



Coates Screen

Product Data Sheet

SCREEN PRINTING INKS O

APPLICATION

For screen printing onto oven-cured coated substrates (f.e. traffic signs), all kinds of metals, glass, various duroplastics, rigid fibreboard etc. Pretests are absolutely necessary as adhesion may vary depending on the substrate and any pre-treatment.

CHARACTERISTICS

Screen printing inks O are oven curing synthetic resin inks available in satin mat and gloss finish. They show good opacity. High weather resistance and are mainly intended for outdoor use.

Additional overprinting is not necessary. Gloss retention in weathering conditions is good.

PIGMENTS AND LIGHT FASTNESS

Screen printing inks O only contain pigments with a light fastness of 7-8 according to wool scale (DIN 16 525).

These pigments will resist temperatures up to 180°C (356°C) for short periods of time. The pigments are non-bleeding and can be overprinted (also see overprinting).

The color shades of O-NT inks show heavy-metal free pigmentation and correspond to the requirements of EN 71, part 3, safety of toys, migration of certain elements.

ADJUSTMENT FOR SCREEN PRINTING

Screen printing inks O come in a medium consistency. If required they can be thinned prior to printing. However, in order to maintain their gloss effect thinning degree should not be too high.

The following additives are suitable:

| | |
|-----------------------|---------------------------|
| Thinner VD 50 | for machine printing |
| Retarder VZ 10 | for printing fine details |
| Thinner OVSP | for spray applications |

For use of retarders VZ 20 and VZ 30 please refer to our product data sheet HM.

DRYING

For curing screen printing inks O require certain temperatures and drying times, e.g.

| | | | |
|---------------|------------|---------------|----------------|
| 120°C (248°F) | 30-40 min. | 140°C (284°F) | ca. 20-30 min. |
| 160°C (320°F) | 15-20 min. | 180°C (356°F) | ca. 10-15 min. |

O inks do not yellow at above time/temperature combinations.

Addition of 3-5% special hardener **O/SH** will cause the ink to surface dry after printing, allowing intermediate ink layers to be applied without having to oven dry until the last ink layer is down.

In any case pretests are necessary.

Addition of 5-10% hardener **O/H** may increase adhesion and gloss on many substrates.

Transparent paste O/TP is used for brightening transparent shades. Addition of 5-10% does not cause thickening and increases thixotropy at the same time. If more is added opacity will be reduced.

Overprint varnish **O 70** is used for overprinting of mat O adjustments. However, it should only be used as a gloss increasing medium mixed with hardener O/H, ratio 1:1 for opaque colour shades.

PROCESS PRINTING

The Europe process colours yellow O 180, magenta O 181 and cyan O 182 can be used for three and four colour process prints.

These inks in combination with transparent paste O/TP can achieve impressive reproductions of virtually any image on sheet metal, oven dried coatings, duroplastics etc.

OVERPRINTING

The standard colours of the O range show a semi-gloss finish. Due to their composition they cannot be overprinted.

However, if overprintable shades are required it is absolutely necessary to indicate this on the order. These shades show the addition MT, e.g. O 10 MT.

These mat shades are especially produced for overprinting be it screen printing, dipping, spraying, pouring or roller coating applications.

TRAFFIC SIGN SHADES

Screen printing inks O are also available in the traffic sign shades according to DIN 6171 in mat adjustments (followed by overprinting) and glossy adjustment.

BRONZE INKS

For printing of metallic decorative inks the bronze pastes B 75 to B 79 are available. Bronze pastes are mixed with bronze binder O/B prior to processing.

Mixing ratios (parts by weight) should be:

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

If bronze inks have to be overprinted we recommend to add an additional 10-30% by weight bronze binder O/B to the gold bronze mixtures.

In all cases it is essential to check overprintability!

Due to the influence of humidity and oxidation components in the air, bronze prints tend to oxidize.

Especially gold, copper and bronze prints will then be unattractive. Overprinting the bronze screen print with O 70 will delay this oxidation process for some time.

STENCILS

Due to their binding agents oven curing screen printing inks O contain aggressive solvents. Therefore only water based and photomechanical stencils are suitable.

CLEANING OF STENCILS AND TOOLS

Screen printing inks O can be removed from stencils and tools using universal cleaning agent URS.

PACKING

Screen printing inks O are available in 1 liter containers. White and black are also available in 5 liter containers.

SHELF LIFE

For information regarding shelf life please see tin label.

CLASSIFICATION

Read material safety data sheets prior to processing.

The material safety data sheets according to Regulation (EC) No. 1907/2006 contain classification according to preparations directive (1999/45/EC) 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 product data sheet.

STANDARD COLOURS

| | | | |
|--------------------|------------|---------------------------|---------------|
| citric yellow | O 10/NT | dark blue, mat | O 33/MT-NT |
| citric yellow, mat | O 10/MT-NT | turquoise | O 34/NT |
| medium yellow | O 11/NT | turquoise, mat | O 34/MT-NT |
| medium yellow, mat | O 11/MT-NT | violet | O 37/NT |
| dark yellow | O 12/NT | violet, mat | O 37/-MT-NT |
| dark yellow, mat | O 12/MT-NT | light green | O 40/NT |
| orange | O 15/NT | light green, mat | O 40/MT-NT |
| orange, mat | O 15/MT-NT | fir green | O 41/NT |
| ochre yellow | O 17/NT | fir green, mat | O 41/MT-NT |
| ochre yellow, mat | O 17/MT-NT | brilliant green | O 42/NT |
| light red | O 20/NT | brilliant green, mat | O 42/MT-NT |
| light red, mat | O 20/MT-NT | light brown | O 50/NT |
| bright red | O 21/NT | light brown, mat | O 50/MT-NT |
| bright red, mat | O 21/MT-NT | dark brown | O 51/NT |
| carmine red | O 22/NT | dark brown, mat | O 51/MT-NT |
| carminered, mat | O 22/MT-NT | white | O 60/NT |
| pink | O 25/NT | white, mat | O 60/MT-NT |
| pink, mat | O 25/MT-NT | white highly opaque | O 60/HD-NT |
| light blue | O 30/NT | white, highly opaque, mat | O 60/HD-MT-NT |
| light blue, mat | O 30/MT-NT | black | O 65/NT |
| medium blue | O 31/NT | black, mat | O 65/MT-NT |
| medium blue, mat | O 31/MT-NT | black, highly opaque | O 65/HD-NT |
| ultra marine | O 32/NT | black, highly opaque, mat | O 65/HD-MT-NT |
| ultra marine, mat | O 32/MT-NT | etch imitation | O 63 |
| dark blue | O 33/NT | black board ink, black | O 67 |

PROCESS COLOURS ACCORDING TO EUROPE SCALE

| | | | |
|---------|----------|--------------|-------------|
| yellow | O 180/NT | yellow, mat | O 180/MT-NT |
| magenta | O 181/NT | magenta, mat | O 181/MT-NT |
| cyan | O 182/NT | cyan, mat | O 182/MT-NT |

SPECIAL INKS/ADDITIVES

| | | | |
|-------------------|------|---------------|---------|
| varnish | O 70 | varnish, mat | O 70 MT |
| transparent paste | O/TP | bronze binder | O/B |
| hardener | O/H | mat paste | O/MP |
| hardener | O/SH | | |

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. 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 product data sheets are no longer valid. APRIL 2008 – VERSION No. 3

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