



Development and Evaluation of Mechanical Joints for Composite Floor Elements with Cross Laminated Timber

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 Material: CLT (Cross-Laminated Timber)
 Glulam (Glue-Laminated Timber)
 Timber-Concrete Composite
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Summary:

This thesis focuses on the development of composite floor solutions where Cross Laminated Timber (CLT) panels are used as a base element. Preliminary investigations on shear connections between prefabricated concrete beams and CLT panels were performed. The focus is on investigations on glulam-CLT composite beam elements, and the mechanical shear connectors used to achieve composite action.

The new shear connections system evaluated in this thesis for glulam-CLT floor elements consists of double-sided punched metal plate fasteners. In order to secure the shear connection made with double-sided nail plates and to improve the shear behaviour of the joint, a combination with inclined self-tapping screws was evaluated through a shear test programme. It was found that the double-sided punched metal plate fasteners and inclined screws can effectively be combined.

Online Access: Free

Resource Link

<http://tu.diva-portal.org/smash/get/diva2:990749/FULLTEXT01.pdf>