

WOOD AND FIRE SAFETY

WOOD MEASURES UP



Building codes protect health, safety and welfare by creating safe buildings and communities. The International Building Code allows the use of wood in a wide range of building types, including those taller than 5 stories.



Wood-frame assemblies can resist fire up to 2 hours, if the right materials and construction methods are used.

In a fire test, a 7 inch thick wall of cross laminated timber (CLT) lasted 3 hours and 6 minutes in a fire—over 1 hour longer than code requirements.



BUILDING MATERIAL PERFORMANCE

No building material is completely impervious to fire's effects but when fire protection systems are in place, fire can be effectively managed.



STEEL BUCKLES



CONCRETE SPALLS



WOOD BURNS

PROTECTING LIFE & PROPERTY

Fire departments are required to control fires in non-sprinklered buildings almost 3 times more often. Fires in sprinkler-protected



buildings were smaller and contained to one room **96.2%** of the time.

Fire safety and protection can include:

- Firewalls
- Gypsum encapsulation
- Sprinklers
- Fire detectors and evacuation plans

WOOD CHARRS & PROTECTS

When wood is exposed to fire, the outer layer burns and creates a protective charring layer that acts as insulation and delays the onset of heating for the unheated, or cold layer below. This process of charring allows timber elements to achieve a level of inherent fire resistance.

RESEARCH & RESOURCES

Get the latest fire information and research:

- Think Wood Research Library
- Underwriters Laboratories (UL) Fire Resistance Directory
- National Design Specification® (NDS®) for Wood Construction.® Chapter 16 (IBC 722.1)
- US Gypsum Fire Resistance Design Manual GA-600 (IBC 721.1)
- Intertek Directory of Listed Products

Find these links and learn more about how wood construction creates buildings that endure.

Visit [ThinkWood.com/fire](https://www.thinkwood.com/fire)

THINK WOOD™

Photo: Station 76 | Portland, Oregon | Architect: Hennebery Eddy

SOURCES: Sprinkler Systems and Fire Outcomes (Garis & Clare, 2012) | Full-scale fire resistance tests on cross-laminated timber (FPIInnovations, NRCAN vol. 17 no. 4, 2012) | White R., Fire Resistance of Exposed Wood Members, 2004 | White R., Analytical Methods for Determining Fire Resistance of Timber Members, 2008