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Microstrip® IV

Product Description

Microstrip® IV is a negative photoresist stripper with improved EHS properties over conventional chlorinated or phenolic products. Microstrip® IV is an aromatic solvent based stripper with low naphthalene content (typical < 0.5%), designed to provide maximum cleaning efficacy for polyisoprene based negative photoresist.

Microstrip® IV can be used to remove (cross-linked) negative photoresist from traditional integration metals and dielectrics. The chemistry is compatible with silicon, silicon dioxide, silicon nitride, titanium, tungsten, aluminum and its alloys and various other metal substrates.

Recommended Process

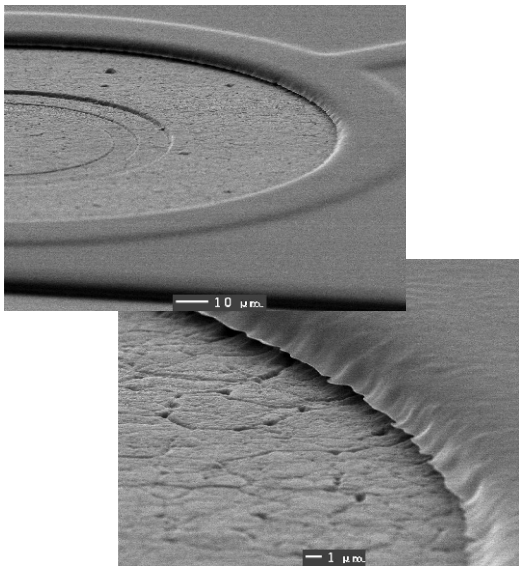
Typical strip conditions are 10-30 min at 75°C to 100°C in Microstrip® IV. Because of the very low solubility of the stripping chemistry in water, intermediate solvent rinses are required. It is recommended to apply at least 2 intermediate rinses with solvents such as cyclo-pentanone, acetone, n-butylacetate or isopropylalcohol. Process temperatures up to 100°C can be employed to reduce the process time, or to enhance the strip rate on exigent applications.

Microstrip® IV is hygroscopic at temperatures below 75°C and increased water content can lead to elevated metal etch rates. Long term room temperature exposure of Microstrip® IV to air should be avoided.

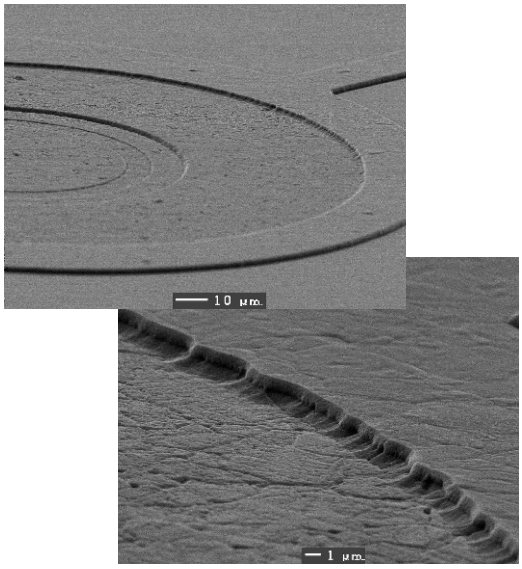
Recommended process flow

1. Heat two baths of Microstrip® IV to 90°C ± 5°C.
2. Insert wafers in a carrier and immerse in each bath for 5 to 15 minutes using mild agitation.
3. Rinse in cyclopentanone, acetone, n-BA or IPA
4. Rinse in IPA
5. Rinse in deionized water
6. Spin dry

Before clean



After clean with MS IV for 10 min at 85°C



Product Data:

Microstrip® IV Metal Etch Rates (85°C)

Metal	Etch Rate (nm/min)
Al	< 0.1
Ni	< 0.1
Au	< 0.1
TiW	< 0.1

Thickness measurements were made using a CDE ResMap 168 four-point probe

Physical Properties

	Microstrip® IV
Specific Gravity @ 15°C	0.987
Flash Point (closed cup) *typical value*	>100°C 114°C
Viscosity @ 25°C (cSt)	5.6
Boiling Point	> 200°C
Freezing Point	< 0°C
pH (0.1% solution @ 25°C)	< 7

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