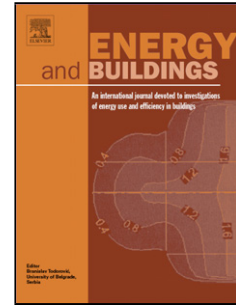


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Thermal performance evaluation of macro-packed phase change materials (PCMs) using heat transfer analysis device

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Highlights

- The macro-packed PCM was prepared to increase the content of the PCMs.
- After these PCMs were packed, the thermal conductivity is higher than the pure PCMs.
- Among the three PCMs, n-octadecane has the highest latent heat at 256.5 J/g.
- The thermal performance of the macro-packed PCM containing n-octadecane is considered to be best.

Abstract

The application of PCMs to various fields is difficult, due to their phase instability in the liquid state. To solve this problem, PCMs need shape stabilization. However, a mock-up experiment in this study showed that thermal performance is less than excellent because of the small amount of applied PCM.

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