

More knowledge gained on thick MPB strand products

FORESTRY INNOVATION INVESTMENT

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Researchers continue their exploration of the technical information required to make composite products with large strands of mountain pine beetle-killed wood.

Year two of a project led by scientists at the University of British Columbia put an emphasis on experimental approaches to making and testing products made with the strands. The strands were about seven inches long, one inch wide and 0.4 inches thick – considerably larger than the strands used in oriented strandboard panels.

Larger products made in this way could be used as headers, beams and columns in low-rise commercial, multi-family residential and single family residential markets. With the uniform qualities and characteristics inherent

in engineered wood products, they would be especially suitable for uses where load demands are higher, such as in the low-rise commercial and multi-family residential projects.

Developing thick strand-based products with beetle-killed wood requires a good understanding of their structural response under long-term loading – or the probability of deformation and collapse. This

behavior can be influenced by fibre, adhesive and pressing method, and its management is critical to the development of new engineered wood products.

During the current year's research strands were cut with a disc strander from beetle-attacked pine logs harvested in the Prince



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MOUNTAIN PINE BEETLE

George area, and then made into panels using phenolic formaldehyde resin. Products were compared with aspen strand panels. Tests investigated face and core temperatures during pressing, and showed a good correlation with models. Models that predict the strength properties of the thick strand-based products were developed and assessed. An experimental program in year 3 of the project will put these models to the test.

The past year also saw development of a permeability test jig, which provides information about gas flow within strand mats during pressing.

A small humidity chamber was built and tested to help quantify fibre-adhesive interactions. The report contains details of early findings about these interactions and suggests there is no significant chemical or structural difference between beetle-attacked pine samples at different stages of attack.



FOR THE FULL REPORT GO TO WWW.BCFII.CA/MPB/
AND DOWNLOAD THE REPORT "MPB-07-020B:
DEVELOPMENT OF THICK MPB STRAND BASED
WOOD COMPOSITES."

Forestry Innovation Investment is a British Columbia government corporation investing in initiatives to help market BC forest products and promotes our sustainable forest practices to the world. FII's Mountain Pine Beetle Program supports the government's Mountain Pine Beetle Action Plan and its objective to maximize the economic value of mountain pine beetle wood. FII does this through marketing activities and research into new products and manufacturing processes for mountain pine beetle wood.

For more information, go to www.bcfii.ca or contact

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