

high tech galvanics

tin, silver, gold plating and nickel sulfamate
treatment of a wide range of materials



surface
technologies

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Electroplating is a process that uses an electrical current to deposit a thin metal layer on the surface of a conductive metal part. This thin metal layer is deposited from an electrolyte which contains the ions of the specific metal. Electroplating is primarily used to change the properties of metal parts such as wear resistance, corrosion resistance, anti-friction properties etc. In addition, electroplating is also used for the repair of worn out parts or for the fabrication of parts.

The principles of electroplating are as follows:

In a water based electrolyte, which contains conductive salts and ions of the to be plated metal, a metal or

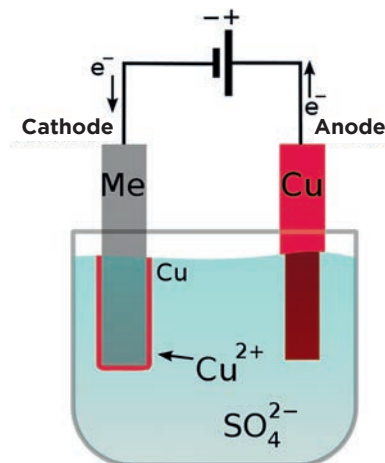
conductive part is connected with the negative pole (cathode) of a rectifier. At the same time the positive pole of the rectifier (anode) is connected with sheets of metal which are of the same sort as the metal ions in the solution.

When the rectifier is turned on, a current will start to flow and will cause oxidation of the metal sheet at the anode. This oxidized metal will dissolve in the electrolyte, creating new metal ions.

Simultaneously metal ions discharge at the cathode which results in a metal deposition on the submerged part.



Swivel nuts with silver plating on the inside (above). Thread guide for textile machines with nickel sulfamate surface (below).



Scheme of the process.

main process	max. dimension in mm	max. weight in kg
Gold	450 x 600 x 600	200
Gold/Cobalt	450 x 600 x 300	200
Nickel sulfamate	2.100 x 1.000 x 500	1,000
Silver and Tin	1.900 x 850 x 500	500