



PAINTING PROCESS

The standard color of our polyester painted GI sheet steel enclosures are RAL 7032, 7035. The layer thickness is 70 – 100 μ. Polyester powder coating is usable for outdoor and indoor applications when epoxy powder coating is only good for indoor. Our metal treatment includes – Degreasing, Iron Phosphating & Rinsing followed by drying. Finishing is done with Powder Coating to get high quality and durability.

STEPS INVOLVED:

A. Mechanical cleaning

Manual mechanical cleaning of the welding residue. Inspection performed after cleaning.

B. Chemical Degreasing, Iron Phosphating and Rinsing

This part of the paint process remove all the contaminant chemically, gives a layer of protection against corrosion and assures a good preparation for the bonding of the powder coating. Enclosures are hooked to a conveyor at the beginning of the paint chain and from that point nobody touches the metal parts to avoid surface contamination. During this process the enclosures are cleaned chemically and receive a layer to protect against corrosion. This is done by spraying. A rinsing is applied after treatment to remove the degreasing residues and the remaining chemical residues.

C. Drying before painting

After the rinsing, Enclosures are dried by compressed air and we apply a layer of primer on all grinded area, which then reaches a drying oven operationg at 100°C. This is very important to have the metal parts dried off completely before reaching the powder coating plant.

D. Powder coating

Automatic paint guns (4) are spraying the Powder paint on all the surface of the Enclosures. The electrostatic process is used to have the paint to stick on the Enclosures. To achieve that the powder paint is charged positively at 80,000V in the spray gun just before spraying. Enclosures are connected electrically to the Ground via the conveyor. The powder paint will be attracted by the metal connected to the Ground and will stick on it. The beauty of that process is that any part inside or outside of enclosures will receive an equivalent quantity of paint. Even the edges of the metal parts are receiving paint thus assuring a continuous layer of paint.

Powder coating ensures very high guarantee of protection against the corrosion. After the automatic powder coating to reinforce the areas where there are more risk of corrosion an application of powder is processed manually.

E. Powder coating Baking

In order to finalize the painting the powder paint needs to be baked at 200°C for 20 minutes. The conveyor takes Enclosures within a very large oven which is kept at 200°C. The speed of the conveyor defines the time spent in the oven. Oven temperature distribution is checked regularly to assure a continuous high level of quality.

F. Cooling phase

To assure a good mechanical bonding of the powder coating on the Enclosures they are kept on the conveyor to cool down and are removed only when the parts are reaching less than 50°C.

G. Inspection

Enclosures are very seriously inspected to verify the quality of the paint work. We are using an Elcometer to check the thickness of the paint as part of the quality control. As customer-specific cutouts are performed before surface treatment and painting, corrosion resistance remains high, even in the cutout areas.

