



Technical Data Sheet

TPC 860

UV - Curing Pad Printing Ink

TPC 860_en4.doc

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UV - Curing Pad Printing Ink TPC 860

Application

UV-curing pad printing ink range TPC 860 is a new system for universal applications. Due to the high quality UV-curing Epoxy-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 TPC 860 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 TPC 860 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
- 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 TPC 860-NT range show heavy metal free pigmentation and correspond to EN 71, part 3, safety of toys, migration of certain elements.

Ink Colour Programme

Process Colour according to European Scale

TPC 860/180-NT yellow
TPC 860/181-NT magenta
TPC 860/182-NT cyan

Mixing System Base Colours

TPC 860/GF-01-NT primrose
TPC 860/GF-02-NT golden yellow
TPC 860/GF-03-NT orange
TPC 860/GF-04-NT scarlet
TPC 860/GF-05-NT magenta
TPC 860/GF-06-NT red
TPC 860/GF-07-NT violet
TPC 860/GF-08-NT blue
TPC 860/GF-09-NT green
TPC 860/GF-11-NT white
TPC 860/GF-12-NT black
TPC 860/GF-13 varnish

Bronze Inks

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

The bronze pastes are mixed with the corresponding varnish TPC 860/GF-13 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 : TPC 860/GF-13 = 1 : 3
Silver bronze paste : TPC 860/GF-13 = 1 : 4

Adjustment for Pad Printing

Prior to processing pad printing inks TPC 860-NT are adjusted with thinner VD, VS or VT (faster). Viscospatula time = 6 ...10 sec.



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For retardation use ZG. If retarder ZG is too slow, also thinner VG can be used as retarder.

In the event of static discharge on the printing surface, our Antistatic Paste AP brings a splash-free printing quality.

Recommended range = 3 ... 5 %. More than 5 % results in less opacity.

Liquid anti-static products produce fewer positive effects.

Processing

The following processing parameter 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 16...24 µm.

Type and quality of pad:

Processing of TPC 860-NT should be carried out with Long-Life-Pads with an unworn surface (hardness 54 Shore-00).

UV-curing

Pad printing inks TPC 860 only cure under UV-radiation (approx. 2000 mJ/cm²) 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

For cleaning of stencils and tools our universal cleaning agent RE can be used.

Packing

TPC 860-NT inks are available in 1 litre cans (approx. 1.06 qt.).

Shelf Life

For information regarding shelf life please see tin label.

Marking

Read material safety data sheets prior to processing.

The material safety data sheets according to (EG) 1907/2006 contain marking in compliance with the regulation on dangerous preparations (1999/45/EG) 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.

The statements in our leaflets 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 leaflets are no longer valid. April 2008. Version Nr.5