

Product: Z

Series: Z™

DESCRIPTION: Z series screen inks are a two-component system for use on pretreated polyolefins (i.e. high and low density polyethylene), polypropylene, acrylics, cellulose acetate, acetobutyrate and polyamides. It is also suitable for duroplastics such as fiberglass, reinforced polyester, epoxide reinforced substrates, phenoplasts, aminoplasts and varnished substrates.

NOTE: Pretest all substrates prior to use in production.

CHARACTERISTICS: Z series inks must be processed as a two-component system and are primarily used where chemical-resistance and/or adhesion to unreceptive, solvent-resistant substrates is required. Z series inks have high gloss, good flow-out and excellent opacity. Z inks only become fully chemical resistant to acids and alkalis, and most solvents, approximately 3 days after initial drying.

Z series inks tend to chalk when exposed outdoors. For outdoor applications, our weather resistant ZM series ink is recommended.

COLORS: Z inks are available in SunMatch™ blending shades and 4 color process inks.

MODIFICATION: Prior to processing, the viscosity of Z inks can be adjusted approximately 5-25% by weight with one or a combination of the following modifiers: ZVS, ZVH and ZD.

HARDENERS: Z inks must be mixed with one of the following hardeners prior to processing. For colors and whites, hardeners are mixed at a ratio of 4 parts ink to 1 part hardener (4:1). For clears such as Z-E50 and Z-TP, a ratio of 3 parts ink to 1 part hardener (3:1) is recommended

ZH – short pot-life, high chemical-resistance, tends to yellow when exposed to high temperatures. Will allow curing at normal room temperatures.

ZHN – medium pot-life, high chemical resistance, non-yellowing. Only cures at temperatures above 140°F (49°C).

ZHN00 – extended pot-life, medium resistance, non-yellowing. Only cures at temperatures above 140°F (49°C).

NOTE: Subsequent pot-life after the incorporation of hardener is approximately 4-12 hours at room temperature.

DRYING: Z series inks are based on epoxy resins which dry by evaporation of solvents followed by chemical cross-linking.

Using ZH Hardener, tack-free drying time can be achieved after approximately 10-12 minutes at room temperature.

The use of ZHN or ZHN00 Hardeners will not allow room temperature drying. They require elevated drying temperatures above 140°F. At temperatures between 140-180°F drying times of 8-10 minutes can be achieved in a belt dryer. Allow a further 1-3 days for complete hardening and resistance properties.

METALLIC INKS: For printing of metallic decorative inks, metallic pastes B75 to B79 are available. Metallic pastes must be blended with mixing clear, Z-E50 prior to processing. Approximate mixing ratios by weight should be:

20-25% Gold Bronze paste + 75-80% Z-E50 Mixing Clear

10-15% Silver Aluminum paste + 85-90% Z-E50-B Mixing Clear

If metallic prints are to be overprinted, an additional 10-30% of Z-E50 is recommended, changing the approximate mixing ratios, by weight, to:

15-20% Gold Bronze paste + 80-85% Z-E50 Mixing Clear

8-12% Silver Aluminum paste + 88-92% Z-E50 Mixing Clear

NOTE: Metallic prints tend to oxidize and tarnish when exposed to the atmosphere. The use of a suitable overprint clear will delay this oxidizing process for some time.

NOTE: Pretest overprintability prior to use.

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COVERAGE: When printed through a 230/inch (90/cm) mesh, one gallon of Z inks will cover approximately 1200 square feet.

STENCIL: Direct photoemulsion, capillary film, indirect stencils or solvent-resistant, hand-cut films.

SCREEN MESH: Typically 200-305/inch (80-120/cm) polyester mesh can be used. **Sun Chemical has the mesh best suited for your particular printing requirements. Contact your local Sun representative for details.**

SQUEEGEE: Medium to hard durometer urethane squeegee. **Sun Chemical has the best squeegee for your particular application. Contact your local Sun representative for recommendations.**

WASH-UP: Z series inks may be cleaned off screens and processing equipment with any suitable screen wash, such as VL Wash. **Sun Chemical has a variety of wash-ups including ECO friendly screen washes available for your particular needs. Contact us for all of your pre and post-press chemical requirements.**

HEALTH AND SAFETY: As with all inks, gloves and safety goggles should be used when handling this product. For more complete information, refer to the relevant **Material Safety Data Sheet**.

| SunMatch™ Blending Colors: | | Process Colors: | |
|--|----------------|-------------------|----------------------|
| Z-Y30 | Primrose | Z-180 | Euro Process Yellow |
| Z-Y50 | Golden Yellow | Z-181 | Euro Process Magenta |
| Z-O50 | Orange | Z-182 | Euro Process Cyan |
| Z-R20 | Scarlet | Z-TP | Transparent Paste |
| Z-R50 | Red | Hardeners: | |
| Z-M50 | Magenta | ZH | |
| Z-V50 | Violet | ZHN | |
| Z-B50 | Blue | ZHN00 | |
| Z-G50 | Green | Modifiers: | |
| Z-N50 | Blending Black | ZVS | Thinner |
| Z-W50 | Blending White | ZVH | Slow Thinner |
| Z-E50 | Mixing Clear | ZD | Retarder |
| In accordance with information received from suppliers, the full Z series is formulated without heavy metals and complies with: 16 CFR, Part 1303; ANSI Z66.1-1964; ASTM F 963; CONEG packaging regulations; EC Packaging Waste Directive EC/94/62; EN71, section 3; RoHS 2002/95/EC; WEEE 2002/96/EC; E2003/11/EC | | | |

All information on this data sheet is based on Sun Chemical laboratory tests and experience in print shops. Procedures and directions for use of Sun Chemical products (including printing and after-treatment) must be considered as recommendations only, with no warranties expressed or implied. The user of the products described herein is solely responsible for determining suitability of any Sun Chemical product for the particular application. Sun Chemical recommends that all products be pre-tested prior to full-scale production use. This data sheet supersedes all previous publications. Nov. 2008