

## **Interior wood finishes in noncombustible buildings**

Wood finishes may be used in noncombustible buildings on walls and partitions within and outside suites and to a lesser extent, in areas such as exits and lobbies. The use of interior finishes is mostly regulated by restrictions on their flame-spread rating (FSR). Wood finishes not exceeding 25 mm (1 in) in thickness and having a FSR of 150 or less may be used extensively in noncombustible buildings that are not considered high buildings. However, where finishes are used as protection for foamed plastic insulation, they are required to act as a thermal barrier.

Some restrictions do apply in certain areas of a building. The area permitted to have a FSR of 150 or less is limited as follows:

- in exits – only 10 percent of total wall area
- in certain lobbies – only 25 percent of total wall area
- in vertical spaces – only 10 percent of total wall area

The use of wood finishes on the ceilings in noncombustible buildings is much more restricted, but not totally excluded. In such cases, the FSR must be 25 or less. In certain cases, ordinary wood finishes (FSR of 150 or less) can also be used on 10 percent of the ceiling area of any one fire compartment, as well as on the ceilings of exits, lobbies and corridors.

Fire-retardant-treated wood (FRTW) must be used to meet the most restrictive limit of FSR 25. Consequently, it is permitted extensively throughout noncombustible buildings as a finish. The only restriction is that it cannot exceed 25 mm (1 in) in thickness when used as a finish, except when used as wood battens on a ceiling, in which case no maximum thickness applies. The NBC requirement for interior finishes in non-combustible buildings requires that the FSR be applicable to any surface of the material that may be exposed by cutting through the material. FRTW is exempted from this requirement because the treatment is applied through pressure impregnation. Fire retardant coatings are not exempt because they are surface applied only.

The FSR 75 limit for interior wall finishes in certain corridors does not exclude all wood products. For example, western red cedar, amabilis fir, western hemlock, western white pine and white or sitka spruce all have FSR at or lower than 75.

Corridors requiring FSR 75 include:

- public corridors in any occupancy;
- corridors used by the public in assembly or care or detention occupancies;
- corridors serving classrooms; and,
- corridors serving sleeping rooms in care and detention occupancies.

If these corridors are located in a sprinklered building, wood finishes having FSR 150 or less may be used to cover the entire wall surface.

In high rise buildings regulated by NBC (Division B, Subsection 3.2.6.), wood finishes are permitted within suites or floor areas much as for other buildings of noncombustible construction. However, certain additional restrictions apply for:

- exit stairways;

- corridors not within suites;
- vestibules to exit stairs;
- certain lobbies;
- elevators cars; and,
- service spaces and service rooms.