

Contact Information

Canadian Wood Council
Etienne Lalonde
613-294-3409
firetests@cwcc.ca



Five Mass Timber Research Fire Tests Have Been Conducted & Performed as Expected

OTTAWA, Ontario – October 20, 2022 - The Canadian Wood Council partnered with federal and provincial governments and organizations, as well as key experts, to conduct a series of five fire research burns on a full-scale mass timber structure at the Canadian Explosives Research Lab in Ottawa, between the months of June to September.

Over 200 experts from across Canada, including fire officials, building regulators, insurance industry representatives, engineers, and architects, came to witness select tests to learn about, and observe, the behaviour of mass timber construction when exposed to various fire scenarios.

These tests demonstrated the fire performance and fire dynamics across the following five scenarios:

1. Code-Prescribed Solution for Noncombustible Building, providing a baseline scenario of a residential suite for comparison purposes, representing an acceptable solution of the National Building Code
2. Exposed Mass Timber Construction, demonstrating the performance of mass timber in a realistic occupied residential scenario for direct comparison with scenario 1
3. Construction Site Fire Scenario demonstrating the performance of exposed mass timber during a construction site fire, specifically, a garbage can fire
4. Construction Site Fire Scenario demonstrating the performance of exposed mass timber in a realistic but severe construction site scenario
5. Completed Office Floor Building Scenario, demonstrating the fire performance and dynamics in a typical occupied open-office space in a mass timber building



Image: Fire developing within mass timber structure.

Outcomes & Next Steps

1. Over the next 6 months NRC will be compiling all the data collected and will be publishing detailed technical reports. These reports will be helpful in evaluating potential building code changes to allow for increases in the amount of exposed mass timber permitted in buildings up to 12-storeys.
2. The reports will also be helpful to fire safety engineers developing alternative solutions to the acceptable solutions in the building code to enable the construction of mass timber buildings which do not fit within the current provisions for encapsulated mass timber construction up to 12-storeys tall.
3. Increased understanding of the fire risks associated with mass timber buildings during construction will support potential fire code changes to allow for a reduction in the amount of encapsulated mass timber during construction and enable engineers and builders to develop construction site fire safety plans which better address the risks while reducing the likelihood of overly onerous requirements.

For more information about the fire tests, and to learn more about mass timber, visit: firetests.cwcc.ca