



## SILVER PLATING

Apticote 600 is a specialist silver plating service offered by Poeton from their Cardiff, UK facility. The main applications are in aerospace and defence, as well as for electronic components.

### PROPERTIES

Silver gives excellent anti-fretting properties as well as providing a corrosion resistant surface. It also has high electrical conductivity, and is FDA compliant for applications in the food and medical industries.

### CAPACITY

Cardiff's Silver bath is 1200mm x 600mm x 600mm; holding 400 litres, with a maximum working depth of 550mm. The plant can handle large parts up to 50 kg in weight.

### APPLICATIONS

Applications that dominate are anti-binding and anti-fretting on stainless steel for aerospace components, including splines and couplings. Electrical contacts for electronics are also common, not just on miscellaneous small connector pieces, but on large copper slabs for pylon and power station construction.

### ANTI-GALLING & ANTI-FRETTING

Apticote 600 silver has a low coefficient of friction, making it ideal as an anti-galling (cross-transfer of metal, and subsequent adhesion and seizure). Stainless steel bolts, screw threads and parts made in titanium, can all be protected.

Because of its oxidation resistance, Apticote 600 is ideal in fretting situations (splines, couplings, housings), where oxidation and subsequent abrasion by the oxide debris, is eliminated.

### ELECTRICAL CONDUCTIVITY

The high conductivity makes silver plate ideal for heavy duty electrical contacts, including circuit breakers and slip-rings.

### THICKNESS

Thicknesses are typically between 10 and 25 microns. The bath composition contains a small amount of brightener additive (to give a slight sheen for electrical contact purposes), which prevents effective deposit thicknesses in excess of 50 microns.

### CORROSION RESISTANCE

Apticote 600 is resistant to many organic acids, as well as sodium and potassium hydroxide. If sulphur is a hazard, special anti-tarnishing treatments can be applied to greatly increase the protection. Silver is not recommended for use with inorganic acids; nitric, hydrochloric, sulphuric, etc.

MATERIAL PAIR	FRICTION COEFFICIENT
Stainless vs stainless	0.80
Titanium vs titanium	1.00
Hardened steel vs itself	0.35
Cadmium plate vs steel	0.20
Silver vs stainless or Ti	0.18

### REFLECTIVITY

Apticote 600 is a fully bright, even coating, reflecting 95% of the visible spectrum after polishing.

### STANDARDS

Poeton work to a range of BS ISO, AMS and MIL specifications, covering aspects of the plating such as pre-treatment (coating adhesion), thickness (including the requirements for threaded parts), purity, any pre- or post-treatment, test methods and inspection. Please consult Poeton for details on specific standards.