Application of Quasi-Brittle Material Model for Analysis of Timber Members

https://research.thinkwood.com/en/permalink/catalogue925

Author:	Nima Khorsandnia
	Keith Crews
Publisher:	Taylor&Francis Online
Year of Publication:	2014
Country of Publication:	United Kingdom
Format:	Journal Article
Material:	Solid-sawn Heavy Timber
Application:	General Application
Keywords:	ultimate load
	Finite Element Model
	Load-Deflection Response
	Failure Load
	Four Point Bending Test
Language:	English
Research Status:	Complete
Series:	Australian Journal of Structural Engineering
Online Access:	Free

Resource Link

https://www.researchgate.net/profile/Nima_Khorsandnia/publication/276866246_Application_of_Quasi-Brittle_material_model_for_analysis_of_timber_members/links/555ae68c08aeaaff3bfad580.pdf

Block Shear Failure Mode of Axially Loaded Groups of Screws

https://research.thinkwood.com/en/permalink/catalogue1512

Author:	Ursula Mahlknecht
	Reinhard Brandner
	Manfred Augustin
Year of Publication:	2016
Country of Publication:	Austria
Format:	Conference Paper
Material:	Glulam (Glue-Laminated Timber)
	Solid-sawn Heavy Timber
Application:	General Application
Topic:	Connections
	Mechanical Properties
Keywords:	Self-Tapping Screws
	Block Shear Model
	Stiffness
	Strength
	Bending Stresses
	Axially-Loaded
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 22-25, 2016, Vienna, Austria p. 362-371

Abstract:

Self-tapping screws are efficient and flexible fasteners, applicable for many types of connections. Investigations on axially loaded groups of screws pointed out, that small spacing between the screws lead to block shear failure mode. So far, block and plug shear failure mode are only analysed for laterally loaded fasteners...

Online Access:	Free

Resource Link

http://repositum.tuwien.ac.at/obvutwoa/content/pageview/1567621


Chapter 6
FIRE DAMAGE OF WOOD STRUCTURES
B. Kukay, R. White, and F. Woeste

Chapter 6: Fire Damage of Wood Structures

https://research.thinkwood.com/en/permalink/catalogue897

Author:	Brian Kukay
	Robert White
	Frank Woeste
Publisher:	International Code Council
Year of Publication:	2012
Country of Publication:	United States
Format:	Book Section
Material:	Solid-sawn Heavy Timber
	LSL (Laminated Strand Lumber)
	LVL (Laminated Veneer Lumber)
Application:	General Application
Topic:	Fire
	Mechanical Properties
Keywords:	Bending Tests
	Withdrawal Tests
	Load Bearing Capacity
	Charring
	Reduced Cross Section Method
Language:	English
Research Status:	Complete
Series:	Inspection, Testing, and Monitoring of Buildings and Bridges
Online Access:	Free

Resource Link

http://www.fpl.fs.fed.us/documnts/pdf2012/fpl_2012_kukay001.pdf

Characteristics of the Radio-Frequency/Vacuum Drying of Heavy Timbers for Post and Beam of Korean Style Housings Part II: For Korean Red Pine Heavy Timbers with 250 × 250 mm, 300 × 300 mm in Cross Section and 300 mm in Diameter, and 3,600 mm in Length

https://research.thinkwood.com/en/permalink/catalogue1508

Author:	Nam-Ho Lee
	Xue-Feng Zhao
	Ik-Hyun Shin
	Moon-Jae Park
	Jung-Hwan Park
	Joo-Saeng Park
Publisher:	The Korean Society of Wood Science Technology
Year of Publication:	2011
Country of Publication:	Korea
Format:	Journal Article
Material:	Solid-sawn Heavy Timber
Application:	Wood Building Systems
Topic:	Moisture
Keywords:	Radio-Frequency/Vacuum Drying
	Moisture Gradient
	Shrinkage
	Case Hardening
	Surface Checks
	Compressive Load
Language:	Korean
Research Status:	Complete
Series:	Journal of the Korean Wood Science and Technology
Online Access:	Free

Resource Link

http://doi.org/10.5658/WOOD.2011.39.2.132

Development of a Heavy Timber Moment-Resisting Frame with Ductile Steel Links

https://research.thinkwood.com/en/permalink/catalogue1657

Author:	Ryan Gohlich
	Jeffrey Erochko
Year of Publication:	2016
Country of Publication:	Austria
Format:	Conference Paper
Material:	Solid-sawn Heavy Timber
Application:	Frames
Topic:	Connections
	Mechanical Properties
	Seismic
Keywords:	Mid-Rise
	Self-Tapping Screws
	Moment-Resisting
	Strength
	Stiffness
	Ductility
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 22-25, 2016, Vienna, Austria p. 3571-3580

Abstract:

To improve the seismic performance of mid-rise heavy timber moment-resisting frames, a hybrid timber-steel moment-resisting connection was developed that incorporates specially detailed replaceable steel yielding link elements fastened to timber beams and columns using self-tapping screws (STS). Performance of the connection was...

