ETERTEC® HT-115 DRY FILM PHOTORESIST

DESCRIPTION

ETERTEC® HT-115 dry film photoresist is an aqueous processable alkaline developable, negative acting photoresist designed for print-and-etch, plating, and tent-and-etch applications.

SPECIFICATION

Film Type	ETERTEC® HT-115
Thickness(μ m)	40 ± 2
Color(unexposed)	Green
(exposed)	Blue
Recommended uses	Plating
	Tent-and-Etch

FEATURES

* Excellent resistance to all acid plating
* High resolution
* Reliable tenting up to 0.300 inches
* Easily stripping and filterable
* Broad processing latitude in each process step
* Good contrast after exposure for easy inspection

APPLICATIONS

PRE-LAMINATION CLEANING PROCEDURE:

For maximum dry film adhesion, surfaces to be coated must be clean, dry, and free of contaminates prior to lamination. General procedures follow:

1. Clean copper clad laminate with an automatic scrubbing machine, scrubs manually with acid pumice slurry, or chemically cleans.
2. Water rinse.
3. 10 -15% sulfuric acid rinse.
4. Water rinse.
5. Blow-dry with clean, oil free air.
6. Oven dries at 40 - 65℃.

Process Note: Several other cleaning methods work acceptably for the **ETERTEC HT-100 SERIES PHOTORESIST** such as jet pumice scrubbers, Scotch Brite, aluminum oxide spray, pumice brushing, and chemical cleaning.

LAMINATION:

Recommended parameters

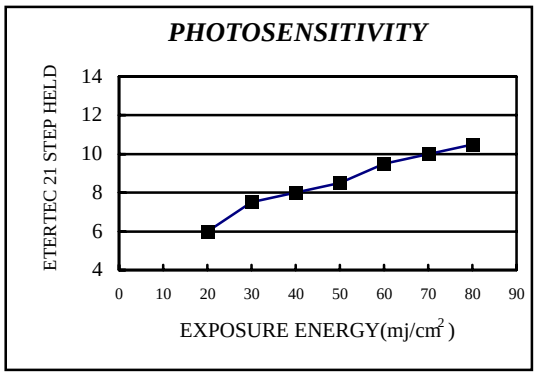
Roll temperature	100～120^{0}C (210～250^{0}F)
Roll speed	1.0～3.0m/min (3～10feet/min)
Air assist pressure	35～50psi
Exit temperature	40～65^{0}C (105～150^{0}F)

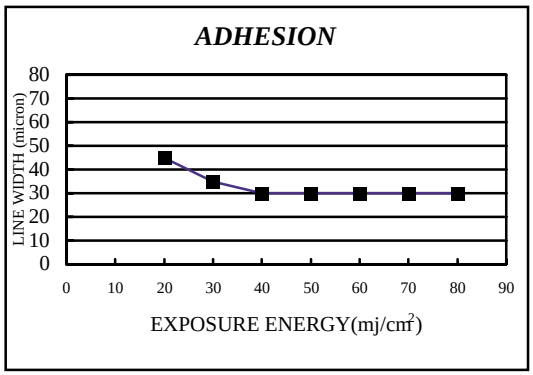
Process Note: After lamination, panels should be racked with spaces between each panel. Allow the panels to cool for fifteen minutes. Panels should never be stacked on top of each other, as this will cause trapped dirt particles to imprint the resist from one board to the next. Stacking also traps heat and interferes with resist performance during exposure or development.

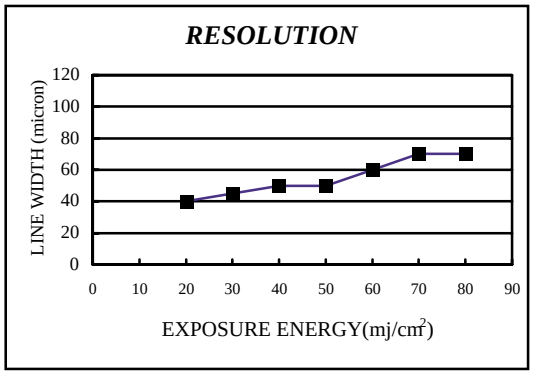
EXPOSURE:

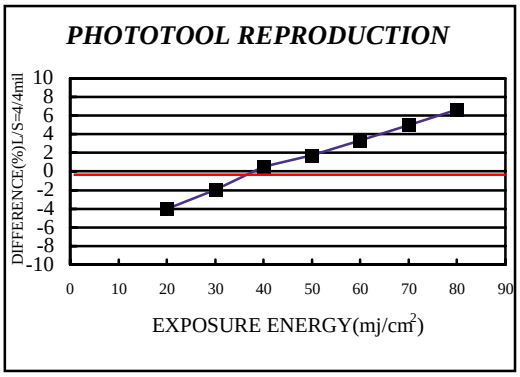
Exposure parameters

Exposure energy	(30～70 mj/cm^2)
Step held(ETERTEC 21-step tablet)	7 - 10 last step
Hold time	15 minutes









