

GALVANIZING PROCESS

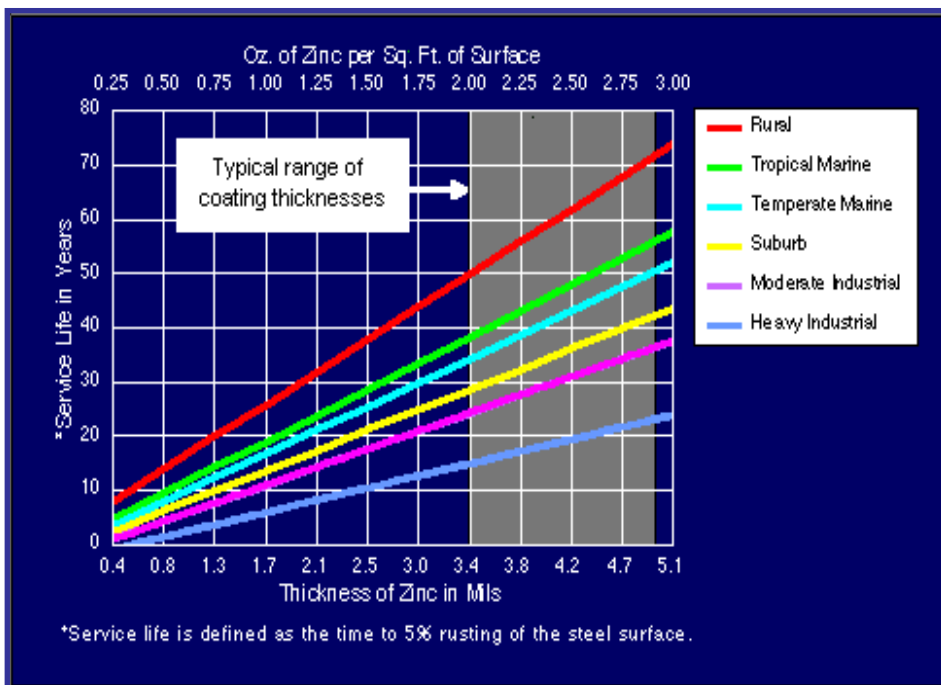
At Signature Structures LLC our commitment to quality continues with our use of post hot-dip galvanizing for our structural steel. This means that all metal components are bent, laser cut, drilled or welded into their final configuration then dipped into molten galvanizing vats. Holes are pre drilled into the steel for drainage to allow the galvanizing to reach inside the structural steel, coating all the welds, both the interior and exterior with a uniform layer of corrosion protection.



In the hot-dip galvanizing process, the steel or iron to be coated is completely cleaned and immersed in a bath of molten zinc in order to form a zinc protective coating on the surface of steel. It is by far the most widely used of the zinc coating processes and has been practiced commercially for almost two centuries. The modern hot-dip galvanizing process is conducted in carefully controlled plants utilizing the results of scientific research. The process produces a corrosion layer of 6mil in thickness.

A more common and cheaper alternative used by competitors is the electro-galvanizing process. In this process steel is coated by electro depositing an adhering zinc film on the surface of sheet steel or wire. These coatings have a common thickness of 1.6 mil and are typically used as a base for painting. This method provides a much smaller layer of protection when compared to hot-dip galvanizing. Also, when pre-galvanized steel is welded, the interior corrosion protection is damaged from the heat, creating small defects in the layer of protection inside the steel tubing. These defects corrode and eventually degrade the strength of the structure.

According to the National Association of Corrosion Engineers, it will take steel, in a heavy industrial environment, 3.8 years to corrode for every 1 mil of corrosion protection. Signature Structures LLC prefers to provide post hot dip galvanizing because it provides an average of 6 mil of corrosion protection compared to the 1.6 mil that electrolytic provides.



A Performance Comparison

As is illustrated in the graph, thickness of the zinc coating has a direct impact on corrosion protection. In a moderate industrial environment, post hot-dip galvanization will protect the steel against corrosion for well over 30 years. The process used by competitors provides corrosion protection for slightly less than 10 years. It is undeniable that we are committed to providing the best structures without cutting corners to increase margins. We believe quality is always the right choice.