



Corrosion Behavior of Carbon Steels in Natural and Industrial Environments

Guest Editor:

Dr. Luis Cáceres

Department of Chemical Engineering and Mining Processing, Faculty of Engineering, University of Antofagasta, Antofagasta 1270300, Chile

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Message from the Guest Editor

Carbon steels are iron–carbon alloys containing up to 2% carbon with manganese, silicon, sulfur, and phosphorus as main impurities, and are usually soft and have low strength. However, because of their low cost and high ductility, which imparts excellent machining and welding properties, they are the most common metallic materials used in structures and metallic parts exposed to a wide variety of conditions.

Carbon steel degradation upon exposure to natural environments—either water bodies or atmospheric—is the mayor issue concerning the cost of metallic corrosion in all sectors of engineering. This Special Issue titled “Corrosion Behavior of Steels in Natural and Industrial Environments” addresses all relevant aspects of carbon steel corrosion including basic corrosion mechanisms in atmospheric conditions or aqueous media, kinetic studies under quiescent and hydrodynamic conditions, different forms of corrosion, instrumental analysis for corrosion product characterization, surface morphology and corrosion rate, and biocorrosion. Issues of corrosion prevention are also welcome.





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Editor-in-Chief

Prof. Dr. Yong Zhang

Beijing Advanced Innovation
Center of Materials Genome
Engineering, State Key
Laboratory for Advanced Metals
and Materials, University of
Science and Technology Beijing,
30 Xueyuan Road, Beijing 100083,
China

Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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