

Surface finish	Shelf-life, Finished PCB	Advantages	Disadvantages	General spec of surface finish	Soldering temperature	Primary applications	Soldering aging (hr)	Cost
Immersion silver	6 months	1, Good flatness and solderability; 2, Good for RoHs process; 3, Low contact impedance, good conductivity, good for signal transmission; 4, Suitable for horizontal plating line and good for thinner board thickness;	1, Strict requirement to working environment, easy to oxidize and discolor; 2, Easy to generate micro bubbles on the surface; 3, SMIA effect, difficult to control; 4, Relative thin plating layer;	0.1-0.5um	260°C	Telecom&networking, consumer electronics	24	medium high
Electro-tin	6 months	1, Environmental friendly, lead free plating; 2, Low tension; 3, Plating thickness can be up to 15um; 4, Good solderability;	1, Specific requirement to storage condition, exposure to the air will result in tin whisker on the edge of plated area; 2, Bigger crystal particle size; 3, Soft surface, easy to scratch;	0.1-12um	260°C	Telecom&networking, automotive, power supply	48	medium high
Electro-silver	6 months	1, Good flatness and solderability; 2, Good for lead free process; 3, Low contact impedance, good conductivity, good for signal transmission; 4, Plating thickness can be up to 15um;	1, Special requirement to environment and safety protection; 2, Specific requirement to working condition to segregate PCB with air exposure; 3, Difficult to control for uniformity on the marginal area; 4, Extremely high cost;	0.1-8um	260°C	Telecom&networking,	48	Very high
Electro-gold	12months	1, Good solderability; 2, Long shelf-life; 3, Good contact and high wear resistance;	1, High cost; 2, Difficult solderability control; 3, Difficult control for adhesion of solder mask;	Ni: 3-5um Au: 0.01-0.05um	260°C	Telecom&networking, consumer electronics	48	High