



Development of Light Prefabricated Hybrid Structures for a High-Rise Multi-Storey Building with Emphasis on Connections

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Summary:

Hybrid wood-concrete structures are emerging in the multi-storey wood building market, as they provide effective solutions in terms of lightness, rigidity, vibration and fire resistance (Yeoh et al., 2010, Dagenais et al., 2016). This project aims to reduce the cost of these hybrid floors by reducing the time of construction by prefabrication technology with emphasis on use. In addition, the goal is to explore the use of Ultra High Performance Fiber Composite Concrete (UHPC) to reduce the thickness of the wood slab, and also the use of ductile connections to increase the reliability of the floor (Habel and Gauvreau). 2008, Zhang and Gauvreau 2014, Auclair-Cuerrier et al 2016a). Finally, the concrete slab improves the diaphragm behavior of the floor to seismic actions.