



Analytical Procedures for Determining Stiffness of CLT Elements in Bending

<https://research.thinkwood.com/en/permalink/catalogue1862>

Author: Marjan Popovski
Sylvain Gagnon

Publisher: Forest Products Society

Year of Publication: 2012

Country of Publication: United States

Format: Journal Article

Material: CLT (Cross-Laminated Timber)

Application: Floors
Walls
General Application

Topic: Mechanical Properties
Design and Systems

Keywords: Flexural Properties
Panels
Stiffness Properties
Shear Analogy Theory
Joints

Language: English

Series: Wood Design Focus

Online Access: Free

Resource Link

http://www.forestprod.org/buy_publications/resources/untitled/summer2012/Volume%2022,%20Issue%202%20Popovski.pdf

Axial beanspruchte Gewindestangen in Brettsperrholz
Axially loaded threaded rods in cross-laminated timber
Goujons à sollicitation axiale employés en association avec des panneaux en lamellé-croisé

Axially Loaded Threaded Rods in Cross-Laminated Timber

<https://research.thinkwood.com/en/permalink/catalogue1135>

Author: Markus Enders-Comberg
Year of Publication: 2012
Country of Publication: Germany
Format: Conference Paper
Material: CLT (Cross-Laminated Timber)
Application: Frames
Topic: Connections
Keywords: Rods
Pull-Out Tests
Language: German
Conference: Internationales Holzbau-Forum
Notes: December 6-7, 2012, Garmisch-Partenkirchen, Germany
Online Access: Free

Resource Link

http://www.forum-holzbau.ch/pdf/ihf12_enders-comberg.pdf 



The Case for Tall Wood Buildings - How Mass Timber Offers a Safe, Economical, and Environmentally Friendly Alternative for Tall Building Structures

<https://research.thinkwood.com/en/permalink/catalogue938>

Author: Michael Green
Eric Karsh

Year of Publication: 2012

Country of Publication: Canada

Format: Book

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

Application: Wood Building Systems

Topic: Design and Systems
Cost
Market and Adoption
Environmental Impact

Keywords: Tall Wood
FFTT

Language: English

Online Access: Free

Resource Link

<http://cwc.ca/wp-content/uploads/publications-Tall-Wood.pdf>



A Comparative Cradle-To-Gate Life Cycle Assessment of Mid-Rise Office Building Construction Alternatives: Laminated Timber or Reinforced Concrete

<https://research.thinkwood.com/en/permalink/catalogue52>

Author: Adam Robertson
Frank Lam
Raymond Cole

Publisher: MDPI

Year of Publication: 2012

Country of Publication: Switzerland

Format: Journal Article

Material: CLT (Cross-Laminated Timber)
Glulam (Glue-Laminated Timber)

Application: General Application

Topic: Energy Performance
Environmental Impact

Keywords: Concrete
Embodied Carbon
Life-Cycle Assessment
Mid-Rise
National Building Code of Canada
NBCC
North America
Office Buildings

Language: English

Series: Buildings


ISSN: 2075-5309

Abstract:

The objective of this project was to quantify and compare the environmental impacts associated with alternative designs for a typical North American mid-rise office building. Two scenarios were considered; a traditional cast-in-place, reinforced concrete frame and a laminated timber hybrid design, which utilized engineered wood products (cross-laminated timber (CLT) and glulam). The boundary of the quantitative analysis was cradle-to-construction site gate and encompassed the structural support system and the building enclosure. Floor plans, elevations, material quantities, and structural loads associated with a five-storey concrete-framed building design were obtained from issued-for-construction drawings. A functionally equivalent, laminated timber hybrid design was conceived, based on Canadian Building Code requirements. Design values for locally produced CLT panels were established from in-house material testing. Primary data collected from a pilot-scale manufacturing facility was used to develop the life cycle inventory for CLT, whereas secondary sources were referenced for other construction materials. The TRACI characterization methodology was employed to translate inventory flows into impact indicators. The results indicated that the laminated timber building design offered a lower environmental impact in 10 of 11 assessment categories. The cradle-to-gate process energy was found to be nearly identical in both design scenarios (3.5 GJ/m²), whereas the cumulative embodied energy (feedstock plus process) of construction materials was estimated to be 8.2 and 4.6 GJ/m² for the timber and concrete designs, respectively, which indicated an increased availability of readily accessible potential energy stored within the building materials of the timber alternative.

