

Silver Plating

COTEC has various surface treatment technologies and the company concentrates on products development and quality control to develop various surface treatment items



Production items and applications

Department / Material		Aircraft, Defence, Atomic power, Electric products, Electronic products / Fe, STS, Al, Cu	
Usage		Parts for soldering, Product with its electric conductivity to be enhanced and products, Electrical contact parts	
Thickness (General criteria)		1~30 μ m hours	
Applied specifications	National defense 0115-0015 (Yeon) AMS QQ-S-365 ASTM B 700 KSD 8339	Thickness	12.5 μ m minimum \uparrow
		Adhesiveness	No trace of separation of coating from substrate.
		Relief of hydrogen embrittlement	The brittle time depending on material organization state and hardness At 191 \pm 14 $^{\circ}$ C, for more than 3 hours (HRC 32~39) At 191 \pm 14 $^{\circ}$ C, for more than 8 hours (HRC 40~47) At 191 \pm 14 $^{\circ}$ C, for more than 23 hours (HRC 48)
		Soldering test	No mass should be generated on the coated surface and the uniform soldering. The coating should not fall or break from the surface.
Acceptance		External	HAMILTON
		Internal	DOOWON, HANHWA, KAI, LIG NEX 1, ADD

Equipment condition

COTEC	800 \times 600 \times 1,200 mm
	1,600 \times 600 \times 1,000 mm
	9,000 \times 200 \times 350 mm

Silver Plating

Capable of coating complex parts

Our technologies and their applications

Hardness

The hardness of silver, which is acquired from the basic component bath, is only Hv 70-90. But one of the silver, which is changed into crystal form by adding the brightener, increases up to Hv 110-130. If a small volume of hardener is added, the hardness can increase up to Hv 140-160.

Lubricity

Even though the lubricity of silver plating is relatively good, it can be bad when the hardness is increased. This is thought to be the cause of breakage of the crystalline form and wearing caused by the loss of ductility.

Conductivity

The coated silver is a little higher in electric resistance than pure silver. That is similar to the resistance level of copper or aluminium.

Solderability

It is widely used in the semiconductor field, excellent solderability.

Resistance to tarnish

Even though tarnish is unavoidable, the metal is to be slightly protected from tarnish by chromating it thinly or by implementing other coating



The above plating process is the property of COTEC Corporation.

COTEC Plating Process



Process

