

Determining Optimised H3 LOSP Treatment Options for Decay Protection in Softwood Glulam

<https://research.thinkwood.com/en/permalink/catalogue1930>

Author: Cookson, Laurie
Publisher: Forest & Wood Products Australia
Year of Publication: 2011
Country of Publication: Australia
Format: Report
Material: Glulam (Glue-Laminated Timber)
Application: Beams
Topic: Mechanical Properties
Keywords: LOSP
CCA
TBTN
Treated Wood
Language: English
Research Status: Complete
ISBN: 978-1-921763-29-8
Online Access: Free

Resource Link

<https://www.fwpa.com.au/resources/reports/market-access/219-determining-optimised-h3-losp-treatment-options-for-decay-protection-in-softwood-glulam.html>



Development Of CLT Products with Improved Fire Performance

<https://research.thinkwood.com/en/permalink/catalogue2598>

Author: He, Guangbo
Feng, Martin
Roussiere, Fabrice

Organization: FPIinnovations

Year of Publication: 2020

Country of Publication: Canada

Format: Report

Material: CLT (Cross-Laminated Timber)

Topic: Design and Systems
Fire

Keywords: Fire Resistance
Adhesives
Bond Durability
Bonding
Treated Wood

Language: English

Research Status: Complete

Summary:

The fire resistance of cross-laminated timber (CLT) could be improved by treating the lamina with fire retardants. The major issues with this technology are the reduced bondability of the treated lamina with commercial adhesives. This study assessed several surface preparation methods that could improve the bondability and bond durability of fire-retardant treated wood with two commercial adhesives. Four surface preparation methods, including moisture/heat/pressure, surface planing, surface chemical treatment, and surface plasma treatment were assessed for their impact on the bondability and bond durability of lodgepole pine lamina. The block shear test results indicated that all surface preparation methods were somewhat effective in improving bond performance of fire-retardant treated wood compared to the untreated control wood samples, depending on the types of fire retardants and wood adhesives applied in the treatment process and bonding process. The selection of surface preparation, fire retardant, and wood adhesive should be considered interactively to obtain the best bond properties and fire performance. It may be possible to effectively bond the treated lamina with PUR adhesive without any additional surface preparation for the fire retardant used in the treatment at FPIinnovations.

Online Access: Free

Resource Link

<https://library.fpinnovations.ca/en/permalink/fpipub7708> ↗



Expanding Mass Timber and CLT Markets for High Termite Risk Applications

<https://research.thinkwood.com/en/permalink/catalogue2790>

Organization:	TallWood Design Institute Oregon State University
Country of Publication:	United States
Material:	CLT (Cross-Laminated Timber)
Application:	Wood Building Systems
Topic:	Serviceability Moisture
Keywords:	Termites Moisture Treated Wood Field Testing Hawaii
Research Status:	In Progress
Notes:	Project contacts are Gerald Presley, Oregon State University, and Scott Noble, Kaiser+Path

Summary:

The primary goal of this project is to enhance the durability of mass timber assemblies in high-moisture, high-termite risk regions. Only a few U.S. jurisdictions allow mass timber use by code adoption. Hawaii requires that all structural wood be treated to resist insects. Current topical or pressure treatments are allowed, but it is unclear how these treatments will perform in mass timber elements. Assembled cross-laminated timber (CLT) panels are too large to fit in pressure vessels. We will test the performance of individually treated wood members (lamella), assembled into CLT panels for compliance to structural requirements as well as resistance to termite attack in field trials. The resulting data will identify the most effective treatment options to protect CLT and other mass timber assemblies for use in Hawaii and similar regions with high termite exposure. The research implications will contribute to educating architects, engineers, builders and developers on modern timber construction in new regions.

