



Structural Design, Approval, and Monitoring of a UBC Tall Wood Building

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Summary:

In this paper, we discuss the structural design of one of the tallest timber-based hybrid buildings in the world: the 18 storey, 53 meter tall student residence on the campus of the University of British Columbia in Vancouver. The building is of hybrid construction: 17 storeys of mass wood construction on top of one storey of concrete construction. Two concrete cores containing vertical circulation provide the required lateral resistance. The timber system is comprised of cross-laminated timber panels, which are point supported on glued-laminated timber columns and steel connections between levels. In addition to providing more than 400 beds for students, the building will serve as an academic site to monitor and study its structural performance, specifically horizontal building vibration and vertical shrinkage considerations. We present the challenges relating to the approval process of the building and discuss building code compliance issues.

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