

XZ03 Etch Resist

From the Sun Chemical family of
Thermal Curing Etch Resists

1. Description

This Technical Information Leaflet (TIL) and the relevant Material Safety Data Sheet (MSDS) should be read carefully prior to using this product.

2. Product features

- RoHS & WEEE Directive Compliant
- Alkali soluble acid etch resist, formulated to give fine line definition with minimum undercutting during etching
- Will resist most commercially available acid etchants such as cupric chloride, ferric chloride, and ammonium persulphate
- Suitable for copper clad laminate
- Rapid drying
- Readily removed with dilute aqueous alkali solutions after etching
- Gives reduced sludge or residues in the stripping solution



3. Product Range

SAP No.

90158053	XZ03	Alkali Soluble Acid Etch Resist Blue	5.00 kg.	CGSN7002
90160154	XZ42	Retarder	5.00 L.	CDSN4004
90160157	XZ46	Screen Cleaner	5.00 L.	CDSN4008



4. General Handling

4.1 Storage and Shipping

When stored in sealed containers, in a cool place (20°C / 68°F), away from sources of direct heat and sunlight, XZ03 has a shelf life of 2 years.

4.2 Waste disposal

Care should be exercised in the disposal of printing ink waste. This should be carried out in accordance with good industrial practice, observing all the appropriate regulations and guidelines.

For more specific handling advice refer to the detailed Safety Data Sheet (SDS), supplied by your local Sun Chemical Circuits representative.

5. Application / Processing Conditions

5.1 Thinning

XZ03 is a single pack product which is supplied ready for use. The minimum amount (up to 3%) of Thinner XZ40 or Retarder XZ42 may be added to suit printing conditions.

Note that over-reduction can result in poor image resolution and a low film weight which can result in film break down during the etching process.

N.B. The resist should be stirred well before use.

5.2 Pre-Clean

The copper surface must be free from oil, grease or oxides. Brush cleaning is recommended before printing.

5.3 Application

XZ03 will give high definition prints on hand operated, semi-automatic, and on automatic screen printing machines.

For best print definition, indirect or combination stencils, 90 - 120 T/cm (230 - 305 T/inch) polyester mesh (or equivalent grade stainless steel) and a hard or medium to hard polyurethane squeegee are recommended.

All screens must be cleaned and thoroughly dried before use and be free from residues of screen cleaner and ink residues.



5.4 Washing Up

Screen Cleaner XZ46 is recommended for washing up.

Alternative cleaners and screenwashes are available to suit customers' particular requirements. Your local Sun Chemical Circuits representative will be pleased to advise on product selection.

5.5 Drying

XZ03 can be air dried but the use of an infra-red tunnel or air convection oven is recommended. The following drying times and temperatures can be used as a guide:-

Infra-red	1 - 3 minutes at 120 - 130°C (248 - 266°F)
	3 - 6 minutes at 90°C (194°F)
Convection oven	3 - 6 minutes at 120°C (248°F)
	10 - 15 minutes at 90°C (194°F)
Air drying	1 - 8 hours

When air drying or using air convection ovens, it is important that air circulation or ventilation is not restricted by close stacking of boards. If this precaution is not observed, pockets of solvent saturated air will form and cause slow or erratic drying.

Excess stoving must be avoided as this can make removal of the resist difficult.

5.6 Etching

XZ03 is suitable for use with most commercially available acid etchants such as cupric chloride, ferric chloride, and ammonium persulphate.

Their effectiveness in other etchants should be tested prior to running production materials.

5.7 Stripping

XZ03 can be removed by either of the following techniques:

- Spraying with 3 - 5% sodium hydroxide solution maintained at 40 - 50°C (104 - 122°F)
- Immersion in a 6 - 10% sodium hydroxide solution at 40 - 50°C (104 - 122°F) produces a more rapid softening of the resist which can then be removed with a water spray.

The ease of removal in either case is dependent on the age of the resist and the temperature of the removal bath. It is recommended that the resist is removed as soon as possible after etching and the alkali solution is maintained at 40 - 50°C (104 - 122°F).



6. Health and safety

Detailed material safety data sheets will be supplied by your local Sun Chemical Circuits representative.

The products detailed hereon have been tested in accordance with, and meet the requirements of, the RoHS Directive 2002/96/EC and the European Directive 2003/11/EC, regarding the presence of the metals - Pb (Lead / Lead compounds), Hexavalent Chromium, Cd (Cadmium), Hg (Mercury), and Poly Brominated Flame Retardants.

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II – Europe.

As the world's foremost producer of inks, pigments and colour technology, Sun Chemical is leading our industry in developing and producing products which minimise our impact – and our customers' impact – on the environment and striving to maximise the use of renewable resources. We consider it our responsibility to be involved in the communities in which we live and work and to offer direction in meeting today's needs without compromising the ability of future generations to meet theirs.

7. Disclaimers

This information has been carefully compiled from experience gained in field conditions and extensive laboratory testing. However the products' performance and its' suitability for the customers' purpose depend on the particular conditions of use and the material being printed. We recommend that customers satisfy themselves that each product meets their requirements in all respects before commencing a production run. Since we cannot anticipate or control the conditions under which our products are used, it is impossible to guarantee their performance. All sales are also subject to our standard terms and conditions.

8. Technical Assistance / Contacts

Sun Chemical Circuits are an international company, and as such can offer technical, engineering and sales support to our customers worldwide.

For further information regarding this product, or any of our extensive range of materials for PCB fabrication, please contact your local Sun Chemical team or visit the Technical Help Desk at website: <http://www.sunchemicalhelpdesk.com>

Our Products are intended for sale to professional users. The information herein is general information designed to assist customers in determining the suitability of our products for their applications. All recommendations are made without guarantee, since the application and conditions of use are beyond our control. We recommend that customers satisfy themselves that each product meets their requirements in all respects before commencing a print run. There is no implied warranty of merchantability or fitness for purpose of the product or products described herein. In no event shall Sun Chemical be liable for damages of any nature arising out of the use or reliance upon this information. Modifications of the product for reasons of improvements might be made without further notice.

T027 Version 7
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Page 4/4

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