

NATIONAL FIRE CODE REQUIREMENTS - COURSE OF CONSTRUCTION TALL WOOD BUILDINGS

BACKGROUND

The vulnerability of any building, regardless of the material used, in a fire situation is higher during the construction phase when compared to the susceptibility of the building after it has been completed and occupied. This is because the risks and hazards found on a construction site differ both in nature and potential impact from those in a completed building; and these risks are occurring at a time when the fire prevention elements that are designed to be part of the completed building are not yet in place. For these reasons, construction site fire safety includes some unique challenges. Developing an understanding of these hazards and their potential risks is the first step towards fire prevention and mitigation during the course of construction (CoC).

NATIONAL FIRE CODE REQUIREMENTS

Course of Construction for Tall Wood Buildings

Compared to the general CoC fire safety provisions for all low-rise and conventional non-combustible buildings of any size, the 2015 National Fire Code (NFC) (Section 5.6.3) and the upcoming 2020 edition of the NFC (Section 5.6.4) outline additional special fire safety measures that are required for all construction sites involving taller mid-rise wood and Encapsulated Mass Timber (EMT) buildings:

- More stringent smoking control rules
- Openly posted site identification details
- Explicit rules for collecting and managing combustible refuge disposal

- Requirement for fire protection water supply (and access to hydrants) to be available once combustibles are brought onto the construction site
- In EMT buildings only, at least two separate stairways with a minimum of 30 minute fire resistance rated stairwell enclosure to provide emergency responders with means of access to all storeys during construction
- In EMT buildings only, operable temporary fire hose and standpipe system with fire department pumper connection, installed as construction progresses
- In EMT buildings only, installation of protective layer of encapsulation material (such as fire-rated gypsum board) on exposed mass timber elements (ceilings, walls and inside stairways) progressively as the building height exceeds 4 storeys such that no more than 4 storeys are left exposed. It should be noted that encapsulation during construction may vary based on the fire safety plan established in conjunction with the builder and Authorities Having Jurisdiction.

To learn more about the above mentioned safety provisions in the National Fire Code for tall wood construction, contact your regional Wood *WORKS!* program www.wood-works.ca or the Canadian Wood Council www.cwc.ca.