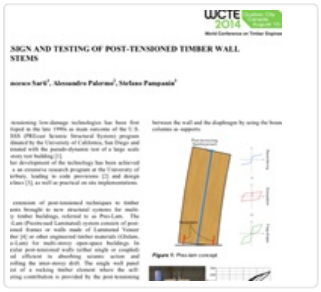


Design and Testing of Post-Tensioned Timber Wall Systems

https://research.thinkwood.com/en/permalink/catalogue696

Author:	Sarti, Francesco
	Palermo, Alessandro
	Pampanin, Stefano
Year of Publication:	2014
Country of Publication:	Canada
Format:	Conference Paper
Material:	Glulam (Glue-Laminated Timber)
	LVL (Laminated Veneer Lumber)
Application:	Walls
Topic:	Design and Systems
	Seismic
Keywords:	Multi-Storey
	Pres-Lam
	Energy Dissipation
	Quasi-Static Test
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 10-14, 2014, Quebec City, Canada

Summary:

The paper presents the design and detailing, and the experimental quasi-static 2/3 scale tests of two posttensioned wall systems: a single (more traditional) wall system (Figure 2) and a new configuration comprising of a column-wall-column coupled system...

Online Access: Free

Resource Link

http://schd.ws/hosted_files/wcte2014/df/ABS420_Sarti_web.pdf

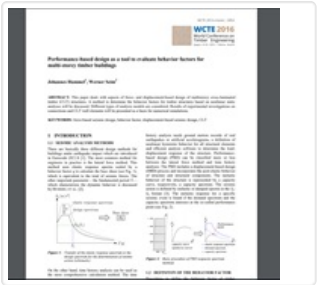
Displacement-Based Seismic Design of Timber Structures

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

Author:	Loss, Cristiano
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/



Performance-Based Design as a Tool to Evaluate Behavior Factors for Multi-Storey Timber Buildings

https://research.thinkwood.com/en/permalink/catalogue1684

Author:	Hummel, Johannes
	Seim, Werner
Year of Publication:	2016
Country of Publication:	Austria
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
Application:	Walls
Topic:	Design and Systems
Keywords:	Displacement-Based Design
	Force-Based Design
	Multi-Storey
	Behaviour Factors
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 22-25, 2016, Vienna, Austria p. 4086-4095

Summary:

This paper deals with aspects of force- and displacement-based design of multistorey cross-laminated timber (CLT) structures. A method to determine the behavior factors for timber structures based on nonlinear static analyses will be discussed. Different...

Online Access: Free

Resource Link

http://repositum.tuwien.ac.at/obvutwoa/content/pageview/1649419


Seismic design of core-walls for multi-storey timber buildings

A. Dunbar, S. Pampanin, A. Palermo & A.H. Buchanan

Department of Civil Engineering, University of Canterbury, Christchurch.

2013 NZSEE Conference

ABSTRACT:

This paper describes options for seismic design of pre-fabricated timber core-wall systems, used as stairwells and lift shafts for lateral load resistance in multi-storey timber buildings.

The use of Cross-Laminated Timber (CLT) panels for multi-storey timber buildings is gaining popularity throughout the world, especially for residential construction. This paper describes the possible use of CLT core-walls for seismic resistance in open-plan commercial office buildings in New Zealand. Previous experimental testing at the University of Canterbury has been done on the in-plane behaviour of single and coupled Pres-Lam post-tensioned timber walls. However there has been very little research done on the behaviour of timber walls that are orthogonal to each other and no research into CLT walls in the post-tensioned Pres-Lam system.

This paper describes the proposed test regime and design detailing of two half-scale two-storey CLT stairwells to be tested under a bi-directional quasi-static loading. The test specimens will include a half-flight stair case with landings within the stairwell. The "High seismic option" consists of post-tensioned CLT walls coupled with energy dissipating U-shaped Flexural Plates (UFP) attached between wall panels and square hollow section steel columns at the corner junctions. An alternative "Low seismic option" uses the same post-tensioned CLT panels, with no corner columns or UFPs. The panels will be connected by screws to provide a semi-rigid connection, allowing relative movement between the panels producing some level of energy dissipation.

