



AuPCW

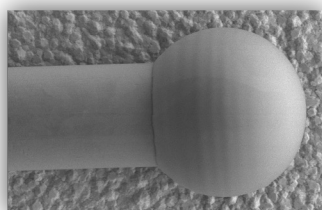
AuPd-coated Copper Wire

AuPd-coated copper wire is designed to improve the bonding performance of Pd-coated copper bonding wire.

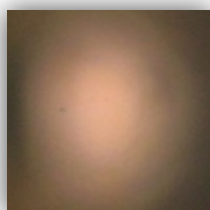
TYPE : HS-GP, GPF Plus, G1-S, GPF Ultra

Good FAB shape and Pd distribution

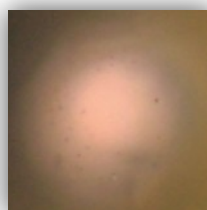
Good Pd distribution on FAB surface



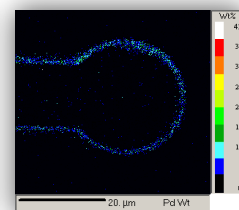
Wire dia. : $18\mu\text{m}$, FAB : $32\mu\text{m}$



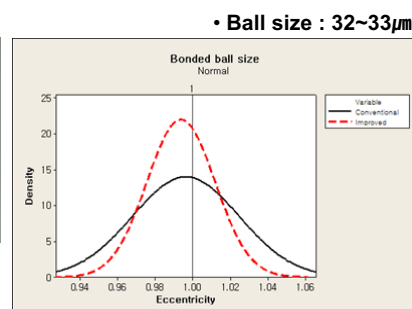
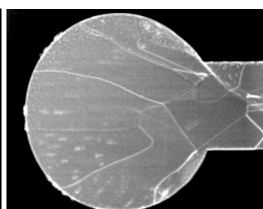
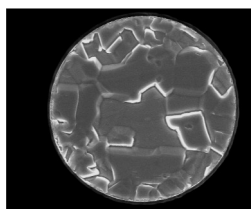
40mA, 268 μs



70mA, 129 μs

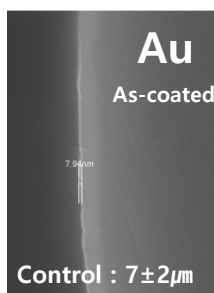
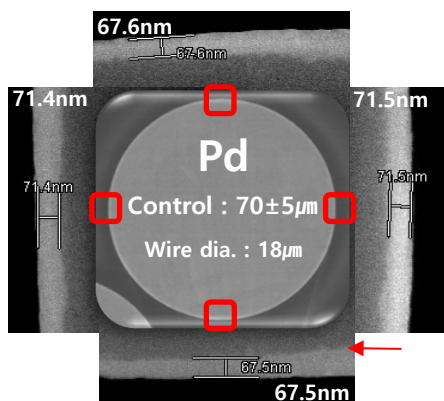


