

Nanographite-based phase change solar container

Phase change material (PCM) added with nanoparticles referred to as nano-enhanced PCM (NePCM) is increasingly being used to enhance the productivity of solar still (SS) systems.

Phase change materials (PCMs) that reversibly release or absorb thermal energy during phase transitions play a significant role in promoting renewable and sustainable energy ...

Drawing upon the photothermal conversion and thermal storage properties of LA/GNAb, this study demonstrates its advanced applications in solar-driven desalination and solar-thermoelectric generation.

Phase change latent heat energy storage technology offers advantages such as high energy storage density, minimal temperature fluctuations, and chemical stability, demonstrating significant ...

The present experiment and analytical study was carried out for suitability analysis of novel hybrid system of nano-enhanced Phase change material (PCM) for thermal energy storage ...

The proposed composite is a shape-stable phase change material consisting of the eutectic chloride (MgCl₂-NaCl-KCl) as phase change material, expanded graphite (EG) for heat ...

The microencapsulation of phase change materials has solved the shortcomings of the traditional single phase change materials, but the microcapsule phase change materials have low ...

The effective utilization of solar energy is feasible by matching the energy supply to demand with selective solar collectors and energy storage. Solar thermal systems with thermal ...

In recent years, solar stills systems have garnered a lot of interest and have been thoroughly researched. It is currently thought that using Nano-enhanced phase change materials (NE ...

Salt-hydrated phase change materials (SPCMs) have gained significant attention due to their high thermal conductivity and ability to enhance thermal effectiveness. However, SPCMs have ...

The present experimental research explores the integration of ternary nano-enhanced materials into an organic phase change material (PCM), using Erythritol as the base PCM. Three ...

To overcome the poor shape stability, low thermal conductivity, and weak photo response of phase change materials (PCMs), we designed a kind of Gelatin@nanoGraphite aerogel ...

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However, the yield of fresh water obtained from solar distillation unit is comparatively less as compared to other distillation techniques. Incorporation of nano phase change material ...

In this review, we summarize systematically the effects of carbon-based nano-additives on the important thermophysical properties of nanocomposite phase change materials, referred to as ...



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