



Ductility of Large-scale Dowelled CLT Connections under Monotonic and Cyclic Loading

<https://research.thinkwood.com/en/permalink/catalogue2254>

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Year of Publication: 2017

Country of Publication: Australia

Format: Conference Paper

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

Application: Shear Walls

Topic: Connections

Keywords: Dowel-Type Connections
Ductility
Particle Tracking Velocimetry
Tall Timber
Radiata Pine

Language: English

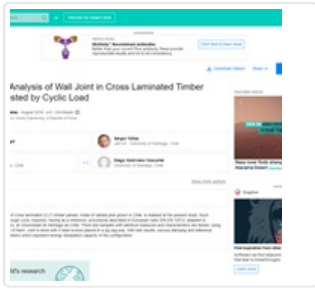
Conference: Australian Earthquake Engineering Society Conference

Research Status: Complete

Online Access: Free

Resource Link

<http://aees.org.au/wp-content/uploads/2018/02/405-Lisa-Mareike-Ottenhaus.pdf>



Experimental Analysis of Wall Joints in Cross Laminated Timber Panels Requested by Cyclic Load

<https://research.thinkwood.com/en/permalink/catalogue2013>

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Year of Publication: 2018

Country of Publication: South Korea

Format: Conference Paper

Material: CLT (Cross-Laminated Timber)

Application: General Application

Topic: Mechanical Properties
Connections

Keywords: Radiata Pine
Cyclic Tests
Screws
Ductility
Viscous Damping

Language: English

Conference: World Conference on Timber Engineering

Research Status: Complete

Online Access: Free

Resource Link

https://www.researchgate.net/publication/327446284_Experimental_Analysis_of_Wall_Joint_in_Cross_Laminated_Timber_Panels_Requested_by_Cyclic_Load



Influence of Lamination Aspect Ratios and Test Methods on Rolling Shear Strength Evaluation of Cross Laminated Timber

<https://research.thinkwood.com/en/permalink/catalogue2367>

Author: Li, Minghao
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Year of Publication: 2019

Country of Publication: United States

Format: Journal Article

Material: CLT (Cross-Laminated Timber)

Application: Wood Building Systems
General Application

Topic: Design and Systems
Mechanical Properties

Keywords: Rolling Shear Strength
Lamination Aspect Ratio
Short-Span Bending
Numerical Modelling
Douglas-Fir
Radiata Pine

Language: English

Research Status: Complete

Series: Journal of Materials in Civil Engineering

Summary:

Rolling shear (RS) strength may govern load carrying capacity of cross laminated timber (CLT) subjected to high out-of-plane loading because high RS stresses may be induced in cross layers and wood typically has low RS strength. This study investigates RS strength properties of non-edge-glued CLT via experimental testing (short-span bending tests and modified planar shear tests) and numerical modelling. CLT specimens with different manufacturing parameters including two timber species (New Zealand grown Douglas-fir and Radiata pine), three lamination thickness (20 mm, 35 mm, and 45 mm) and various lamination aspect ratios (4.1~9.8) were studied. The lamination aspect ratio was found to have a substantial impact on RS strength of CLT. Higher aspect ratios led to a significant increase of RS strength and an approximately linear relationship could be established. With similar lamination aspect ratios, the Radiata pine CLT had higher RS strength than the Douglas-fir CLT. The two different test methods, however, yielded comparable RS strength assessments. Numerical models were further developed to study the influence of the test configurations and gaps in the cross layers on stress distributions in the cross layers. It was also found the compressive stresses perpendicular to grain in cross layers had negligible influence on the RS strength evaluations.

Online Access: Free

Resource Link

<http://hdl.handle.net/10092/17878>