

Architectural Advancements: Lightweight Structures and Future Applications in Ultra-High-Performance Concrete, Fabrics, and Flexible Photovoltaics

Authors : Pratik Pankaj Pawar

Abstract : Lightweight structures - structures with reduced weight, which otherwise retain the qualities necessary for the building performance, ensuring proper durability and strength, safety, indoor environmental quality, and energy efficiency; structures that strive for the optimization of structural systems - are in tune with current trends and socio-economic, environmental, and technological factors. The growing interest in lightweight structures design makes them an ever more significant field of research. This article focuses on the architectural aspects of lightweight structures and on their contemporary and future applications. The selected advanced building technologies - i.e., Ultra-High-Performance Concrete, fabrics, and flexible photovoltaics.

Keywords : light weight building, carbyne, aerographite, geopolymer reinforced wood particles aggregate

Conference Title : ICACE 2024 : International Conference on Architectural and Civil Engineering

Conference Location : Boston, United States

Conference Dates : April 22-23, 2024