

## EPIG process

### Electroless palladium and semi-autocatalytic gold plating

Umicore's palladium and gold plating process (EPIG) provides customers a high performance nickel-free coating which meets most of the common assembly requirements like multiple solderability and bondability with aluminium and gold wire even by existing thermal ageing stress before assembly.

Due to its outstanding film characteristics EPIG deposition is very well suited to withstand the higher requirements of PCB designer concerning fine pattern ability and high performance regarding soldering and bonding process signal transfer in combination with complying newest RoHs and WEEE regulations.



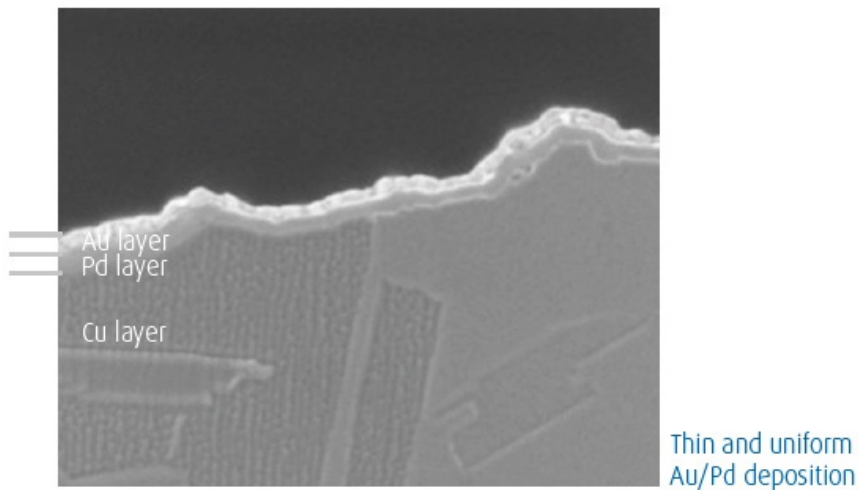
### Advantages

- Nickel free coating
- Thin and very uniform electroless deposition
- Suitable for (ultra) fine pitch layouts
- Ductile film compatible for flex PCB applications
- Dense and homogenous gold protection layer up to 0.3  $\mu\text{m}$  feasible
- High solderjoint reliability (SJR) due to low void formation
- Excellent Al-, Au-, Cu-(Pd coated) and Ag-wire bondability

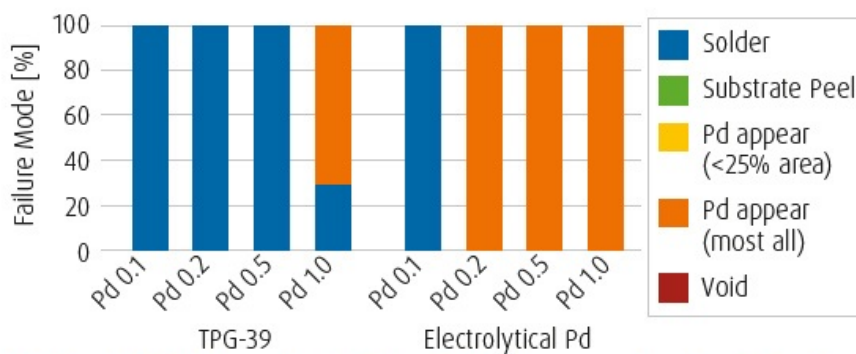
### Applications

- Flexboard PCB (FPC)
- Multi-functional assembly
- Fine pattern PCB design

## Cross-Section Observation by FIB of EPIG Film

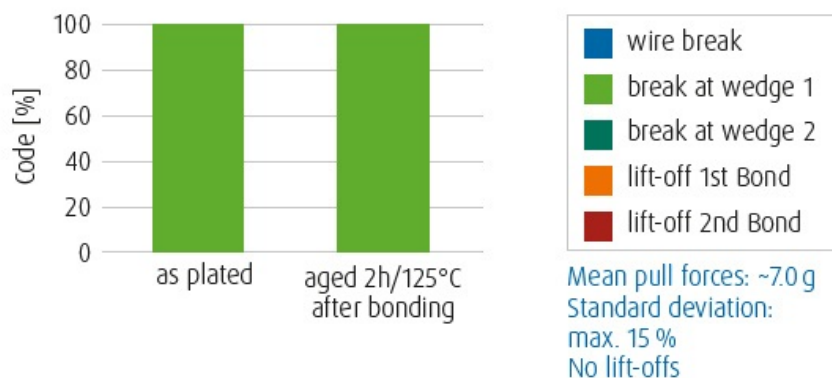


## Comparison of EPIG and Pd Film Type for SJR

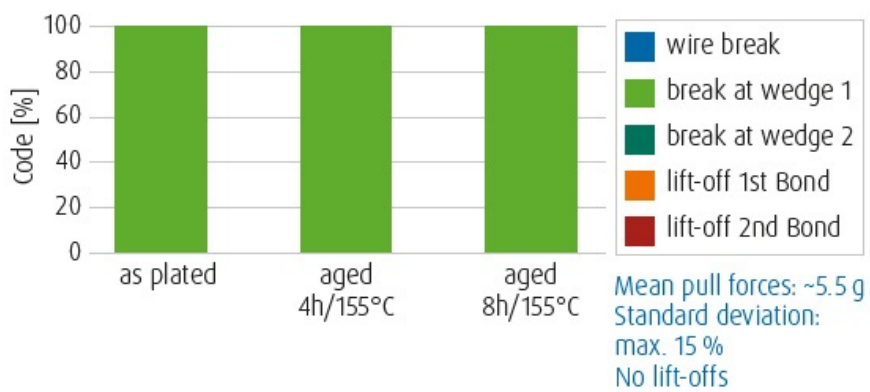


EPIG used Pd-P had excellent SJR when Pd thickness was less than 0.5μm. On the other hand, EPIG used pure Pd had poor SJR when Pd thickness was more than 0.2μm.

## Aluminium Wire Pull Test Results



## Gold Wire Pull Test Results



## Your contact person



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