

Can Peg be used as phase change materials for thermal energy applications?

The thermal properties and thermodynamic data obtained in this work would be technically necessary and important for theoretically studying and actually using PEG as phase change materials for thermal energy applications.

What is thermal energy storage using phase change materials (PCMs)?

Recently, the technique of thermal energy storage using phase change materials (PCMs) has intrigued a great deal of interests due to the PCMs are capable of storing/releasing thermal energy during the phase transition process at almost constant temperatures with the involved latent heats absorbed/released.

Is polyethylene glycol a shape-stabilized phase change material?

Ceram. Int.,45 ( 15) ( 2019),pp. 18452 - 18461 Study on a PEG/epoxy shape-stabilized phase change material: preparation,thermal properties and thermal storage performance Using mesoporous carbon to pack polyethylene glycol as a shape-stabilized phase change materialwith excellent energy storage capacity and thermal conductivity

What is peg/vo2 dual phase change material (PCM)?

Emerging PEG/VO 2 dual phase change materials (PCM) with phase transition temperature gradients were prepared with polyethylene glycol(PEG) and vanadium dioxide (VO2) through the vacuum impregnation method.

What is the thermal storage capacity of peg/vo2 /EG?

The thermal storage capacity of 70-113 J g-1and phase transition temperature range of 30-70 °C for PEG/VO 2/EG were determined by DSC. Moreover,compared with pure PEG,the thermal conductivity of PEG/VO2 /EG 0.10 was increased by up to 93.75%,and the thermal storage capacity was increased by up to 59.35% compared with PEG/VO 2.

Are peg/Paa/SIO 2 composite phase change materials stable?

Novel network structural PEG/PAA/SiO 2 composite phase change materials with strong shape stabilityfor storing thermal energy Sol. Energy Mater. Sol. Cells,216 ( 2020),p. 110678 Novel PEG/EP form-stable phase change materials with high thermal conductivity enhanced by 3D ceramics network Ceram. Int.,46 ( 16) ( 2020),pp. 25285 - 25292

DOI: 10.1016/J.JCT.2018.08.031 Corpus ID: 105750355; Thermal analysis and heat capacity study of polyethylene glycol (PEG) phase change materials for thermal energy storage ...

At present, the shortage of energy resources has become a universal problem. Regarded as the most effective way of utilizing traditional energy [1,2,3,4,5,6], the thermal ...

lead to spatial hindrance and restrict the movement of PEG, thus allowing the phase change material to maintain its solid state at high temperatures. This study was conducted on its ...

In terms of the phase transition temperature, PEG-600 has a phase transition temperature (Phase change temperature= $16.81^{\circ}\text{C}$  /  $19.81^{\circ}\text{C}$ ) (Kulkarni and Muthadhi, 2021) ...

This review discusses advances in polyethylene glycol-based composite phase change materials (PCMs) for thermal energy storage (TES) and thermal regulation. PCMs utilize latent heat storage, absorbing and releasing ...

Phase change materials (PCMs) generally offer high latent heats for a wide range of thermal energy storage technologies. As typical organic PCMs, polyethylene glycol (PEG) ...

Within the spectrum of PCMs, organic solid-liquid phase change materials have garnered significant attention, primarily attributed to their characteristics of high energy storage ...