Solar Energy

Composite solar container heat exchanger

Overview

Shaped green bodies were generated from mixtures of WC powder (5–6-µm-diameter particle size; SC55S, Global Tungsten & Powders) and isobutyl methacrylate (IBMA, Elvacite 2045, Lucite Intern.

Composite solar container heat exchanger

Compact heat exchangers: A review and future applications for a new

CHEs are characterized by having a comparatively large area density. Area density is the ratio of heat transfer surface to heat exchanger volume. Their large area density, indicating small ...

Brick-mortar structured MXene/Chitosan/SiO2@n-eicosane flexible

This thermal management solution combines solar energy with phase change materials to enable wearable composite films to continuously provide heat to the human body in cold outdoor ...

A critical review on phase change materials (PCM) based heat exchanger

LHS systems have three components: a suitable PCM, an encapsulating container, and a heat exchange surface. LHS containers can be used in heating or cooling systems with air or liquid ...

Solar regenerated carbon-based composite desiccant coated heat

Desiccant dehumidification can realize decoupling of latent and sensible heat loads in dehumidified air conditioning, thereby reducing energy consumption. This paper proposes a solar

...

One piece ceramic heat exchanger for concentrating solar power ...

Using additive manufacturing techniques, a ceramic heat exchanger was optimized for a concentrating solar power (CSP) electric power plant with a corrosive molten salt at atmospheric ...

Study on the performance of multi-medium heat exchanger in solar

To enhance the heat transfer performance of solar ejector-compression hybrid refrigeration systems, improve the utilization efficiency of solar energy, and promote energy savings ...

Design and development of polymer composite heat exchanger tubes ...

Abstract In the current study, thermal-hydraulic design of the heat exchanger and composite material design are integrated to develop polymer composite tube materials for heat ...

Solar regenerated carbon-based composite desiccant coated heat

This paper introduces a solar regenerated desiccant coated heat exchanger with a carbon-based composite desiccant. The carbon-based composite desiccant is obtained by ...

EXPERIMENTAL INVESTIGATION OF A DESICCANT AIR ...

ABSTRACT In this study, a desiccant air conditioning system based on a solar-powered composite desiccant bed heat exchanger has been proposed and experimentally investigated. The system ...

Ceramic-metal composites for heat exchangers in ...

Ceramic-metal composites for heat exchangers in concentrated solar power plants Dr. Kenneth Sandhage, Reilly Professor of Materials Engineering and his ...

Experimental investigation of solar-powered desiccant cooling system ...

A solar-powered composite desiccant cooling system has been experimentally investigated. It consists of evacuated tube solar water heater, composite desiccant bed heat ...

An experiment and simulation on a solar-regenerated dehumidifier

This paper presents the results of experiment and simulation on a dehumidifier constructed from a water-to-air heat exchanger coated with a composite desiccant of SB15 ...

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