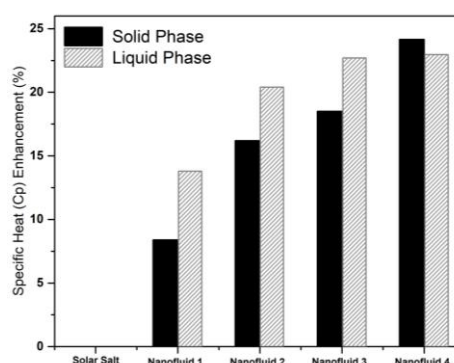


HEAT TRANSFER NANOCOMPOSITE MATERIAL

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Researchers at CIC energigUNE have developed a nanocomposite material comprising a nanoporous material and a base heat transfer fluid confined within the pores of the nanoporous material and a simple dry method for preparing the same. Additionally, the present invention refers to the use of the nanocomposite material of the invention as a high-temperature fluid and to a thermal energy storage unit comprising the same.



The authors of the present invention have surprisingly found that the confinement of a heat transfer fluid within the pores of a nanoporous material can drastically increase the specific heat capacity of the base heat transfer fluid. Indeed, only a low weight percentage of the nanoporous material is necessary to enhance the specific heat capacity of the base heat transfer fluid.

The nanocomposite material of the present invention is prepared by a simple method based on melting diffusion.

ADDED VALUE

- > Enhancement of specific heat capacity between 25-30 %.
- > Enhancement of thermal conductivity up to 50%.

APPLICATION OF THE TECHNOLOGY

- > Materials for thermal applications
- > Stationary thermal energy storage applications

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