TechniPad ENIG

Higher Performance / Lower Cost

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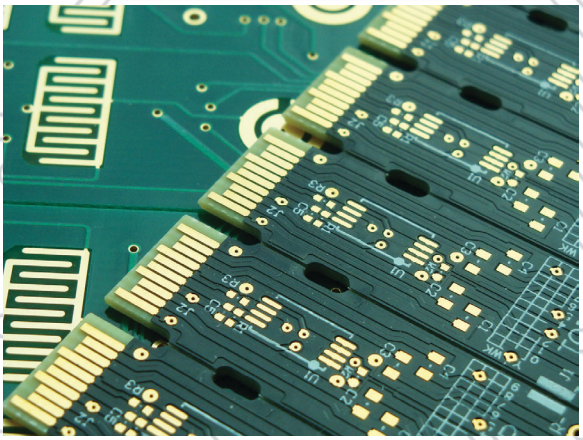
World-Class Acceptance Per IPC 4552 A & B

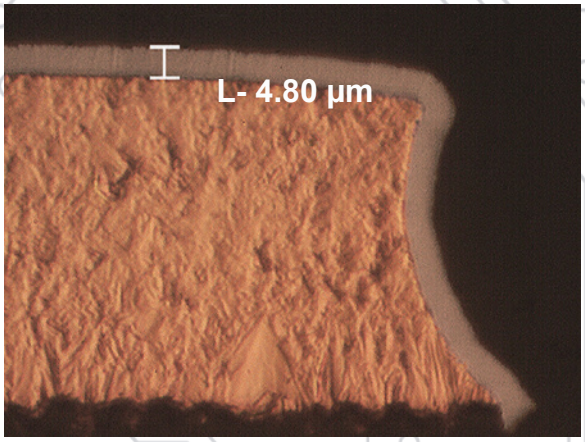
TechniPad ENIG is a paradigm shift that eliminates black pad and reduces cost. TechniPad chemistry utilizes unique EN stabilizers and a novel Pd complex to eliminate fabrication issues and dramatically reduce maintenance. In addition, gold deposition is substrate catalyzed, eliminating Ni corrosion, common with typical replacement chemistry.

To the fabricator, this means excellent coverage, no extraneous plating, and reduced operating costs. To the assembler and OEM, the result is excellent solderability, superior bondability, and reliable low-contact resistance.



Features and Benefits

- Flat EN deposit
- Substrate catalyzed Au deposit eliminates corrosion of electroless Ni
- Precise activation
- Long bath life
- Unique EN stabilizers with a wide process window



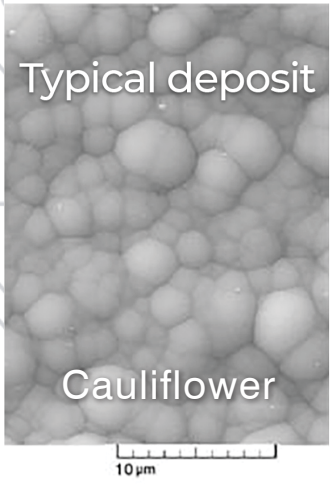
Advantages

Fabrication

- Lowest operating cost
- Reduced gold usage
- Reduced maintenance and analytical costs
- No extraneous plating

Assembly

- World-class solderability
- World-class acceptability per IPC 4552 A &B spec
- Low contact resistance
- Excellent bondability



TechniPad
ENIG Process

Catalyst

TechniCatalyst AT 4608
Sulfate-based chemistry with a proprietary palladium complex to create a precision catalyst for selective plating of Electroless Nickel on Copper traces and pads.

TechniCatalyst AT 4608 provides a wider process window for fine spaces and eliminates deposition on porous non-conductive materials like Teflon or Polyimide.

Electroless Nickel

Technic EN AT 5600 IMP
Specialized organic stabilizers that produce lateral nickel growth on Palladium seed copper.

- Unsurpassed tank stability
- Flatter surfaces
- No sign of corrosion
- Better solder spread

Immersion Gold

Technipad AU 6100
Cyanide immersion gold process operating on a completely novel mechanism, Substrate catalyzed reaction with 25% Nickel removal required to deposit Gold.

Techni IM Gold AT8000
Cyanide free immersion gold process operating on a completely novel mechanism, Substrate catalyzed reaction with 25% Nickel removalrequired to deposit Gold.

Characteristics of both:

- Eliminates staining of white solder mask
- Better protection of Nickel sealed deposit
- Significant reduction in Gold usage
- Excellent plating distribution
- Operates at low/safe Gold concentration
- Eliminates corrosion

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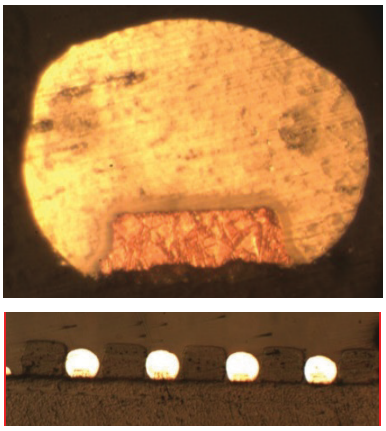
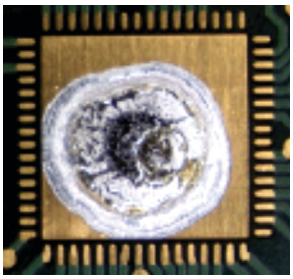


TechniCatalyst AT4608 showing a precise Pd actvation controlled replacement reaction

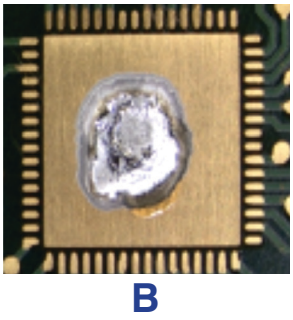
Characteristics:

- Slower Cu Build Up
- Improved Cu Selectivity
- Self Limiting Deposit



Solder Testing

Testing at Universal Advanced Process Lab per IPC TM650 method 2.4.4651 mil SAC 305 solder ball Kester TSF 6502 tacky flux



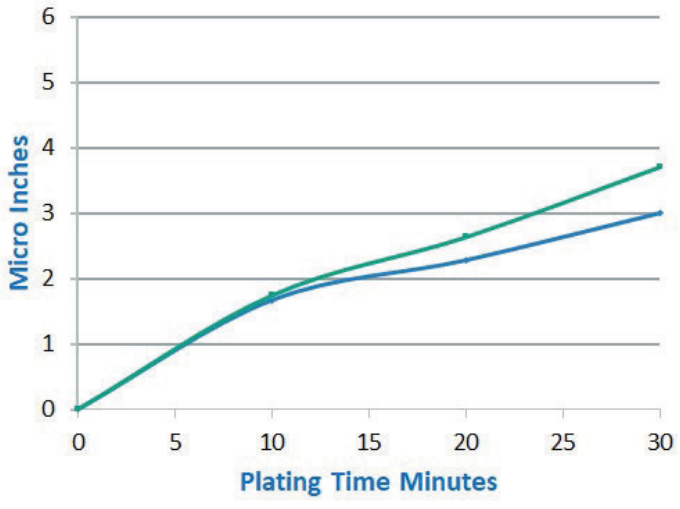
A

(A)
Flat Technic EN AT 5600 deposit provided better wetting

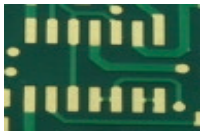
B

(B)
Cauliflower deposit had Less wetting.

Plating Thickness Large Pad vs. Small Pad



Q-Flat Pack Pad



Large Heat Sink