

ENEPIG

The Answer to Complex Wire Bonding's Prayers

Streamline Circuits Corp has a unique ability of keeping up with advancing technology and foreseeing the future of pcb demands. One of these demands is advancements in wire bonding. The company fully agrees that not only does our use of [Uyemura Talon 2.0 ENEPIG](#) finish meet new wire bonding challenges; it also adds several other advantages in the plating and loading processes.

The process using the combination finish, electroless nickel/ electroless palladium/ immersion gold (ENEPIG), first emerged in the 1990s. After a drop off in use as a result of a spike in palladium costs, ENEPIG has recently found itself to be a contender for the top of the finish staircase with the progression in technology and now rising costs of gold.

ENEPIG is an overall very versatile finish. Not only can it handle almost every through hole application, it also has a smoother surface for advanced bonding in the SMT stage. This especially holds true in the case of ENEPIG's claim to fame, its aid in the wire bonding with gold process.

Complex wire bonding is an everyday characteristic of today's high tech pcbs, and with it includes many opportunities for very expensive errors. The most obvious being human error throughout the many extra steps required to go through the soft gold plating process when wire bonding with gold is required. There is also the possibility of corrosion. Aside from all of these errors, gold plating is also costly. ENEPIG is, quite honestly, the lead - free answer to wire bonding's prayers. The palladium combination provides the ability to easily wire bond with gold instead of having to go through the soft gold plating process. The combination of the gold and the palladium allows for the acceptance of the wire bonding to gold. Moreover, this also means a cheaper alternative to gold plating because ENEPIG only requires only approximately 2 – 5 micro-inches of gold, as compared to approximately 30 – 50 micro-inches minimum with a finish requiring soft gold plating.

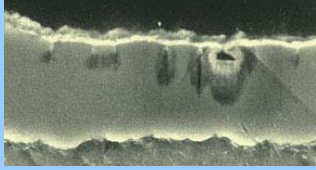
Streamline Circuits can always be counted on for the latest and greatest callouts. The company's new focus in advanced finishes, such as ENEPIG, is one of the hundreds of ways that it proves to be not just at the cutting edge of technology but rather the "bleeding edge" as VP of Sales, Tom Doslak, describes.

www.streamlinecircuits.com

1-877-264-0343

See how ENEPIG compares to other popular finishes below:

Based on chart in *Why Electroless Nickel Electroless Palladium Immersion Gold (ENEPIG)?* (Lam Leung, Rohm and Haas Electronic Materials Asia Ltd. (Hong Kong) , 2008)

	Through Hole Technology	SMT/BGA	Press Fit	Wire Bond	Flip Chip / TAB
HASL		Not desirable for tight pitch			Not optimal with fine features
OSP	Decent but not handling friendly				
ENIG		 Black Pad			
lag				Al wire only	
ENEPIG	Very versatile for multiple applications	Provides a plainer surface for enhanced bonding		No need for thick, expensive soft gold	

Good
Decent
Poor