

# Product Data Sheet

# Screen Printing Ink

## O

### Solvent Based Screen Ink Range, Oven Curing, 1-Component

#### APPLICATION

Oven curing screen printing inks for printing of duroplastics, coated surfaces, metals, polyester and glass.

#### PROPERTIES

- Screen inks O are solvent based 1-component screen printing inks based on synthetic resins.
- In order to achieve mechanical and chemical resistances screen inks O have to be oven-cured.
- Screen inks O result in a glossy finish.
- Prints of O inks show good mechanical abrasion resistance as well as a high chemical resistance.
- For prints on metal, which will be slightly formed or bended after printing we offer alternative LAB-N 331213.
- Screen inks O are suitable for long-term outdoor applications.

#### COLOUR SHADES - OVERVIEW

- Opaque:                      Standard                      Colour shades with medium to good opacity.
- 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 O 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 screen printing inks O are suitable for outdoor applications.

#### ADJUSTMENT FOR SCREEN PRINTING

- Screen printing inks O are not supplied in a ready-to-print adjustment.
- Depending on local conditions the ink is adjusted for printing by addition 10 to 20 % by weight thinner or retarder (stir with mixer, agitator).
- Prior to printing, the inks should be stirred well to obtain a homogeneous dispersion of all ingredients.

#### THINNERS / RETARDERS

For adjustment of screen inks O, the following products are available:

<b>Thinner:</b>	<input type="radio"/> OVSP	Extremely quick thinner for spray applications
	<input checked="" type="radio"/> <b>VD 50</b>	<b>Standard thinner</b>
<b>Retarder:</b>	<input type="radio"/> VZ 10	Medium retarder
	<input type="radio"/> VZ 30	Slow retarder
	<input type="radio"/> VZ 40	Very slow retarder

■ = Preferred                      ○ = Suitable

Depending on printing conditions, the products listed above can be mixed into the inks individually or as mixtures. Please note that depending on evaporation rate of the thinner/retarder used drying times may be longer.

Thinner/retarder should be mixed into the ink thoroughly using a mixer or agitator. In addition, inks should be stirred well prior to each processing to obtain a homogeneous dispersion of all ingredients.

**ADDITIONAL AUXILIARY AGENTS**

Application	Product	Addition in % by weight	Additional Information
Viscosity increase	Thickening powder	Max. 3%	Stir with mixer
Matting	Matt paste O/MP	Max. 10%	Stir with mixer
	Matting powder	Max. 5%	Stir with mixer
Flow agent	VM 3	1 - 5%	Do not overdose!

**OVERPRINTING**

Generally, it is not necessary to overprint O inks with varnish. However, if required overprinting with O 70 is possible.

**BRONZE COLOURS, MIXING OF BRONZE INKS**

Bronze colours are not available.

Printers can mix bronzes themselves using bronze pastes B 75, B 76, B 77 and B 79 as well as bronze powder B 78-POWDER. For examples of colour shades please refer to our Bronze Colour Card.

These "B" bronze pastes and "B" bronze powder are mixed with bronze binder O/B prior to processing.

Mixing ratios in parts by weight:

Gold bronze paste/powder	to	O/B	=	1 : 3 - 4
Silver bronze paste	to	O/B	=	1 : 4 - 6

Note: Bronzes B 75 to B 79 are prone to oxidation (exception B 78-POWDER).

B 78-POWDER does not tend to oxidation. The pale copper shade will not darken with time. Colour of inks mixed with B 78-POWDER is similar to colour 78/AB as shown on our "bronze colour card".

**DRYING / OVEN-CURING**

Initially screen printing inks O dry physically, i.e. by evaporation of solvents, however, there will be no adhesion to the substrate and no scratch resistance.

Therefore, depending on production conditions, oven curing either directly after printing or within 12 hours should be carried out. Temperatures and curing times are as follows:

**120°C / 30 – 40 min.**      **140°C / 20 – 30 min.**      **160°C / 15 - 20 min.**      **180°C / 10 – 15 min.**

**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

**SCREEN FABRIC / STENCILS**

O 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**

Stencils and tools can be cleaned with our universal cleaning agents URS or URS 3.

**PACK SIZE**

Screen printing inks O are delivered in 1 litre containers. Other pack sizes are available upon request.

**SHELF LIFE**

In closed original containers, O inks generally have a shelf life of 1 year from date of production.

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**

Product data sheets: Auxiliary Agents for Screen Printing HM  
Brochures: Solvent Based Screen Printing Inks  
Internet: Various technical articles are available for download on [www.coates.de](http://www.coates.de),  
section "SN-Online"

**FOR COLOUR RANGES, PLEASE REFER TO NEXT PAGE.**

**COLOUR SHADES**

<b>STANDARD Colour Range (medium opacity)</b>			
According to colour card STANDARD A/O			
Availability of further standard shades upon request			
citric yellow	O 10/NT-NEU	light green	O 40/NT-NEU
medium yellow	O 11/NT-NEU	white	O 60/NT-NEU
bright red	O 21/NT-NEU	black	O 65/NT-NEU
ultra marine	O 32/NT-NEU		
<b>STANDARD Colour Range HD (high opacity)</b>			
According to colour card STANDARD HD for pad printing inks			
Availability of further standard HD shades upon request			
white, highly opaque	O 60/HD-NT-NEU	black, highly opaque	O 65/HD-NT-NEU
<b>SPECIAL PRODUCTS: Special Colour Shades, Varnishes, Pastes</b>			
Information about availability upon request			
overprint varnish	O 70	bronze binder	O/B
matt paste	O/MP	transparent paste	O/TP
<b>4 COLOUR PROCESS INKS (CMYK)</b>			
According to colour card STANDARD A/O			
<b>Upon request.</b>			

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

All above information refers to the colour shades listed in this product data sheet and other standard shades of this screen ink range. Information about availability of further standard 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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