

Durability, Physical and Mechanical Properties of Ecofriendly Cement and Concrete Composites

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Message from the Guest Editors

Cement and concrete composites are widely used in various fields of civil engineering as one of the main building materials. In recent years, cement and concrete composites prepared using different fibers (steel fibers, basalt fibers, PVA fibers, polypropylene fibers, etc.) and industrial byproducts (tailings, recycled aggregates, fly ash, silica ash, gangue, etc.) have been under intense discussion. These materials have a positive impact on the improvement of cement and concrete composites' physical, mechanical, and durability properties. At the same time, the use of cement and concrete composites prepared by industrial byproducts can effectively reduce environmental load and production costs, which is conducive to the sustainable development of cement and concrete composites.

This Special Issue aims to delve into the physical mechanics and durability of cement and concrete composites prepared using various fibers and industrial byproducts. Research and academic areas of interest for this Special Issue include but are not limited to material, civil, and environmental engineering.



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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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