





# Experimental and Analytical Investigation of Short-Term Behaviour of LVL–Concrete Composite Connections And Beams

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Material: LVL (Laminated Veneer Lumber)  
Timber-Concrete Composite

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Full Scale

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## Summary:

This paper reports the results of experimental push-out tests on three different types of timber–concrete composite (TCC) connections, including normal screw, SFS and bird-mouth. The load-slip diagrams obtained from lab tests are employed to calculate the slip modulus of the connections for serviceability, ultimate and near collapse cases based on Eurocode 5 recommendations. Additionally, four full-scale TCC beams with normal screw, SFS and bird-mouth are constructed and tested under four-point bending within the serviceability load range to verify the slip modulus of connections which derived from the push-out tests. Further, based on the experimental results and using nonlinear regression, an analytical model each one of the connections is derived which can be easily incorporated into nonlinear FE analyses of TCC beams.

Online Access: Free

## Resource Link

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