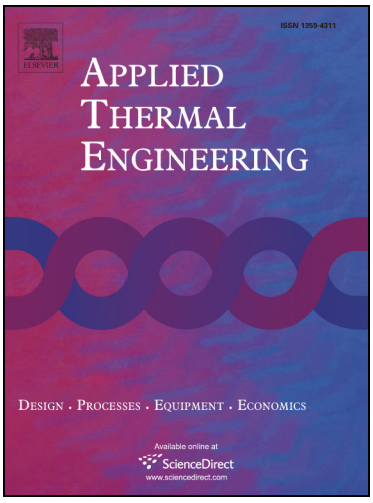

Research Paper

Inhomogeneity in pore size appreciably lowering thermal conductivity for porous thermal insulators

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Inhomogeneity in pore size appreciably lowering thermal conductivity for porous thermal insulators

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HIGHLIGHTS:

- Quantitative degradation effect of inhomogeneity in pore size is first revealed.
- Adaptable interfacial sensor technology is proposed to ensure accurate measurement.
- Ample models of heat transfer are compared to extract the inhomogeneity effect.
- This study opens up fresh opportunities for developing super thermal insulators.

ABSTRACT: It has been years since the concept that inhomogeneity in pore size has an adverse effect on the thermal transport came into view. Typically, although some porous materials possess the identical porosity, they could show a strong