



Acoustical Guide: Acoustic Research Report on Mass Timber Buildings

<https://research.thinkwood.com/en/permalink/catalogue1839>

Organization: AcoustiTECH
Editor: Dompierre, David
Garant, Samuel
Publisher: AcoustiTECH
Year of Publication: 2018
Country of Publication: Canada
Format: Report
Material: CLT (Cross-Laminated Timber)
Other Materials
Application: Floors
Topic: Acoustics and Vibration
Keywords: Mass Timber
Sound Absorption
Impact Sound Insulation
Language: English
Research Status: Complete
Online Access: Free

Resource Link

<https://www.acousti-tech.com/Design/PDF/mass-timber-guide.pdf>



Acoustics Summary: Sound Insulation in Mid-Rise Wood Building

<https://research.thinkwood.com/en/permalink/catalogue750>

Author: Schoenwald, Stefan
Zeitler, Berndt
King, Frances
Sabourin, Ivan

Organization: National Research Council of Canada

Year of Publication: 2014

Country of Publication: Canada

Format: Report

Material: CLT (Cross-Laminated Timber)
Light Frame (Lumber+Panels)

Application: Wood Building Systems

Topic: Acoustics and Vibration
Design and Systems

Keywords: Mid-Rise
Sound Insulation
Impact Sound Transmission
Airborne Sound Transmission

Language: English

Research Status: Complete

Online Access: Free

Resource Link

<http://doi.org/10.4224/21274554>



Acoustic Testing of CLT and Glulam Floor Assemblies

<https://research.thinkwood.com/en/permalink/catalogue1863>

Author: Sabourin, Ivan
Organization: National Research Council of Canada
Publisher: Regupol America
Year of Publication: 2016
Country of Publication: Canada
Format: Report
Material: CLT (Cross-Laminated Timber)
Glulam (Glue-Laminated Timber)
Application: Floors
Topic: Acoustics and Vibration
Keywords: Transmission Loss
Impact Sound Transmission
Impact Sound Pressure Level
Language: English
Research Status: Complete
Series: Nordic Engineered Wood Report
Online Access: Free

Resource Link

<https://www.regupol.com/test-reports/pdfs/A1-008253.pdf> [↗](#)



Correlation Between Sound Insulation and Occupants' Perception - Proposal of Alternative Single Number Rating of Impact Sound, Part II

<https://research.thinkwood.com/en/permalink/catalogue2134>

Author: Ljunggren, Fredrik
Simmons, Christian
Öqvist, Rikard

Publisher: Elsevier

Year of Publication: 2017

Country of Publication: United States

Format: Journal Article

Material: CLT (Cross-Laminated Timber)

Application: Floors

Topic: Acoustics and Vibration

Keywords: Impact Sound Insulation
Low Frequency
Lightweight
Footstep Annoyance
Subjective Perception
Single Number Quantity

Language: English

Research Status: Complete

Series: Applied Acoustics

Online Access: Free

Resource Link

<https://www.traguiden.se/globalassets/forskning/akustik/applied-acoustics/simmons-ljunggren-oqvist.pdf>



Development of a Vibroacoustic Stochastic Finite Element Prediction Tool for a CLT Floor

<https://research.thinkwood.com/en/permalink/catalogue2008>

Author: Qian, Cheng
Ménard, Sylvain
Bard, Delphine
Negreira, Juan

Publisher: MDPI

Year of Publication: 2019

Country of Publication: Switzerland

Format: Journal Article

Material: CLT (Cross-Laminated Timber)

Application: Floors

Topic: Acoustics and Vibration

Keywords: Impact Sound Insulation
Low Frequency
Simulation

Language: English


Research Status: Complete

Series: Applied Sciences

ISSN: 2076-3417

Online Access: Free

Resource Link

<https://doi.org/10.3390/app9061106> 



Development of Robust Design Details for Improved Acoustics in Mass Timber Construction

<https://research.thinkwood.com/en/permalink/catalogue2249>

Organization: Université du Québec à Chicoutimi
Country of: Canada
Publication:
Material: CLT (Cross-Laminated Timber)
Application: Wood Building Systems
Topic: Acoustics and Vibration
Keywords: Model
Airborne Sound Transmission
Impact Sound Transmission
Research Status: In Progress
Notes: Project contact is Sylvain Ménard at Université du Québec à Chicoutimi

Summary:

To ensure the acoustic performance of wood constructions, the research group at the Sustainable Building Institute at Napier University has established a series of proven solutions. The advantage of this approach is to provide designers with solutions that have been technically validated, thus allowing them to overcome the burden of proposing to the manufacturer an acoustic solution. The tools to develop this concept will involve an understanding of the propagation of impact and airborne noises in the main CLT building design typologies, validating the main solutions through laboratory testing and providing proven solutions. Many NRC (National Research Council of Canada) trials could have been avoided. Conducting tests is expensive, and it would be interesting to link the test results to the modeling results.