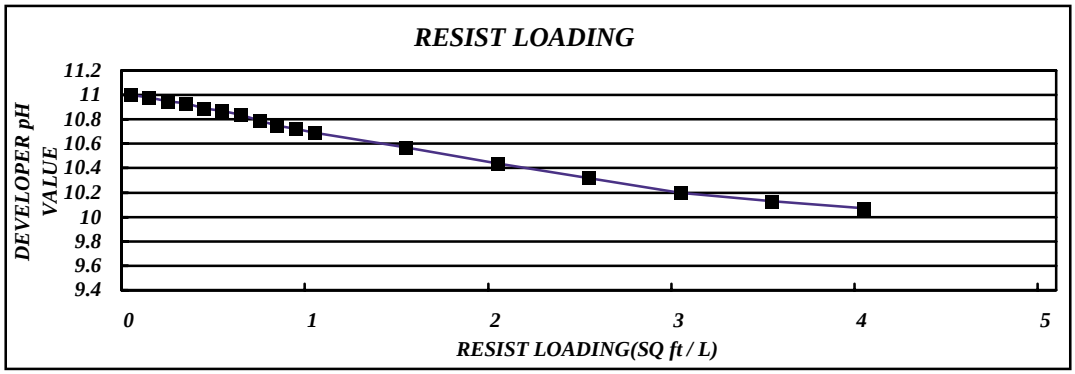
DEVELOPMENT:

Developing parameters

Developer solution	0.8～1.2% $Na_2CO_3 \cdot H_2O$
Temperature	28～34^{0}C (82～93^{0}F)
Breakpoint	50～75% of the chamber length
Developing time	40～48 seconds (30^{0}C, 50% b.p.)
Pressure	1.5～2.0 kg/cm^2 (22～30 psi)

RESIST LOADING:

The recommended loading limit in a batch operation is 16 mil-ft^2/U.S. Gal.



PREPLATE CLEANING:

An effective preplate cleaning cycle will include a hot cleaner for soils, a micro etch for the copper to create a mild etch and a acid dip similar but diluted from the subsequent plating bath to be used. An example follows:

Hot Acid Cleaner	50^{0}C (120^{0}F), 5 min
Water Rinse	Room Temperature, 1 min
Micro Etch	at least 10 microinches of Copper
Water Rinse	Room Temperature, 1 min
Sulfuric Acid Dip	10% by volume, 1 min
Water Rinse	Room Temperature
Electroplate as usual	

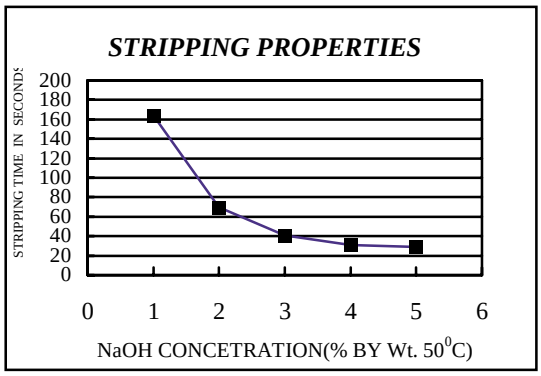
ETCHING:

ETERTEC®HT-100 dry film photoresist is designed for use in acid etching solutions.

STRIPPING:

Stripping parameters

Time	30～70 sec.
Temperature	40～60^{0}C (104～140^{0}F)
Pressure	1.0～3.0 kg/cm^2 (15～45 psi)
Concentration	2～4% NaOH solution



SAFETY AND HANDLING:

1. Avoid skin contact with unexposed resist and wash thoroughly with soap and water if contact is made.

2. Dry film lamination may cause vapors to be generated. A well-ventilated room is necessary.

3. Open resist only in a controlled yellow light area.

4. Do not reuse the dry film release sheets or cover sheets.

STORAGE:

Store in a cool, dry location 5^{0}C to 20℃ (40^{0}F to 70^{0}F) and 50 % relative humidity ±10% to assure maximum shelf life and product performance.

WARRANTY

The information contained herein is correct to the best of our knowledge. The recommendations or suggestions contained in this bulletin are made without guarantee or representation as to results. We suggest that you evaluated these recommendations and suggestions in your laboratory prior to use. Our responsibility for claims arising form defects in material or workmanship or any other breach of warranty, negligence or otherwise is limited to the purchase price of the material.