

A revolutionary method of building with wood is growing around the planet, and was displayed at Taliesin on Friday August Fourth.



Professor Jason Griffiths (center) and students from India, England, and the USA built this wood structure during a summer class at Taliesin, using solid wood laminated timbers from local white pine trees. Jason described the material as "Plywood on Steroids." He adds "In the last ten years advances in engineered lumber have offered serious alternatives to concrete and steel. For the first time since the preindustrial era we are building mass-timber structures in dense urban settings. This is particularly significant in North America especially the northern states and Canada where timber is an inseparable part of the cultural legacy of buildings and forestry production. Our project is a small demonstration of the potential of "dowel laminated timber" which is a form of engineered lumber that can be produced locally by working with nearby mills and architecture students.

Area lumber companies donated 45% of the wood, while grants from Wisconsin DNR and others, paid for the rest of the wood. Spring Green Timber Growers

supplied about 1,000 board feet of white pine lumber for the core of the building. "This is very new technology that makes it possible to build very tall buildings using solid wood panels," explained Jim Birkemeier, owner of Spring Green Timber Growers. "I first heard about laminated timber panels at an International Conference on Wood, in India just 6 years ago. Two pioneering architects were pushing through the method in demonstration projects in Vancouver and London. Cross Laminated Timber Panel construction has taken off around the world, with the closest I have heard of being a 12 story wood building going up in Minneapolis at this time. Commercial 'stick built' structures using dimensional 2X4 and 2X6 studs etc are limited today to about 3 stories tall. These Solid Timber Panel buildings are simple, strong, quick to build, and are fire resistant." Building with wood takes only 20% of the fossil fuel energy needed to build with concrete, steel, and glass.



Griffiths was developing a newer method of joining the one inch thick pine boards into solid wood laminated timbers with wood dowels. The class included many innovative ideas from the diverse members of the group, into this unique building on the Taliesin property. Birkemeier's interest in the project was to develop a high value market for the local white pines trees all around the Wisconsin River Valley that were planted to stabilize the soils, but have very low commercial value

in today's timber industry. As the laminated panels are solid, made of many layers, and much stronger than traditional "stick" built structures, knotty and low value boards can be used. Birkemeier believes this practical laminated timber panel construction method can revolutionize forestry, woodworking, building construction methods, and living conditions for the Billions of people around our planet that face low incomes or poverty in their lives.

Scott Lyon of the Wisconsin DNR presented on the many ways we use Wisconsin Wood, adding that there will be a special meeting describing Laminated Timber Panel and Heavy Timber Construction methods in Madison in a few weeks (details to follow).

"As a firefighter for 38 years, I would much rather go into a fire in a solid laminated timber constructed building, than a modern engineered structure with manufactured I beam floor joists and roofs built with trusses, " concluded Birkemeier.