1 INTRODUCTION

Seismic Design of Core-Walls for Multi-Storey Timber Buildings

https://research.thinkwood.com/en/permalink/catalogue134

Author:	Dunbar, Andrew
	Pampanin, Stefano
	Palermo, Alessandro
	Buchanan, Andrew
Year of Publication:	2013
Country of Publication:	New Zealand
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
Application:	Shafts and Chases
Topic:	Design and Systems
	Seismic
Keywords:	Multi-Storey
	Prefabrication
	Pres-Lam
	Residential
	Quasi-Static Loading
	Energy Dissipation
	U-Shaped Flexural Plates
Language:	English
Conference:	New Zealand Society for Earthquake Engineering Conference
Research Status:	Complete
Notes:	April 26-28, 2013, Wellington, New Zealand

Summary:

This paper describes options for seismic design of pre-fabricated timber core-wall systems, used as stairwells and lift shafts for lateral load resistance in multi-storey timber buildings. The use of Cross-Laminated Timber (CLT) panels for multi-storey timber buildings is gaining popularity throughout the world, especially for residential construction...

Online Access:	Free

Resource Link

http://www.nzsee.org.nz/db/2013/Poster_52.pdf

Seismic Design of Core-Wall Systems for Multi-Storey Timber Buildings

https://research.thinkwood.com/en/permalink/catalogue1149

Author:	Dunbar, Andrew
Organization:	University of Canterbury
Year of Publication:	2014
Country of Publication:	New Zealand
Format:	Thesis
Material:	CLT (Cross-Laminated Timber)
Application:	Wood Building Systems
	Shafts and Chases
Topic:	Seismic
	Design and Systems
Keywords:	Post-Tensioned
	Core-Walls
	Quasi-Static
	Seismic Loading
	Multi-Storey
	U-Shaped Flexural Plates
Language:	English
Research Status:	Complete
Online Access:	Free

Resource Link

http://hdl.handle.net/10092/9047

Seismic Design Options for Post-Tensioned Timber Walls

https://research.thinkwood.com/en/permalink/catalogue1853

Author:	Iqbal, Asif
	Pampanin, Stefano
	Palermo, Alessandro
	Buchanan, Andrew
	Fragiacomo, Massimo
Publisher:	New Zealand Timber Design Society
Year of Publication:	2018
Country of Publication:	New Zealand
Format:	Journal Article
Material:	LVL (Laminated Veneer Lumber)
Application:	Walls
Topic:	Design and Systems
	Seismic
Keywords:	Earthquake
	Post-Tensioned
	Energy Dissipation
	Multi-Storey
Language:	English
Research Status:	Complete
Series:	New Zealand Timber Design Journal
Online Access:	Free

Resource Link

http://www.timberdesign.org.nz/wp-content/uploads/2018/05/V21-4-Seismic-options-posttensioned-walls.pdf

Seismic Performance of Core-Walls for Multi-Storey Timber Buildings

https://research.thinkwood.com/en/permalink/catalogue61

Author:	Dunbar, Andrew
	Pampanin, Stefano
	Buchanan, Andrew
Year of Publication:	2014
Country of Publication:	New Zealand
Format:	Conference Paper
Material:	CLT (Cross-Laminated Timber)
Application:	Walls
Topic:	Seismic
Keywords:	Connections
	Multi-Storey
	Post-Tensioned
	Quasi-Static
	Half-Scale
Language:	English
Conference:	New Zealand Society for Earthquake Engineering Conference
Research Status:	Complete
Notes:	March 21-23, 2014, Auckland, New Zealand

Summary:

This paper describes the results of experimental tests on two posttensioned timber core-walls tested under bi-directional quasi-static seismic loading. The half-scale two-storey test specimens included a stair with half-flight landings...

Online Access: Free

Resource Link

http://db.nzsee.org.nz/2014/poster/6_Dunbar.pdf

Timber Core-Walls for Lateral Load Resistance of Multi-Storey Timber Buildings

https://research.thinkwood.com/en/permalink/catalogue1858

Author:	Dunbar, Andrew
	Moroder, Daniel
	Pampanin, Stefano
	Buchanan, Andrew
Publisher:	New Zealand Timber Design Society
Year of Publication:	2018
Country of Publication:	New Zealand
Format:	Journal Article
Material:	CLT (Cross-Laminated Timber)
Application:	Walls
Topic:	Design and Systems
	Seismic
Keywords:	Pres-Lam
	Earthquake
	Post-Tensioned
	Core-Walls
	Multi-Storey
	Panels
Language:	English
Research Status:	Complete
Series:	New Zealand Timber Design Journal
Online Access:	Free

Resource Link

http://www.timberdesign.org.nz/wp-content/uploads/2018/05/2014Vol22Iss3-Dunbar-Paper.pdf