

Title:

Corrosion in Metals - Principles and Prevention

Word Count:

635

Summary:

Interesting article with the basics of metal corrosion and its preventive methods.

Keywords:

corrosion, metal corrosion, anticorrosive

Article Body:

Corrosion is the tendency of metals to return to their natural condition, abandoning their current state.

A chemical reaction or dry environment reaction can occur by the contact with vapors or gases, by

A electrochemical reaction or humid environment reaction, is present in liquid atmospheres, by

Corrosion processes tend to return materials back to a more thermodynamically stable state by

The most widely used metals for technology have a great affinity for oxygen and their corrosion

For example: metals like gold or platinum hardly oxidize because of their low affinity with oxygen.

Classification

The electrochemical nature of corrosion leads to diverse forms of assault. These are determined by the environment.

According to this, the corrosion classification goes as follows:

- Generalized corrosion
- Localized corrosion
- Selective corrosion

Generalized corrosion affects the whole surface of the metal and translates into a more or less uniform attack.

Localized corrosion affects a limited part of the metallic surface and causes cavity formation.

Selective corrosion produces the preferential dissolution of a certain part of the metal that, depending on the type, can be

We can speak of crystallographic, intergranular or interdendritic corrosion, if the corroded material is a metal.

Another form of selective corrosion, the dealloying, happens when the preferential dissolution of a certain component of an alloy

Methods of control and prevention:

The general methods for corrosion control more widely accepted on the industry are: the use of protective coatings, cathodic protection,

An anticorrosive system is made up of two components which form a set. This set works as a barrier between the metal and the environment.

The components of an anticorrosive system are:

- Firstly, the base or primer, whose function is to provide the system with the sufficient adhesion to the metal.
- The finishing, which consists of a film or layer that complements the system and provides a barrier to the environment.

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