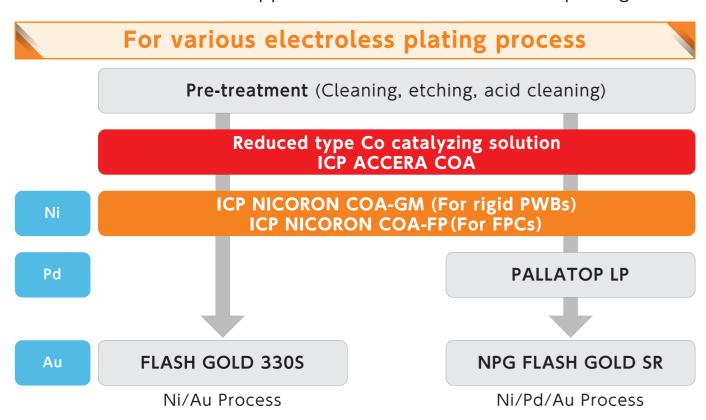
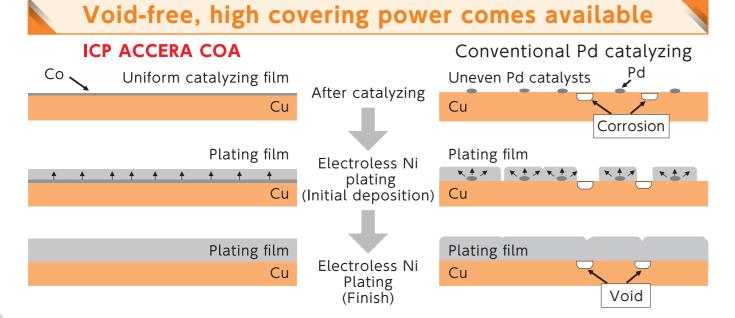
# **ICP-COA PROCESS**

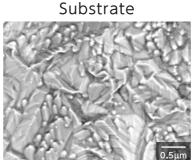
Void-free final surface treatment by reduced-type cobalt catalysts for printed wiring boards

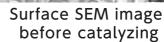
- Use reduced-type cobalt catalysts to protect Cu substrates
- Void-free, high covering performance can be obtained
- Excellent in fine-patterning performance
- Ni/Au, Ni/Pd/Au, and applicable to various electroless plating

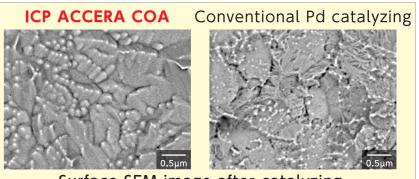




#### No void occurrence **Prevent Cu corrosion at catalyzing**



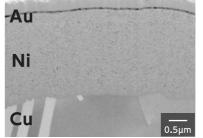


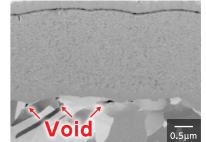


Surface SEM image after catalyzing

## ICP ACCERA COA





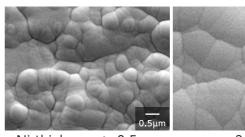


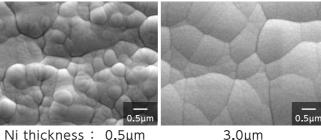
Cross-section SIM image after electroless Ni/Au plating

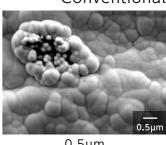
#### Fine and uniform deposition by small thickness

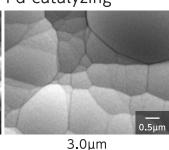
ICP ACCERA COA

Conventional Pd catalyzing









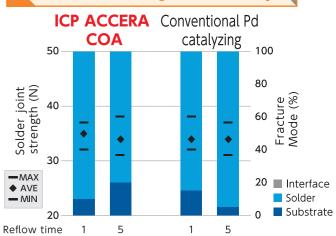
Surface SEM image after electroless Ni plating

**Excellent fine patterning performance** 

ICP ACCERA Conventional Pd COA catalyzing

 $L/S = 20 / 20 \mu m$ Surface SEM image after electroless Ni/Au plating (Thickness: 3.0 / 0.05μm)

## **Great solder joint ability**



Solder pull evaluation Ni/Au (thickness: 3.0 / 0.05µm)