Resource Link

<http://tallwoodinstitute.org/projects/expanding-mass-timber-clt-markets-high-termite-risk-applications>
[↗](#)



Influence of the Treatment Phase on the Gluing Performance of Glued Laminated Timber

<https://research.thinkwood.com/en/permalink/catalogue2578>

Author: Manuel Dias, Andre Martins, Carlos Dias, Alfredo

Publisher: North Carolina State University

Year of Publication: 2020

Country of Publication: United States

Format: Journal Article

Material: Glulam (Glue-Laminated Timber)

Topic: Design and Systems

Keywords: Treated Wood
Glue
Bonding Quality
Delamination
Shear Strength

Language: English

Research Status: Complete

Series: BioResources

Online Access: Free

Resource Link

https://ojs.cnr.ncsu.edu/index.php/BioRes/article/view/BioRes_15_3_5725_Dias_Treatment_Phase_Gluing



Ongoing Field Evaluation of Douglas-fir Cross-Laminated Timber in a Ground Proximity Protected Test in Mississippi

<https://research.thinkwood.com/en/permalink/catalogue1958>

Author: Mankowski, Mark
Shelton, Thomas
Kirker, Grant
Morrell, Jeffrey

Year of Publication: 2018

Country of Publication: United States

Format: Conference Paper

Material: CLT (Cross-Laminated Timber)

Topic: Serviceability

Keywords: Douglas-Fir
Treated Wood
Termites

Language: English

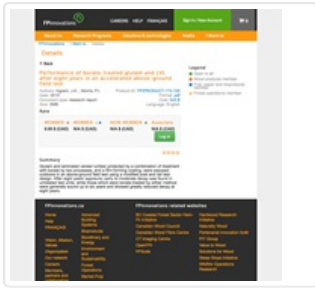
Conference: American Wood Protection Association

Research Status: Complete

Online Access: Free

Resource Link

https://www.fpl.fs.fed.us/documnts/pdf2018/fpl_2018_mankowski001.pdf



Performance of Borate-Treated Glulam and LVL After Eight Years in an Accelerated Above-Ground Field Test

<https://research.thinkwood.com/en/permalink/catalogue359>

Author: Ingram, Janet
Morris, Paul

Organization: FPInnovations

Year of Publication: 2015

Country of Publication: Canada

Format: Report

Material: Glulam (Glue-Laminated Timber)
LVL (Laminated Veneer Lumber)

Topic: Serviceability

Keywords: Decay
Treated Wood
Borate

Language: English

Research Status: Complete

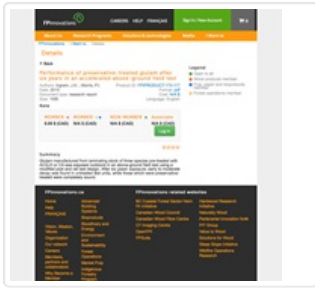
Summary:

Glulam and laminated veneer lumber protected by a combination of treatment with borate by two processes, and a film-forming coating, were exposed outdoors in an above-ground field test using a modified post and rail test design. After eight years' exposure, early to moderate decay was found in untreated test units, while those which were borate-treated by either method were generally sound up to six years and showed greatly reduced decay at eight years.

Online Access: Free

Resource Link

<https://library.fpinnovations.ca/en/permalink/fpipub40029>



Performance of Preservative-Treated Glulam After Six Years in an Accelerated Above-Ground Field Test

<https://research.thinkwood.com/en/permalink/catalogue360>

Author: Ingram, Janet
Morris, Paul
Organization: FPInnovations
Year of Publication: 2015
Country of Publication: Canada
Format: Report
Material: Glulam (Glue-Laminated Timber)
Topic: Serviceability
Keywords: Decay
Preservative
Treated Wood
ACQ
CCA
Language: English
Research Status: Complete

Summary:

Glulam manufactured from laminating stock of three species pre-treated with ACQ-D or CA was exposed outdoors in an above-ground field test using a modified post and rail test design. After six years' exposure, early to moderate decay was found in untreated test units, while those which were preservative-treated were completely sound.

Online Access: Free

Resource Link

<https://library.fpinnovations.ca/en/permalink/fpipub40036> ↗