Canadian Wood Council | Conseil canadien du bois

Canadian Wood Council Supports Independent Study Documenting Safety of Wood Frame Construction

New research comparing the outcomes of fires in residential buildings constructed with wood, steel and concrete shows little to no difference in extent of fire spread or death and injury rates if buildings have sprinkler systems and smoke alarms

February 6, 2014

Ottawa, ON – The Canadian Wood Council supports a third-party independent study led by two of North America's leading fire safety experts that shows there to be little difference in fire spread, death and injury rates in residential fires across general construction types, provided the buildings are properly equipped with smoke alarms and automatic fire sprinkler systems.

The February 2014 report "*Fire Outcomes in Residential Fires by General Construction Type*," released by the University of the Fraser Valley (UFV) in British Columbia, challenges the general belief that completed buildings built predominantly with steel or concrete are significantly safer in a fire than those built predominantly with wood.

"The report doesn't favour one building type over another – if anything, it shows the value of sprinklers and smoke alarms in protecting lives and property in all types of buildings," says Len Garis, City of Surrey, B.C. Fire Chief and UFV adjunct professor. "The report adds valuable science-based data into the public arena so that better informed decisions can be made in our efforts to improve our building practices."

Changes to the British Columbia Building Code to permit taller wood-frame buildings, along with pending changes to the Model National Building Code of Canada, have sparked a debate in Canada's construction sector, as well as the first responder community and different building material interests, about best practices for these buildings.

"With our findings in mind, and in parallel with other research findings from the authors, it should be considered that more emphasis is placed on ensuring all buildings have operating, current and optimal fire safety systems," says Garis.

The report reviewed a set of 11,875 fires in residential buildings of five broad construction types that were reported to the B.C. Office of the Fire Commissioner between October 2008 and October 2013. The 11,875 fires were divided into five construction type categories for comparison purposes:

- Unprotected wood construction – exposed wood joists and trusses
- Protected wood construction – wood joists and trusses protected by plaster or gyprock
- Heavy timber construction
- Unprotected steel construction – exposed steel joists and trusses
- Protected steel or concrete construction

Overall, the report shows that the fire safety of buildings has more to do with effective fire safety systems, such as working smoke alarms and complete automatic sprinkler protection, than with their construction materials.

-more-

The report goes on to show that the presence of a working smoke alarm reduces the death rate for all construction types, while the presence of a sprinkler system brings the death rate to zero for all types. The data also shows a reduction in injuries across the board for all construction types with sprinkler systems, but an increase, except for heavy timber construction, when smoke alarms are the only fire protection system.

“Canada’s wood products industry continues to work with organizations like FPInnovations and the National Research Council of Canada to develop innovative building products and improved building systems that are designed to meet rigorous standards for fire safety performance, which is why the National Building Code of Canada permits the use of wood in a wide range of buildings types,” says Canadian Wood Council President and CEO Michael Giroux.

Several proposed changes to the 2015 National Building Code of Canada specific to mid-rise wood construction will include enhanced fire protection measures that can further reduce fire risks. These include:

- Increased use of automatic sprinklers in concealed areas in residential buildings
- Increased use of sprinklers on exterior balconies
- Greater water supply for firefighting purposes
- Non-combustible or limited combustible exterior cladding of 5th and 6th floors
- 25% of the exterior perimeter of the sprinklered building must face a street or streets

To read the full report, go to the Reports and Publications section at www.ufv.ca/cjsr.

-30-

The **Canadian Wood Council** (CWC) is the national association representing manufacturers of Canadian wood products used in construction. CWC is a strong advocate for the use of life-cycle assessment and communication about the environmental attributes through the use of Environmental Product Declarations. Visit us at www.cwc.ca.

Media Contact:
Rebecca Peters
LBMG
604.637.6649 (direct)
604.762.2098 (mobile)
Rebecca@LBMG.ca