

New prototype plywood panels may be world's largest

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A Mass Plywood Panel made by Freres Lumber Company undergoes testing at Oregon State University's Advanced Wood Products Laboratory. Credit: Oregon State University

A new massive plywood building panel developed by an Oregon company and tested at Oregon State University may be the largest such product ever manufactured.

Builders are familiar with standard plywood sheets that measure 4-feet wide, 8-feet long and between a quarter-inch and more than one-inch thick. The new panels made by the Freres Lumber Company of Lyons, Oregon, can be as much 12-feet wide, 48-feet long and 2-feet thick.

The company announced its new panels in October, capping more than a year of development and performance testing at Oregon State's Advanced Wood Products Laboratory. "The results look very promising," said Ari Sinha, assistant professor in OSU's College of Forestry, who oversaw the tests. "This is a unique product with the potential for creating jobs in rural Oregon."

Versatility is one of the benefits of the product known as a Mass Plywood Panel (MPP). "These panels can be customized for different applications. Because they have very good compression qualities, they could be used for columns as well as panels," said Sinha.

The veneer manufacturing process enables manufacturers to orient wood grain and to distribute the defects found in smaller trees, such as knots, in a way that maintains the strength of the final product, Sinha added.

Tests in Sinha's lab focused on the panels' structural and physical properties such as density, adhesive bonding and resistance to the kinds

of vertical and horizontal stresses experienced in an earthquake. Additional tests are planned after the first of the year.

Mass Plywood Panels can achieve the performance characteristics of a similar product known as Cross Laminated Timber panels with 20 to 30 percent less wood.

"The market is wide enough that this product can compete in niche applications," said Sinha. "MPP can be made to order."

Sinha's lab conducts wood-product testing year-around for companies in Oregon, Washington and other states. He evaluates connections between building components as well as component stresses stemming from wind, earthquakes and other forces.

Provided by Oregon State University

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