

Oregon Fire Testing Facility (OFTF)

AWARD AMOUNT:

\$2,480,000

NON-FEDERAL MATCH

\$673,200



Why a fire testing facility?

Fire safety is a critical aspect of building design. Recent building code revisions provide new prescriptive pathways for high rise construction, but many mass timber designs still fall outside the limits of these codes. Additionally, most permitting agencies, architects, structural engineers, and contractors remain relatively inexperienced with mass timber construction. There is a clear need for comprehensive fire testing data on mass timber building assemblies to give regulators and practitioners the knowledge and confidence to use these materials safely and cost-competitively.

Planned actions

- 1 OSU's TallWood Design Institute will establish a custom-built fire-testing laboratory on OSU's Corvallis campus.
- 2 The intermediate scale tilting furnace will have electronic temperature and pressure control systems, a control room with data acquisition and management systems and related software, and dust collection and filtration systems.
 - The filtration system will ensure that exhaust gasses are not harmful and will include sensors to collect particulates for smoke evaluation. The furnace can be controlled to produce a standard fire curve and simulate many types of fires.
 - This flexibility will allow researchers to perform fire resistance tests on vertical or horizontal wall specimens, beam-column connections, floors, and short columns up to 8' x 4' in dimension.
- 3 The lab building will be fire-protected and sprinklered and will allow forklift access via wide front-opening double doors, and material handling via an integrated five-ton gantry crane.
- 4 A full-time technician will be hired and trained to operate the OFTF, design tests, fabricate test specimens, attach instrumentation, collect, and analyze data and report on results.
- 5 Resulting data will be used by developers, architects, and structural engineers to validate design assumptions and obtain permits for mass timber building designs; mass timber manufacturers to assist with product development efforts and technical sales, and by code officials to evaluate building code changes.



**Oregon
Mass Timber
Coalition**



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