

Atmospheric corrosion of different zinc coating on steel.

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Continuously growing importance of steel constructions and their diverse application as well as requirements concerning limiting or even eliminating treatments of anticorrosive protection have led to a significant development of techniques and methods of hot dip galvanizing.

The process of hot dip galvanizing belongs to technically advanced methods of steel products protection against unfavourable influences of the atmospheric environment. One of the conditions to achieve advantageous technological and economic indexes is to get familiar with the mechanism of shaping a zinc coating during hot dip galvanizing in a zinc bath.

There are two main processes to cover the steel with zinc: periodical and continuous.

Periodical galvanizing at its most basic level is dipping steel products into a molten zinc bath. A metallic reaction ensues and a thin coating of zinc is formed, evenly covering all areas of exposed base metal. This simple approach is still used today.

In the hot-dip continuous process hot-rolled steel in coil form is uncoiled, passed through a series of cleaning steps and molten zinc at very high speed, dried, and recoiled. The galvanized steel in coil form is then either slit into narrower coils for use in specific high speed fabrication machines or cut to length for general use in bending, rolling or stamping operations.

Steel samples from road safety barriers have been searched. The samples covered by zinc in periodical and continuous hot dip process have been tested in salt spray corrosion chamber. The changes in corrosion resistivity have been identified and the reason for difference in corrosion durability has been proposed.

The Authors wish to express a deep gratitude to Stalprodukt SA for providing sample for tests and valuable information and guidance.