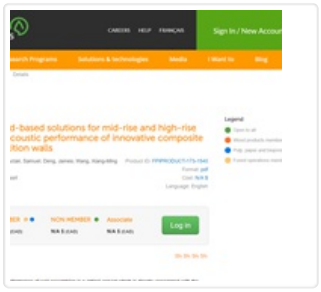


Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: Acoustic Performance of Innovative Composite Wood Stud Partition Walls

https://research.thinkwood.com/en/permalink/catalogue1181

Author:	Lin Hu
	Samuel Cuerrier-Auclair
	James Deng
	Xiang-Ming Wang
Organization:	FPInnovations

Year of Publication:	2018
Country of Publication:	Canada
Format:	Report
Application:	Walls
Topic:	Design and Systems
	Mechanical Properties
	Acoustics and Vibration
Keywords:	Sound Insulation
	Manufacturing
	Partition Walls
	Steel
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

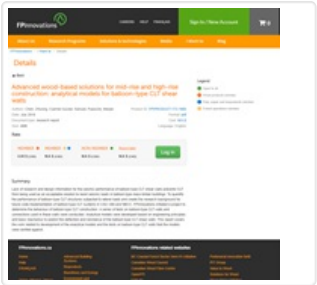
Abstract:

Airborne sound insulation performance of wall assemblies is a critical aspect which is directly associated with the comfort level of the occupants, which in turn affects the market acceptance...

Online Access: Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/16781.pdf#.WymKJPIKiUl



Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: Analytical Models for Balloon-Type CLT Shear Walls

https://research.thinkwood.com/en/permalink/catalogue1877

Author:	Zhiyong Chen
	Samuel Cuerrier-Auclair
	Marjan Popovski
Organization:	FPInnovations
Year of Publication:	2018
Country of Publication:	Canada
Format:	Report
Material:	CLT (Cross-Laminated Timber)
Application:	Walls
Topic:	Design and Systems
Keywords:	Lateral Loads
	Shear
	Mass Timber
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

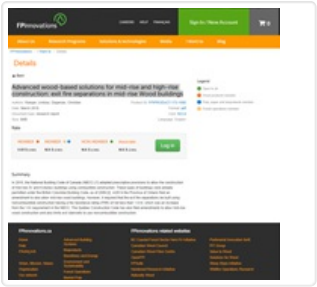
Abstract:

Lack of research and design information for the seismic performance of balloon-type CLT shear walls prevents CLT from being used as an acceptable solution to resist seismic loads in balloon-type mass-timber buildings. To quantify the performance of balloon-type CLT structures subjected to lateral loads and create the research background for future code implementation of balloon-type CLT systems in CSA O86 and NBCC, FPInnovations initiated a project to determine the behaviour of balloon-type CLT construction. A series of tests on balloon-type CLT walls and connections used in these walls were conducted. Analytical models were developed based on engineering principles and basic mechanics to predict the deflection and resistance of the balloon-type CLT shear walls. This report covers the work related to development of the analytical models and the tests on balloon-type CLT walls that the models were verified against.

Online Access: Free

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/19625.pdf#



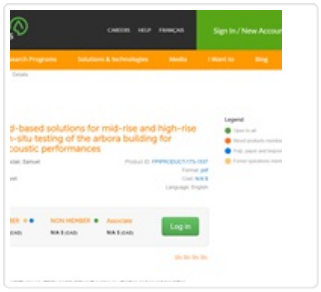
Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: Exit Fire Separations in Mid-Rise Wood Buildings

https://research.thinkwood.com/en/permalink/catalogue1879

Author:	Lindsay Ranger
	Christian Dagenais
Organization:	FPInnovations
Year of Publication:	2018
Country of Publication:	Canada
Format:	Report
Application:	Wood Building Systems
Topic:	Fire
	Design and Systems
Keywords:	National Building Code of Canada
	Combustible Material
	Mid-Rise
	Noncombustible Construction
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.
Online Access:	Free

