Commercial Property

Timber buildings meet thermal performance: study

By **PHILIP HOPKINS**

LIGHTWEIGHT timber homes can easily meet five and six-star thermal performance standards, according to Tasmanian researchers.

Greg Nolan, associate professor at the University of Tasmania's Centre for Sustainable Architecture with Wood (CSAW), said good thermal performance did not require excessive use of high-mass materials such as slabs or masonry.

Professor Nolan said lightweight timber could provide a good thermal performance through improved design and room placement, increased insulation, and better practice in sealing the building. Performance was not dependent on orientation.

His team built three single-room houses and three real houses to assess the thermal performance of timber. They compared three buildings of similar construction – timber subfloor and slab on ground.

The study was funded by Forest and Wood Products Australia, the Australian Greenhouse Office and industry.

New homes will need six-star performance.

One of the aims was to validate the performance of the CSIRO-developed AccuRate house energy rating software. From 2010-2011, all new domestic homes will have to achieve six-star thermal performance.

Between July 2006 and December 2007, the researchers monitored temperature, humidity, air movement, electricity use and solar radiation within the rooms and through the fabric of the buildings.

In the second part of the project, a builder erected three two-bedroom houses adjacent to each other with the same orientation. The houses both had brick veneer walls and conventional framing and insulation, but differed in their external fabric.Professor Nolan said the AccuRate program had already been improved. "But refining it further requires action. We have begun work on an area of likely problems — underfloor ventilation."

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