

## Galvanizing

The most widely used method of galvanizing is the hot dip process. The process consists of several steps:

### Caustic Cleaning

The steel product is dipped into a hot alkali solution to remove most grease, paint and oil from the surface of the unprotected steel.

### Rinse

The steel product is dipped into a rinse tank to remove any residual alkali solution.

### Pickling

A dilute acid solution is used to remove mill scale and rust from the material's surface.

### Rinse

A second rinse procedure removes residual acid solution from the steel.

### Fluxing

Flux, a heated bath of zinc ammonium chloride solution removes oxides and prevents further oxidation of the material. This is also known as the dry method of galvanizing.

### Drying

The material is thoroughly dried prior to immersion in the molten zinc.



### Galvanizing

The prepared material is immersed in a molten bath of zinc heated to 835 degrees Fahrenheit and galvanized to the requirements of ASTM A123 (Steel hardware is galvanized to ASTM A153). The items remain in the bath long enough to reach the bath temperature. The steel reacts with the molten zinc to form a series of zinc-iron alloys which, together with the outer zinc layer, are metalurgically bonded to the steel surface.

### Cleaning and Inspection

The material is cleansed of any loose zinc material and tested for adherence, uniformity and thickness of the coating. Once passed through this step, the finished product is ready for shipping.

