Solar phase change thermal storage concrete

(TES). The incorporation of phase change materials (PCMs) in building materials has attracted a lot of research interest due to the concern on energy efficiency.

Abstract: This work discusses the applicability of lightweight aggregate-encapsulated n-octadecane with 1.0 wt.% of Cu nanoparticles, for enhanced thermal comfort in buildings by ...

In this paper, the mechanical and thermal properties of phase change energy storage concrete are reviewed, and the existing problems are analyzed, and the future development trend is ...

It is common knowledge that adding anything to concrete, including PCMs, will affect its performance. The goal of this review is to ...

In this paper, we have overviewed the research conducted to date on phase change materials (PCMs) for photothermal power collection and storage, especially their applications ...

The PCCs prepared by this method are expected to have excellent thermal storage, thermal conductivity, and solar-thermal conversion properties. We will explore their ...

The thermal and mechanical properties of the resulting concrete were systematically investigated.

Phase change material (PCM)-enhanced concrete offers a promising solution by enhancing thermal energy storage (TES) and ...

Solar air heaters (SAHs) are constrained in efficiency and operational duration by the intermittency of solar energy. This study addresses these constraints by investigating the ...

The review offers insights into how PCMs can be effectively incorporated into concrete to improve thermal

energy storage, contributing to enhanced energy efficiency and ...

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