



**HOT DIP
GALVANIZING
DECALOGUE***

REASONS TO GALVANIZE

1. The durability is extremely high.

The durability of these coatings is very high. More than 100 years of experience in the use of galvanized steel throughout the world, have allowed to know with accuracy the durability and protection that provides the hot-dip galvanizing process. For example, it has been widely used in petrochemical, industrial, energy/services and bridge/highway construction, for its durability in harsh environments, where the structures have been outdoors for many years.

2. It is more economical.

When life cycle costs are taken into account, hot dip galvanizing is the most economical system for long-term protection against corrosion. Although the initial cost of a protection system cannot be lowered, the cost of the life cycle should be a key determining factor in the election of a process to achieve sustainability. Structures should be economically responsible for future generations.

3. Triple protection.

Galvanized coatings protect steel in three different ways:

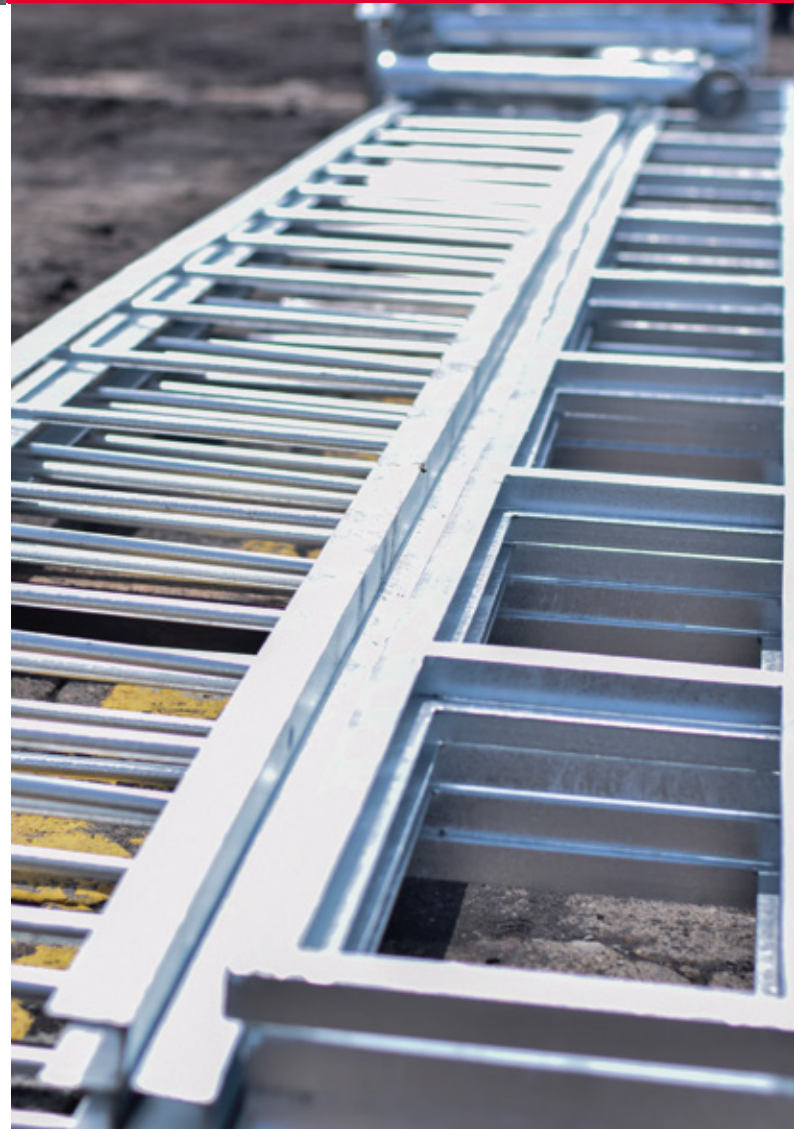
Barrier protection: The first line of defense against corrosion is barrier protection. Barrier protection has two important properties: metallurgical adhesion to the base metal and abrasion resistance.

Cathodic protection: Zinc oxidizes, iron does not. Even in small areas that might remain bare (edges of cuts or holes and scratches), as long as there is zinc, iron will not rust.

Protection by zinc oxidation products: The formation of by-products of zinc corrosion: zinc oxide, zinc hydroxide and zinc carbonate, that are compact, homogeneous, hard, impermeable and inert, slow down the rate of steel corrosion up to 1/30 in the same environment.

4. Versatility.

Hot dip galvanizing is a process that serves both: the protection of steel products such as profiles, wire tubes, etc., as well as for the protection of all kinds of items. This process has a great versatility because it protects steel from atmospheric, water or soil corrosion. Also, you can paint in liquid or powder, obtaining Duplex protection systems, that enhance durability and provide different aesthetic finishes.





5. Reliability.

Hot dip galvanizing is a controlled industrial process that allows to obtain zinc coatings of high quality and thickness, regulated on practically any item, piece of iron or steel. Hot dip galvanized coatings are one of the few steel protection systems that are perfectly specified by national and international standards.

6. Sustainability.

The longevity of maintenance-free galvanized steel offers positive and economic benefits for future generations. Besides being natural, zinc and steel can be recycled indefinitely without losing any physical or chemical properties. Approximately, 30% of the world's zinc supply comes from recycled sources.

7. Integral coating.

In the hot dip galvanizing process, steel is completely immersed in cleaning solutions and molten zinc coats all interior and exterior surfaces. This complete coverage is guaranteed even in the inside of hollow or tubular structures. As corrosion commonly occur inside hollow structures, where moisture and condensation occur, the inside coverage is very beneficial.

8. Uniform protection.

Another aspect of the durability of hot dip galvanizing is its uniform protection. During the metallurgical diffusion reaction in the boiler, the galvanized coating grows perpendicularly to all surfaces. That is why the coating is so thick in corners and edges, as well as in flat surfaces. The uniform protection of hot-dip galvanized steel leaves no weak spots for accelerated corrosion.

9. Abrasion resistance.

A unique feature of hot dip galvanizing is the development of intermetallic layers resistant to abrasion, that are strongly bonded. There are three intermetallic layers (gamma, delta and zeta) and the top layer of pure zinc (eta). The resistance to abrasion of hot dip galvanizing provides a protection against the damage caused by hostile handling during transportation, installation and service.

10. Manageable.

The different galvanized elements can be easily assembled by bolting or welding. Welding procedures commonly used for ungalvanized steel are equally applicable to galvanized steel: electric arc welding, torch welding, resistance welding, etc. The areas of coating affected by the effect of welding heat can be easily restored by zinc metallization or zinc-rich paint.



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