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/16796.pdf#.XFyOgvlKiUk



Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: In-Situ Testing of The Arbora Building for Vibration and Acoustic Performances

https://research.thinkwood.com/en/permalink/catalogue1179

Author:	Lin Hu
	Samuel Cuerrier-Auclair
Organization:	FPInnovations
Year of Publication:	2018
Country of Publication:	Canada
Format:	Report
Application:	Wood Building Systems
Topic:	Acoustics and Vibration
	Design and Systems
Keywords:	Sound Insulation
	Tall Wood
	Vibration Performance
	Mid-Rise
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

Abstract:

This report addresses serviceability issues of tall wood buildings focusing on vibration and sound insulation performance. The sound insulation and vibration performance may not affect building's safety, but affects occupants' comfort and proper operation of the buildings and the funciton of sensitive equipment...

Online Access:	Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/16779.pdf#.WymHSvlKiUl

Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: Modelling of Timber Connections Under Force and Fire

https://research.thinkwood.com/en/permalink/catalogue1473

Author:	Zhiyong Chen
	Chun Ni
	Christian Dagenais
Organization:	FPInnovations
Year of Publication:	2018
Country of Publication:	Canada
Format:	Report
Material:	LVL (Laminated Veneer Lumber)
	Glulam (Glue-Laminated Timber)
Application:	Beams
Topic:	Connections
	Fire
	Seismic
	Design and Systems
Keywords:	Finite Element Model
	Bolted Connection
	Load-Displacement Curves
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

Abstract:

FPInnovations carried out a survey with consultants and researchers on the use of analytical models and software packages related to the analysis and design of mass timber buildings. The responses confirmed that a lack of suitable models and related...

Online Access: Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/16794.pdf#.Wzz_ivlKiUl

Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: Proposed Vibration-Controlled Design Criterion for Supporting Beams

https://research.thinkwood.com/en/permalink/catalogue1178

Author:	Lin Hu
Organization:	FPInnovations
Year of Publication:	2018
Country of Publication:	Canada
Format:	Report
Application:	Floors
Topic:	Acoustics and Vibration
	Mechanical Properties
Keywords:	Floor Supporting Beam
	Bending Stiffness
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

Abstract:

For wood floor systems, their vibration performance is significantly dependent on the conditions of their supports, specifically the rigidity of the support. Detrimental effects could result if the floor supports do not have sufficient rigidity. This is special ture for floor supporting beams. The problem of vibrating floor due to flexible...

Online Access: Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/16777.pdf#.WymFp_lKiUl

Advanced Wood-Based Solutions for Mid-Rise and High-Rise Construction: Structural Performance of Post-Tensioned CLT Shear Walls with Energy Dissipators

https://research.thinkwood.com/en/permalink/catalogue1472

Author:	Zhiyong Chen
	Marjan Popovski
	Paul Symons
Organization:	FPInnovations
Year of Publication:	2018
Country of Publication:	Canada
Format:	Report

Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
	LVL (Laminated Veneer Lumber)
	LSL (Laminated Strand Lumber)
Application:	Shear Walls
Topic:	Design and Systems
	Mechanical Properties
	Seismic
Keywords:	Compression Tests
	Compression Strength
	Energy Dissipation
	Post-Tensioned
	Pres-Lam
	Monotonic Loading
	Reverse Cyclic Loading
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

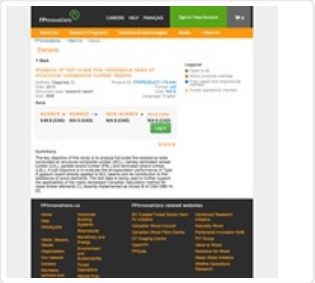
Abstract:

The latest developments in seismic design philosophy have been geared towards developing of so called "resilient" or "low damage" innovative structural systems that can reduce damage to the structure while offering the same or higher levels of safety to occupants. One such innovative structural system is the Pres-Lam system that is a wood-hybrid system that utilizes post-tensioned (PT) mass timber components in both rigid-frame and wall-based buildings along with various types of energy disspators. To help implement the Pres-Lam system in Canada and the US, information about the system performance made with North American engineered wood products is needed. That information can later be used to develop design guidelines for the designers for wider acceptance of the system by the design community. ...

