

## Introduction

Housing associations face the challenge of reducing energy costs while maintaining comfortable living spaces for residents. The study highlights the heat retention benefits of carpet tiles that can help housing associations to reduce energy costs by 8-13% while providing comfortable living spaces.

## Insulating Properties

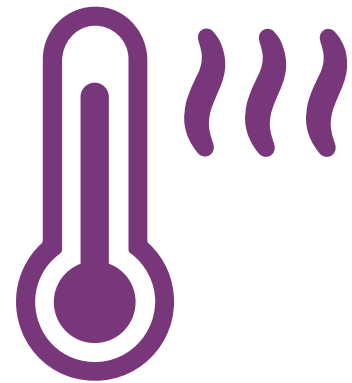
Carpet tiles are natural insulators with low heat conduction values that provide excellent thermal insulation. The thickness of the carpet is a major factor determining the insulation efficiency, with thicker carpets providing greater thermal insulation. The surface pile of carpet tiles with millions of tiny fibers traps air and further increases thermal insulation.

## Energy Savings

Carpet tiles can help to reduce energy costs in heating when there is a temperature differential between the indoor air and that under the floor. Uninsulated floors account for 10-20% of heat loss from a room, and the greatest benefit from carpet tiles is obtained when a large area, preferably wall-to-wall, is covered. Research found that energy savings range from 8-13%.

### High Insulation Values:

Carpet tiles hold high insulation values, with the insulation value of carpet being up to 10 times higher than that of hard floor covering. Wool carpets have higher insulation values than comparable carpets of other fiber types, with wool fibers' natural resilience allowing for better recovery after compression and longer retention of height and insulating properties.



## Additional Benefits

Carpet tiles contribute to personal safety, removal of indoor air pollutants, and reduction of the frequency and severity of falls. A carpeted room promotes thermal comfort, saves energy, and contributes to a reduction in greenhouse gas emissions that cause climate change.

## Conclusion

Carpet tiles are an excellent choice for housing associations looking to reduce energy costs while maintaining comfortable living spaces for residents. The heat retention benefits of carpet tiles, along with additional benefits such as personal safety and removal of indoor air pollutants, make them a sustainable and innovative solution for reducing energy costs in housing associations.

## References

Ege - carpet can help reduce energy costs: <https://uplyfted.co.uk/wp-content/uploads/2023/03/Ege-Carpet-can-help-reduce-energy-costs.pdf>