Uniform microstructure



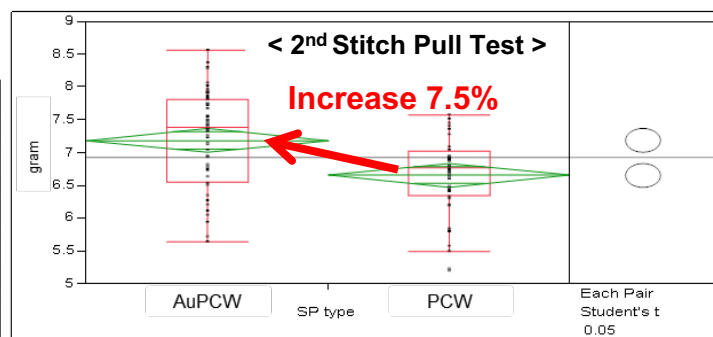
Pd and Au thickness

Uniform & stable coating layer control



Good 2nd bondability

Better workability

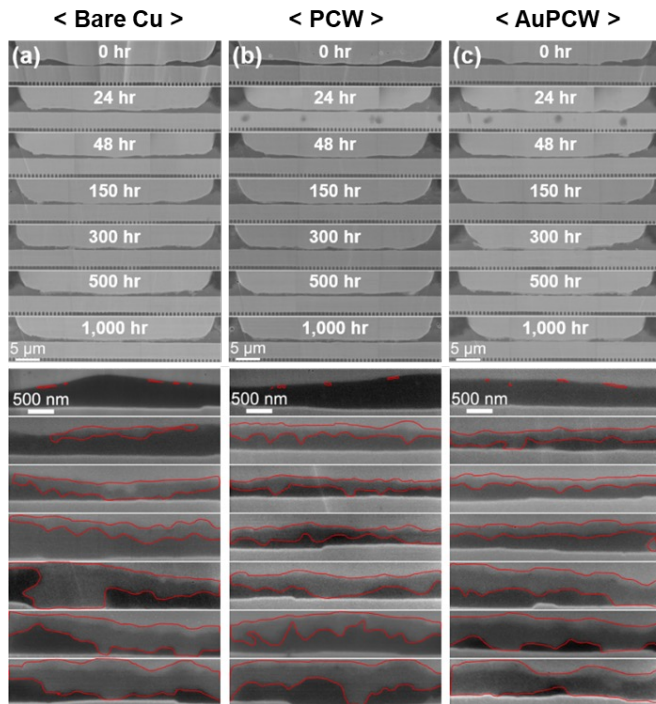


Good reliability

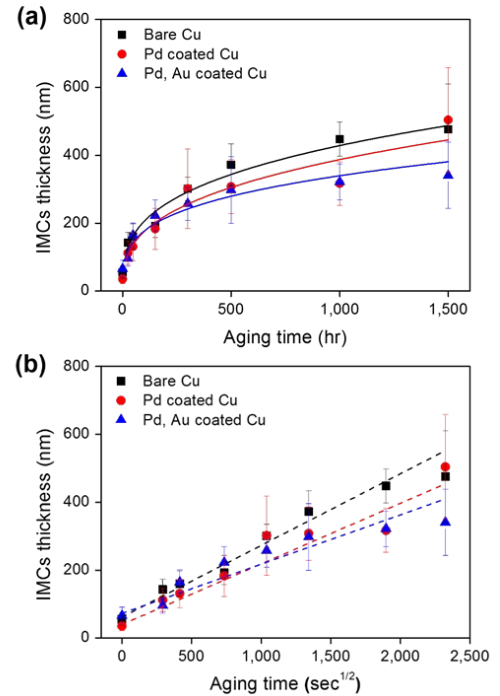
IMC growth rate

: Bare Cu > PCW > AuPCW

※ SEM images of the interface after HTST at 150 °C



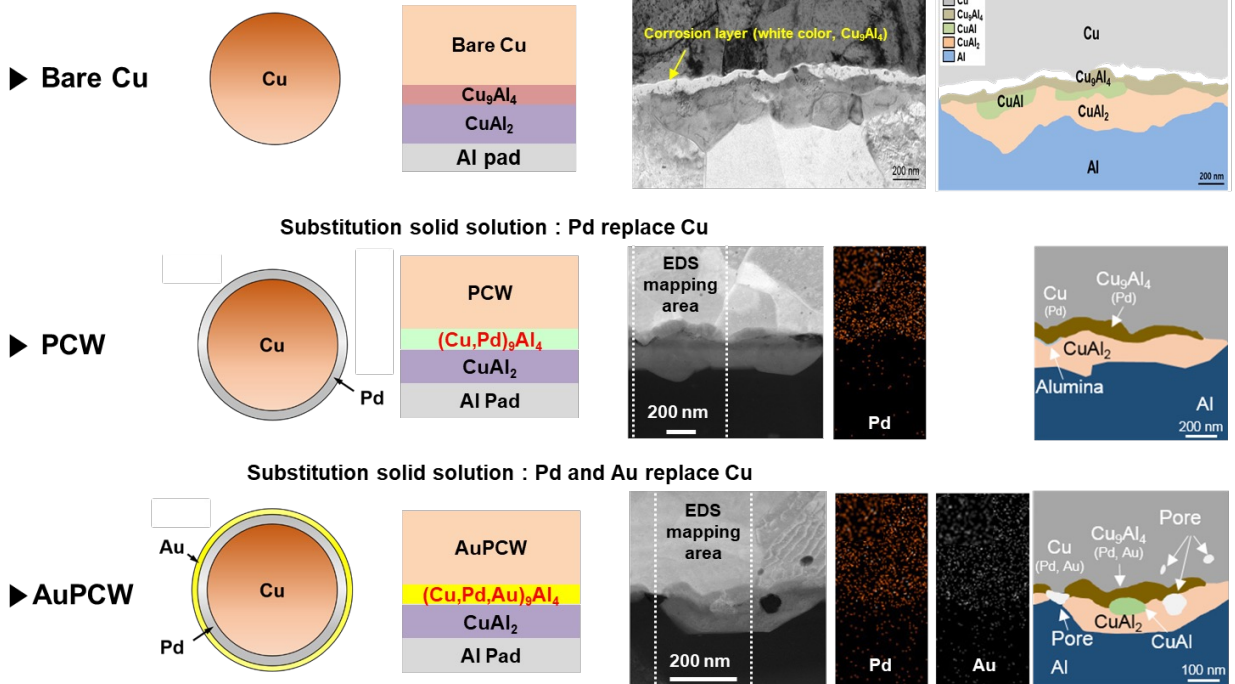
※ The growth of the IMC thickness as aging time



IMC formation

< IMC formation >

< TEM analysis > (uHAST at 130°C for 480h)



PCW and AuPCW – Formation of substitutional solid solution

: Substitution of Cu with Pd and Au in Cu_3Al_4 phase → IMC growth rate ↓

: Cu_3Al_4 in bare Cu → $(\text{Cu}, \text{Pd/Au})_3\text{Al}_4$ solid solution in PCW & AuPCW → uHAST reliability ↑