Online Access:	Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/16802.pdf#.Wzz6h_lKiUl



Analysis of Full-Scale Fire-Resistance Tests of Structural Composite Lumber Beams

https://research.thinkwood.com/en/permalink/catalogue366

Author:	Christian Dagenais
Organization:	FPInnovations
Year of Publication:	2014
Country of Publication:	Canada
Format:	Report
Material:	LSL (Laminated Strand Lumber) LVL (Laminated Veneer Lumber) PSL (Parallel Strand Lumber)
Application:	Beams
Topic:	Fire
Keywords:	Encapsulation Type X Gypsum Board Fire Resistance Full Scale
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

Abstract:

The key objective of this study is to analyze full-scale fire-resistance tests conducted on structural composite lumber (SCL), namely laminated veneer lumber (LVL), parallel strand lumber (PSL) and laminated strand lumber (LSL)...

Online Access: Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/E4914.pdf

Assessing The Flammability of Mass Timber Components: A Review

https://research.thinkwood.com/en/permalink/catalogue87

Author:	Jim Mehaffey
	Christian Dagenais
Organization:	FPInnovations
Year of Publication:	2014
Country of Publication:	Canada
Format:	Report
Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
	LSL (Laminated Strand Lumber)
	LVL (Laminated Veneer Lumber)
	PSL (Parallel Strand Lumber)
Application:	Wood Building Systems
Topic:	Fire
Keywords:	National Building Code of Canada
	Flame Spread
	Model
	Cone Calorimeter Testing
	Buildings
Language:	English
Research Status:	Complete

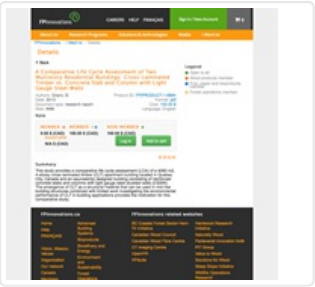
Abstract:

In recent decades, the wood industry has developed a number of innovative mass timber products. Among others, structural composite lumber (SCL) products, such as parallel strand lumber (PSL), laminated strand lumber (LSL) and laminated veneer lumber (LVL...

Online Access: Free

Resource Link

http://www.bcfii.ca/system/files/reports/public/fii407-2013-14-fpinnovations-assessing-the-flammability-of-mass-timber-components-a-review.pdf



A Comparative Life Cycle Assessment of Two Multistory Residential Buildings: Cross-Laminated Timber Vs. Concrete Slab and Column with Light Gauge Steel Walls

https://research.thinkwood.com/en/permalink/catalogue339

Author:	Blane Grann
Organization:	FPInnovations
Year of Publication:	2013
Country of Publication:	Canada
Format:	Report
Material:	CLT (Cross-Laminated Timber)
Application:	Wood Building Systems
Topic:	Environmental Impact
Keywords:	Concrete Life-Cycle Assessment Mid-Rise Steel Canada
Language:	English
Research Status:	Complete
Notes:	Report is currently not available due to the redevelopment of FPInnovations' publications website.

Abstract:

This study provides a comparative life cycle assessment (LCA) of a 4060 m2, 4-storey cross laminated timber (CLT) apartment building located in Quebec City, Canada and an equivalently designed building consisting of reinforced concrete slabs and columns with light gauge steel studded walls (CSSW)...

Online Access:	Payment Required

Resource Link

https://fpinnovations.ca/Extranet/Pages/AssetDetails.aspx?item=/Extranet/Assets/ResearchReportsWP/3062.pdf