

**Connection performance for LVL-Concrete Composite Floor System**  
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**Abstract:** The LVL-concrete composite (LVC) structure is a hybrid system which the LVL slab is well connected to the concrete slab by a connector to produce composite action. Various types of connector with different stiffness and shear capacity are available in the market causing the stiffness of the connector to affect the load transfer through the push-out experiment. The results compare LVC, concrete composite beams have higher stiffness and strength compared to machine screws. This paper discusses the experimental results of symmetrical push-out tests on 3 different types of connector: 100 mm rectangular notch with 10 mm diameter screw, 100 mm rectangular notch with 8 mm diameter screw and 100 mm triangular notch with 8 mm diameter screw. The experiment was done push-out to failure and the type of failure was discussed. The 100 mm rectangular notch was found to be stronger among all and low cost. The 100 mm rectangular notch was found to be stronger than 100 mm triangular notch but 100 mm triangular notch is easier to construct in 2D cut. The maximum strength and stiffness at ultimate limit states and serviceability limit states for each type of connector were discussed in this paper.

**Introduction**

The concrete composite (LVC) is an upgrade of traditional timber floors to improve the dynamic

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