

CLAIMS

[Claim 1] A palladium (Pd)-coated copper wire for ball bonding, the palladium (Pd)-coated copper wire having a copper (Cu) or copper-alloy core and a palladium (Pd) coating formed on the core and having a wire diameter of 10 to 25 μm , comprising:

a solid palladium (Pd) layer solely consisting of solid palladium (Pd), the solid palladium (Pd) layer being present in the palladium (Pd) coating, and

a copper (Cu)-exuded layer formed of copper (Cu) exuded from the core, the copper (Cu)-exuded layer being formed on the palladium (Pd) coating, a surface of the copper (Cu)-exuded layer having been oxidized.

[Claim 2] A palladium (Pd)-coated copper wire for ball bonding, the palladium (Pd)-coated copper wire having a copper (Cu) or copper-alloy core, a palladium (Pd) coating on the core, and a gold (Au) coating on a surface of the palladium (Pd) coating, and having a wire diameter of 10 to 25 μm , comprising:

a copper (Cu)-exuded layer formed of copper (Cu) exuded from the core, the copper (Cu)-exuded layer being formed on the gold (Au) skin layer, a surface of the copper (Cu)-exuded layer having been oxidized, and

a solid palladium (Pd) layer solely consisting of solid palladium (Pd), the solid palladium (Pd) layer being present in the palladium (Pd) coating.

[Claim 3] The palladium (Pd)-coated copper wire for ball bonding according to claim 1 or 2, wherein a component element of the copper (Cu)-exuded layer is detectable to a depth of not less than 0.5 nm and not greater than 30 nm

below a surface of the wire.

[Claim 4] The palladium (Pd)-coated copper wire for ball bonding according to claim 1 or 2, wherein oxygen is detectable on a surface of the wire.

[Claim 5] The palladium (Pd)-coated copper wire for ball bonding according to claim 1 or 2, wherein a component element of the palladium (Pd) coating is detectable to a depth of not less than 100 nm and not greater than 500 nm below a surface of the wire.

CLAIMS

[Claim 1]

A palladium (Pd)-coated copper wire for ball bonding, the palladium (Pd)-coated copper wire having a copper (Cu) or copper-alloy core and a palladium (Pd) coating formed on the core and having a wire diameter of 10 to 25 μm , comprising:

a solid palladium (Pd) layer solely consisting of solid palladium (Pd), the solid palladium (Pd) layer being present in the palladium (Pd) coating, and

a copper (Cu)-exuded layer formed of copper (Cu) exuded from the core, the copper (Cu)-exuded layer being formed on the palladium (Pd) coating, a surface of the copper (Cu)-exuded layer having been oxidized.

[Claim 2]

A palladium (Pd)-coated copper wire for ball bonding, the palladium (Pd)-coated copper wire having a copper (Cu) or copper-alloy core, a palladium (Pd) coating on the core, and a gold (Au) coating on a surface of the palladium (Pd) coating, and having a wire diameter of 10 to 25 μm , comprising:

a copper (Cu)-exuded layer formed of copper (Cu) exuded from the core, the copper (Cu)-exuded layer being formed on the gold (Au) skin layer, a surface of the copper (Cu)-exuded layer having been oxidized, and

a solid palladium (Pd) layer solely consisting of solid palladium (Pd), the solid palladium (Pd) layer being present in the palladium (Pd) coating.

[Claim 3]

The palladium (Pd)-coated copper wire for ball bonding according to claim 1 or 2, wherein a component element of the copper (Cu)-exuded layer is detectable to a depth of not less than 0.5 nm and not greater than 30 nm below a surface of the wire.

[Claim 4]

The palladium (Pd)-coated copper wire for ball bonding according to claim 1 or 2, wherein oxygen is detectable on a surface of the wire.

[Claim 5]

The palladium (Pd)-coated copper wire for ball bonding according to claim 1 or 2, wherein a component element of the palladium (Pd) coating is detectable to a depth of not less than 100 nm and not greater than 500 nm below a surface of the wire.