



Coates Screen

Product Data Sheet

2-COMPONENT SCREEN PRINTING INKS ZM

APPLICATION

2-component screen printing inks ZM are suitable for printing onto metals (aluminium, steel, copper), coated surfaces, various thermoplastics (ABS, acrylics, pre-treated polyolefines) as well as duroplastics (phenolic and melamine resins, glass fibre reinforced polyester and epoxy resins).

CHARACTERISTICS

2-component screen printing inks ZM are special inks suitable for weather resistant printing onto above mentioned materials. ZM inks show superior opacity, excellent elasticity and a glossy finish. Even after long-term weathering gloss retention is excellent; however, ink shades with a high content of pigment, especially colour shades with a high content of white should always be overprinted with ZM 70.

After sufficient curing, screen printing inks ZM are resistant against alkaline media (e.g. use for washing machine parts). ZM inks show a limited solvent resistance.

PIGMENTS AND LIGHT FASTNESS

2-component screen printing inks ZM only contain pigments with a light fastness of 7-8 according to wool scale (DIN 16 525).

ZM/NT inks show heavy metal free pigmentation and correspond to the requirements of EN 71, safety of toys, part 3, migration of certain elements.

ADJUSTMENT FOR SCREEN PRINTING

2-component inks ZM must be mixed with hardener prior to processing. Choice of hardener depends on the required light and weather resistance. Two different types of hardener are available:

Hardener ZH	Pot life 3-4 h; in outdoor use light colour shades tend to yellow; cures even at temperature below 20°C (68°F).
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Hardener ZH/N/00	Pot life 5-6 h; little risk of yellowing and therefore suitable for outdoor use of light ink shades; does not cure at temperatures below 20°C (68°F).
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Mixing ration for both hardeners is 8 parts ink : 1 part hardener (parts by weight). For white (ZM 60/NT & ZM 60/HD-NT) mixing ratio is 15 parts ink : 1 part hardener.

Prior to printing the mixed ink should pre-react for approx. 10 minutes. The pot life, i.e. the period of time during which the mixed ink has to be processed, depends on room temperature, amount of thinner added and humidity.

In order to adjust the correct printing consistency the thinners of 2-component ink series Z are used:

Thinner VD 60	for solid prints
Retarder VZ 25 or VZ 40	for printing of fine details

DRYING

Screen printing inks ZM cure by cross linkage. At room temperature (20-25°C; 68-77°F) they are hand-dry after approx. 20 minutes and cured after approx. 2h. Heat application (60-80°C; 140-176°F)

will reduce drying time to about 1-2 minutes (hand dry) or 4-6 minutes (cured). As with all 2-component ink types optimum resistance is only achieved after a store time of approx. 3 days.

BRONZE INKS

For bronze prints binder ZM/B is mixed with the bronze paste. Mixing ratios (parts by weight) are as follows:

Gold bronze paste : ZM/B = 1 : 4 - 5

Silver bronze paste : ZM/B = 1 : 5 - 6

However, due to oxidation bronze inks only have a limited outdoor resistance. Pot life of mixed bronze inks is shorter.

CLEANING OF STENCILS AND TOOLS

2-component screen printing inks ZM can be removed from stencils and tools using thinner VD 40.

PACKING

Screen printing inks ZM are available in 1 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 SHADES

citric yellow	ZM 10/NT	dark blue	ZM 33/NT
medium yellow	ZM 11/NT	turquoise	ZM 34/NT
dark yellow	ZM 12/NT	violet	ZM 37/NT
orange	ZM 15/NT	light green	ZM 40/NT
ochre yellow	ZM 17/NT	fir green	ZM 41/NT
light red	ZM 20/NT	brilliant green	ZM 42/NT
red bright	ZM 21/NT	light brown	ZM 50/NT
carmine red	ZM 22/NT	dark brown	ZM 51/NT
pink	ZM 25/NT	white	ZM 60/NT
light blue	ZM 30/NT	white	ZM 60/HD-NT
medium blue	ZM 31/NT	highly opaque	
ultra marine	ZM 32/NT	black	ZM 65/NT

PROCESS COLOURS ACCORDING TO EUROPE SCALE

yellow	ZM 180/NT
magenta	ZM 181/NT
cyan	ZM 182/NT

SPECIAL COLOURS

top coating	ZM 70	bronze binder	ZM/B
rich pale gold	ZM 76/AB	transparent paste	ZM/TP

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. 4

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