Adequate Impact Sound Protection in Light Construction and Solid Floors - Sequence of Layers. Materials Selection and Dimensioning

Author:	Anton Kraler
	Ewald Kammeringer
Publisher:	Intergrated Digital Conference (INDICO)
Year of Publication:	2018
Country of Publication:	Korea
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
	Timber-Concrete Composite
Application:	Floors
Topic:	Acoustics and Vibration
Keywords:	Stiffness
	Dynamic Properties
	Sound Absorption
	Multi-Storey
	Residential Buildings
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 20-23, 2018, Seoul, Republic of Korea
Online Access:	Free

Resource Link

https://indico.conference4me.psnc.pl/event/171/session/370/contribution/251/material/paper/1.pdf

Behaviour of Mass Timber Panel-Concrete Connections with Inclined Self-Tapping Screws and Insulation Layer

https://research.thinkwood.com/en/permalink/catalogue1984

Author:	Md Abdul Hamid Mirdad
	Ying Hei Chui
Year of Publication:	2018
Country of Publication:	South Korea
Format:	Conference Paper
Material:	Timber-Concrete Composite
	CLT (Cross-Laminated Timber)
Application:	Floors
Topic:	Mechanical Properties
	Connections
Keywords:	Self-Tapping Screws
	Insulation
	Mid-Rise
	High-Rise
	Stiffness
	Strength
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Online Access:	Free

Resource Link

https://indico.conference4me.psnc.pl/event/171/session/341/contribution/107/material/paper/1.pdf

Continuity Connection for Cross Laminated Timber (CLT) Floor Diaphragms

https://research.thinkwood.com/en/permalink/catalogue78

Author:	Masoud Sadeghi
Organization:	University of New Brunswick
Year of Publication:	2015
Country of Publication:	Canada
Format:	Thesis
Material:	CLT (Cross-Laminated Timber)
Application:	Floors
Topic:	Connections
	Mechanical Properties
Keywords:	Self-Tapping Screws
	Shear
	Stiffness
	Strength
	Tension
	Testing
Language:	English
Research Status:	Complete
Online Access:	Free

Resource Link

https://unbscholar.lib.unb.ca/islandora/object/unbscholar%3A6923/datastream/PDF/view


Design of floor diaphragms in multi-storey timber buildings

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Department of Civil and Natural Resources Engineering, University of Canterbury, Christchurch

2015 NZSEE Conference

ABSTRACT: This paper discusses the design of timber diaphragms, in response to the growing interest in multi-storey commercial timber structures, and the lack of guidance or regulations regarding the seismic design of timber diaphragms.

Proper performance of floor diaphragms is required to transfer all lateral loads to the vertical systems that resist them, but design for earthquake loads can be more complex than design for wind loads. This paper confirms that the seismic design of a diaphragm is intimately linked to the seismic design of the whole building. Diaphragm failure, even if restricted to a limited diaphragm portion, can compromise the behaviour of the whole building. It is therefore necessary to design and detail diaphragms for all possible load paths and to evaluate their influence on the load distribution within the rest of the structure. It is strongly recommended that timber diaphragms be designed as elastic elements, by applying dynamic amplification and overstrength factors derived from the lateral load resisting system.

This paper shows that some current design recommendations for plywood sheathing on light timber framing can be applied to massive wood diaphragms, but for more complex, floor geometries an equivalent truss method is suggested. Diaphragm flexibility and displacement incompatibilities between the floor diaphragms and the lateral resisting systems also need to be accounted for.

1 INTRODUCTION

Recent years have seen a growing interest in engineered multi-storey timber buildings around the world. A number of tall timber buildings have been built in Europe, followed by a 10 storey building in Melbourne (Binational Softwood Lumber Council et al. 2014). Both Canada and the US

Design of Floor Diaphragms in Multi-Storey Timber Buildings

https://research.thinkwood.com/en/permalink/catalogue294

Author:	Daniel Moroder
	Tobias Smith
	Stefano Pampanin
	Alessandro Palermo
	Andrew Buchanan
Year of Publication:	2015
Country of Publication:	New Zealand
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
	Light Frame (Lumber+Panels)
Application:	Floors
Topic:	Design and Systems
	Seismic
Keywords:	Diaphragms
	Multi-Storey
	Commercial
	Lateral Loads
	Equivalent Truss Method
	Lateral Load Resisting System
Language:	English
Conference:	New Zealand Society for Earthquake Engineering Conference
Research Status:	Complete
Notes:	April 10-12, 2015, Rotorua, New Zealand

Abstract:

This paper discusses the design of timber diaphragms, in response to the growing interest in multi-storey commercial timber structures, and the lack of guidance or regulations regarding the seismic design of timber diaphragms...

