



UNION INKS

Product Information

LIQUID PHOTOIMAGEABLE ETCH RESIST – FILLER TYPE 99-248

APPLICATION AND END-USE DESIGN

Photoimageable Etch Resist (FILLER TYPE) 99-248 is a contact exposure photoimageable etch resist, formulated for use as a cost effective alternative to dry film resists for the production of high-density circuit boards. The ink film after drying is tack free.

It can be applied by screen printing and is suitable for use with acid etchants such as Ferric Chloride (FeCl_3) and Cupric Chloride (CuCl_2). After etching, it can be removed in Sodium Hydroxide solution.

PROPERTIES

- Colour: Purple - Blue
- Viscosity: 120 – 160 poise at 28 °C (Brookfield Viscometer Spindle 7 / 50).
- Solid Contents: 60 – 65%
- Recommended dry film weight: 10 – 20 microns
- Excellent definition: 100 microns line / track are achievable.
- Reducer: PMA can be added if necessary.

PROCESSING NOTES

• PRINTING

Mesh : 40 - 77 threads per cm polyester mesh.
Squeegee : 65 - 75 shore urethane squeegee

Drying

<u>Single side processing</u>	<u>Temperature</u>	<u>Time</u>
Side 1	75 - 85° C	15 - 20 minutes

Double side processing

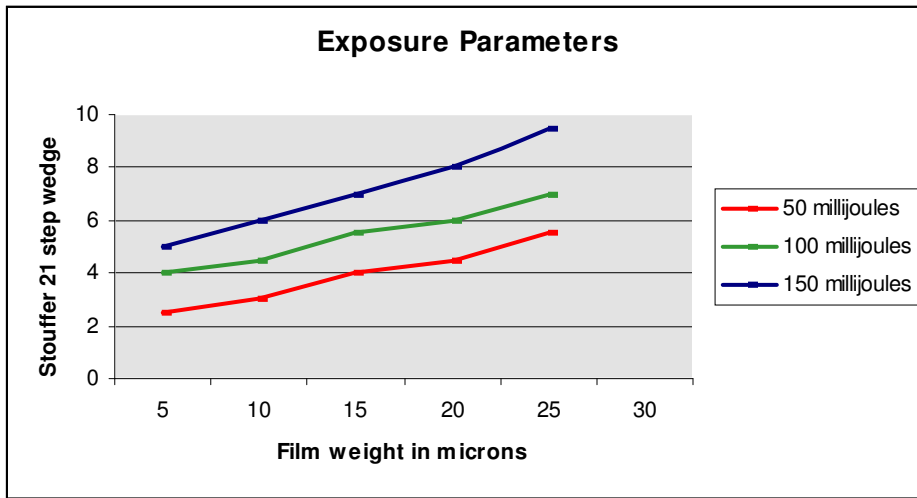
Side 1	75 - 85° C	10 - 15 minutes
Side 2	75 - 85° C	15 - 20 minutes

Just after drying by the oven, prevent stacking the CCLs, as this will cause sticking together. Stack only after the boards are cool down to room temperature.

• EXPOSURE

Typical exposures are as follows: - UV integrator (UV light volume): 80 - 100 mj / cm²
Step Wedge: solid 6 - 8 on Stouffer 21 step wedge.

This is about 20 - 25 counts on a 5 KW exposure unit and about 10 - 12 counts on a 7 KW exposure unit. If UV exposure is not enough, 99-248 will break down during development or etching. It is recommended that measurement by UV integrator or step wedge is correctly established to ensure correct exposure and optimum performance of 99-48 LPER.



- **DEVELOPMENT**

Developer : 1% solution of sodium or potassium carbonate
 Spray Pressure : 1.5 - 2.5 kg / cm²
 Spray Time : 20 - 60 seconds depending on the thickness
 Temperature : 27 - 32 °C.

Boards should be rinsed with fresh water after developing.

- **STRIPPING**

The resist strips easily in 4-5% sodium hydroxide solution at 40 - 50 °C. It does not dissolve in the stripping solution and therefore filtration of stripping solution is necessary to avoid blocking of spray nozzles.

- **STORAGE**

Store at 25 °C in a dry store. Avoid subjecting containers to high temperatures as this shortens shelf life.

- **SHELF LIFE**

Six months from date of manufacture when stored in cool dry conditions.

PROCESS NOTES

Direct or prolonged exposure to light sources with UV contents should be avoided. Commercially available fluorescent lamps may be used in work areas, provided that they are fitted with a diffuser. Avoid contact with skin and eyes. If the ink comes into contact with the skin, promptly wash off with water and soap, do not use solvents. Work area has to be effectively ventilated.

WARNING

The information is given in good faith but without any guarantee as the printing conditions of our inks are beyond our control. In the event of complaints, the ink supplier may replace free of charge the unused ink, declining any other responsibilities.