Client – Electronic Components Manufacturer & OEM

A leading provider of spring contact probe based technologies, including connectors, advanced semiconductor test sockets, ATE interfaces and spring contact probes.

Electrical Test Probe

A spring loaded plunger, known as an electrical test probe, is used to test circuit board electronics. This component requires the application of gold to conduct electricity in its use. Fully assembled, the probe includes a tube, spring and plunger.

The Challenge

The specification called for a consistent coating of gold inside the tube, which is required for electrical conductivity. The outside of the tube did not require gold. Due to the difficulties in achieving gold uniform thickness throughout the inside of a tube, conventional plating can drive costs as high as ten times that of the original specifications. In order to meet the plating specifications, while still controlling costs, a special gold chemistry and plating process was required.

The Engineered Solution

ProPlate® worked closely with the engineers at the manufacturer to determine requirements for manufacturing, and gold plating requirements for conductivity. After a complete analysis of the manufacturing process, a recommendation was provided. With ProPlate’s® expertise in plating chemistry they designed a customized, repeatable process to plate gold on the tubes with a “high throw” chemistry. This allowed them to ensure uniform thickness of gold plating inside the tube, while controlling the costs of potential over plating. The OEM was able to eliminate the cost of disposing partial plated parts, while also reducing the material cost of over plating the parts.