

# Squashed loft insulation 50 percent less effective

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Research from the National Physical Laboratory (NPL) has shown that by squashing down loft insulation, for example under storage boxes, homeowners almost halve its performance.

According to the Energy Saving Trust, a quarter of a home's heat (and hence the heating bill) is lost through an un-insulated roof. Loft insulation is a relatively cheap and easy way to save on [energy bills](#) but needs to be installed correctly to achieve its full benefits.

Loftzone are a UK company supported by the Carbon Trust that manufacture a raised loft floor designed to protect loft insulation while allowing homeowners access to their loft. The company approached NPL to carry out research into the thermal resistance of loft insulation when it is compressed, and an NPL [Technology Innovation](#) Fund project was set up for this work.

The research tested loft insulation at the recommended installed thickness of 270 mm and then compared it to insulation that was compressed to a thickness of 100 mm. The results showed that the loft insulation performs to manufacturer's specifications when installed correctly but that its thermal resistance was reduced from 6.11 m<sup>2</sup>.K/W to 3.09 m<sup>2</sup>.K/W when compressed.

NPL's Ray Williams, who worked on the project, said: "There are rigorous requirements for manufacturers of insulation to quote performance values based on accredited measurements, but further

measurements have shown that achieving this in practise requires correct installation."

A survey sponsored by the Carbon Trust has previously shown that 82% of households use their loft for storage, compressing insulation either by boarding the loft or simply putting belongings on top of it. There appears to have been a communications breakdown with only 26% of people asked in the survey saying that they knew compressing insulation made it less effective. This implies that many homeowners may be reducing the effectiveness of their insulation, as well as any associated energy and [carbon savings](#), without realising it.

Dave Raval, chief executive of LoftZone, said: "We all know that people use their lofts for storage. But compressing insulation halves its performance and what's worrying is that so few [households](#) realise this. If you live in a house, and are worried by your fuel bills, don't use your loft for storage unless you have protected the insulation first."

Provided by National Physical Laboratory

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