



ELECTROPLATED ZINC

Description

It is a coating system that consists of a pure zinc layer electroplated by means of a cath composed of alkaline non-cyanide electrolytes. Zinc offers cathodic protection to the base metal. Zinc gets rusted before iron and thus it guarantees a temporary corrosion protection, even when corrosion has already started. Two formulations can be used, acid zinc or alkaline non-cyanide. Acid zinc offers a bigger appearance, silver-like, suitable for decorative applications. Acid zinc plated deposits are less ductile and they have less throwing power in parts with complicated geometry, thus they do not have uniform layer thickness.

On the contrary, alkaline zinc plated layers offer less brightness but their deposits are more ductile and have better throwing power, thus offering a more uniform coating.

Electroplated zinc coating admint subsequent treatments to increase corrosion resistance.

- Cr6-free thin layer transparent passivation. Thin layer, metallic bright, silver appearance with bluish nuances. Less corrosion resistant; organic-inorganic top-coat can be applied over it.
- Cr6-free thick layer transparent passivation. It is thicker layer that provides better corrosion resistance. Silver color with bluish, yellowish, reddish, and greenish iridescence. Organic-inorganic top-coat can be applied over it
- Cr6-free yellow passivation. Bronze color, with reddish, bluish and greenish tonalities. Formulated with Cr3+ compounds



Corrosion resistance properties

Neutral NSS corrosion resistance (ASTM B117, ISO 9227) with a zinc layer thickness of 8 microns.

| Coating system | system | | WR | RR | Cr6 + |
|---|--------|------|----|-----|-------|
| E-plating + colourless thin layer passivation | Barrel | Rack | 6 | 96 | No |
| E-plating + colourless thin layer passivation + top-coat | Barrel | Rack | 48 | 144 | No |
| E-plating + colourless thick layer passivation | Barrel | Rack | 72 | 168 | No |
| E-plating + colourless thick layer passivation + top-coat | Barrel | Rack | 96 | 240 | No |
| E-plating + Cr6-free yellow passivation | Barrel | Rack | 72 | 168 | No |

General properties

- Cathodic protection
- It allows subsequent treatment or top-coats
- Temporary corrosion protection

Uses

One of the limitations of electroplated coating is the risk of hydrogen embrittlement when applied to high-strength fasteners. The general recommendations there listed can be followed

- High-strength steel parts $R_m > 1000 \text{ N/mm}^2$ and bolts PC 10.9. They should not be zinc plated. Zinc flake coatings are here recommended
- 12.9 bolts. Zinc plating forbidden
- Fasteners with spring washer. Zinc plating should not be applied

THIS TREATMENT IS APPLIED DIRECTLY IN LINE OR IN COMBINATION WITH PREVIOUS AND SUBSEQUENT APPLICATIONS.

GALOL S.A. offers the possibility to reduce logistic costs between the different operations of manufacturing of the part.



Piezas con Zinc

Application technology

Barrel

Rack

Standards and specs

- BMW GS90010
- DAIMLER DBL8451
- GM GME00252
- RENAULT 0171002R
- VW TL217

GALOL S.A.

Camino de Montaverner, s/nº
E 46850 L'Olleria (Valencia)
Tel. 962 208 005
Http: www.galol.com
E-mail: galol@galol.com

