

# Product Data Sheet

## Screen/Pad Printing Ink

# TP 253 L

## Solvent Based Special Screen and Pad Printing Ink Range, 2-Component, Oven Curing

### APPLICATION

Special ink system for processing as screen and as pad printing ink system.  
For printing of materials made of silicone rubber such as bathing caps, wristbands, keypads, etc.

### PROPERTIES

- Special ink range TP 253 L has a solids content of 85%.
- TP 253 L is a 2-component pad printing system processed with hardener.
- TP 253 L inks only dry by oven curing at 160°C/15 minutes.
- TP 253 L prints are highly flexibly, elastic, and show a glossy finish.
- TP 253 L ink range is suitable for medium-term outdoor applications.
- Note:
  - TP 253 L is **NOT** identical or similar to ink range TP 253. TP 253 L **CANNOT** be mixed with TP 253.
  - Because of the variety of silicone rubber materials pre-tests are absolutely essential.
  - TP 253 L does not air dry. This system only oven cures by thermal reaction. TP 253 L ink layers cannot be overprinted as ink film is still wet before oven curing. Then, after oven curing a printed layer will not adhere because of the chemical cross-linkage.

### COLOUR SHADES - OVERVIEW

- Mixing System: C-MIX 2000 12 colour shades for mixing of RAL, PMS and HKS colours.
- Special colour shades are available upon request.
- More information about available colour shades in the detailed tables in section Colour Shades.

### CHOICE OF PIGMENTS AND LIGHT FASTNESS

Colour shades of TP 253 L ink range contain pigments with a high light fastness. Light fastness and weather resistance will reduce if thinner layers are applied or if base colours are mixed with a high ratio of white or varnish.

Applied on suitable substrates pad printing inks TP 253 L are suitable for medium-term outdoor applications.

### GENERAL ADJUSTMENT

- Pad printing inks TP 253 L are not supplied in a ready-to-print adjustment.
- As this ink range is a 2-component system TP 253 L inks have to be mixed with hardener at a specified ratio prior to processing (stir with mixer).

### ADJUSTMENT FOR SCREEN PRINTING

- If required, a special thinner can be added (use mixer) after the addition of hardener to reduce viscosity.

### ADJUSTMENT FOR PAD PRINTING

- After addition of hardener ink has to be adjusted for pad printing by addition of thinner or retarder (stir with mixer).

The mixed ink should be allowed to pre-react for approx. 15 minutes prior to processing (recommendation). Processing is then possible for a specified period of time (=pot life).

**Hardener:**

Printing inks TP 253 L are mixed with **hardener TP 219/L**.

Hardener is added to TP 253 L at a specified ratio:

**Ink : Hardener = 10 : 1** (parts by weight)

Hardeners are sensitive to humidity. Therefore, containers always have to be tightly closed.

**Pot life:**

- Ink mixed with hardener may only be processed within a limited period of time (=pot life)
- **Pot life of TP 253 L + hardener TP 219/L is approx. 24 h (at 20°C).**  
Higher temperatures will reduce pot life.
- We do not recommend processing the inks for longer than the pot life as adhesion and resistance properties will then continually deteriorate, even if the ink still seems to be liquid and processable.
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**THINNERS / RETARDERS****SCREEN PRINTING:**

If necessary, ink can be adjusted by addition of up to 10% **Thinner SL**.

**PAD PRINTING:**

Ink is adjusted for printing by addition of 15-30% **Additive U (cyclohexanone-free)** or Additive A (contains cyclohexanone).

If necessary, up to 5% retarder VZ 35 can be added.

The required amount of thinner should be added to the ink gradually. Stir well.

**ADDITIONAL AUXILIARY AGENTS**

Application	Product	Addition in % by weight	Additional Information
Improve adhesion	Additive S	1 -2 %	Reduced pot life.

**OVERPRINTING**

Not intended.

**BRONZE COLOURS, MIXING OF BRONZE INKS**

Bronze colours are available upon request.

**DRYING / HARDENER REACTION**

- TP 253 L pad printing inks mixed with hardener cross link by chemical reaction initiated by heat.
- Without heat application prints will still be wet and sticky after evaporation of thinners.
- **It is absolutely essential to oven cure TP 253 L prints at 160°C/15 minutes using a suitable oven or drying tunnel.** Only then the ink film will cure by chemical cross-linkage.

**Resistance Tests**

Resistances should not be checked before completion of oven curing. Allow a cooling time of at least 1 hour prior to checking resistances

**PAD PRINTING: CLICHÉ**

All commercial types of clichés (polymer, thin and thick steel, ceramic) are suitable for processing TP 253 L inks.

**SCREEN PRINTING: SCREEN FABRIC / STENCILS**

TP 253 L inks have been formulated for printing with fabrics ranging from 77 to 120 threads/cm. Suitability for printing with coarser or finer fabrics should be determined by corresponding pre-trials.

All copy emulsions and capillary films suitable for solvent based screen inks can be used, such as our program of SunCoat or Murakami products.

**CLEANING**

Clichés, ink pots, screen stencils and tools can be cleaned preferably with thinner VD 40 or with our universal cleaning agents URS and URS 3.

**PACK SIZE**

Pad printing inks TP 253 L are delivered in 1 litre containers. Other pack sizes are available upon request.

**SHELF LIFE**

In closed original containers, TP 253 L inks generally have a shelf life of 3 years from date of production. Hardener TP 219/L has a shelf life of 14 months from date of production, also in closed original containers. For exact date of expiry, please refer to the label.

**SAFETY DATA SHEETS**

Read safety data sheet prior to processing

Safety data sheets comply with Regulation (EC) No. 1907/2006 (REACH), Appendix II.

**CLASSIFICATION AND LABELLING**

Hazard classification and labelling comply with Regulation (EC) No. 1272/2008 (CLP/GHS).

**CONFORMITY**

Coates Screen Inks GmbH does not use any of the substances or mixtures for the production of printing inks, which are banned according to the EUPIA (European Association of the Printing Inks Industry) exclusion policy. Further compliance confirmations are available upon request.

**ADDITIONAL INFORMATION ABOUT OUR PRODUCTS**

Internet: Various technical articles are available for download on [www.coates.de](http://www.coates.de), section "SN-Online"

**COLOUR SHADES**

<b>C-MIX 2000 BASE COLOUR SHADES</b>					
<b>Mixing system for matching of PMS, HKS, RAL colours (on white substrates)</b>					
Start formulations available in data base „Formula Management C-MIX 2000“					
<b>According to colour card C-MIX 2000</b>					
primrose	TP 253 L/Y30	red	TP 253 L/R50	green	TP 253 L/G50
golden yellow	TP 253 L/Y50	magenta	TP 253 L/M50	black	TP 253 L/N50
orange	TP 253 L/O50	violet	TP 253 L/V50	white	TP 253 L/W50
scarlet	TP 253 L/R20	blue	TP 253 L/B50	varnish	TP 253 L/E50

Matching of PMS, RAL, NCS colours and special shades upon request.

In some individual cases the product characteristics of special colour shades and modifications of this ink type manufactured upon customer request may differ from the above properties.

*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. We provide these details to inform customers about our products and their possible applications. However, on account of various factors influencing processing of our products it is absolutely essential to carry out printing trials under local production conditions. Choice of individual ink types and their suitability for the intended application is the sole and entire responsibility of the user. We do not assume any liability for any problems of technical or process-related nature. Any liability shall be limited to the value of the goods delivered by us and processed by the user.*

*All former product data sheets are no longer valid.*

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