



Chrom Plating

Suitable materials for chrome plating: iron, steel, copper and brass and many other metals.

Unsuitable: Aluminum depending on the alloy, titanium

Safety

The electrolyte does not contain very toxic chromium(VI) salts, but much less problematic chromium(III) salts. Nevertheless, please wear gloves and safety goggles when working.

PREPARATION:

Heat the electrolyte to 30 degrees and use an aluminum electrode, platinum electrode, or briefly a graphite electrode. The nickel electrode also works very well, but causes a yellow tint with prolonged use!

Before chrome plating, the workpiece must be thoroughly cleaned, i.e. rust and grease must first be removed. Very fine steel wool or our polishing agents in the online store www.betzmann-galvanik.de are well suited. Then it must be thoroughly degreased with our Electrocleaner. The object cleaned in this way may only be touched with gloves. Optimal would be to bring the workpiece to a high gloss!

USE:

Chrome electrolyte can be used in bath, pen and pad processes. When used in the bath, it is essential to use aluminum electrodes, platinum electrodes or graphite electrodes, as stainless steel anodes will be dissolved. Ideal is a cathod. Current density of 15 amps per square decimeter and an anodic current density of 5 amps per square decimeter (3 times the anode area). A voltage of about 3-5 volts is sufficient to ensure an appropriate current flow. The temperature of the electrolyte must be 30 - 35 °C. If the electrolyte is too cold (< 30 °C), the chromium precipitates very dark to black! If there are still crystals in the bottle, please heat the entire bottle to approx. 60 °C for a longer period of time. When using the bath, make sure that the electrodes are favorably distributed, e.g. if you want to chromium plate a sheet of metal, place the sheet of metal in the center and switch one graphite anode each opposite the front and the back. After a few minutes, a bright chrome layer will deposit. In the case of tampon electroplating, a dark color first appears after a few seconds (tarnishing), but after a short time it changes to the light chrome color. To do this, simply hold the pen longer on one spot.

After chrome plating, please wash the item with clean water. Chrome is an ideal finish for many materials as it does not tarnish.

Notes and Safety:

The electrolyte does not contain very toxic chromium (VI) salts, but much less problematic chromium (III) salts. Nevertheless, please wear gloves and safety glasses when working.

The chrome layer goes even easier on a thin layer of gold!

Note: We use the non-toxic form of chromium, not the toxic chromium VI from bath electroplating. Please polish the chrome to a high shine at the end. Alternatively, White Palladium can be used for plating.

Important steps when plating steel:

1. polish to a high gloss - the better the gloss, the more beautiful the result!
2. thorough degreasing of the surface with cleaner from 5 volt
3. rinsing with distilled water
4. very long and intensive copper plating of the complete surface all around, with alkaline copper from 3 volts with copper electrode - gentle intermediate polishing, creates a perfect rust protection!
As an alternative to nickel, white bronze or palladium could also be used as a hard barrier layer.
5. rinsing with distilled water
6. intensive and thick nickel plating of the surface: copper oxidizes, polish and degrease before, heat nickel electrolyte to 40 degrees, nickel plating with graphite- better nickel electrode from 4 volts. Polishing
7. rinsing with distilled water
8. chromium plating: heat electrolyte to 30 - 40 degrees, anneal the workpiece or place it in warm water. Start with aluminum electrode from 4 volts. The chrome will first darken and then come out lighter and lighter! You can acidify the electrolyte with 5% hydrochloric acid in a ratio of 1 ml : 20 ml and get it even a tad brighter!
9. rinse with distilled water
10. gently polish to shine

Voltage: Pay attention to the deposition speed! If it goes too fast, adjust the voltage downwards, if the deposition is too slow, adjust it upwards accordingly!

Brass chrome coating

To successfully apply chrome to brass, it is important to first apply a layer of nickel, palladium or even white bronze, because chrome starts to react with copper and zinc and the coating becomes contaminated.

Store all accessories at room temperature at 25 degrees!

1. what you need:

White bronze or nickel solution, water, beaker, measuring unit, activator, cleaner, chrome, polish, care product, conductivity tester, electrode.

2. use of the conductivity tester:

Before starting work, always check if the surface is conductive or if it has been protected by a thin layer of paint! If so, paint must be removed!

3. Cleaning:

Before you start with the nickel coating make sure that you remove all oxidation layers that have formed on brass by cleaning.

High gloss polishing would be optimal!

4. nickel coating from 5 volts or white bronze voltage from 4 volts or palladium from 3 volts.

Use the appropriate electrode which you can insert into the handle and fix it with a screw. Set the correct voltage and coat properly with nickel.

5. chrome plating - start setting around the 5 volts!

Set the voltage to 5 volts. Increase the voltage if necessary. Apply the minus in a hidden place, as small black spots may appear, although they can be polished out later, and begin plating with circular motions.

6. finish:

Polish to a high shine with the metal polish and microfiber cloth or with the polishing stand and soft cotton disc!