



**UNION INDUSTRIES**  
**METAL COATING LLC**  
Hot-Dip Galvanizing • Blasting • Painting

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Since 1995 we have successfully provided services to different industries throughout the region. By offering high quality products at competitive prices, we have gained prestige as one of the most important galvanizers in UAE. Our main area of expertise is hot dip galvanizing of steel structures.

## Hot Dip Galvanizing

This process is carried out through immersion of materials into a bath of molten zinc. Due to the fact that the pieces are totally immersed in the liquid metal, the surface is completely covered and protected from possible corrosive effects which could be caused by the atmosphere, water or surface. Our Galvanizing service applies to different products of the industry, such as: industrial grating, pipes & tubing, angles, beams, channels, railings, among many others.

## Why Galvanize ?

- **Zero maintenance**

Galvanized coatings does not need maintenance.

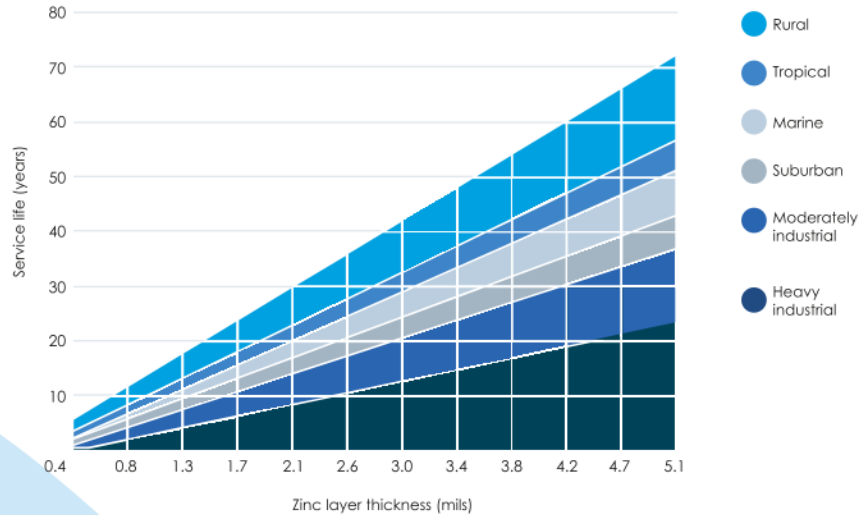
- **Affordable**

Galvanizing price is very reasonable.



## Why Galvanize ?

YEARS OF SERVICE REGARDING LAYER OF ZINC AND TYPE OF ATMOSPHERE



Hot Dip Galvanizing is a process that aims to provide protection against corrosion by coating steel structures with zinc layers. This process, used as a coating in industrial, civil, and commercial projects is the highest protection against corrosion for any steel product.

### CORROSION RESISTANCE FOR GALVANIZED COATINGS

Coating thickness		Average number of years duration before appears an oxidation of 5% over the steel surface			
Mils of inches	gr/m2	Rural	Marine	Urban	Industrial
1.5 to 3.0	269 to 557	17-35	12-20	10-15	4-8
3.1 to 4.7	558 to 884	35-50	20-35	15-25	8-12
4.8 to 7.8	885 to 1400	50-57	35-50	25-40	12-25

- **Absolutely reliable**

Hot dip galvanizing is a simple process, controlled, and perfectly specified by ASTM & ISO standards.

- **Compatible with other finishes**

You can paint over it for aesthetics and it also looks aligned with stainless steel and aluminum.

Zinc layers are normally specified due to its resistance against corrosion, and not for its appearance. Our process line is specially designed to meet the needs of any client that requires zinc coating or galvanization. ASTM A385 is a standard practice used to guarantee the highest quality of zinc layers after hot dip galvanizing. Specific elements in steel composition, such as carbon greater than 0.25%, phosphorus greater than 0.040%, manganese greater than 1.3%, silicon between 0.04% and 0.15%, or above 0.22% can trigger non desired growth of zinc layers.



