



Surface Finishes

Metal Finish	In-House / Sub-Contract	Suitability	Typical Thickness
Electroless Nickel Immersion Gold (ENIG)	In-House	Suitable for lead-free solder or aluminium wire bonding	Ni 4µm - 6µm Au 0.05µm - 0.1µm
Electroless Nickel Electroless Palladium Immersion Gold (ENEPIG)	In-House / Sub-Contract	For advanced boards with both RoHS compliant solder and wire bonding	Ni 3µm - 5µm Pd 0.1µm - 0.5µm Au 0.025µm - 0.05µm
Electroplate Gold (Hard) Over Nickel	In-House	Selective (eg: edge connectors) / all-over finish	Ni 1.0 - 6.0µm Au 1.0µm - 3.0µm
Electroless Gold (Soft) Direct Over Copper	In-House	Selective (eg: edge connectors) / all-over finish more suited to RF applications	Au 0.05µm - 1.0µm
Immersion Silver (IAg)	In-House	Sterling silver II RoHS compliant soldering	0.1µm - 0.25µm
Immersion Tin (ISn)	Sub-Contract		Sn 1.0µm - 1.1µm
Hot Air Solder Level (HASL)	In-House	SnPb 37/63 eutectic tin lead	10µm - 25µm
Lead-Free Hot Air Solder Level		RoHS compliant soldering	10µm - 25µm
Organic Solderability Preservative (OSP)	In-House	Entek: RoHS compliant soldering	0.2µm
Soft Gold	Sub-Contract	Suitable for gold wire bonding	As required
Silver Ink	In-House	On request	
Carbon Ink	In-House	On request	