

# TechniPad ENIG

Higher Performance / Lower Cost



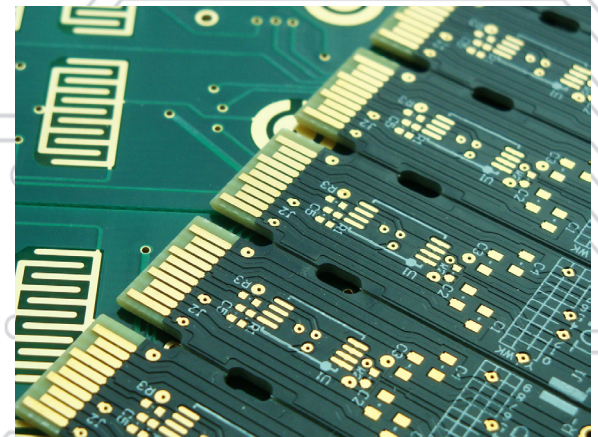
**TECHNIC**

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## World-Class Acceptance Per IPC 4552 A & B

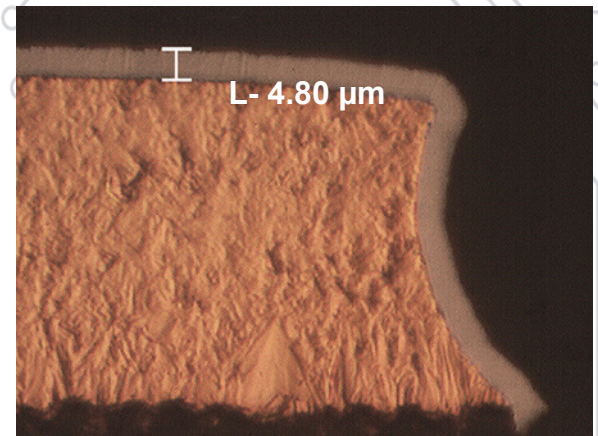
TechniPad ENIG is a paradigm shift that eliminates black pad and reduces cost. TechniPad chemistry utilizes unique EN stabilizers and a novel Pd complex to eliminate fabrication issues and dramatically reduce maintenance. In addition, gold deposition is substrate catalyzed, eliminating Ni corrosion, 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
- ISO certified manufacturing
- Meeting OEM approvals
- Wide-ranging



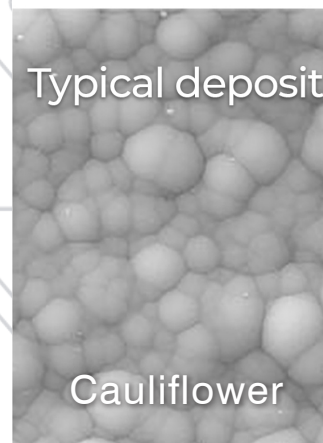
## Advantages

### 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



Typical deposit

Cauliflower

10 μm



TechniPad

Flat

10 μm

# 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 surface
- No corrosion
- Better solder spread

## Immersion Gold

### Technipad AU 6100

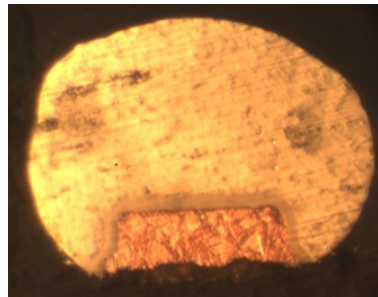
Cyanide immersion gold process operating on a completely novel, substrate-catalyzed reaction with almost no Nickel removal required to deposit Gold.

### Techni IM Gold AT8000

Cyanide-free immersion gold process operating on a completely novel mechanism, substrate catalyzed reaction with almost no Nickel removal required to deposit Gold.

*Characteristics of both:*

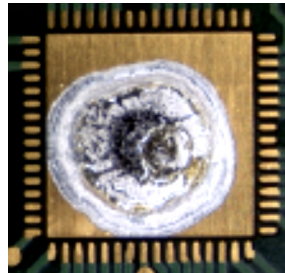
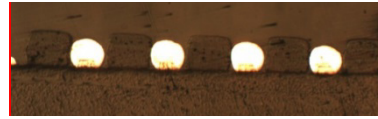
- Eliminates staining of white solder mask
- Better protection of Nickel sealed deposit
- Significant reduction in Gold usage
- Excellent plating distribution
- Operates at low/safe Gold concentration
- Eliminates corrosion



TechniCatalyst AT4608 showing a precise Pd activation controlled replacement reaction

Characteristics:

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



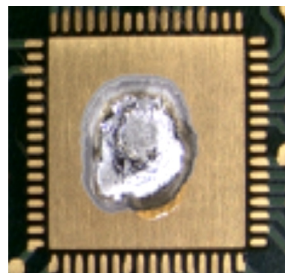
A

## 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

Results:

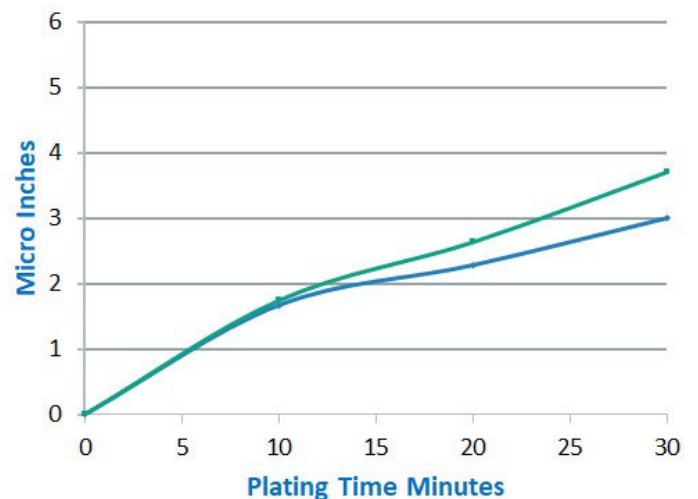
(A) Flat Technic EN AT 5600 deposit provided better wetting



B

(B) Higher Au with a rougher deposit had mixed results

## Plating Thickness Large Pad vs. Small Pad



Q-Flat Pack Pad

Large Heat Sink

