Località Mandro 2/4 - 25060 Lodrino (BS)
Tel.: +39 030 850044
Email: info@eurogalvano.it
PEC: eurogalvano@legalmail.it
Cod. Univoco: SUBM70N

Hard Chrome

Thick chromium plating means the process of coating the surface of a metal with a deposit of hard chromium; the purpose of this **galvanic process** is to make the metal more resistant to corrosion and wear.

It can also be called: **thick hard chrome**, **thick hard chrome** or, more simply, **hard chrome**.

How many types of chrome are there?

Based on the material to be worked on and the type of objective to be achieved, the surface treatment of metal chrome plating is declined in different types of interventions; in fact we are talking about **chrome plating on aluminum**, **decorative chrome** and, of course, **thick chrome**.

The thick chromium plating process, in particular, has the purpose of creating **deposits of hard chrome**, shiny or opaque based on the preparation of the previously coated piece, **resistant to wear** and with **thicknesses greater than 1 µm** (even up to 100 µm) directly on the object to be coated, ie without the interposition of layers of copper or nickel.

Characteristics of hard chrome coatings

The objects to be coated with **hard chromium** are treated in a **solution of chromium salts** and the metallic chromium coating is obtained with an **electrochemical oxidation-reduction process**.
To distinguish the chrome coatings, so as to allow their use in various sectors, are:

- high hardness (hardness varies between 900 and 1000 Hv)
- low friction coefficient
- suitability for use in severe tribological conditions
- non-stick
- good mechanical workability
- high chemical and thermal resistancea

The **corrosion resistance** of a chromium deposit, in particular, depends on the thickness deposited, the adhesion of the deposit and the micro-cracking.

The chrome deposit can be glossy or opaque and the **roughness** depends on the customer's requests: Ra between 0.1 and 2.0 can be obtained.

The **electroplated chromium layer is not uniform in its distribution**; in particular, there will be areas such as the edges or points of the metal, where there will be a very marked deposition, and areas such as the inside of the holes and undercuts, where the deposition will be almost zero.

Località Mandro 2/4 - 25060 Lodrino (BS)
Tel.: +39 030 850044
Email: info@eurogalvano.it
PEC: eurogalvano@legalmail.it
Cod. Univoco: SUBM70N

Hard Chrome

What metals can be coated with thick chrome plating?

After appropriate preparatory treatments and without intermediate layers, it is possible to coat the **following materials**:

- Iron
- Aluminum and its alloys after special preparation
- Stainless steels
- Carbon steels also heat treated
- Copper and its alloys
- Brass
- Zamak

The **maximum dimensions** of the details that we can process are 1600 x 1100 x 300.
Possibility of dehydrogenation and/or lubrication with emulsifiable oils.
Other **customer requests** can also be met:

- the **pieces** can be, by means of protections, **only partially chromed**;
- with the use of specially designed frames and the addition of reported anodes they can also be **chromed internally or in areas where normal penetration does not allow it**
- we can also **create two-tone glossy/matt areas on a single piece**, to facilitate photocell readings or to respond to particular customer needs