



Capacity Assessment of Corroded Reinforced Concrete Structures

Guest Editors:

**Prof. Dr. Charis
Apostolopoulos**

Laboratory of Technology and
Strength of Materials,
Department of Mechanical
Engineering and Aeronautics,
University of Patras, Patras,
Greece

Dr. Konstantinos Koulouris

Laboratory of Technology and
Strength of Materials,
Department of Mechanical
Engineering and Aeronautics,
University of Patras, Patras,
Greece

Dr. Maria Basdeki

Laboratory of Technology and
Strength of Materials,
Department of Mechanical
Engineering and Aeronautics,
University of Patras, Patras,
Greece

Deadline for manuscript
submissions:

30 January 2025



mdpi.com/si/189836

Message from the Guest Editors

Dear Colleagues,

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

Special Issue



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

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.

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Contact Us

Buildings Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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