

Product Data Sheet

Screen Printing Ink

SunChemical[®]
Coates Screen Inks

A

Solvent Based Screen Ink Range, 1-Component, Drying by Oxidation

APPLICATION

Screen printing inks for printing on pre-coated metals, coated surfaces, wood, thermoplastics without (!) plasticizer content such as PMMA (acrylic glass) and rigid PVC, as well as for duroplastics.

PROPERTIES

- Screen inks A are solvent based 1-component screen printing inks. They are oxidation drying by absorption of oxygen.
- As these inks dry by oxidation, they have long drying times.
- Standard colour shades of A range are free of silicone.
- Ink range A shows a relatively mild odour and exhibits good printability. The printed ink film results in a satin-gloss to glossy finish.
- A inks show good weather resistance.
- Adjusted with quickly evaporating thinner AVSP/1, A inks are also suitable for roller or spray coating applications.

COLOUR SHADES - OVERVIEW

- Opaque: Standard Colour shades with medium to good opacity.
- Process Inks: "180" colours 4 transparent colour shades according to ISO 2846-4.
- 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 ink range A 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 A are suitable for outdoor applications.

ADJUSTMENT FOR SCREEN PRINTING

- Screen printing inks A are not supplied in a ready-to-print adjustment.
- Depending on local conditions the ink has to be adjusted for printing by addition of 10 to 25 % 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 A, the following products are available:

Thinner:	<input type="radio"/> AVSP/1	Very quick thinner for spray applications
	<input checked="" type="checkbox"/> AV/1	Standard thinner
Retarder:	<input checked="" type="checkbox"/> AD	Standard retarder
	<input checked="" type="checkbox"/> = Preferred	<input type="radio"/> = 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.

ADJUSTMENT FOR SPRAY COATING APPLICATION

Screen inks A can also be roller coated or applied with a spray gun. For these applications, A inks have to be thinned with the quickly evaporating thinner AVSP/1. Addition of thinner, usually >50%, depends on the required processing viscosity.

ADDITIONAL AUXILIARY AGENTS

Application	Product	Addition in % by weight	Additional Information
Retarder paste	LAB-N 111420/VP	Max. 10%	Gloss slightly reduced
Drying Agent	A/ST-00	0.25 – 0.5%	See "Drying"
Increase viscosity	Thickening powder	Max. 3%	Stir with mixer
Matting	Matting powder	Max. 5%	Stir with mixer
Flow agent	LAB-N 561969	0.3 - 0.5%	Free of silicone / Do not overdose!
Anti floating agent	LAB-N 561248	1 - 1.5%	Stir with mixer

OVERPRINTING

Generally, it is not necessary to overprint A inks with varnish. If required overprinting is possible with A 70.

BRONZE COLOURS, MIXING OF BRONZE INKS

Bronze colours may be available upon request.

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 varnish A 70 prior to processing.

Mixing ratios in parts by weight:

Gold bronze paste/powder to A 70 = 1 : 3 - 4

Silver bronze paste to A 70 = 1 : 4 - 6

Bronzes B 75 to B 79 are prone to oxidation (exception B 78-POWDER). Therefore, they should be overprinted, e.g. with A 70. B-bronzes are not recommended for long-term outdoor applications.

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".

Note: When overprinting bronze colours with varnish or other colour shades, it is essential to carry out pre-tests to check intermediate adhesion of the ink layers (fingernail test, tape test). Possibly mixing ratio needs to be changed to a higher varnish ratio (between 10 – 30%).

DRYING

A screen printing inks dry by oxidation. After evaporation of solvents the inks actually dry by reaction of the binding agent with oxygen (oxidation reaction).

As drying times strongly depend on various factors, drying times below can only be approximate:

- Hand dry at 20°C: approx. 4 - 8 hours
- Completely dry 20°C: approx. 12 - 24 hours
- Heat application up to a temperature of 80°C may significantly speed up the drying process.

Note:

Due to their chemistry, drying times may become longer if A inks are stored for longer periods. In that case, drying process can be sped up by adding of 0.25 up to a maximum of 0.5% of additive drying agent A/ST-00.

SCREEN FABRIC / STENCILS

Screen inks A are formulated for printing with fabrics ranging from 77 to 120 threads/cm. Suitability for printing with coarser or finer fabrics should be determined by appropriate pre-trials.

All copy emulsions and capillary films suitable for solvent based screen inks can be used as stencil material, 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 A are delivered in 1 litre containers. Other pack sizes are available upon request.

SHELF LIFE

In original sealed containers, A inks have a shelf life of 2 years from date of production.

For the exact date of expiry, please refer to the label.

Note: To avoid surface skinning opened cans must be closed air-tight immediately after use. In case of skinning any skin formed on the ink surface must be carefully removed with a spatula and disposed of. Skin particles in liquid inks of A range cannot be dissolved.

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, section "SN-Online"

FOR COLOUR RANGES, PLEASE REFER TO NEXT PAGE.

COLOUR SHADES

STANDARD Colour Range (medium opacity)					
According to colour card A and O					
Availability of further standard shades upon request					
citric yellow	A 10/NT-NEU	carmin red	A 22/NT-NEU	light green	A 40/NT-NEU
medium yellow	A 11/NT-NEU	light blue	A 30/NT-NEU	fir green	A 41/NT-NEU
dark yellow	A 12/NT-NEU	medium blue	A 31/NT-NEU	brilliant green	A 42/NT-NEU
orange	A 15/NT-NEU	ultra marine	A 32/NT-NEU	light brown	A 50/NT-NEU
light red	A 20/NT-NEU	dark blue	A 33/NT-NEU	white	A 60/NT-NEU
bright red	A 21/NT-NEU	violet	A 37/NT-NEU	black	A 65/NT-NEU
SPECIAL PRODUCTS: Special Colour Shades, Varnishes, Pastes					
Information about availability upon request					
black matt	A 65/MT-NT-NEU	overprint varnish	A 70		
transparent paste	A/TP	overprint varnish matt	A 70/MT		
4 COLOUR PROCESS INKS (CMYK)					
According to colour card A and O					
process yellow	A 180/NT-NEU	process black	A 65/NT-NEU		
process magenta	A 181/NT-NEU	transparent paste	A/TP		
process cyan	A 182/NT-NEU				

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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