



Strength and Performance of Building Materials

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Message from the Guest Editors

Building materials, representing 50–80 % of the total value of the construction industry, are an essential element to achieve the anticipated capacity, safety, and performance of these infrastructures. Generally, multiple functions and multiple performances are expected from buildings and other structures. For instance, buildings and structures must resist gravity and extreme loads such as wind and earthquakes by satisfying strength and ductility requirements Therefore, modern structures must satisfy multiple performance requirements, and those must be achieved through the proper selection of building materials and section sizes.

This Special Issue aims to reflect the current state-of-the-art and new developments in all topics related to the evaluation of strength and performance of all building materials, with a focus on structural capacity, off-site manufacturing, fire, thermal properties, durability, acoustics, sustainability, and circularity.

For further reading, please follow the link to the Special Issue Website at:

https://www.mdpi.com/journal/buildings/special_issues/Performance_Building





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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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