

XV1200 UV Soldermask

From the XV1200 family of UV Curing Soldermasks

1. Description

XV1200 is a screen-printed solder mask / dielectric which is cured by a UV curing unit. It is designed, primarily, for application onto single sided 35µm. (1.4 mil.) copper circuit boards.

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
- Suitable for Lead-Free solder applications



3. Product Range

CFSN6023	XV1200LV	UV Curing Solder Resist Green	5.00 kg.
CDSN4008	XZ46	Screen Cleaner	5.00 L.

4. General Handling

4.1 Storage and Shipping

When stored in a sealed container, in a cool place (20°C / 68°F), away from direct heat and sunlight, XV1200 resists have a shelf life of 18 months.

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

XV1200 is a single pack 100% solids resist which is supplied ready for use, and should not require thinning.

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

5.2 Pre-Clean

When printing over copper, normal pre-cleaning methods should give excellent results. Copper should be cleaned mechanically before application of the solder resist. Brushing with silicon carbide or scrubbing with pumice is recommended. If the contamination is heavy, the copper should be micro-etched and brushed or pumice treated to ensure thorough cleaning.

Boards must be rinsed and thoroughly dried before printing.

5.3 Application

Suitable for hand, semi automatic and fully automatic screen printing machines.

Polyester meshes of 100 - 120T/cm. (255 - 305 T/inch) are recommended.

The film thickness over the copper tracks should be 12 - 15µm. (0.48 - 0.60 mil). Very low film weights should be avoided as this may cause delamination of the resist film from the copper during the soldering process.

Most types of photographic stencils and polyurethane squeegees of 60 - 65° Shore A hardness are recommended.

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



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 UV Curing

A UV curing unit with 2 x 200 W/inch (80 W/cm.) medium pressure mercury vapour lamps is recommended.

Under these conditions, a speed of cure of 3 - 6m/min. can be utilised to give 2.5 - 3.5 J/cm².

5.6 Notation/ Legend Printing

XV1200 may be overprinted with XV1300 notation inks. Adhesion is improved if the solder resist is slightly under cured before overprinting with UV curing notation inks.

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 2011/65/EU, 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. Film Performance/ Technical Specification

7.1 Physical Properties

Pack Code	Viscosity*	S.G.	Flash point	Non volatile content
CFSN6023	14 - 17 Pa.s	1.40	>70°C (160°F)	100%

*Viscosity measured at 25°C (77°F). Please note viscosity can vary greatly depending on ink temperature, volume of ink tested, type of viscometer used and the test method.



7.2 Properties of Cured Film

Solder Resistance	Wave Solder	10 secs @ 280°C (536°F)
Chemical Resistance	Fully cured XV1200 film is fully resistant to all chemicals listed.	Methylene chloride 1,1,1 Trichloroethane Alcohols Freon Arklone Aliphatic and Aromatic Hydrocarbons Sodium Hydroxide Solution
Pencil Hardness		4H
Insulation Resistance		5 x 10 ¹¹ □ Ohm
Dielectric Strength		100 kV/mm

8. 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.

9. 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

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March 2017
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