

Wood frame floor model of LVL *Paraserianthes falcataria*

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ABSTRACT This paper develops wood frame floor made from laminated veneer lumber (LVL) *Paraserianthes falcataria* as an effort to further utilize this new emerging and sustainable building material in building applications such as multi-story dwelling houses. This LVL *Paraserianthes falcataria* is a typical of fast growing timber species planted in artificial forests to help mitigation of green houses gases. Wood frame floors consists of repetitive joists at a prescribe spacing sheathed with either boards or wood structural panels attached to the top surface. The work consisted of two consecutive activities: searching best shape of joist, and conducting full-scale test of prototype of the wood frame floor. Two models of joist section were developed, I-shape and box-shape having equal height of 300 mm. Bending test upon these two models of joist indicated that the box-shape joist had better flexural stiffness and resistance than the I-shape joist. The prototype of floor system having size of 1200 mm by 2400 mm and were loaded in several loading configurations before finally loaded until failure. The test results found that the prototype of floor system had a uniform load capacity of 18.75 kN/m² corresponds to allowable floor deflection and 52.5 kN/m² for the ultimate.

KEYWORDS LVL *Paraserianthes falcataria*, I-shape joist, box shape joist, wood frame floor