



Research on the Mechanical and Durability Properties of Concrete

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Message from the Guest Editors

Concrete as a construction product is evaluated in terms of various parameters, especially compressive strength. In the era of concrete and construction technology development, more and more technological requirements are being placed on the concrete produced. Due to the increase in these requirements, manufactured concretes are already special, and quality control at each stage of their production has become very important. Special attention should be paid to the design stage, the initial evaluation of the test batch of concrete, and the re-evaluation of the concrete mixture. It is important to use plasticizers and super plasticizers because of the water required and the increase in the strength of the concrete not only in compression but also in tension. The carbon footprint emitted by the production of concrete and its reduction by changing the cement and additives is also important.





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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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