



Development of Steel-Timber Composite System for Large Scale Construction

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Material: CLT (Cross-Laminated Timber)
LVL (Laminated Veneer Lumber)

Application: Beams

Topic: Mechanical Properties
Connections

Keywords: Short-term
Ultimate Limit States
Push-Out Tests
Failure Modes
Four Point Bending Test
Strength
Stiffness

Language: English

Conference: World Conference on Timber Engineering

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p. 4322-4331

Abstract:

In this paper a novel and efficient structural system, that comprises steel beams and prefabricated timber slabs is developed and tested under short-term service and ultimate limit state loading conditions. In the proposed steeltimber composite (STC) system, bolt and coach screws are employed to transfer shear between steel beam and...

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Steel-Timber Versus Steel-Concrete Composite Floors: A Numerical Study

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Author: Nicka Keipour
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Material: Steel-Timber Composite
LVL (Laminated Veneer Lumber)

Application: Floors

Topic: Mechanical Properties

Keywords: Screws
Finite Element Model
Load Carrying Capacity
Strength
Stiffness
Composite Action
Brittle Failure

Language: English

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Abstract:

Concrete is the most widely used construction material in the world. This material causes formation and release of CO₂ and high energy consumption during manufacturing. One way to decrease concrete consumption negative consequences is to replace it with lower needed primary energy materials, like timber. The engineered wood products such as laminated veneer lumber (LVL)...

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