Finite Element Modeling for Vibration Transmission in a Cross Laminated Timber Structure

<https://research.thinkwood.com/en/permalink/catalogue1633>

Author: Vardaxis, Nikolaos-Georgios
Hagberg, Klas
Bard, Delphine

Year of Publication: 2016

Country of Publication: Austria

Format: Conference Paper

Material: CLT (Cross-Laminated Timber)

Application: Wood Building Systems

Topic: Acoustics and Vibration

Keywords: Sweden
Numerical Model
Finite Element Model
Impact Noise Transmission
Impact Sound

Language: English

Conference: World Conference on Timber Engineering

Research Status: Complete

Notes: August 22-25, 2016, Vienna, Austria
p. 2953-2962

Summary:

This paper deals with a certain type of C.L.T. (Cross Laminated Timber) construction, in a residential building in Fristad, Sweden. The objective is to study impact noise transmission, at the lower frequency range (10-200 Hz), where wooden dwellings perform inefficiently...

Online Access: Free

Resource Link

<http://repositum.tuwien.ac.at/obvutwoa/content/pageview/1649004> ↗



Fire Resistance of Timber Framed Floor with Isolated Ceiling Assembly

<https://research.thinkwood.com/en/permalink/catalogue685>

Author: Park, Joo-Saeng
Lee, Sang-Joon
Yeo, In-Hwan

Year of Publication: 2014

Country of Publication: Canada

Format: Conference Paper

Material: Glulam (Glue-Laminated Timber)

Application: Floors
Ceiling

Topic: Acoustics and Vibration
Fire

Keywords: Heavy Impact Sound
Fire Resistance
Sound Insulation

Language: English

Conference: World Conference on Timber Engineering

Research Status: Complete

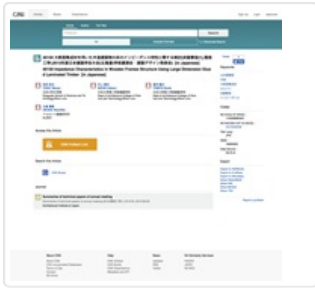
Notes: August 10-14, 2014, Quebec City, Canada

Summary:
Fire resistance test was performed for a floor assembly, of which stiffness was reinforced by shortening the span of floor joists by adding glulam beam in the middle of the original span, and which an additional ceiling component was installed apart from...

Online Access: Free

Resource Link

http://scho.wshosted_files/wcte2014/45/ABS440_Lee_web.pdf



Impedance Characteristics in Wooden Frames Structure Using Large Dimension Glued Laminated Timber

<https://research.thinkwood.com/en/permalink/catalogue994>

Author: Yoda, Takuya
Inoue, Katsuo
Tomita, Ryuta
Okura, Yasuhiko

Organization: Architectural Institute of Japan

Year of Publication: 2013

Country of Publication: Japan

Format: Journal Article

Material: Glulam (Glue-Laminated Timber)

Application: Floors

Topic: Acoustics and Vibration

Keywords: Impact Sound

Language: Japanese

Research Status: Complete

Online Access: Free

Resource Link

https://www.researchgate.net/profile/Juerg_Neuenschwander2/publication/321167962_Structural_health_monitoring_of_glued_laminated_timber_with_a_novel_air-coupled_ultrasound_method/links/5a12d4daa6fdcc717b521a2e/Structural-health-monitoring-of-glued-laminated-timber-with-a-novel-air-coupled-ultrasound-method.pdf



Measurement of Airborne Sound Insulation of 8 Wall Assemblies Measurement of Airborne and Impact Sound Insulation of 29 Floor Assemblies

<https://research.thinkwood.com/en/permalink/catalogue1864>

Author: Sabourin, Ivan
Organization: National Research Council of Canada
Publisher: National Research Council Canada. Construction
Year of Publication: 2015
Country of Publication: Canada
Format: Report
Material: CLT (Cross-Laminated Timber)
Glulam (Glue-Laminated Timber)
Application: Floors
Walls
Topic: Acoustics and Vibration
Keywords: Transmission Loss
Impact Sound Pressure Level
Language: English
Research Status: Complete
Series: Nordic Engineered Wood Report
Online Access: Free

Resource Link

<http://doi.org/10.4224/23000205>