

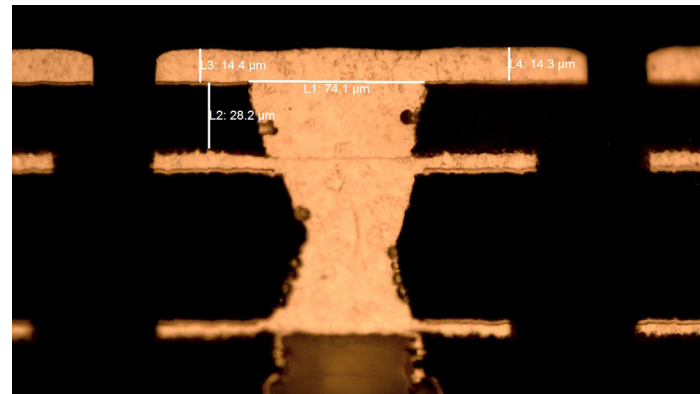
MacuSpec VF-TH 300

Simultaneous Via Filling and Through Hole Plating Copper Metallization

Universal Electroplating for mSAP and HDI: Now V-Pit Resistant

MacuSpec VF-TH 300 is the latest upgrade to the award-winning VF-TH series plating processes used worldwide for high density interconnect plating. This pattern plating process for mSAP and SAP fills micro vias and laser drilled X-vias and plates through holes in a single step with a copper deposit that is highly resistant to V-pit formation after final etching.

V-pits formed during the final etching of pattern plated HDI structures and traces are a reliability concern that is currently addressed with a post plate annealing bake. The MacuSpec VF-TH 300 is formulated to create a deposit that has minimal V-pit formation even without a baking step, resulting in higher process yields.



KEY FEATURES

- V-pit resistant deposit improves quality and eliminates reliability concerns
- Improves production times by reducing or eliminating post plate annealing step
- Simultaneously fills micro vias and laser drilled X-vias and plates through holes
- Excellent pattern plating process for mSAP and SL-HDI designs
- No predip required
- Fully analyzable by CVS and common analytical tools

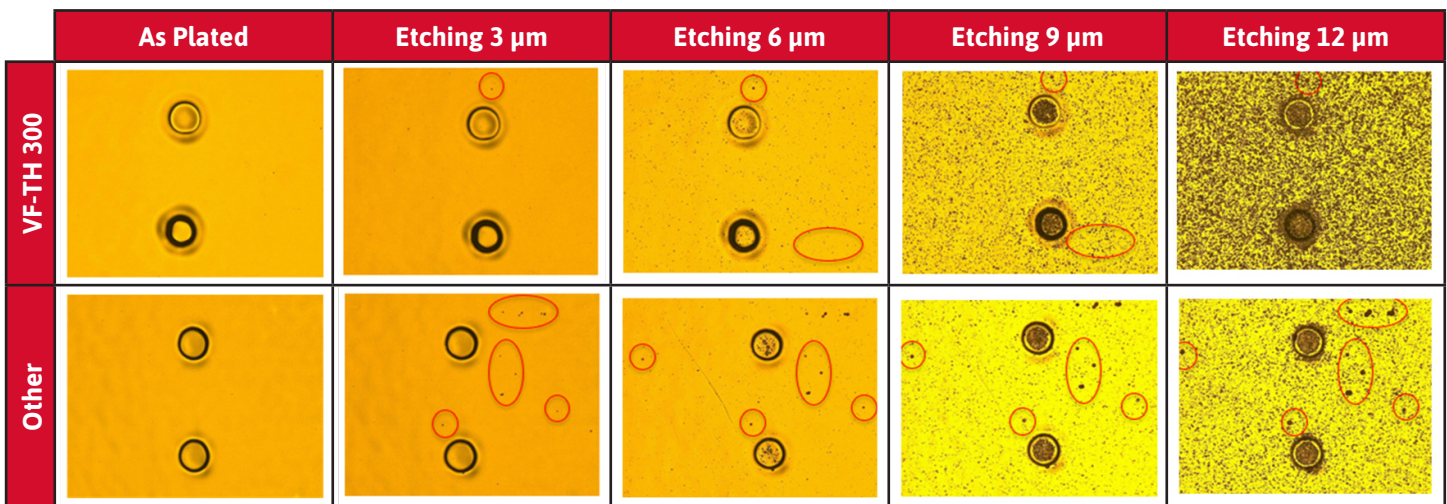


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Simultaneous Via Filling and Through Hole Plating Copper Metallization

Solving the V-Pitting Issue With Innovations in Electroplating

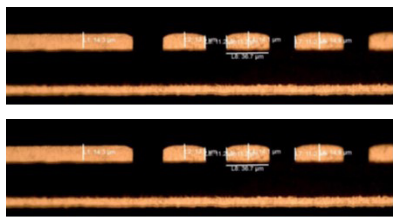
During sequential build-up processes, the copper electroplated surfaces that form circuitry are subjected to etching to define the features and remove un-plated foil/seed layer upon which the layer is formed. Copper deposits utilized for mSAP and other general applications have shown a tendency to form deep, narrow pits from accelerated etching of nonhomogeneous grain structures on the copper surface. The longer the etch process, the deeper the pit formation becomes. These pits are a reliability concern that are typically addressed with baking to anneal the deposit after plating. The MacuSpec VF-TH 300 is specially formulated to plate a deposit that is immediately ready for etching without a post bake. This reduces processing times, increases quality, and eliminates a large source of yield concerns in mSAP.



Versatile Plating in a Single Bath



X-Via Filling
Void-Free



Co-Planar Pads and Traces
Consistent Trace Profile

Thickness	6 μm	8 μm
Via size: 100 x 60 μm		

Copper Micro Via Fill
6-8 Microns Surface Copper Pattern Plate



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