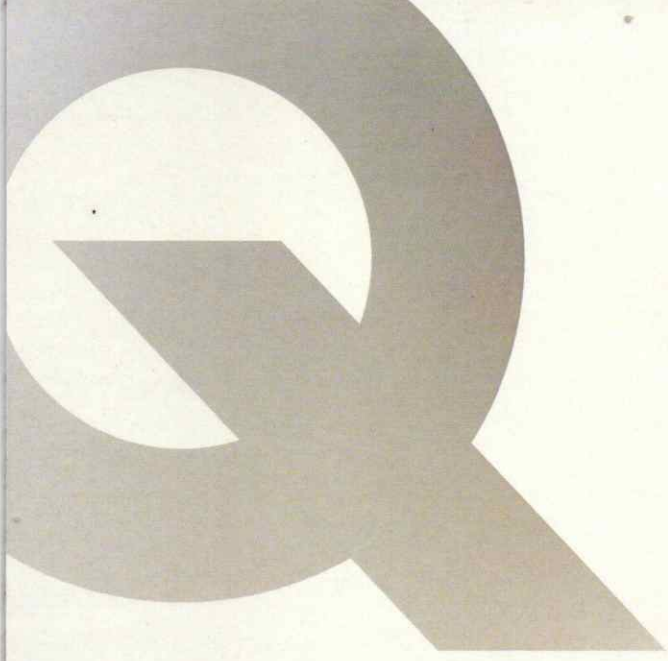




# Quartet Industrial Solutions (Pvt.) Ltd.

QUARTET GALVANIZING AND FABRICATION PLANT



# Quartet Galvanizing Solutions

---

## We at a Glance

Quartet Industrial Solution (Pvt.) Ltd. are actively involved in Mechanical Construction and Maintenance & Fabrication works and also has been providing the best, most cost effective way to a brilliant finish whilst protecting steel from the environments own corrosive elements through Hot Dip Galvanizing (HDG) since established.

With the founding members originally being strong experienced engineering aspirants with elegant and sane experience in the field of oil, petroleum, petrochemical LNG construction plant dealing with project execution and QA/QC activities, Quartet Industrial Solution (Pvt.) Ltd. was created on the belief that a superior service and finish was achievable, with an emphasis on priority for total customer service and safety.

Our Galvanizing technology is the best protection, money can buy against environmental corrosion. Through the years, tireless efforts have been made to educate many industries on the long term cost effectiveness of galvanizing.

Our efforts and aims are at providing highest standards of integrity, honesty along with the experienced professional approach to support services to the diverse sectors of the

economy including the construction, oil and gas, petrochemical processing, power, marine, environment, health industry, highway and transportation, power transmission and distribution, wireless and telecommunications, utilities, industrial grating, infrastructure, wastewater treatment water storage and transportation, pulp and paper, pipe and tube, food processing, agricultural, recreation, and bridge and pedestrian handrail, as well as original equipment manufactured products, including general fabrication.

The company also offers various coating services, including sandblasting, chromate quenching, metalizing, centrifuge spinner galvanizing for small threaded products, and proprietary coating application systems for polyurethane protective linings and coatings over galvanized surfaces.

As a leader within the industry, Quartet Industrial Solutions (Pvt.) Ltd. strives to set high quality standard and meet client's expectations all the time, every time and is determined to be the industry leader in quality and total customer service with competitive prices. To know more about us and our current activities, please do visit our web: [www.quartetindustries.com](http://www.quartetindustries.com)



## Galvanizing

Galvanizing is a latest and very advanced process used to protect steel from corrosion. Galvanizing is done with the help of zinc. Zinc possesses corrosion prevention properties and it can be used to protect steel product that is under the manufacturing process. Galvanizing is highly durable than the traditional method of painting steel. This is because; a zinc layer applied to steel by hot-dip galvanizing does not peel off the surface of the steel just like paint does. The zinc layer is alloyed with steel and this method protects the inner as well as the outer steel surface forever and that too at a very cheaper rate. This hot dip galvanizing process helps the steel material to become corrosion proof material under any type of environmental condition as the process provides both provides cathodic protection as well as barrier protection.

The biggest advantage of the galvanizing process is that it repairs by itself when it gets damaged, i.e. it sacrifices itself to guard the base metal and has excellent impact and abrasion resistance. Zero maintenance is required for years and years.

The hot dip galvanizing plant is the most proficient and the most environment safe methods of protecting steel, particularly from corrosion damage. The products are extensively used in all those processes where steel or steel products are exposed to harsh atmospheric conditions.

The best features of our Hot Dip Galvanized Plant includes:

- Cost-effective production
- Saves lot of time and money
- Highly Durable
- High protection than the traditional method of painting
- Quick application
- Quality and consistency
- Mechanical resistance
- Trouble – free testing of galvanization quality
- Best for even the most complex steel product shape

## Specification

- IS 2629 – Recommended Practice for Hot-Dip Galvanizing of Iron & Steel.
- IS 2633 – Method of Testing Uniformity of Coating on Zinc Coated articles.
- IS 6745 – Stripping Test Standards.
- ASTM A53 – Standard Specification for Pipe, Sheet, Block & Hot-Dip, Zinc Coated Welded and Seamless.
- ASTM B6 – Standard Specification for Zinc.
- ASTM A123/A123M – Standard Specification for Zinc (Hot-Dip Galvanized) coating on iron & steel products.

