



Coates Screen

# Product Data Sheet

## 2-COMPONENT SCREEN PRINTING INKS Z

### APPLICATION

For pre-treated polyolefines (e.g. high and low pressure polyethylene), polypropylene, acrylic glass, celluloseacetate, acetobutyrate, polyamide. Also suitable for duroplastics such as fibre glass reinforced polyester, epoxy reinforced substrates, phenoplastics, aminoplastics and varnished substrates (air and oven drying).

### CHARACTERISTICS

2-component Screen printing inks Z are mainly used on above materials if high chemical resistance is required, e.g. packaging materials. Processing is unproblematic and easy. 2-component screen inks Z show high gloss, good flow and excellent opacity.

Z inks are completely cured after three days. Then their good resistance to thinned acids and lyes is achieved. They also show good resistance against various so-vents.

2-component screen inks Z tend to chalk in outdoor conditions. For outdoor applications our weather resistant ink type ZM is available. When overprinting inks drying by oxidation the inks might be pulled up and show crinkle effects.

Pretests are absolutely necessary.

### PIGMENTS AND LIGHT FASTNESS

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

Z inks only contain 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 printing inks Z have to be mixed with hardener ZH before use. Prior to processing the mixed system pre-react for approx. 15-20 minutes (degassing). Depending on room temperature and thinner added, pot life is approx. 8-12 hours. Mixed bronze colours may show reduced pot life.

Screen printing inks Z are mixed with hardener at the following ratios:

4 parts colour shade	: 1 part hardener
3 parts clear shades like Z E50, Z/TP and transparent shades	: 1 part hardener

Z inks are adjusted to printing consistency with the following thinners:

<b>thinner ZVS</b>	for quick running machines
<b>thinner ZVH</b>	for manual screen printing
<b>retarder ZD</b>	for printing fine details
<b>thinner ZVSP</b>	for spray applications.

Screen printing inks Z must not be thinned with retarders UV1, UV2 and UV3.

## **DRYING**

2-component inks Z are chemically/physically drying inks based on epoxides, i.e. they dry to an irreversible ink film by cross linkage of two binding agents.

## **DRYING TIMES**

hand dry at 20°C (68°)	approx. 20 min.
hand dry at 60-80°C (140-176°)	approx. 2-4 min.
completely dry at 20°C (68°)	approx. 2-3 hours
completely dry at 60-80°C (140-176°F)	approx. 8-10 min.

Blocking stability is achieved directly after drying. Usually the prints can be packed immediately. The prints cure within approx. 12 hours at room temperature (20°C/68°F). However, tests for chemical and solvent should be carried out at the earliest 3 days after printing.

## **ADDITIVES**

Transparent paste Z/TP is used for reduction of colour shades. This paste may also be used as thickening agent for finer details.

## **BRONZE INKS**

For printing of metallic decorative inks the bronze pastes B 75 to B 79 (rich gold, rich pale gold, pale gold, copper and silver) are available. They are mixed with binder ZB prior to processing. Gold and copper bronzes tend to oxidise. The oxidation process may be delayed by overprinting with Z 70.

Mixing ratios should be:

Gold bronze paste : ZB	= 1 : 3-4
Silver bronze paste : ZB	= 1 : 4-5

These mixtures then have to be mixed with hardener ZH 4 : 1 (parts by weight).

## **OVERPRINTING**

For protective coating use overprinting varnish Z/E50 (mixing ratio with ZH 3 : 1).

## **STENCILS**

As 2-component inks Z contain aggressive solvents only water based handcut stencils and photomechanical (direct and indirect) stencils are suitable.

## **CLEANING OF STENCILS AND TOOLS**

Screen printing inks Z can be removed from stencils and tools using universal cleaning agent URS. If the ink has already dried cleaning agent ZR or solvent CAN achieve better cleaning results.

## **PACKING**

2-component inks Z come in 1 liter containers (approx. 1.06 qts.) Hardener ZH is available in 0,5, 1 liter (0.53 and 1.06 qts.) and 100 and 200 g containers.

## **SHELF LIFE**

For information regarding shelf life please see tin label.

## **MARKING**

Read material safety data sheets prior to processing.

The material safety data sheets according to 91/155/EWG contain marking in compliance with the regulation on dangerous working materials 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 technical leaflet.

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<b>STANDARD SHADES</b>			
citric yellow	Z 10/NT	light blue, highly opaque	Z 30/HD-NT
citric yellow, highly opaque	Z 10/HD-NT	medium blue	Z 31/NT
medium yellow	Z 11/NT	ultra marine	Z 32/NT
medium yellow, highly opaque	Z 11/HD-NT	dark blue	Z 33/NT
dark yellow	Z 12/NT	turquoise	Z 34/NT
dark yellow, highly opaque	Z 12/HD-NT	violet	Z 37/NT
orange	Z 15/NT	light green	Z 40/NT
orange, highly opaque	Z 15/HD-NT	fir green	Z 41/NT
ochre yellow	Z 17/NT	brilliant green	Z 42/NT
light red	Z 20/NT	light brown	Z 50/NT
light red, highly opaque	Z 20/HD-NT	dark brown	Z 51/NT
red bright	Z 21/NT	white	Z 60/NT
red bright, highly opaque	Z 21/HD-NT	white, highly opaque	Z 60/HD-NT
carmine red	Z 22/NT	black	Z 65/NT
carmine red, highly opaque	Z 22/HD-NT	black, highly opaque	Z 65/HD-NT
pink	Z 25/NT	blackboard ink, black	Z 67
light blue	Z 30/NT		
<b>PROCESS COLOURS ACCORDING TO EUROPE SCALE</b>			
yellow	Z 180/NT		
magenta	Z 181/NT		
cyan	Z 182/NT		
<b>C-MIX 2000 BASE COLOURS</b>			
primrose	Z/Y30	violet	Z/V50
golden yellow	Z/Y50	blue	Z/B50
orange	Z/O50	green	Z/G50
scarlet	Z/R20	black	Z/N50
red	Z/R50	white	Z/W50
magenta	Z/V50	varnish	Z/E50
<b>SPECIAL SHADES</b>			
transparent paste	Z/TP	top-coating, mat	Z 70/MT
mat paste	Z/MP	intermediate silver	Z 74
hardener	Z/H	rich pale gold	Z 76/OO

*The statements in our leaflets 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 leaflets are no longer valid. APRIL 2000 – VERSION No. 1*

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