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Energy storage low temperature operation solution

Overview

How does low-temperature TES work?

Low-temperature TES accumulates heat (or cooling) over hours, days, weeks or months and then releases the stored heat or cooling when required in a temperature range of 0-100°C. Storage is of three fundamental types (also shown in Table 6.3):.

Can encapsulated phase change materials provide a latent thermal energy storage system?

The aim of this work is to develop a latent thermal energy storage system using encapsulated phase change materials (PCM) for low-temperature applications, such as district heating systems or low-temperature waste heat recovery.

What is a low temperature TES system?

The temperature range targeted is between 50 and 85 °C, and so this can be considered as a low-temperature TES system. Typical end uses in this temperature range are district heating systems [4, 5], domestic heating systems [6], or low-temperature waste heat recovery for industry [7], including in mobile applications [8].

Can a latent heat storage solution be used to prototype evaluation?

This work aims to bring a latent heat storage solution from material selection to prototype evaluation. The first part of this paper is dedicated to the characterization and aging of a phase change material selected from a screening of the literature (fatty acid mixture mainly composed by stearic and palmitic acid).

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Current status and future perspectives of low-temperature ...

His research interests focus on electrochemical energy storage devices for extreme-temperature operation, with emphasis on the design and fabrication of ...

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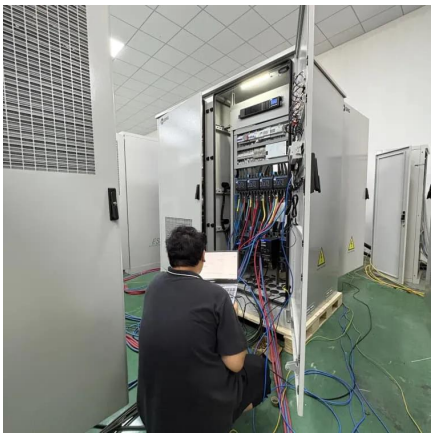

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6 Low-temperature thermal energy storage

Low-temperature TES accumulates heat (or cooling) over hours, days, weeks or months and then releases the stored heat or cooling when required in a temperature range of 0-100°C. Storage ...

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