Special Issue

Capacity Assessment of Corroded Reinforced Concrete Structures

Message from the Guest Editors

The assessment of structural capacity of corroded RC elements consists of a complex task in the engineering field, since it depends on several variable factors, such as the chloride or CO2 concentration, the temperature and humidity conditions, the porosity and mixture of concrete, etc.

This Special Issue of Buildings aims to strengthen the scientific progress that has already been achieved both by adding evidence upon the assessment of the mechanical behavior of corroded steel reinforcement, and on the other hand, by proposing methods of dealing with the structural degradation and proposals for the restoration of strengthening of damaged structural elements. Topics to be covered in this Special Issue include:

- Monitoring of corrosion level via surface concrete cracking;
- Measurement of critical chloride concentration, in the laboratory and on site;
- Assessment of corroded RC structures;
- Modelling the corrosive factor in RC elements;
- Coatings to enhance durability of structures exposed to chloride-induced corrosion;
- Bond-slip degradation due to corrosion;
- Case studies and applications.

Guest Editors

Prof. Dr. Charis Apostolopoulos

Dr. Konstantinos Koulouris

Dr. Maria Basdeki

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Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

mdpi.com/journal/buildings

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

Prof. Dr. David Arditi
Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

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