<b>Galvanizing Capacity</b>	<b>5000 tons per month</b>
<b>Galvanizing Kettle Dimensions</b>	<b>13m length x 1.6m width x 2.8m depth</b>
<b>Lifting Crane maximum Capacity</b>	<b>13 Ton</b>

## Galvanizing Process

### 10. Finishing & Final Inspection

This step involves final QC inspection of galvanized material and rectifying any minor coating defects (if found), avoiding white rust problems.

**1. BLASTING.** Material is blasted to SA 2 1/2 finish with steel shots or grits (if required).

**9. Passivation** Galvanized steel is immersed in a solution of passivating agents to allow for long term storage and avoiding white rust problems.

**8. Water Quenching** In this step, steel is rapidly cooled by quenching it in a water bath.

**2. Degreasing** Material is treated to acidic degreasing solutions to remove grease, dust and dirt.

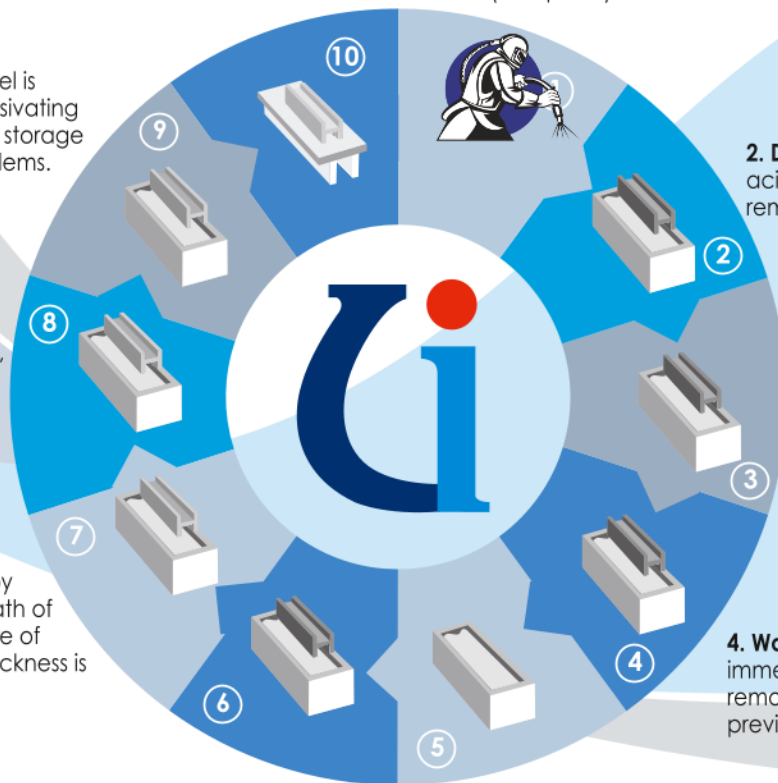
**3. Acid Pickling** Rust & formed oxides are eliminated by immersing material in hydrochloric acid baths

**7. Hot Dipping** This is done by immersing the piece in a bath of molten zinc at a temperature of about 450°C (the coating thickness is proportional to the time of immersion).

**4. Water Rinsing** The pieces are immersed in a water container to remove the excess acid from the previous step acid baths

**6. Drying** In this step, material is kept in a dryer to make it dry and free from moisture before the dipping in zinc kettle.

**5. Fluxing** This salt (zinc chloride and ammonium) protects the piece from oxidation after the pickling process, as well; it allows the zinc to slide over the steel.



## Certifications and Standards

In order to achieve premium quality for our clients, we keep up our QC process upto date with internationally recognized standards and management systems. This ensures consistency of quality and long life to our galvanized products



**ISO 9001.** International standard that applies to quality management systems (QMS) and focuses on the elements of quality management to ensure an effective system that allows companies to manage and improve the quality of their products and services.

