



TECHNICAL DATA SHEET

RONASCREEN 1400 UV-CURABLE FLEXIBLE ETCH RESIST

PRODUCT DESCRIPTION

Ronascreen 1400 etch resists are formulated to resist attack by acidic and ammoniacal etchants up to pH 9.5. Ronascreen 1400 is rapidly stripped by dilute sodium hydroxide and the resulting solution does not block filters or interfere with the operation of re-cycling systems.

FEATURES & ADVANTAGES

- **Easy stripping.** Cured films may be stripped quickly and into fine particles by a range of inorganic and organic bases.
- **Fast curing.** UV-curing energies as low as 0.6 – 1.0J/cm² may be used to give stable film which enables printed boards to be stacked without "blocking".
- **Solvent-free.** 100% solidifying matter eliminates solvent bubbles and minimises printing issues associated with drying in the screen.
- **Dense pigmentation.** Gives good contrast against the metallic substrates, facilitating inspection.
- **Tailored viscosity / thixotropy.** To suit most printing conditions.
- **Economical in use.** Ronascreen 1400 is optimally printed through 100T – 140T mesh, giving extended product coverage.

PRODUCT RANGE

- 1400B-NP-30 Standard product, medium viscosity suitable for hand and semi-automatic printers. Opaque mid-blue colour.
- 1400B-DK-30 Dark blue version of standard product for good contrast on copper and easy inspection.
- 1400B-DK-65 High viscosity version of DK30 for use semi-automatic and automatic printers.
- 1400B-DK-150 High thixotropy version of DK65 for high definition printing.

PRECLEAN: Metallic surfaces should be mechanically or chemically cleaned to give a waterbreak-free surface. Surfaces **must** be grease-free and completely dry before coating.

REDUCING: **Ronascreen 1400** etch resists are supplied ready to print and do not normally require a thinning addition. If viscosity adjustment is required, use no more than 2% **Electra Reducer ERV3**.



ELECTRA

PRINTING:

Mesh: Print through 100-140T (threads per cm) polyester mesh or the equivalent in stainless steel. If necessary, consult the screen mesh manufacturer to select the right combination of mesh open area relative to circuit design to avoid the Moiré effect on imaging.

Stencil: Direct/indirect or capillary stencil with an 8 -12µm stencil thickness proud of the screen mesh.

Squeegee: 75 degree minimum Shore hardness. The use of a backing plate behind the squeegee may be beneficial..

CURING: Typically 1.2 – 1.5 J/cm² UV energy from an air-cooled, unfiltered mercury vapour lamp. ‘Doped’ mercury lamps may also be suitable.
Under-exposure causes insufficient polymerisation, giving soft sticky coatings. Over-exposure causes embrittlement, but may also lead to ‘blocking’ where exposed films are stacked or wound whilst still hot.

The actual required energy intensity will depend upon:

- *The spectrum of the exposing radiation.* Standard medium-pressure mercury lamps emit energy over a wide spectral range, from IR to mid-UV. Furthermore, older lamps generate an increasing proportion of IR, whilst UV output diminishes.
Ronascreen 1400 is cured by near- to mid-UV radiation, but some IR is beneficial to cure by increasing reaction rate. However, some equipment may utilise lamp cooling or IR filtration. This in turn will extend the required exposure time.
- *The printed thickness of the resist.*

STRIPPING:

1.5 - 5.0% sodium hydroxide solution used at 40°C will strip the resist coating within 10 seconds leaving a clean surface free of all residues.

HANDLING

When handling UV curable products care should be taken in accordance with the recommendations in the safety sheet.

CLEANING: Screens can be easily cleaned using Electra Universal Screenwash SW200.

STORAGE: Minimum of 2 years from date of manufacture when stored in cool dry conditions.

For further information, contact:

Electra Polymers Ltd, Roughway Mill, Dunk’s Green, Tonbridge, Kent TN11 9SG ENGLAND

Tel: +44 (0)1732 811 118

See: info@electrapolymers.com

- or visit our Website for details of local offices and distributors at: www.electrapolymers.com

The Laboratories at Electra Polymers Ltd. have taken all reasonable steps to ensure that the information set out above is accurate within the scope and limitations of our existing knowledge and experience. Since, however, we cannot anticipate or control the many interrelated conditions under which our products are used, all our products are offered for sale and trial on the basis that clients will satisfy themselves by tests or otherwise on these products, that they are fit, suitable and safe for the purpose for which they are required, within the parameters and conditions in which they will be used. In cases where our products are found to be defective in material and workmanship, our liability is limited to the purchase price of the products found to be defective. THIS WARRANTY IS TO THE EXCLUSION OF ALL OTHER WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, DESCRIPTION PRODUCTIVENESS OR ANY OTHER MATTER. None of the above information may be construed as a recommendation that our products be used in violation of any patent rights. We accept your orders at our shipping points only on the basis of the above understanding, set out in our detailed "Standard Terms + Conditions of sale". E & OE.