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Feasibility of phase change energy storage

DOI: 10.1016/j.solmat.2023.112565 Corpus ID: 264068484; Nitrate salt-halloysite nanotube (HNT) composite phase change materials for thermal energy storage: The feasibility of material ...

The WPUPCM exhibited a phase change temperature of 37.0 °C and a melting enthalpy of 74.7 J g -1, enabling the textiles to efficiently regulate body temperature by ...

In the conventional single-stage phase change energy storage process, the energy stored using the latent heat of PCM is three times that of sensible heat stored, which ...

Phase change materials (PCMs) having a large latent heat during solid-liquid phase transition are promising for thermal energy storage applications. However, the relatively low thermal conductivity of the majority of ...

For example, lightweight buildings have low thermal energy storage capacity because of the materials used for the envelope. In that case, integration of PCM enhances the ...

This study investigates the feasibility of utilizing phase change materials (PCM) for thermal energy storage (TES) within district heating applications (DHN).

Renewable energy technologies and its capacity building will play a major role in mitigating the effect of global warming and climate change. Renewable energy, such as ...

TES in buildings [9] is classified into (1) Active and (2) Passive methods. An active storage system is represented mainly by forced convective heat transfer and, in certain ...

Assessing the feasibility of impregnating phase change materials in lightweight aggregate for development of thermal energy storage systems Mohammad Kheradmanda,1, João Castro ...

Phase change materials in the form of eutectic salt mixtures show great promise as a potential thermal energy storage medium. These salts are typically low cost, have a large ...

A direct-drive PV pump system based on phase change heat storage is proposed to address the current building energy consumption problem in heating/cooling.

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