

Copper, Nickel, Tin

Shielding and corrosion protection for the electronic industry.
8 µm copper + 8 µm nickel + 6-7 µm tin decrease the risk for nickel allergy.

Environmental aspect:

The copper bath contains cyanide as sequestering agent.

Cyanide is on the N.B!-list.

Nickel in the surface coating is on the National Chemicals Inspectorate's list of substances to limit.

Environmental effects:

Cyanide is acute poisonous for organisms (living in water).
Allergy arousing, bio accumulating and poisonous for organisms living in water.

Chromating

Corrosion protection and a good base for lacquering.

Yellow and colourless chromating is a surface treatment that gives a layer with improved corrosion protection and at the same time a good base for lacquering. It is also used on components that demand electrical conductivity.

It is carried out on die-cast or drawn aluminium.

Fields of application: Products for the vehicle, airplane and electronic industry.

Source: YtbehandlingsGruppen.

Environmental aspects:

Chromating may, depending on colour and method, involve coating with sexivalent chrome, which is prohibited according to RoHs directives. The chromating bath may also contain cyanide that is on the N.B!-list.

Environmental effects:

Allergy arousing, bio accumulating. Sexivalent as well as tri-valent chrome is poisonous. The sexivalent chrome is most acute poisonous. Cyanide is acute poisonous for organisms (living in water).

Mechanical zincplating

In a bath with glass balls and zinc flakes the zinc is punched into the material. The surface becomes tough and receives a dull lustrous appearance. No risk of embrittlement.

Environmental aspects:

Chromating may, depending on colour and method, involve coating with sexivalent chrome, which is prohibited according to RoHs directives.

Environmental effects:

Allergy arousing, bio accumulating. Sexivalent as well as tri-valent chrome is poisonous. The sexivalent chrome is very acute poisonous.

MW 4-20

The surface treatment is a zinc-nickel based process.

MW 4-20 gives an excellent protection against corrosion, and is approved for corrosion class C4 in accordance with SS-EN ISO 12944-2. Other alternatives that are approved for this class are hot zinc coating and stainless steel.

MW 4-20 is very resistant against surface deterioration.

MW 4-20 counteracts galvanic corrosion related to stainless steel and aluminum.

Environmental aspect:

The surface treatment is free from hexavalent chromium and meets the directives of RoHS.

Environmental effects:

Bio-accumulating.

Sandbond-Z

Better protection against corrosion than a traditional zincification. There is no risk for hydrogen embrittlement.

Sandbond-Z is a coating that consists of nickel and zincification. It is carried out in three steps. Firstly, the article is provided with a nickel coating, then it is hardened and finally the zincification is carried out.

Environmental aspects:

Nickel in surface treatments are found in to the Swedish National Chemical Inspectorate's restricted list.

Environmental effects:

Allergy arousing, bio accumulating. Trivalent chrome is poisonous.

Black-finishing

Black-finishing or metal colouring gives a certain decorative effect along with low reflection. The oxide layer thickness can vary from 0,6 to 1,2 µm.

Environmental aspects:

The process bath is very strongly alkaline.