

IMPROVING THE SOUND INSULATION AND SUSTAINABILITY OF TIMBER-FRAMED FLOORS.

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Timber-framed, multistorey, multi-residential housing can have a number of advantages over massive construction in terms of cost and embodied energy. However, one of their major problems, as perceived by occupants, is their poorer insulation of low-frequency sound; particularly the poor insulation of low-frequency impact sounds from floors. The poor low-frequency impact sound insulation of timber-framed floors has reduced the number of multistorey, multi-residential timber-framed constructions. This paper looks at timber-framed floor designs which have improved low-frequency impact sound insulation. We compare sound insulation performance, cost and a life cycle assessment of a number of floor designs, including a benchmark concrete slab. The particular emphasis has been to produce floor designs which can be easily built in New Zealand and Australia.