## HSE POLICY

Secure the health and safety of our employees, contractors and the public in addition to the safety of plant and assets. No part of our operations is so important or of such high priority that it cannot be performed with safe, efficient work methods and equipment. Every member of our work force will follow procedures consistent with applicable safety standards and constantly maintain their own personal obligation to observe safe operating procedures.



## QUALITY POLICY

We shall endeavor to achieve the following quality policies through project management by firm determination and positive participation of all QIS personnel, top management and all individual staff. Contribution to sustainable development of society by providing customers with products and services that satisfy applicable statutory regulations and customers contractual requirements. Fulfilling individual responsibilities and accountability assigned to each individual and organization by the quality system. Setting the measurable objectives and continually improving the quality management system. Our Responsibility is to achieve Customer Satisfaction.

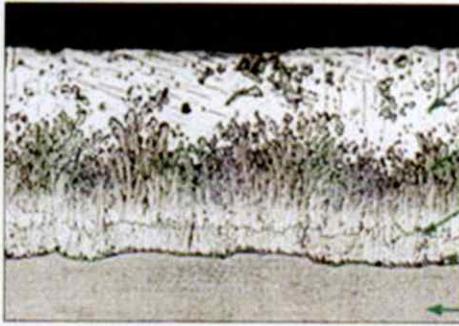
We maintain our high standard Quality control & Assurance through

- Established Operating Procedures
- Thorough visual inspections
- Physical analysis
- Chemical analysis
- Liquid penetrant test
- Magnetic Particle test
- Radiography
- Ultrasonic Test



# METALLURGY OF GALVANIZED COATING

## METALLURGY OF GALVANIZED COATING



**Eta**  
(100% Zn)  
70 DPN Hardness

**Zeta**  
(94% Zn 6% Fe)  
179 DPN Hardness

**Delta**  
(90% Zn 10% Fe)  
244 DPN Hardness

**Gamma**  
(75% Zn 25% Fe)  
250 DPN Hardness

**Base Steel**  
159 DPN Hardness

The hot-dip galvanized coating consists of four separate layers. The first three layers have a mixture of iron and zinc, and the external top layer is typically composed of 100% zinc.

## HOT DIP GALVANIZING PROCESS

- Cleaning:** The material/items are cleaned by dipping in a degreasing tank which contains sodium hydroxide to remove dust, sand etc.
- Rinsing:** After the cleaning process the material shall be thoroughly rinsed in water.
- Pickling:** After rinsing the materials are pickled in pickling tank which contains hydrochloric acid to eliminate the rust on outer surface of the job parts.
- Rinsing:** After the pickling process, the material shall be again rinsed in water.
- Fluxing:** After second rinsing, materials shall be immersed in a flux tank which contains zinc chloride, ammonium chloride and water.
- Pre-Heating:** After fluxing the wet parts are thoroughly dried before immersion in the molten zinc.

Temperature is maintained between 120 Deg C and 150 Deg C during this process.

- Dipping:** After pre-heating the parts are immersed in zinc bath for zinc coating. Zinc bath temperature is maintained between 440 Deg C to 455 Deg C and high grade zinc, containing 99.5% purity shall be used along with 0.005% aluminium.
- Quenching:** After the zinc dipping process is completed, all the parts/articles, shall be quenched in water and dipped in a Sodium Dichromate tank.
- Stacking:** Articles shall not be stacked immediately after quenching to avoid flaking of coating. The galvanised articles shall be allowed to dry before any further handling operations.

## Facilities

- Plant area : 5500 Sq. Meters
- Galvanizing Capacity : 1500 Metric Ton / Month
- Zinc Kettle : 7 Mtr Length x 1.3 Mtr. Depth x 1 Mtr Width
- Pre-treatment tanks : Hi-tech poly propylene tanks
- Crane : 2 Ea. 5 Ton capacity Overhead Cranes
- Eco friendly fume extraction system
- Structural Fabrication facility with good quality machinery and experienced and qualified team.



## Location



## Contacts

- Managing Director** : Sumesh Dias  
Contact: +91 95262 30003
- Regional Director** : Vinodh Maliyakkal  
Contact: +91 95446 30003
- Regional Director** : Sijo Devasy  
Contact: +91 99619 30003



**Head Office**

**Quartet Industrial Solutions (Pvt.) Ltd.**

38/287, Aswathi Apartments, Aakkipadikkal Lane, Chuttupadukara, Edapally, Kochi -682 024  
E-mail: info@quartetindustries.com , Website: www.quartetindustries.com

**Factory** : Plot No 8/615C, NIDA, Pudu ssery Central, Kanjikode, Palakkad - 678 621  
E-mail: galva@quartetindustries.com