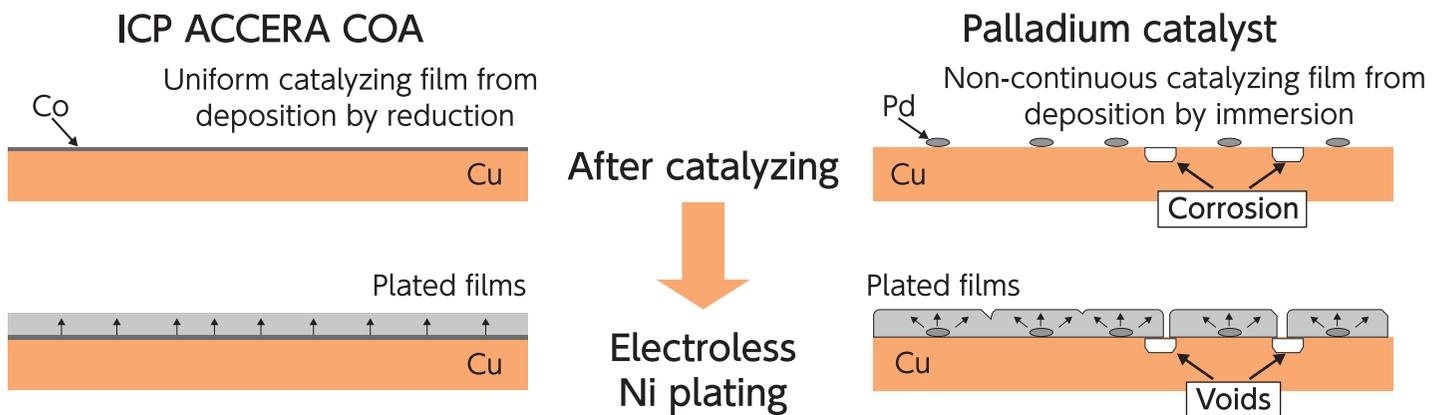


Void-free final surface treatment by reduced-type cobalt catalysts

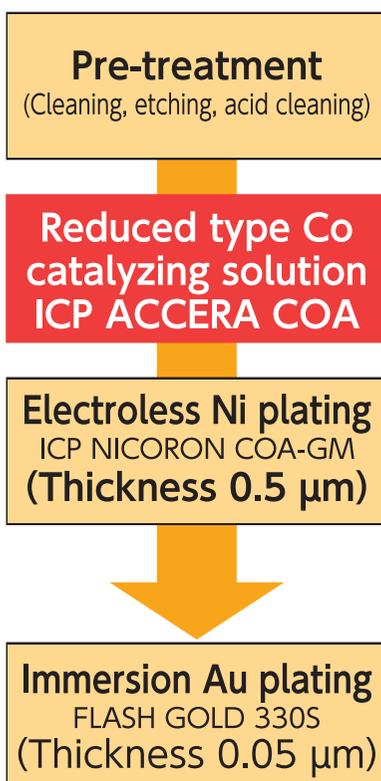
ICP-COA PROCESS

- Can reduce electroless nickel plating thickness (Conventional: 3.0 μm \rightarrow ICP-COA PROCESS: 0.5 μm)
- Utilize reduced-type cobalt catalyst to prevent copper corrosion
- Void-free, high covering performance can be obtained
- Great solder joint ability with small thickness

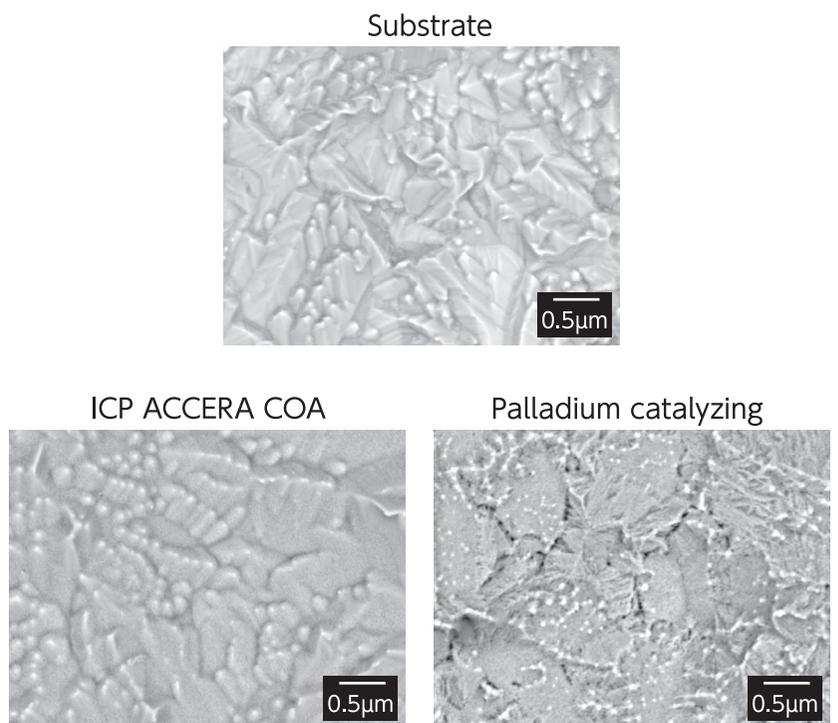
Void-free, high covering power comes available



