

Chief Electrocoated Structural Steel



Chief Building System structural steel members are electrocoated for positive protection against corrosion.

- Electrocoating has proven superior to spray-on primers in providing protection when exposed to weather during construction. It reaches places conventional spraying and dipping can't.
- This gray oxide primer maintains a satisfactory appearance without field painting. It also takes paint well, if another color is specified.
- We know of no other process in our industry that gives the same consistent, abrasion and corrosion resistant results as Chief Electrocoating.



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a division of Chief Industries, Inc.

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The Process

To fully understand the benefits of electrocoating, it is necessary to understand the mechanics of the process. We use gray oxide primer carefully balanced with resins, pigments and corrosion inhibiting agents. As processed, resins are water insoluble and must be converted chemically into salts that are easily dispersed in the water.

In electrocoating, our tanks are filled with this water dispersion of paint. The paint particles have a negative surface charge due to the salt formation. The structural members to be painted are connected to the positive side of a powerful DC power supply, giving them a positive charge. The tank itself is wired to the negative side of the power source. When the power supply is activated, the current flows from the negatively charged tank to the positively charged structural steel, causing the negatively charged paint particles to migrate to the steel and be plated to the surface.

The Results

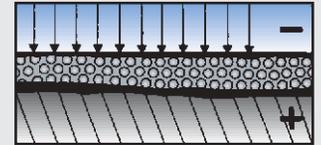
During this plating process, taking one to two minutes, electrochemical reactions take place on the surface of the structural parts, changing the salts in the paint back to their original acid state. The voltages involved (200-300 VDC) act as a kind of electronic pressure to densify the resin, resulting in a paint film not only water insoluble, but virtually 100% solid.

After coating, the parts are baked in an oven, converting the paint films to an enamel composition that is hard, abrasive resistant and it's with this process, superior corrosion resistance is achieved.

Chief Electrocoating penetrates virtually everywhere, leaving a uniform coating of corrosion-resistant enamel.



Electrical attraction causes negatively charged paint particles to be attracted to positively charged structural steel, forming a smooth even finish.



Oven baking fuses the paint into a hard, abrasion and corrosion resistant enamel film.



Cured Film Properties:

Color: Gray

Gloss: 45-55 @ 60°

Film Thickness: .8-1.1 Mils

MEK Rubs: 100+

Pencil Hardness: 2H

Mar Resistance: Excellent

Cross Hatch Adhesion: 100%

Reverse/Direct Impact: 80 Inch/Pounds

1/8 Conical Mandrel: Pass

18 Hr Di water Soak: Pass

4 Hr Hydrocarbon Soak: Pass

150 Hr Salt Spray: 3/4 Inch Creep

Humidity Resistance: 1,000+ Hours

Printed in U.S.A.



CB-03044-0803