

FIRE DOORS

Approved document B Volume 1 requires FD20 doors to all habitable rooms in a new or altered dwellinghouse with one floor more than 4.5m above ground level, where they form part of the enclosure to the stair. Interlinked smoke detection is required to the circulation spaces at each level.

If there is a desire to retain existing doors within a dwelling house, when undertaking alterations to form habitable rooms in the roof, the following may be considered as suitable alternatives to replacing some or all doors.

General Provisions

1. In addition to smoke detectors at every storey level, detectors should also be provided at half landing levels adjacent to habitable rooms. A heat detector should be provided in the kitchen and smoke detectors in all habitable rooms entered from the stair enclosure. All alarms should be mains powered with standby backup, interlinked so that detection of heat or smoke in one unit operates the alarm in all others.
2. BS 5839:6 recommends optical smoke detectors in circulation areas with ionization detectors better for living and dining rooms. Optical may be better in bedrooms although either type would be considered acceptable.
3. There should be at least one window at first floor level of a size that would permit emergency egress to either a rear garden of sufficient depth or to the front elevation.

Panel Doors in Excess of 32mm Thickness

1. The door should be attached to the door frame with three steel hinges, not be visibly warped, fit well into its frame and there should be no visible defects particularly in the panels.
2. Any existing glazing to doors or fanlights should be replaced with wired glass or similar fire-resistant glazing to provide adequate resistance for integrity and stability.
3. There should be no significant defects to adjacent walls or around door frames forming the stair enclosure.

Existing Panel Doors Less Than 32mm in Thickness

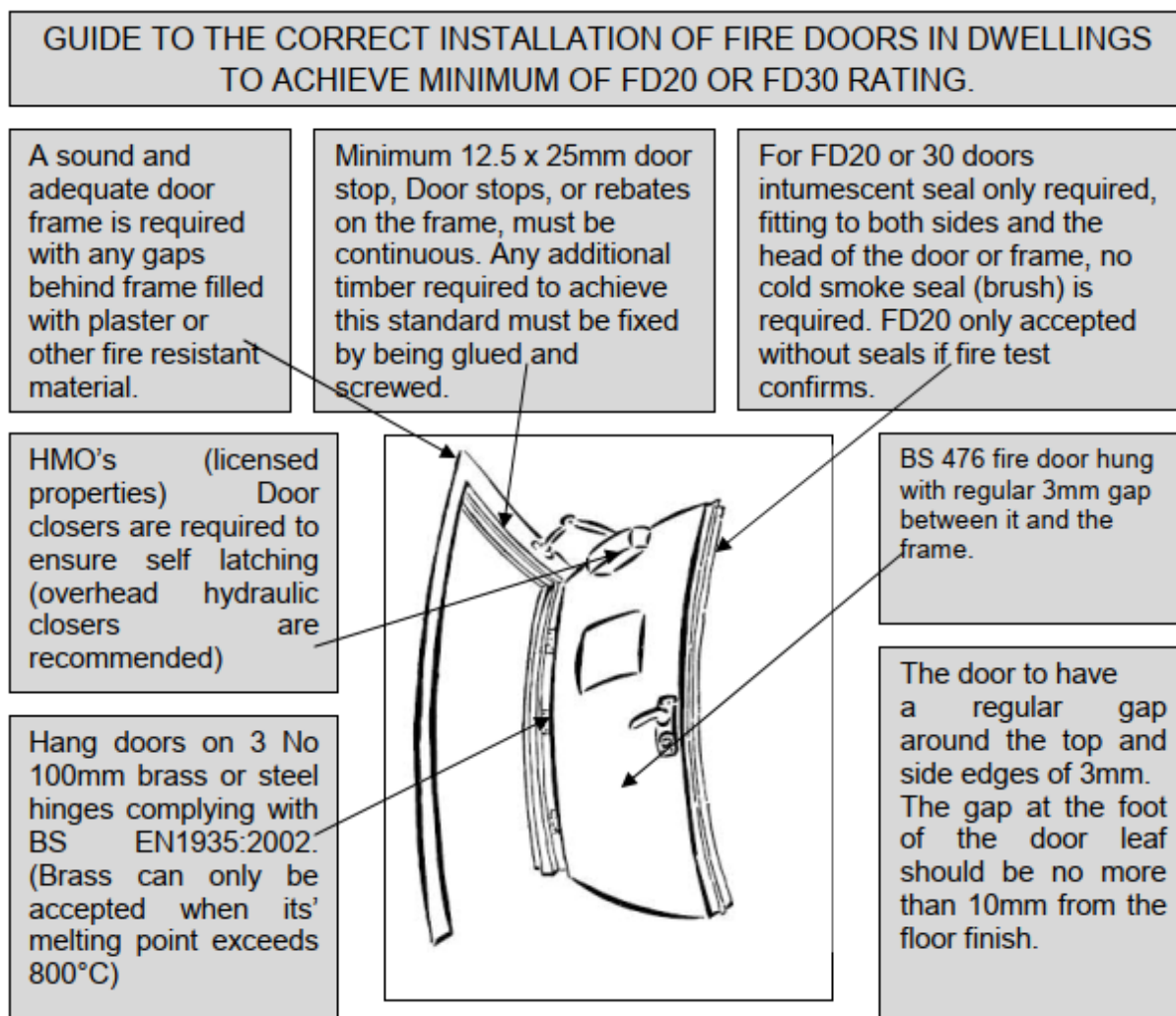
1. In addition to the recommendations for panel doors in excess of 32mm indicated above, if it is intended to retain doors less than 32mm in thickness a proprietary solution should be sought to upgrade the door. This may include the application of fire-resistant materials to the panels and stiles on the room side of the door. Such doors can be provided with a certificate from a specialist supplier confirming their upgraded suitability.
2. Alternatively, the door can be upgraded, on the room side, by infilling the panel with a fire-resistant board and applying a similar board glued and screwed over the entire door. Hardboards Flush doors. Existing hardboard or other lightweight flush doors are not considered adequate to provide a reasonable level of fire protection to a stair enclosure and should be replaced with FD 20 doors in accordance with the recommendations of the approved document.

