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Cold system phase change energy storage

Overview

Can phase change materials be used as cold thermal energy storage?

Abstract The integration of Phase Change Materials (PCMs) as Cold Thermal Energy Storage (CTES) components represents an important advancement in refrigeration system efficiency. These materials have demonstrated significant capabilities in storing and releasing thermal energy, leading to improved system performance and reduced energy consumption.

What is cold thermal energy storage (CTEs) based on phase change materials?

Multiple requests from the same IP address are counted as one view. Cold thermal energy storage (CTES) based on phase change materials (PCMs) has shown great promise in numerous energy-related applications. Due to its high energy storage density, CTES is able to balance the existing energy supply and demand imbalance.

What are phase change materials (PCMs) & cold thermal energy storage (CTEs)?

The integration of Phase Change Materials (PCMs) as Cold Thermal Energy Storage (CTES) components represents an important advancement in refrigeration system efficiency. These materials have demonstrated significant capabilities in storing and releasing thermal energy, leading to improved system performance and reduced energy consumption.

Which phase change material is used in a cold storage tank?

The phase change material selected in this study is a eutectic salt with a phase change temperature of 8°C. The thermodynamic performance of the cold storage tank filled with phase change material plates was calculated, and the energy storage and release efficiency of the phase-change cooling storage system was analyzed.

Cold system phase change energy storage

Xiao Yang, Baoshan Xie, Xikang Xie, Lijin Zhou, Yuanxin He

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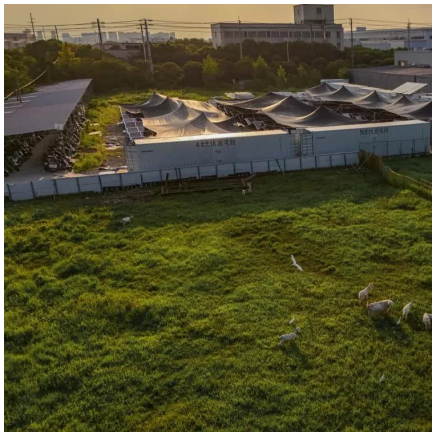

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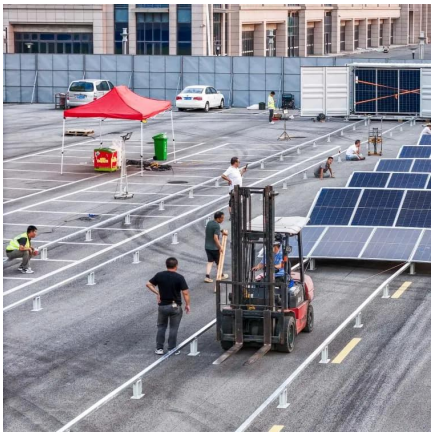

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