TIFOO

BRIGHT COPPER ELECTROLYTE

MANUAL

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Security

Wear gloves and protection glasses por your own safety. Please read the safety indications on the label before using the product.

Application fields

Besides the impressive visual effects, the bright copper electrolyte offers a lot of other functional advantages, for it is an essential component for creating layers on non-conductive objects. First of all, Tifoo conductive copper or silver varnish is applied by either brushing or spraying it on the non-conductive objects like glass or plastic, before reinforcing this layer with the Tifoo bright copper electrolyte.

Suitable material for acidic bright copper-plating:
Layers of conductive copper varnish, nickel, polish matt copper.

Unsuitable material:
Tin, chrome, aluminium, titanium, zinc, iron, steel (the last three with Tifoo Bronze electrolyte) or alkaline copper electrolyte.

Using the copper electrolyte

Tank plating

Pour the electrolyte into a suitable receptacle (glass, plastic) and connect the workpiece to the cathode (negative pole) of the power supply of your Tifoo Tank plating system. After that, connect a copper anode to the positive pole of the power supply. It is important to adjust a cathodic current density of 5 A/dm^2 in order to make the gleaming effect start working. Calculate first the surface of the object to be plated and the needed current strength in order to get to 1 - 2 A/dm^2 (you can find
a calculation example in our electroplating guide). The voltage es normally between 1 and 1,5 volts. A too low current strength causes a reduced or completely missing gleaming effect. After 10 to 15 minutes, you will have a gleaming copper layer. It's possible to create thicker layers if you extend the plating process. If the gleaming effect wears off, you can regenerate the copper electrolyte with admixture for the gleam.

Pen plating

Pen plating is in general possible with this copper electrolyte, but the admixture for the gleaming effect doesn't work as good as it does by using tank plating. Insert the copper rod anode in the Tifoo hand-plating system and slip the swab on the anode. After that, soak the swab in the copper electrolyte and clamp it to the negative pole. Adjust a voltage of about 2 to 3 volts and start the plating process.

Important specifications:

pH-range: about 1
Electricity yield: 100%
Anode material: copper
Pen voltage: 2 to 3 volts
Current density: 1-2 A/dm^2
Layer growth: 60 µm/h

Application example - refinement of an old modelling motorcycle

A good example for easy electroplating or refinement of a non-conductive is the copper-plating of a modelling motorcycle. First, the object has been degreased and cleaned in order to prepare it for the conductive copper varnish (see picture on the left) . After that, the conductive copper varnish (airbrush or alternatively: conductive silver varnish spray) has been sprayed on the object before letting the object dry completely for about 12 hours (see picture in the middle). On this layer, it was now possible to copper-plate the object with the Tifoo bright copper electrolyte in an immersion bath (see the picture below on the right). Now it could be possible to, for example, nickel-plate, silver-plate or gild the motorcycle. Please keep in mind that it's always advisable to nickel-plate or applying a bonze layer (with the Tifoo Bronze electrolyte) before gilding in order to create a barrier layer. This keeps the copper from mixing with the gold, which can happen after some time, and from giving the gold a light redish colour.

Promotion

Our company is officially sponsored by the European Union.

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