

Product Data Sheet

Screen Printing Ink

SunChemical®
Coates Screen Inks

PP

Solvent Based Screen Ink Range, 1-Component

APPLICATION

Screen printing inks for printing on un-treated polypropylene (PP), suitable only for applications not requiring high resistances.

PROPERTIES

- Screen inks PP are solvent based 1-component screen printing inks with a good printability. They quickly dry by evaporation of solvents and result in a satin gloss finish.
- PP prints only show limited resistance to water and hand sweat. Therefore, always carry out pre-trials to confirm suitability for such applications.
- Screen inks PP are suitable for medium-term outdoor applications.
- Note: Printing properties of polypropylene are varying due to various degrees of polymerisation and different compositions of materials and fillers. Therefore, pre-trials under local production conditions are essential to confirm suitability.

COLOUR SHADES - OVERVIEW

- Mixing System: C-MIX-2000 12 colour shades for mixing of RAL, PMS and HKS colours.
- 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 PP 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 PP are suitable for medium-term outdoor applications.

ADJUSTMENT FOR SCREEN PRINTING

- Screen printing inks PP are not supplied in a ready-to-print adjustment.
- Depending on local conditions the ink is adjusted for printing by addition of 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 PP, the following products are available:

Thinner:	<input checked="" type="checkbox"/> YV <input type="checkbox"/> VD 60	Standard thinner Standard thinner (mild odour)
Retarder:	<input checked="" type="checkbox"/> VZ 25 <input type="checkbox"/> VZ 40	Medium retarder Very slow retarder
<input checked="" type="checkbox"/> = Preferred <input type="checkbox"/> = 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
Retarder paste	LAB-N 111420/VP	Max. 10%	Gloss slightly reduced
Viscosity increase	Thickening powder	Max. 3%	Stir with mixer
Matting	Matting powder	Max. 5%	Stir with mixer
Flow agent	VM 1	3 - 5%	Do not overdose!

OVERPRINTING

Generally, it is not necessary to overprint PP inks with varnish. However, if required overprinting with PP/E50 is possible.

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 bronze binder PP/B or varnish PP/E50 prior to processing.

Mixing ratios in parts by weight:

Gold bronze paste/powder	to	PP/B or PP/E50	= 1 : 3 - 4
Silver bronze paste	to	PP/B or PP/E50	= 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 PP/E50. 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

PP screen printing inks dry physically, i.e. by evaporation of solvents.

Drying times below are only approximate as drying properties depend on various factors:

- Type and amount of thinners/retarders used.
- Thickness of printed ink layer; number of overprinted ink layers.
- Rack drying or tunnel dryer.
- Temperature, air supply, speed of air stream.
- Type of substrate/material printed.

Depending on local conditions, drying time in a drying frame (rack) is approx. 10 – 15 minutes at room temperature (20°C). Drying time using an efficient tunnel dryer (e.g. 2 hot air and 1 cold air section) is about 40 - 60 seconds at a temperature of 50°C.

Note: Addition of retarders may result in much longer drying times!

SCREEN FABRIC / STENCILS

PP inks have been formulated for printing with fabrics ranging from 100 to 140 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 PP are delivered in 1 litre containers. Other pack sizes are available upon request.

SHELF LIFE

In closed original containers, PP inks generally have a shelf life of 3 years 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. PP C-MIX 2000 colour shades, standard, highly opaque standard colours (HD), process colours, silver, fluorescent colours and transparent colours comply with the requirements of toy standard „EN 71-3:2019 Safety of toys – Migration of certain elements (category III: scraped off material).

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

C-MIX 2000 BASE COLOUR SHADES					
Mixing system for matching of PMS, HKS, RAL colours (on white substrates) Start formulations available in data base „Formula Management C-MIX 2000“ According to colour card C-MIX 2000					
primrose	PP/Y30	red	PP/R50	green	PP/G50
golden yellow	PP/Y50	magenta	PP/M50	black	PP/N50
Orange	PP/O50	violet	PP/V50	white	PP/W50
Scarlet	PP/R20	blue	PP/B50	varnish	PP/E50
4 COLOUR PROCESS INKS (CMYK)					
According to colour card STANDARD 1 for screen printing inks					
process yellow	PP 180/NT	process black	PP 65/NT		
process magenta	PP 181/NT	transparent paste	PP/TP		
process cyan	PP 182/NT				
offset base	PP 72/03	blackboard ink, black	PP 67/NT		
white, highly opaque	PP 60/HD	transparent paste	PP/TP		
black, highly opaque	PP 65/HD	bronze binder	PP/B		
black, low PAH content	PP 68/NT	overprint varnish	PP/E50		
AB – BRONZE INKS and MG – METAL GLOSS INKS					
According to Bronze Colour Card					
AB bronze inks			MG metal gloss inks		
Upon request.			Upon Request		

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

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.

April 2020 - Version B3

Coates Screen Inks GmbH
 Wiederholdplatz 1 90451 Nürnberg
 Tel.: 0911 6422 0 Fax: 0911 6422 200
<http://www.coates.de>