

### Technical Information Leaflet

## **XZ93-S / XZS522-1 / XZS532-1 / XZS533 / XZS553**

### **Peelable Solder / Plating Resists**

#### PRODUCT REFERENCE

XZ93-S	Peelable Solder / Plating Resist Blue	CGSN7029
XZS532-1	Peelable Solder / Plating Resist Blue HV	CGSN7033
XZS553	Peelable Solder / Plating Resist Blue LV	CGSN7037
XZS522-1	Peelable Solder / Plating Resist Blue	CGSN7038
XZS579-1	Peelable Solder / Plating Resist Transparent Blue	CGSN7040

#### CONTENTS

1. Description
2. Mixing and Thinning
3. Pre-clean
4. Application
5. Washing Up
6. Bake
7. Plating Resist
8. Solder Resist
9. Protection of Plated Through Holes
10. Storage and Shipping
11. Health and Safety
12. Packaging
13. Typical Properties
14. Disclaimer
15. Support

ISO9001

ISO14001

## 1) DESCRIPTION

Peelable Solder / Plating Resists are 100% solids, single component screen printable resists designed to give protection to specific areas of a circuit board during plating and soldering operations.

The resists are temporary coatings that can easily be removed by hand once the particular plating or soldering process has been finished.

All these resists peel readily from the circuit board leaving no residues or stains in the plated through holes or on the surface of the board.

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

## 2) MIXING AND THINNING

Peelable Resists are single pack products supplied ready for use and should not be thinned.

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

## 3) PRE-CLEAN

Although the resists are temporary coatings, it is recommended that boards be cleaned and de-greased before the peelable resist is applied.

## 4) APPLICATION

Monofilament polyester meshes of 10 - 20T/cm. (25 - 51T/inch) and a round edged polyurethane squeegee of 55 - 60° Shore A hardness are recommended to ensure that sufficient thickness of resist is applied.

Most types of photographic stencil are suitable, but combination stencils and capillary film offer the best definition when printing the thickness required for these applications.

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

## 5) WASHING UP

Screen Wash XZ89 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.

## 6) BAKE

Peelable Resists will fuse at temperatures between 140 - 150°C (284 - 302°F) but the recommended cycle is 150°C (302°F) for 10 - 30 minutes.

The resists are resistant to slight overbaking but excessive overbaking must be avoided as the removability of the resist will be impaired. The properly fused film has excellent cohesion and elasticity and is readily peeled from a circuit board.

## 7) PLATING RESIST

Peelable Resists can be used as a localised resist to protect parts of a circuit board during a plating operation.

Fully cured films will resist common plating solutions including gold.

## 8) SOLDER RESIST

Peelable Resists have been developed to resist soldering processes and will withstand wave soldering and hot air solder levelling. They can be used as follows:-

- To protect gold fingers and gold switches during wave soldering or solder levelling.
- To protect polymer thick film fingers, switches and conductors during the soldering process. The resists prevent flux residues being absorbed into the polymer film thereby affecting its conductivity.
- To protect surface mount pads before insertion of surface mounted components.
- To protect specific plated through holes during the soldering operation.

For Lead Free soldering, trials should be conducted under customers' specific conditions, prior to commencing production runs to confirm suitability of process.

## 9) PROTECTION OF PLATED THROUGH HOLES

Sun Chemical Circuits Peelable Resists will protect plated through holes from etching and soldering, but it is most important that a sufficient thickness of resist is applied so that complete and easy removal of resist from the holes is ensured.

A mesh of 10T/cm. (25T/inch) polyester should be used, coupled with a thick layer of stencil material (75µm. / 3 mil.) to the underside of the screen. A soft, rounded squeegee should be used.

## 10) STORAGE AND SHIPPING

When stored in sealed containers, in a cool place (20°C / 68°F), away from sources of direct heat and sunlight, Peelable resists have a shelf life of 18 months.

## 11) 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.

The materials detailed above are present below the specified maximum limits.

## 12) PACKAGING

XZ93-S	Peelable Solder / Plating Resist Blue	1.00 kg.	CGSN7029
XZS532-1	Peelable Solder / Plating Resist Blue HV	1.00 kg.	CGSN7033
XZS553	Peelable Solder / Plating Resist Blue LV	5.00 kg.	CGSN7037
XZS522-1	Peelable Solder / Plating Resist Blue	5.00 kg.	CGSN7038
XZS579-1	Peelable Solder / Plating Resist Transparent Blue	5.00 kg.	CGSN7040
XZ89	Screenwash	5.00 L.	CDSN4014

The following product is available in 1 kg. or 5 kg. packs. The product performs and is processed as above, the only difference is viscosity and colour as listed below. All viscosities stated are measured in poise at 25°C (77°F). PACK CODES WILL BE GENERATED UPON REQUEST: -

XZS533      Peelable Solder / Plating Resist White 500 - 1000 Poise

**13) TYPICAL PROPERTIES**

<b>Viscosity (Rion Viscometer VT-04 @ 25°C / 77°F)</b>	XZ93-S	500 - 1000 poise
	XZS522-1	500 - 1000 poise
	XZS532-1	500 - 2000 poise
	XZS533	500 - 1000 poise
	XZS553	200 - 400 poise
<b>Non Volatile Content</b>	100%	
<b>Solder Resistance</b>	Cured film with minimum thickness of 200µm. (8mil.) will withstand a wave soldering of 10 sec. @ 250°C (482°F).  XZ93R (CGSN7042) is designed for lead free solder processing and will withstand wave soldering @ 280°C (536°F). (See Technical Information Leaflet - t247-0)	
<b>Hole Plugging</b>	Maximum	4.0mm. (0.160in.) internal diameter
	Minimum	0.4mm. (0.016in.) internal diameter

**14) DISCLAIMER**

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.

**15) SUPPORT**

Sun Chemical Circuits are an international company, and as such can offer technical, engineering and sales support to our customers worldwide. If you require more information regarding this product, or any of our extensive range of materials for PCB fabrication, please contact our local sales offices.