Interaction Effects between Calcium and Palladium Dopants on the Mechanical Properties of Fine Gold Bonding Wire

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ABSTRACT
Bonding wire producers worldwide commonly dope their gold wires with various dopants to achieve desired wire properties, as pure gold wires are extremely soft. To date, only positive synergistic effects between various dopants were being reported, while none has observed negative dopants interaction. Our current investigation of wires co-doped with palladium and calcium, however, indicates that palladium seems to interact negatively with calcium to affect the tensile strength and elastic modulus of wires, within the concentration of interest.

Keywords: gold bonding wires, dopant, interaction, mechanical properties

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