

Oregon city approves permit for US' first all-wood high-rise

June 7 2017, by Gillian Flaccus



This Nov. 15, 2016, file photo shows a piece of cross-laminated timber, or CLT , in Portland, Ore. City officials in Portland have approved a construction permit for the first all-wood high-rise building in the nation. The building uses the new technology called cross-laminated timber that tests have shown can withstand the worst earthquakes. Developers worked with scientists at Portland State University and Oregon State University to prove through testing that the materials meet all building and fire safety codes. (AP Photo/Don Ryan, file)

Officials in Oregon have approved construction permits for the first all-wood high-rise building in the nation.

Construction on the 12-story building, called Framework, will break ground this fall in Portland's trendy and rapidly growing Pearl District and is expected to be completed by the following winter.

The decision by state and [local authorities](#) to allow [construction](#) comes after months of painstaking testing of the emerging technologies that will be used to build it, including a product called cross-laminated timber, or CLT.

To make CLT, lumber manufacturers align 2-by-4 boards in perpendicular layers and then glue them together like a giant sandwich before sliding the resulting panels into a massive press for drying. The resulting panels are stronger than traditional wood because of the cross-hatched layers; CLT can withstand horizontal and vertical pressures similar to those from a significant earthquake with minimal damage.

They are also lighter and easier to work with than regular timber, resulting in lower cost and less waste.

For this project, scientists at Portland State University and Oregon State University subjected large panels of CLT to hundreds of thousands of pounds of pressure and experimented with different methods for joining them together.

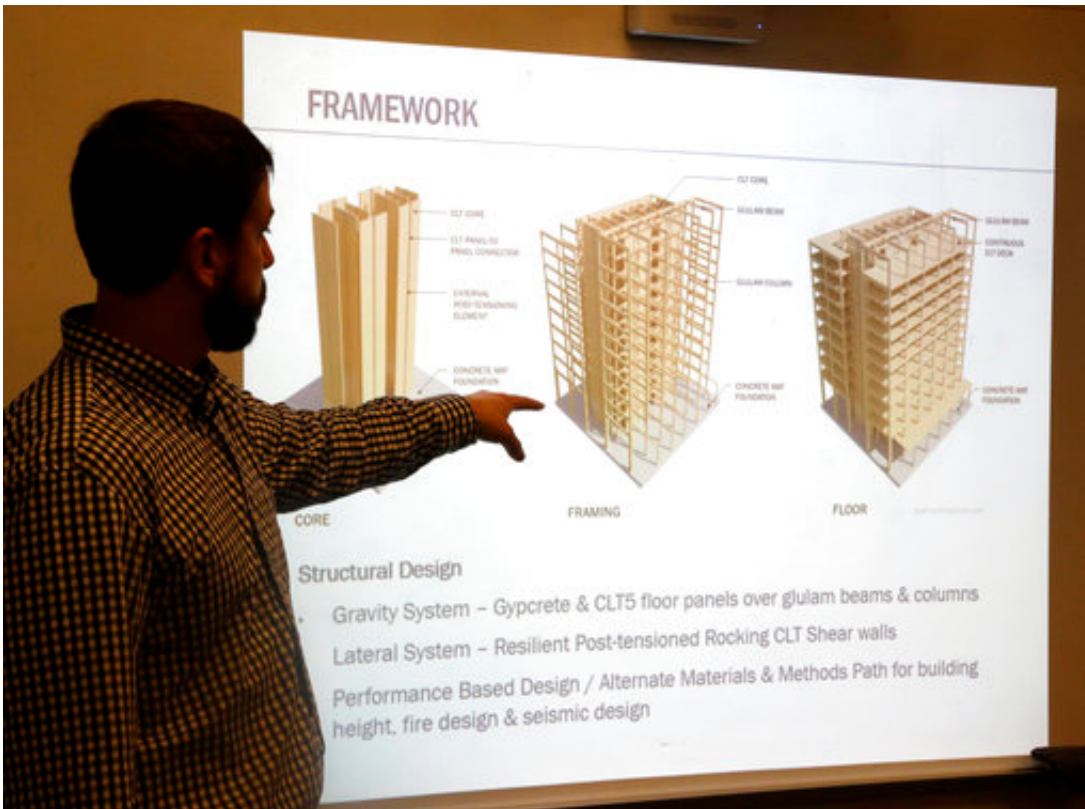


In this Nov. 15, 2016, file photo, Lever Architecture founder Thomas Robinson looks over artist renderings in Portland, Ore., of a 12-story all-wood building that his firm is working on to be built in Portland's trendy Pearl District. City officials in Portland have approved a construction permit for the first all-wood high-rise building in the nation. Developers announcing the approval Tuesday, June 6, 2017, say it's a milestone for wood technology. (AP Photo/Don Ryan, File)

The project materials also underwent extensive fire safety testing and met fire codes.

State officials hope the building will stir greater interest in high-rise construction using mass timber and help revitalize the state's lagging logging industry. Logging, once a major source of revenue in Oregon, has dropped sharply in the past few decades because of greater environmental protections for salmon and the spotted owl. The loss of the industry has devastated some of the state's rural communities.

"Projects like the Framework building present a new opportunity for Oregon that we are perfectly suited to take on," Gov. Kate Brown said. "Oregon's forests are a tried and true resource that may again be the key to economic stability for rural Oregon."



In this Nov. 15, 2016, file photo, structural engineer Eric McDonnell shows diagrams of skyscraper construction using cross-laminated timber, or CLT, at Portland State University in Portland, Ore. City officials in Portland have approved a construction permit for the first all-wood high-rise building in the nation. The building uses the new technology called cross-laminated timber that tests have shown can withstand the worst earthquakes. Developers worked with scientists at Portland State University and Oregon State University to prove through testing that the materials meet all building and fire safety codes. (AP Photo/Don Ryan, file)

The Portland [building](#) will be filled with subsidized apartments and bank offices.



In this Nov. 15, 2016, file photo, Lever Architecture founder Thomas Robinson looks over a strength test on cross-laminated timber beams, or CLT, at Portland State University in Portland, Ore. City officials in Portland have approved a construction permit for the first all-wood high-rise building in the nation. The building uses the new technology called cross-laminated timber that tests have shown can withstand the worst earthquakes. Developers worked with scientists at Portland State University and Oregon State University to prove through testing that the materials meet all building and fire safety codes. (AP Photo/Don Ryan,

file)

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