

Technipad ENIG & ENEPIG

The Fabrication and Assembly Solution

TechniPad ENIG and ENEPIG processes offer substantial cost savings while producing a higher quality product. The TechniPad process works in conjunction with Technic's ground-breaking electroless nickel, Technic EN AT5600, and cyanide free immersion gold, Technic IM Gold D101. The TechniPad processes provide:

- **World Class Solderability**
- **Lowest Operating Cost**
- **Highest Fabrication Yields**
- **The Ultimate Final Finish**
- **Reduced Environmental Impact**

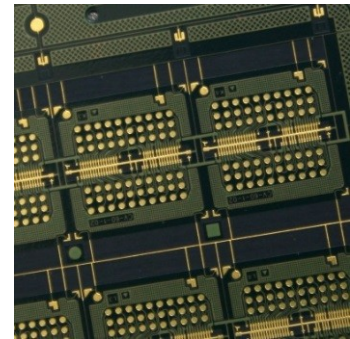
World Class Solderability: TechniPad's flat EN deposit eliminates black pad and provides a cleaner surface for soldering. The end result is a better solder flow and a higher, more consistent solder joint strength.

Lowest Operating Cost: Technipad ENIG's unique topography enables reduced gold consumption by reducing the surfaced area being plated. Longer bath lives in each process step and the improved stability of the electroless nickel reduces waste treatment cost while increasing production capacity. Technic EN AT5600 eliminates the frequent pump-overs and dummy plating required by competitive solutions.

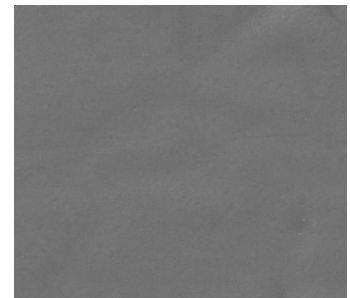
Highest First Pass Yields: The Technipad ENIG process eliminates footing, edge pull back, and skipping and provides a wide process window for solder mask adhesion. The key is consistent activation and an electroless nickel with a very wide stabilizer process window, making it almost impossible to over or under stabilize the process.

TechniPad - The Ultimate Final Finish: The TechniPad ENIG & ENEPIG processes can be utilized for all types of interconnects in soldering, wire bonding, touch and slide contact applications. This means one process line can be utilized to meet all final finish requirements.

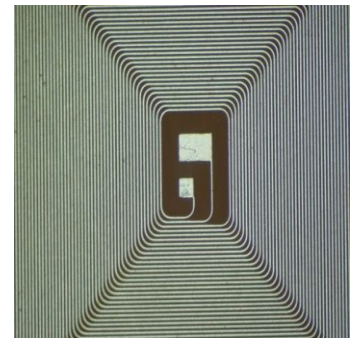
TechniPad - The Green Solution: TechniPad is the only process to utilize a proprietary, non-cyanide Immersion gold. In addition, the entire TechniPad process eliminates plate out, thereby providing longer bath life and dramatically reducing the burden on waste treatment.



TechniPad ENIG on PCB substrate



TechniPad ENIG flat topography



TechniPad ENIG - 1mil line and space



TechniPad ENEPIG - 0.5 mm pitch BGA



Category	Feature	Benefit
COST SAVINGS	Unique EN deposit	Up to 30% reduction in gold usage
	Extremely stable electroless nickel	Reduced cost Almost no pump-overs Increased production capacity Reduced waste generation
	IM Au operates at 1gm/l Au and yields 10-20 MTOs	Reduced drag out & lower makeup and operating costs
	Self-limiting, cyanide free immersion gold	Reduced Au usage / cost Reduced environmental impact
	Long catalyst bath life Low Pd concentration in catalyst	Up to 50% reduction in activation cost
IMPROVED QUALITY	Unique EN deposit yields <ul style="list-style-type: none"> No corrosion products or black pad Consistent P content on EN surface 	Improved solder spread Improved solder joint strength Improved quality with respect to black pad
	Stable catalyst with no organic component to break down Wide process window on EN stabilizers	Excellent coverage with no skipping or edge pull back
	Controlled initiation reduces gassing & helps encapsulate solder mask foot	Improved operating window for solder mask adhesion
	Stable catalyst with low Pd concentration Stable electroless nickel	No extraneous plating on dielectric & no footing No dummy plating required
ENVIROMENTAL IMPACT	Long solution lives & stable plating baths	Reduced waste
	Cyanide free immersion Au	Eliminate toxic cyanide source
ULTIMATE FINAL FINISH	Process sequence for soldering, wire bonding, touch & slide contacts	One line for all surface finish applications