

Zinc Alloy Plating

Conventional plating used for corrosion resistance like Zinc plating, etc., provide only limited increase in life. A modified zinc plating co-deposited with metals nobler than zinc improves the life more than 300%.



Electrochemically, alloys can be designed to produce different corrosion potential than their alloying elements. It is possible, therefore to maintain the sacrificial protection of zinc coating over steel, but at a different potential closer to steel, by alloying it with another metal, preferably more noble than zinc. As a result the alloy corrodes at a much slower rate than zinc alone, affording better corrosion protection.

Zinc alloy Coatings have been found to be excellent replacements for pollute cadmium plating in many applications.

Advantages

- Ø Excellent corrosion resistance properties in low current density areas shows white rust in excess of 100 hours, red rust in 500 hours in salt spray test.
- Ø It shows good corrosion resistance in atmosphere containing sulfur and shows superior results in Kesterich (SO₂) tests.
- Ø Top coats in addition to chromate conversion coatings improve the corrosion protection at elevated temperatures.
- Ø More protection than nickel and cathodic coatings.
- Ø Superior throwing power, ductility, abrasion resistance.
- Ø Parts can be formed after plating with minimal degradation to corrosion protection.
- Ø Plating speed is good and better stripping ability.
- Ø The deposit has good weldability and ductility.
- Ø This alloy can be adjusted to improve adhesion of painting of formed steel components.
- Ø Increased lubricity, ductility and hardness.
- Ø Top coats are also used to improve corrosion protection and lubricity and to reduce the loss of corrosion protection at elevated temperatures.
- Ø Corrosion test shows up to 800 hours red rust based on top conversion coatings used.



Applications

- Ø Gears, Cams, Sleeves
- Ø Axles, Shafts
- Ø Tubular rivets
- Ø Screws, threaded items
- Ø Fastener components-nuts, bolts
- Ø Electrical switch gears, terminals
- Ø Aerospace, fastener, electrical components
- Ø Gears, Cams, Sleeves
- Ø Axles, Shafts
- Ø Tubular rivets
- Ø Screws, threaded items
- Ø Fastener components-nuts, bolts
- Ø Electrical switch gears, terminals

