

## Accepted Manuscript

Investigating the potential of a closed-loop dynamic insulation system for opaque building elements

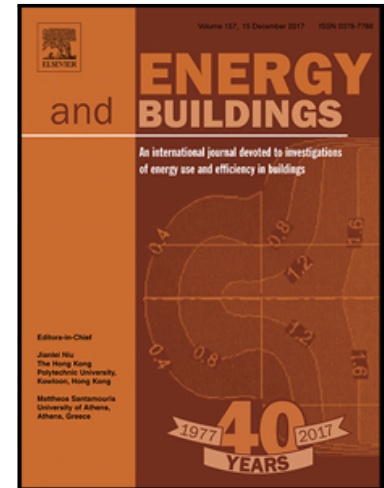
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**Highlights**

- This study investigates the performance of a closed-loop dynamic insulation system
- A dynamic simulation model was made, based on the Ventilated Slab model in EnergyPlus
- Application of the system can lead 72-90% less comfort exceedance hours
- Reductions in heating energy use can be achieved by transporting absorbed solar gains
- Dynamic insulation works best in lightweight outer and heavyweight inner structure

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