

Approved Document B 2006 - Sprinklers and the new Approved Document B 2006 – Part 1

To aid the preparation of the new Approved Document B the Communities and Local Government (CLG) commissioned the Building Research Establishment to carry out work regarding tenability for means of escape using sprinkler protection both with an without physical fire resisting protection.

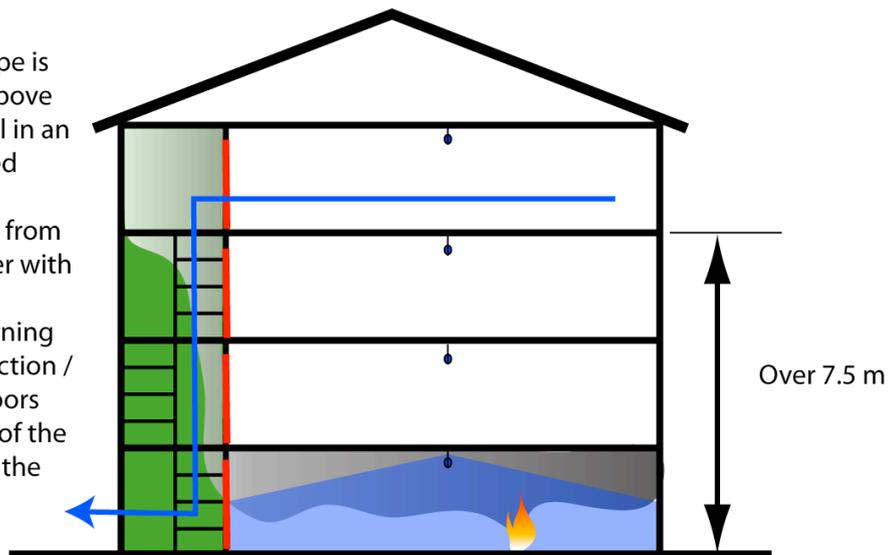
Inner habitable rooms in dwellings

Inner bedrooms with sprinkler protection in the access room did not make it into the new Approved Document. In a previous fire column I have discussed the results of the BRE study and the reasons why in my view this would not provide adequate escape. However a positive result of the research showed that the use of sprinklers to permit the omission of alternative means of escape.

Dwellings over 7.5m

The BRE study showed that when combined with a protected route sprinklers significantly reduce the toxicity of the smoke, which leaks around fire door gaps and into the protected stairway. (In the diagrams accompanying this article a reduced level of smoke leakage is indicated in the green protected stairway). This study was so successful it is now felt that dwelling houses of any height can be provided with a single escape route with sprinkler protection in the rooms opening into the stairway.

An alternative escape is needed for floors above 7.5m because travel in an unlobbied protected stairway is not considered tenable from this height. However with smoke detection providing early warning and sprinkler protection / gaps around the doors reduce the toxicity of the smoke leaking into the stairway



Sprinklers at all floor levels and protected stairway with protected final exit hallway to street (FD20 doors do not require self closers)

Loft conversions

The previous standard, which permitted a loft hatch and rescue by the fire service by roof ladders, is now considered to be inappropriate. Sprinklers now come into play to permit an existing open plan ground floor to remain open with an alternative escape route from the loft room passing through a protected stairway with a route through a first floor window as shown in the illustration below. The idea is that an occupant will be protected from the effects of the toxic smoke produced by the sprinkler controlled fire all the time they stay in the protected route which is separated from the ground floor with a fire door (FD20). One concern I have with this scheme is whether an occupant of the new loft room will think to use a window at first floor level which is located in another room, and that the door to the room is unlocked. Although it is in my view better than the previous roof ladder fire brigade rescue arrangement.

It is also interesting to note then need to enclose any cooking arrangement with fire resisting construction, in addition to the sprinkler protection.