Process



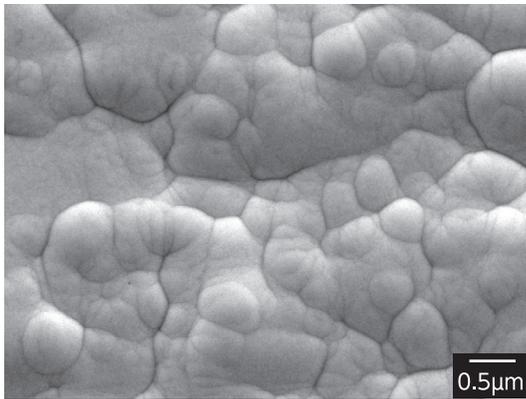
Prevent copper corrosion at catalyzing



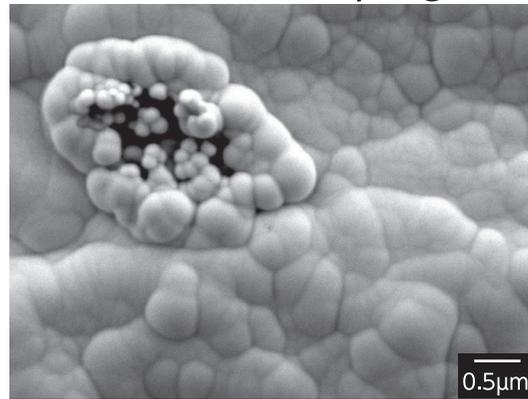
Surface SEM image before/after catalyzing

High covering performance of electroless nickel plating

ICP ACCERA COA



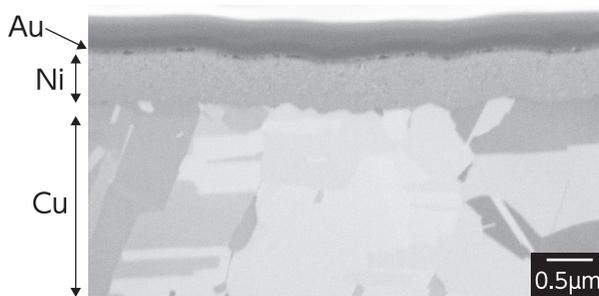
Palladium catalyzing



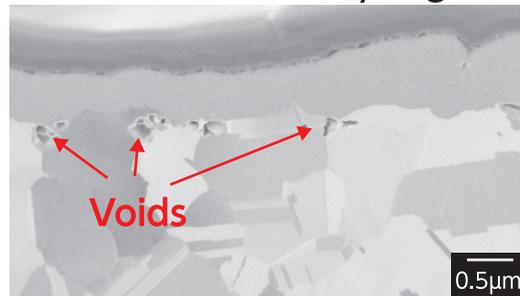
Surface SEM image after electroless nickel plating
(Thickness:0.5 µm)

No void occurrence between Ni and Cu films

ICP ICCERA COA

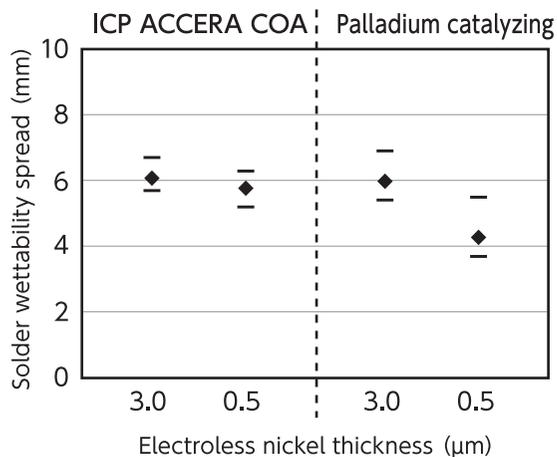


Palladium catalyzing

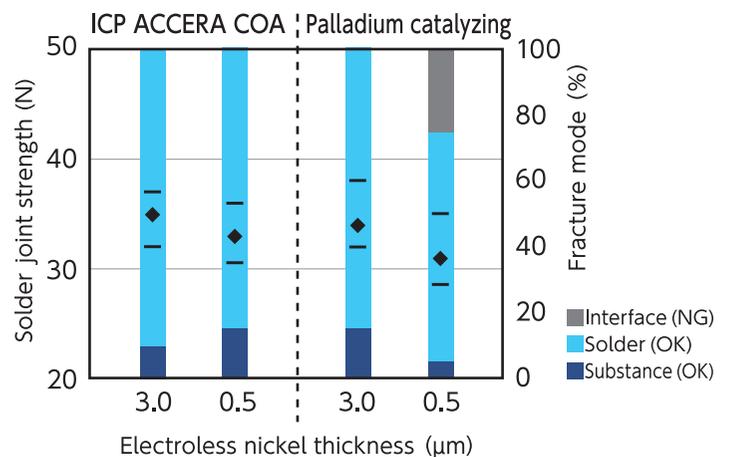


Cross-sectional SIM image after electroless Ni/Au plating
(Ni thickness:0.5 µm)

Great solder joint performance



Solder wettability evaluation
Electroless Ni/Au (Thickness:3.0 or 0.5/0.05 µm)



Solder pull evaluation
Electroless Ni/Au (Thickness:3.0 or 0.5/0.05 µm)