



Safety and Optimization of Building Structures—2nd Edition

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Message from the Guest Editor

Ensuring the safety of designed, erected, and operated load-bearing and enclosing building structures is the most important task of engineering, science, and practice of design and operation. The goals of such optimization can be not only material consumption or costs but also the risks of accidents. The relevance of preventing risks of material and socio-economic losses is the main priority, and new modern scientific research and practice will allow us to advance in its solution. The most important factors here are the force and environmental impacts on structures, such as corrosion, high-temperature heating, mechanical shocks, seismic activity, etc. The main purpose of the Special Issue is to provide a platform for discussion of the main problems related to the mechanical, fire, and environmental safety of load-bearing and enclosing structures of buildings and assessment of their technical condition. In these conditions, it is important to consider the stages of the structure's life cycle, optimal design and calculation algorithms development to ensure sustainable evolution, and the required level of comfort of the environment of buildings.





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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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