Online Access: Free

Resource Link

http://repositum.tuwien.ac.at/obvutwoa/content/pageview/1649348

Durability of Structural Lumber Products after Exposure at 82C and 80% Relative Humidity

https://research.thinkwood.com/en/permalink/catalogue784

Author:	David Green
	James Evans
	Cherilyn Hatfield
	Pamela Byrd
Organization:	Forest Products Laboratory
Year of Publication:	2005
Country of Publication:	United States
Format:	Report
Material:	LSL (Laminated Strand Lumber)
	LVL (Laminated Veneer Lumber)
	Solid-sawn Heavy Timber
Application:	General Application
Topic:	Mechanical Properties
	Moisture
Keywords:	Aspen
	Douglas-Fir
	Modulus of Elasticity
	Modulus of Rupture
	Southern Pine
	Poplar
	Relative Humidity
	SPF
	Temperature
	Flexural Properties
Language:	English
Research Status:	Complete

Abstract:

Solid-sawn lumber (Douglas-fir, southern pine, Spruce– Pine–Fir, and yellow-poplar), laminated veneer lumber (Douglas-fir, southern pine, and yellow-poplar), and laminated strand lumber (aspen and yellow-poplar) were heated continuously at 82°C (180...

Online Access: Free

Resource Link

https://www.fpl.fs.fed.us/documnts/fplrp/fpl_rp631.pdf

Dynamic Behaviour of Dowel-Type Connections Under In-Service Vibration

https://research.thinkwood.com/en/permalink/catalogue884

Author:	Thomas Reynolds
Organization:	University of Bath
Year of Publication:	2013
Country of Publication:	United Kingdom
Format:	Thesis
Material:	Solid-sawn Heavy Timber
Application:	Frames
	Beams
Topic:	Connections
	Serviceability
	Acoustics and Vibration
Keywords:	dowel-type connections
	Embedment
	Nonlinear Behaviour
	Time Dependent Behaviour
	Energy Dissipation
	Portal Frames
Language:	English
Research Status:	Complete
Online Access:	Free

Resource Link

https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.608327

Effectiveness of Several NDE Technologies in Detecting Moisture Pockets and: Artificial Defects in Sawn Timber and Glulam

https://research.thinkwood.com/en/permalink/catalogue778

Author:	James Wacker
	Christopher Senalik
	Xping Wang
	Frank Jalinoos
Year of Publication:	2016
Country of Publication:	Austria
Format:	Conference Paper
Material:	Glulam (Glue-Laminated Timber)
	Solid-sawn Heavy Timber
Application:	Bridges and Spans
Topic:	Serviceability
Keywords:	Decay
	Douglas-Fir
	Moisture Pockets
	Non-Destructive Evaluation
	Scanning
Language:	English
Conference:	World Conference on Timber Engineering
Research Status:	Complete
Notes:	August 22-25, 2016, Vienna, Austria

Abstract:

Several nondestructive evaluation (NDE) technologies were studied to determine their efficacy as scanning devices to detect internal moisture and artificial decay pockets. Large bridge-sized test specimens, including sawn timber and glued-laminated timbe...

Online Access: Free

Resource Link

https://www.fpl.fs.fed.us/documnts/pdf2016/fpl_2016_wacker001.pdf

Effect of Low Relative Humidity on Properties of Structural Lumber Products

https://research.thinkwood.com/en/permalink/catalogue793

Author:	David Green
	James Evans
Publisher:	Society of Wood Science and Technology
Year of Publication:	2003
Country of Publication:	United States
Format:	Journal Article
Material:	LSL (Laminated Strand Lumber)
	LVL (Laminated Veneer Lumber)
	Solid-sawn Heavy Timber
Application:	General Application
Topic:	Mechanical Properties
	Moisture
Keywords:	Flexural Properties
	Modulus of Elasticity
	Modulus of Rupture
	Relative Humidity
	Tensile Properties
	Moisture Content
	Analytical Model
Language:	English
Research Status:	Complete
Series:	Wood and Fiber Science

Abstract:

Wood used in industrial settings, and in some arid parts of the United States, may be subjected to very low relative humidity (RH). Analytical models available for predicting the effect of moisture content (MC) on the properties of solid-sawn lumber imply significant strength loss at very low MC...

Online Access:	Free

Resource Link

https://wfs.swst.org/index.php/wfs/article/view/193/193

Effect of Reserve Air-Drying of Korean Pine Heavy Timbers on High-Temperature and Low-Humidity Drying Characteristics

https://research.thinkwood.com/en/permalink/catalogue1506

Author:	Chang-Jin Lee
	Nam-Ho Lee
	Moon-Jae Park
	Joo-Saeng Park
	Chang-Deuk Eom
Publisher:	The Korean Society of Wood Science Technology
Year of Publication:	2014
Country of Publication:	Korea
Format:	Journal Article
Material:	Solid-sawn Heavy Timber
Application:	General Application
Topic:	Moisture
Keywords:	Moisture Content
	Temperature
	Humidity
	Pine
	Air Drying
	Shrinkage
	Internal Checks
	Twist
	Case Hardening
Language:	Korean
Research Status:	Complete
Series:	Journal of the Korean Wood Science and Technology
Online Access:	Free

Resource Link

http://doi.org/10.5658/WOOD.2014.42.1.49