**ASTM A123.** Standard specification for zinc coatings (hot dip galvanizing) on iron and steel products.

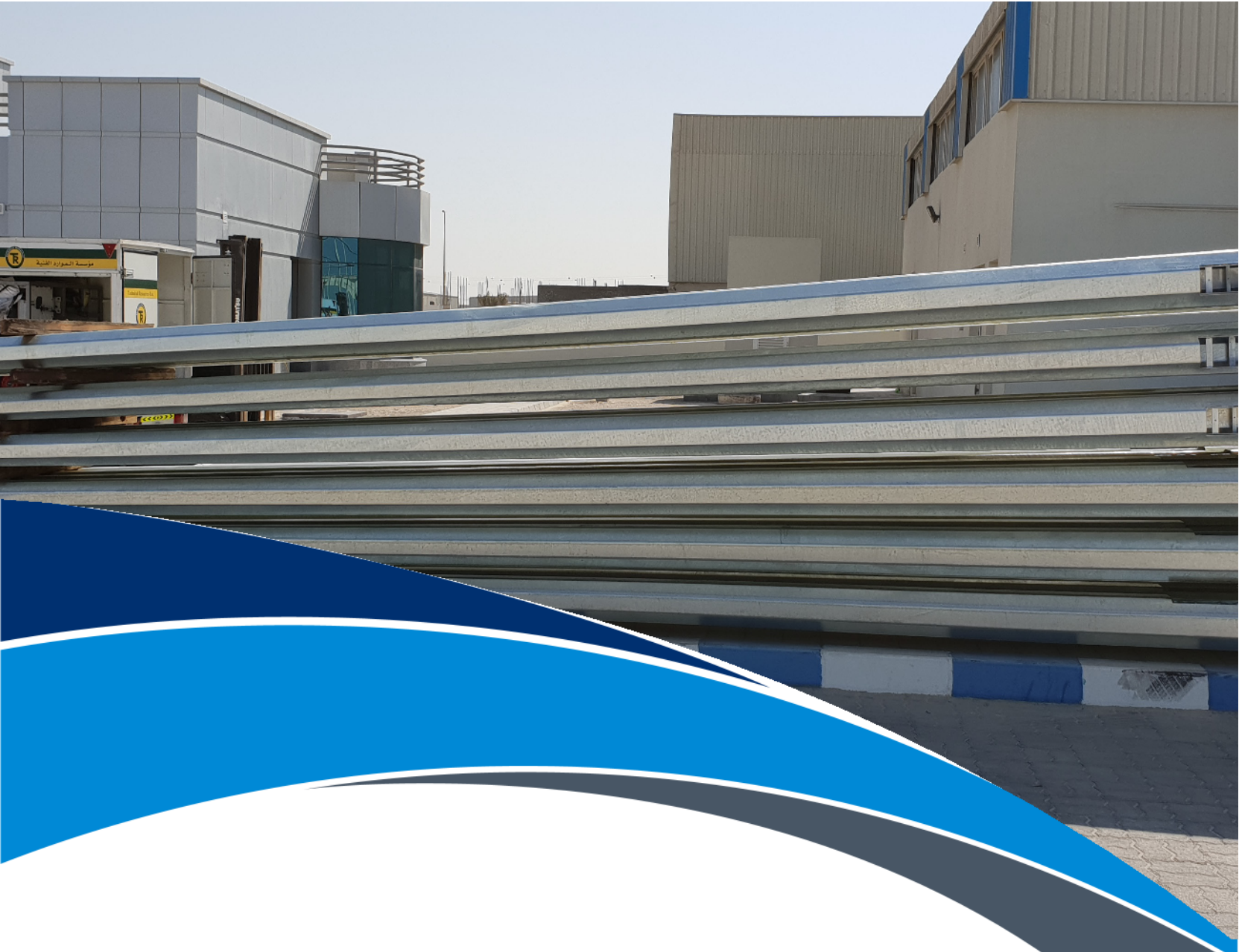
**ISO 1461.** International standard (hot dip galvanizing) on iron and steel products.

**ASTM A385.** Standard practice to provide high quality zinc layers (hot dip galvanizing).

**ASTM A780.** Standard practice for repairing damaged coating or small uncoated area after galvanizing







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