure under UV-radiation (approx. 2000mJ/cm<sup>2</sup>) within a wavelength of 250- 410 nm (measured with Kühnast UV-integrator).

Then curing can be accelerated by heat application. The chain-polymerisation caused by the UV-light will continue at room temperature.

For difficult substrates we recommend to dry at 100°C for a period of 10 minutes.

## **CLEANING**

Pad printing inks TP/UV-K can be removed from clichés and tools using thinner VD 40.

## **PACKING**

TP/UV-K inks are available in 1 liter containers.

## **SHELF LIFE**

For information regarding shelf life please see tin label.

## **CLASSIFICATION**

Read material safety data sheets prior to processing.

The material safety data sheets according to Regulation (EC) No 1907/2006 contain classification according to preparations directive (1999/45/EC) as well as instructions for precautions when processing, handling and storing as well as first aid.

The information given in the material safety data sheet refers to processing as described in this technical leaflet.

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**PROCESS COLOURS ACCORDING TO  
EUROPE SCALE**

yellow	TP/UV-K/180
magenta	TP/UV-K/181
cyan	TP/UV-K/182

**C-MIX 2000  
BASE COLOURS**

primrose	TP/UV-K/Y30	violet	TP/UV-K/V50
golden yellow	TP/UV-K/Y50	blue	TP/UV-K/B50
orange	TP/UV-K/O50	green	TP/UV-K/G50
scarlet	TP/UV-K/R20	black	TP/UV-K/N50
red	TP/UV-K/R50	white	TP/UV-K/W50
magenta	TP/UV-K/M50	varnish	TP/UV-K/E50

**BRONZE INKS**

Bronze pastes and powders B 75 to B 79 are available for printing of silver and gold colour shades.

The bronze pastes are mixed with the corresponding varnish TP/UV-K-E50 prior to processing.

Gold and silver bronzes are metal pigments which may react with the pH-acidic UV components. Therefore mixed bronze inks should be processed quickly (pot life of approx. 24 hours).

Mixing ratios (parts by weight) are as follows:

Gold bronze paste	: TP/UV-K-E50	1:3
Silver bronze paste	: TP/UV-K-E50	1:4

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*The statements in our product and safety data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship. They serve to advise our business associates, but it is absolutely necessary to make your own printing tests under local conditions, with regard to the intended purpose prior to starting the job. - All former product data sheets are no longer valid. APRIL 2008 – VERSION No. 5*

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