Online Access: Free

Resource Link

<https://doi.org/10.3390/buildings2030245> 



Comparison of Bending Stiffness of Cross-Laminated Solid Timber Derived by Modal Analysis of Full Panels and by Bending Tests of Strip-Shaped Specimens

<https://research.thinkwood.com/en/permalink/catalogue445>

Author: René Steiger
Arne Gülzow
Christoph Czaderski
Martin Howald
Peter Niemz

Publisher: Springer-Verlag

Year of Publication: 2012

Country of Publication: Germany

Format: Journal Article

Material: CLT (Cross-Laminated Timber)

Application: General Application

Topic: Mechanical Properties

Keywords: Elastic Properties
Stiffness Properties
Bending Test
Bending Stiffness
Panels

Language: English

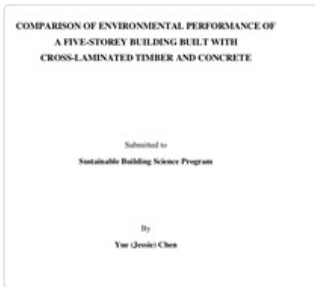
Series: European Journal of Wood and Wood Products

ISSN: 1436-736X

Online Access: Free

Resource Link

http://doc.rero.ch/record/310855/files/107_2011_Article_521.pdf



Comparison of Environmental Performance of a Five-Storey Building Built with Cross-Laminated Timber and Concrete

<https://research.thinkwood.com/en/permalink/catalogue65>

Author: Yue (Jessie) Chen
Organization: University of British Columbia
Year of Publication: 2012
Country of Publication: Canada
Format: Report
Material: CLT (Cross-Laminated Timber)
Application: Wood Building Systems
Topic: Energy Performance
Environmental Impact
Keywords: Canada
Concrete
Energy Consumption
Environmental
Mid-Rise
North America
Office Buildings
Passive Buildings
Language: English
Online Access: Free

Resource Link

<http://sbsp.sites.olt.ubc.ca/files/2012/07/SBSP-report-Jessie-Chen.pdf>



Cross-Laminated Timber and Gypsum Board Wall Assembly (Load-Bearing) - Standard Methods of Fire Tests of Building Construction and Materials

<https://research.thinkwood.com/en/permalink/catalogue711>

Author: Michael Rizzo
Organization: American Wood Council
Year of Publication: 2012
Country of Publication: United States
Format: Report
Material: CLT (Cross-Laminated Timber)
Application: Walls
Topic: Fire
Keywords: Type X Gypsum Board
Load Bearing
Fire Resistance
Live Load
Language: English

Abstract:

The Fire Test Laboratory of NGC Testing Services (NGCTS) conducted testing for American Wood Council (AWC) on a load-bearing, Cross-Laminated Timber (CLT) and gypsum board wall assembly to evaluate its fire resistance properties when exposed to fire acco...

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Online Access: Free

Resource Link

<http://www.awc.org/pdf/codeofficials/2012/NGC-CLT-Report.pdf>

**Versuchstechnische Betrachtung
zyklisch beanspruchter Wandelemente
in der Holz-Massivbauweise**
Cylindrical loading tests on connections in solid wooden
structures
Analyse expérimentale du comportement de panneaux
massifs en bois sollicités de façon cyclique

Cylindrical Loading Tests on Connections in Solid Wooden Structures

<https://research.thinkwood.com/en/permalink/catalogue1098>

Author: Georg Flatscher
Year of Publication: 2012
Country of Publication: Germany
Format: Conference Paper
Material: CLT (Cross-Laminated Timber)
Application: Walls
Topic: Connections
Keywords: Monotonic Loading
Cyclic Loading
Deformation
Angle Bracket
Screws
Tie-Rods
Language: German
Conference: Internationales Holzbau-Forum
Notes: December 6-7, 2012, Garmisch-Partenkirchen, Germany
Online Access: Free

Resource Link

http://www.forum-holzbau.ch/pdf/ihf12_flatscher.pdf ↗



Damage Assessment of Cross Laminated Timber Connections Subjected to Simulated Earthquake Loads

<https://research.thinkwood.com/en/permalink/catalogue70>

Author: Johannes Schneider
Siegfried Stiemer
Solomon Tesfamariam
Erol Karacabeyli
Marjan Popovski

Year of Publication: 2012

Country of Publication: New Zealand

Format: Conference Paper

Material: CLT (Cross-Laminated Timber)

Application: Shear Walls

Topic: Connections
Seismic

Keywords: Damage
Panels
North American Market

Language: English

Conference: World Conference on Timber Engineering

Notes: July 15-19, 2012, Auckland, New Zealand

Abstract:

Wood-frame is the most common construction type for residential buildings in North America. However, there is a limit to the height of the building using a traditional wood-frame structure. Cross-laminated timber (CLT) provides possible solutions to mid-...

Online Access: Free

Resource Link

<https://www.researchgate.net/publication/274959672>



Design and Behavior of a Mid-Rise Cross-Laminated Timber Building

<https://research.thinkwood.com/en/permalink/catalogue242>

Author: Conor Lenon
Organization: Colorado School of Mines
Year of Publication: 2012
Country of Publication: United States
Publication:
Format: Thesis
Material: CLT (Cross-Laminated Timber)
Application: Wood Building Systems
Topic: Seismic
Keywords: Finite Element Model
Shake Table Test
Full Scale
Moment Resistance
Language: English
Online Access: Free

Resource Link

<http://hdl.handle.net/11124/169999> ↗