Online Access: Free

Resource Link

http://www.nzsee.org.nz/db/2015/Papers/O-32_Moroder.pdf

Development and Evaluation of Mechanical Joints for Composite Floor Elements with Cross Laminated Timber

https://research.thinkwood.com/en/permalink/catalogue208

Author:	Nicolas Jacquier
Organization:	Luleå University of Technology
Year of Publication:	2015
Country of Publication:	Sweden
Format:	Thesis
Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
	Timber-Concrete Composite
Application:	Floors
Topic:	Connections
	Mechanical Properties
Keywords:	Fasteners
	Metal Plate
	Strength
	Stiffness
	Double-sided Nail Plates
Language:	English
Research Status:	Complete
Online Access:	Free

Resource Link

http://ltu.diva-portal.org/smash/get/diva2:990749/FULLTEXT01.pdf

Displacement-Based Seismic Design of Timber Structures

https://research.thinkwood.com/en/permalink/catalogue1891

Author:	Cristiano Loss
Publisher:	University of Trento
Year of Publication:	2011
Country of Publication:	Italy
Format:	Thesis
Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
	LVL (Laminated Veneer Lumber)
	Other Materials
Application:	Wood Building Systems
	Walls
	Floors
	Beams
	Columns
	Frames
Topic:	Design and Systems
	Seismic
Keywords:	Direct Displacement-Based Design
	Direct-DBD
	Full-Scale
	Single Family Houses
	Multi-Storey
	Connections
Language:	English
Research Status:	Complete
Notes:	Doctoral Thesis (PhD)
Online Access:	Free

Resource Link

http://eprints-phd.biblio.unitn.it/593/

Effect of Flexible Supports on Vibration Performance of Timber Floors

https://research.thinkwood.com/en/permalink/catalogue190

Author:	Kirsi Jarnerö
	Åsa Bolmsvik
	Anders Brandt
	Anders Olsson
Organization:	Euronoise
Year of Publication:	2012
Country of Publication:	Czech Republic
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
Application:	Floors
Topic:	Acoustics and Vibration
Keywords:	Residential
	Multi-Storey
	Noise
	Prefabrication
	In Situ
	Vibration
	Damping
	Interlayer
Language:	English
Conference:	Ninth European Conference on Noise Control (Euronoise)
Research Status:	Complete
Notes:	June 10-13, 2012, Prague, Czech Republic
Online Access:	Free

Resource Link

http://lnu.diva-portal.org/smash/get/diva2:640069/FULLTEXT02.pdf

Elevated Temperature Effects on the Shear Performance of a Cross-Laminated Timber (CLT) Wall-to-Floor Bracket Connection

https://research.thinkwood.com/en/permalink/catalogue2106

Author:	Kolton Mahr
Organization:	Oregon State University
Year of Publication:	2019
Country of Publication:	United States
Format:	Thesis
Material:	CLT (Cross-Laminated Timber)
Application:	Walls
	Floors
Topic:	Fire
	Connections
	Mechanical Properties
Keywords:	Fire Performance
	Cyclic Shear Tests
	Wall-to-Floor
	Brackets
	Thermal Degradation
	Strength
	Elastic Stiffness
	Model
	Temperature
Language:	English
Research Status:	Complete
Online Access:	Free

Resource Link

https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/4f16c850q

Evaluation of Bending Tests on Composite Glulam-CLT Beams Connected with Double-Sided Punched Metal Plates and Inclined Screws

https://research.thinkwood.com/en/permalink/catalogue436

Author:	Nicolas Jacquier
	Ulf Girhammar
Publisher:	ScienceDirect
Year of Publication:	2015
Country of Publication:	Netherlands
Format:	Journal Article
Material:	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
Application:	Floors
Topic:	Connections
	Mechanical Properties
Keywords:	Multi-Storey
	Four Point Bending Test
	Shear connection
	Double-sided Punched Metal Plate
	Separation Forces
Language:	English
Research Status:	Complete
Series:	Construction and Building Materials
Online Access:	Free

Resource Link

https://www.diva-portal.org/smash/get/diva2:996172/FULLTEXT01.pdf

Experimental and Numerical Evaluation of Cross-Laminated Timber (CLT) Panels Produced with Pine Timber from Thinnings in Uruguay

https://research.thinkwood.com/en/permalink/catalogue1601

Author:	Vanesa Baño
	Daniel Godoy
	Abel Vega
Year of Publication:	2016
Country of Publication:	Austria
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
Application:	Floors
Topic:	Market and Adoption
	Mechanical Properties
Keywords:	Uruguay
	Pine
	Finite Element Model
	Strength
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 22-25, 2016, Vienna, Austria p. 1948-1955

Abstract:

Due to the high volume of timber required for manufacturing, the production of cross-laminated timber (CLT) panels could be an appropriate destiny for the existing surplus of pinewood presently available in Uruguay. Although wood construction is uncommon in this country, there are some companies with the capacity to adapt their production to new...

Online Access: Free

Resource Link

http://repositum.tuwien.ac.at/obvutwoa/content/pageview/1607762