TECHNIC INC
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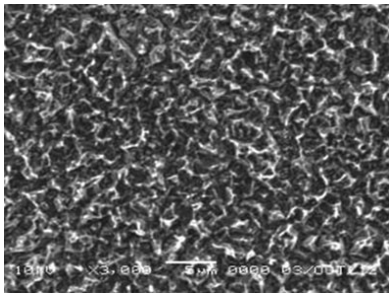
Product Fact Sheet

TechniEtch 1688

High performance Copper Micro Etch for Fine Features

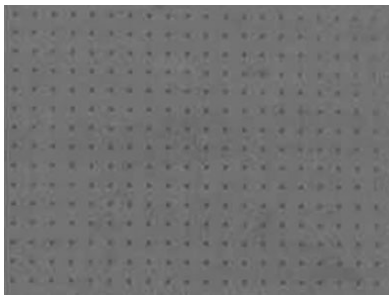


TechniEtch 1688 Topography 3000X

TechniEtch 1688 is an organic acid based copper micro etch engineered to produce optimum adhesion of polymer coatings. TechniEtch 1688 improves yields of fine features with plating resists, etch resists or solder mask, especially where adhesion is critical under harsh conditions like HASL, ENIG, and Immersion Tin. TechniEtch 1688 provides an optimum uniform copper surface appearance desired for AOI detection.

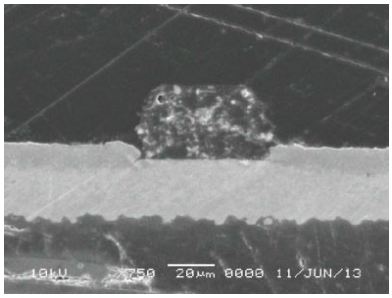
Formulated to be used in horizontal spray applications for a wide variety of products, the TechniEtch 1688 processing sequence is as follows:

Xcell 318	City H2O	**TechiEtch 1688**	City H2O	3.5% HCl	City H2O	Anti tarn	DI H2O



75 micron diameter dry film on TechniEtch 1688

Use of an anti-tarnish is optional and should be considered with long storage times. The TechniEtch 1688 process provides the capability to successfully produce advanced electronics by opening the process window for fine features and providing cost savings due to low etch depth and high copper capacity. The benefits of the TechniEtch 1688 process are outlined below.



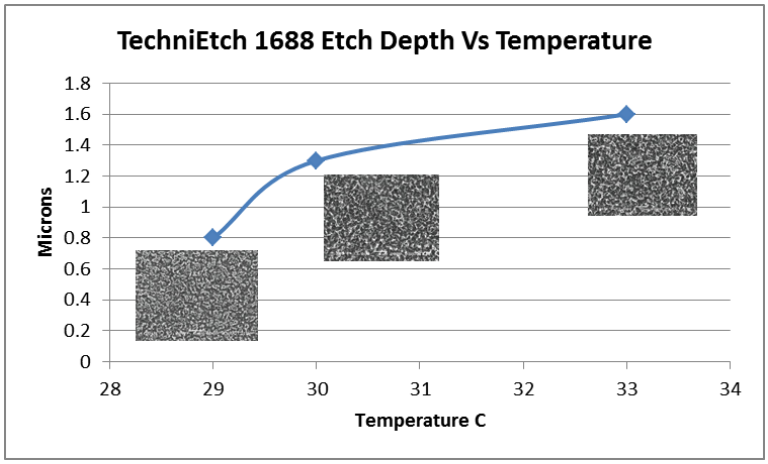
50 Micron Solder Mask Dam after

Solder Mask and Dry Film Adhesion: Adhesion is critical as solder mask dams and dry film structures go below 75 microns. The mechanical bond sites created by the TechniEtch 1688 dramatically improve adhesion and the ability for these fine features to survive developing and plating, even with harsh chemical operations like immersion tin and ENIG.

High AOI Yields: TechniEtch 1688 not only provides a consistent surface for AOI, but the resultant color is optimum to eliminate false rejects typical with competitive micro etch chemistry.

High Copper Capacity: For feed and bleed operations, the recommended copper level is 35 gm/l. For batch mode operations, copper can be operated as high as 50 g/l.

Controllable Low Etch Depth: Typical etch depths are 0.8 to 1.0 microns (~30-40 micro inches). Several studies have been done demonstrating that the surface topography is consistent even with changes in temperature, Cu concentration and equipment set up.



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Feature	Benefit
Consistent micro roughened topography	Able to produce high technology product with 50 micron (2 mil) solder mask dams and dry film features Excellent dry film adhesion over large panel surfaces and from lot to lot Improved solder mask adhesion, especially in harsh environments like HASL, ENIG, and immersion tin
Consistent light color	High AOI yields
High Cu holding capacity	Cost savings from reduced chemical usage and reduced waste generation
Excellent topography with reduced etch depth	Cost savings by running more production per liter of chemistry Cost savings from reduced waste generation
No chloride sensitivity	Cost savings from reduced DI water usage
Easy stable process controls	Consistent lot to lot performance