For fine pattern formation, high joint reliability

Electroless nickel/ gold plating process

- ▶ High fine patterning property, ideal for micro pattern plating
- ▶ Localized copper corrosion is suppressed, reduce voids
- ▶ Reduce pinholes, can obtain dense plating films
- ▶ Excellent in solder joint performance and solder wettability

proces

Treatment process

Cleaning etching acid cleaning



Catalyzing

Sulfuric-acid based, low Pd concentration (7mg/L)

ICP ACCERA KCS



Post-dipping

Low concentration, chelate-type, Pd remover

ICP POSTDIP RP-S



Electroless Ni plating

High deposition performance to small electrodes

(For FPC)

ICP NICORON FPF-TM

(For rigid boards)

ICP NICORON GM-EC

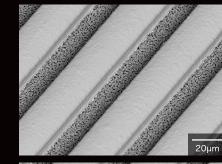


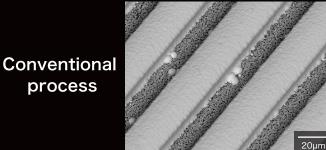
Electroless Au plating

High solder joint performance

FLASH GOLD 330GS

Best for fine pattern formation





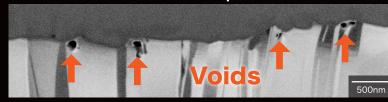
Surface SEM images after electroless Ni/Au plating (Thickness: 4.0µm/0.05µm)

Reduce voids on micro electrodes

New process

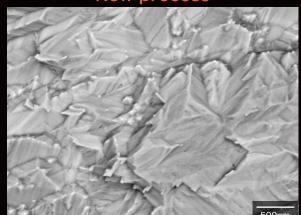


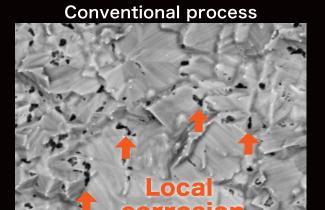
Conventional process



Cross-section SIM images after electroless Ni plating at 60µm-diameter electrodes

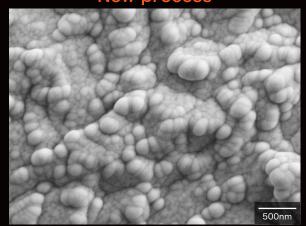
Prevent copper corrosion



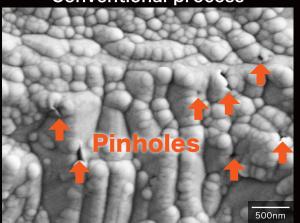


Surface backscattered image after catalyzing

Dense and fine nickel-plating film

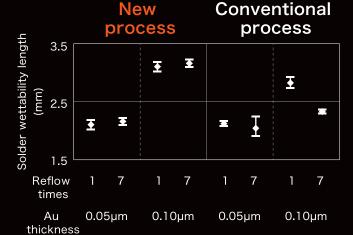




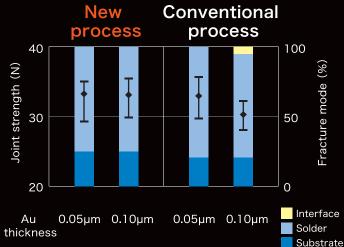


Surface SEM image after electroless Ni plating (Thickness: 0.2µm)

High solder wettability, solder joint performance



Solder wettability after electroless Ni/Au plating (Thickness: 4.0µm/0.05µm or 0.10µm)



Solder joint strength after electroless Ni/Au plating (Thickness: 4.0µm/0.05µm or 0.10µm)