



Foam fire-suppression system for mobile forestry equipment

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Author: Macey, T.
 Date: December 1991
 Material Type: Research report
 Physical Description: 4 p.
 Sector: Forest Operations
 Field: Fibre Supply
 Research Area: Forestry
 Subject: Fire
 Safety
 Equipment
 Forestry

Series Number: Technical Note Wood Harvesting ; TN 175
 Language: English
 Abstract: CABLE LOGGING
 CABLES
 Cable life
 INSPECTION SYSTEM
 ELECTROMEGNETIC WIRE ROPE INSPECTION (EWRI)
 Prototype

Documents



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Modelling of dimension lumber in axial compression at



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Building of Structural Lumber in
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Author: Van Zeeland, I.
Contributor: Canada. Canadian Forest Service
Date: February 2001
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Physical Description: 68 p.
Sector: Wood Products
Field: Sustainable Construction
Research Area: Advanced Wood Materials
Subject: Mechanical properties
Fire
Series Number: Canadian Forest Service No. 9
E-3524
Location: Sainte-Foy, Québec
Language: English
Abstract: The design of wood-frame structural systems to withstand exposure to fire depends on knowledge of the fire endurance (time-to-failure) of the wood members used in the system. In fires, wood loses part of its load-carrying capacity due to charring and part due to strength degradation. This thesis examines the reduction in compression strength experienced by dimension lumber when exposed to elevated temperatures.

A program of experimental testing of nominal 2x4 Machine Stress Rated (MSR) lodgepole pine lumber concentrically loaded in compression and exposed to elevated temperature was undertaken by Forintek Canada Corp., Canada's wood products research institute. A computer program entitled HTEposure was written to simulate the experimental time-to-failure data gathered in Forintek's testing program. This computer program combines a modification of an existing heat-transfer model with various published compression-strength reduction models. This was done in order to determine which of those strength-reduction models could predict times-to-failure comparable to the observed values. As well, a new compression-strength reduction model was proposed. When predicted results were compared to the observed data, it was determined that the computer program predicted results closest to those observed when using the new compression-strength reduction model proposed in this study.


Lumber modelling
Axial compression
Elevated temperatures

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