

ISIG process

Immersion silver and semi-autocatalytic gold plating

Umicore's silver and gold plating process (ISIG) 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 ISIG deposition is very well suited to withstand the higher requirements of PCB designer concerning fine pattern ability and high frequency signal transfer in combination with complying newest RoHs and WEEE regulations.

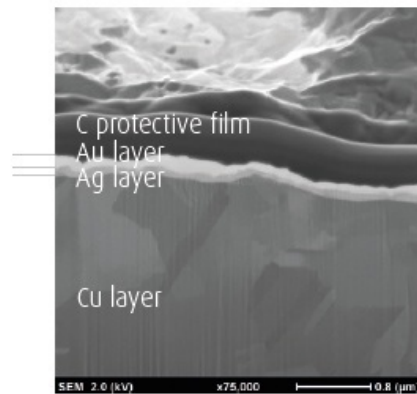
Advantages

- Nickel free coating
- High conductivity
- Thin and very uniform electroless desposition
- Suitable for (ultra) fine pitch layouts
- Ductile final finish compatible for flex PCB
- Dense and homogenous gold protection layer up to 0.3 μm feasible
- Reliable Pb-free and Sn/Pb soldering
- Excellent Al- and Au-wire bondability

Applications

- Flexboard PCB (FPC)
- Medical technology
- High frequency technology

Cross-Section Observation by FIB of ISIG Film

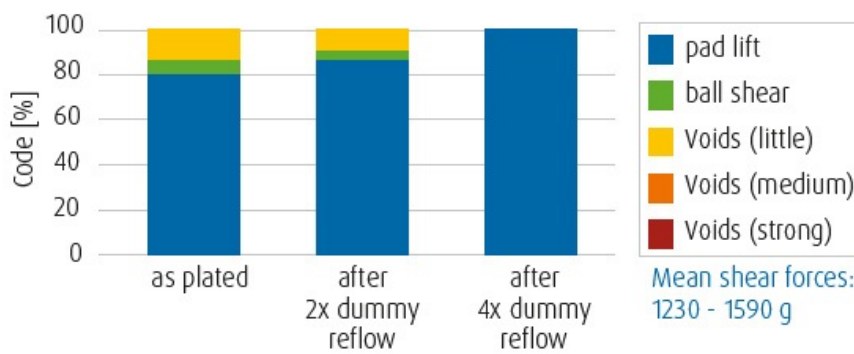


Thin and uniform Au/Ag deposition

BGA Solder Ball Shear Results

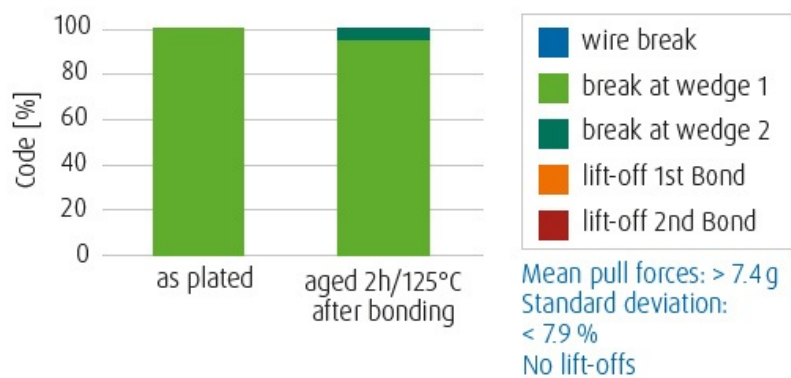
(ball size 0.76 mm, 30 mil, SAC solder)

ISIG PCB, plated with 0.18 μm Ag and 0.15 μm Au

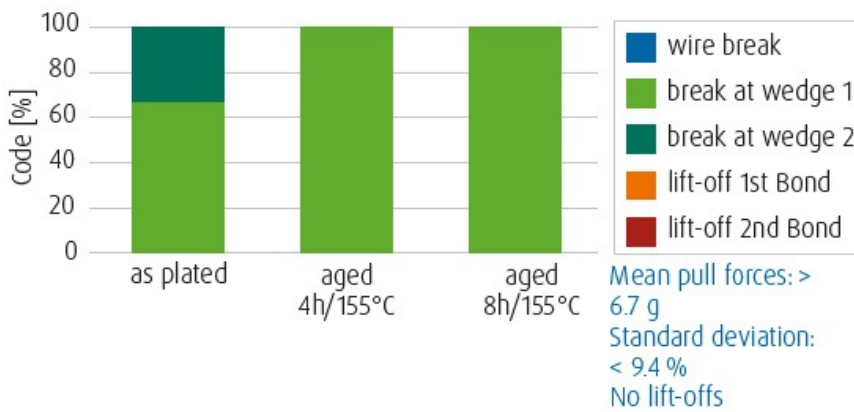


Aluminium Wire Pull Test Results, AlSi1 25 μm

ISIG PCB, plated with 0.18 μm Ag and 0.15 μm Au



Gold Wire Pull Test Results, Au Heraeus HD2 25 µm ISIG PCB, plated with 0.18 µm Ag and 0.15 µm Au



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