Special Issue

Corrosion Effects on Durability of RC Structures

Message from the Guest Editor

Corrosion phenomena affect reinforced concrete in terms of materials, as non-uniform mass loss of steel reinforcement bars, degradation of their mechanical properties, cracking and spalling of surrounding concrete, and in terms of elements' bearing capacity, due to bond loss between steel and concrete and due to reduced flexural capacity. This Special Issue of *Metals* provides a forum for original research and critical reviews on advances in assessing the corrosion damage of reinforced structures. Areas of interest include the monitoring and measurement of corrosion level, in terms of critical chloride concentration or surface concrete cracking, in the laboratory and on site. Furthermore, the control of corrosion by chemical and electrochemical means is a weighty topic. To conclude, the estimation of corroded reinforced concrete elements' bearing capacity is the main design criterion of the structures' durability from the point of view of structural engineers.

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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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