



Research on the Performance of Traditional, New and Potential Building Materials

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Message from the Guest Editors

Building engineering is an ancient industry that can be dated back to thousands of years ago. However, building materials are always new subjects as they evolve with the development of science and technology. Although traditional building materials (e.g., timber, bamboo, masonry, concrete, and steel) still dominate the building industry, new materials, such as fibers, composites, 3D printing materials, and materials with ultrahigh strength, have also emerged as alternative solutions for new or existing structures with special requirements (e.g., high-rise, long span, or in corrosive environments) that are hard to satisfy with traditional building materials. Furthermore, graphene, bio-inspired materials, and other potential building materials have brilliant prospects for the building industry, which may lead to fundamental revolutions in building engineering in the future. This Special Issue provides an open forum to discuss the mechanical performance of traditional, new, and potential building materials.

The topics include, but are not limited to, the above examples; all traditional, new, and potential materials in building engineering are welcomed.





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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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