

# INFORMATION SHEET

## FIRE

---



### REACTION TO FIRE – FLOORING

Combustible floor coverings tend to become involved in fire at a stage when the fire is already well underway.

Fire gases and smoke rise and spread out beneath the ceiling before progressively filling the room from top down.

For that reason floor coverings are usually not responsible for contributing significantly to a hazardous situation early in a fire.

An exception to this is where combustible floor coverings are present in an internal stairway, where rapid upward flame spread could occur due to a fire near the base of the stair.

Flame spread up a vertical surface is normally many times faster than across a horizontal surface.

Where internal stairs serve as a single means of escape for an upper level, the fire properties of the floor covering should be carefully considered.

In New Zealand, regulatory requirements restricting the fire properties of flooring materials and coverings within buildings, usually are only required in hospitals, prisons, rest homes or similar occupancies, and in fire protected exit-ways in buildings.

There are no requirements governing fire properties of flooring materials and coverings for any building with an approved fire sprinkler system.

Where requirements do exist, the minimum performance needed to meet the NZBC compliance document for fire safety is for the flooring to be either non-combustible, or have a 'low radius of effects of ignition' when tested to the BS 4790 standard test for flammability of floor coverings (and assessed using criteria in BS 5287).

Wood-based products are typically able to achieve this level of performance.

The BS 4790 standard fire test is also referred to as the 'Hot Metal Nut' test. It evaluates potential for flame spread in the absence of an applied radiant heat source due to a hot metal nut placed in contact with the floor material.

Many other countries use the floor radiant panel test (ISO 9239-1:2002) to evaluate the fire hazard of flooring materials in the presence of a radiant heat source.