Wood partitions in noncombustible buildings

Wood framing has many applications in partitions in both low-rise and high-rise buildings required to be of noncombustible construction. The framing can be located in most types of partitions, with or without a fire-resistance rating.

Wood framing and sheathing is permitted in partitions, or alternatively, solid lumber partitions at least 38 mm (2 in nominal) thick are permitted, provided:

- the partitions are not used in a care, treatment or detention occupancy;
- the area of the fire compartment, if not sprinklered, is limited to 600 m^2 (the area of the fire compartment is unlimited in a floor area that is sprinklered); and,
- the partitions are not required by the Code to be fire separations.

Alternatively, wood framing is permitted in partitions throughout floor areas, and can be used in most fire separations with no limits on compartment size or a need for sprinkler protection provided:

- the buildings is not more than three-storeys in height;
- the partitions are not used in a care, treatment or detention occupancy; and,
- the partitions are not installed as enclosures for exits or vertical service spaces.

Similarly, as a final option, wood framing is permitted in buildings with no restriction on building height provided:

- the building is sprinklered;
- the partitions are not used in a care, treatment or detention occupancy;
- the partitions are not installed as enclosures for exits or vertical service spaces; and,
- the partitions are not used as fire separations to enclose a mezzanine.

These allowances in the code are based on the performance of fire-rated wood stud partitions compared to steel stud partitions. This research showed similar performance for wood and steel stud assemblies.

Also, the increase in the amount of combustible framing material permitted is not large compared to what is permitted as contents. In many cases, the framing is protected and only burns later in a fire once all combustible contents have been consumed, by which time the threat to life safety is not high.

The exclusion of the framing in care and detention occupancies and in applications around critical spaces such as shafts and exits are applied to keep the level of risk as low as practical in these applications.