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Hardboards Flush Doors

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FD20 And FD30 Door Leaves Intumescent Seals

Experience has shown that all non-metallic door sets require an intumescent seal between the door and frame to achieve a FD30 performance or better. Some door set designs are capable of realising an FD20 performance without the need for seals but this must be proven by test. It cannot be assumed that a door set which achieves an FD30 performance with seals would achieve an FD20 performance without.

Door Stops 25mm or 12mm?

For many years a 25 mm deep doorstop was considered to have a smoke control function but test evidence has shown there is no improvement in smoke control

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performance where a 25 mm deep stop rather than a 12 mm deep stop is used. For doors without smoke seals, a more critical factor is the gap size between the leaf of the door and the frame or between two leaves. This principle also holds good for rebated leaf edges.

There is no exact minimum specification for fire resisting door frames, since if a detail can be proven to work by a test, it can be used with that particular design. As a general guideline, a minimum 32 mm thick softwood frame, with a density of 450 kg/m³ or more, would suffice for an FD20 or FD30 door set, but always check the fire test for the exact door purchased as this will specify minimum frame dimensions.

When Do I Need to Add a Cold Smoke Seal (Brush or Fin)?

Within standard dwellings the fire detection systems are normally based upon smoke detectors within the circulation space (commonly the hallways) but may include habitable rooms and the kitchen where these need to be passed through to reach an outside door (BS 5839 part 6). The theory being; that if a fire breaks out in room and the door is shut, the smoke escapes through the door to frame gap (3mm) and sets off the smoke detectors which allows adequate time for all to escape. Should a smoke seal be fitted in a fire door this would delay the smoke detector activating and therefore is not permitted (FD30). Should someone wish to fit smoke detectors in all rooms then smoke seals are permitted as this would give enhanced early warning and increase egress time.

In case where a garage links to a dwelling a smoke seal is required in all cases in addition to an intumescent seal and auto closer. FD30S.

FD30S standard also applies to flat entrance doors.

If you are unsure whether or not the work you propose requires approval, please contact East Midlands Building Consultancy for advice. If you carry out work which requires approval without first submitting an application, you will not benefit from having the work independently inspected and you risk enforcement action. The lack of a completion certificate from the Council may affect the future sale of your home.

Please note that these guidance notes are for advice only and may not cover all situations. It is your responsibility to ensure that they are appropriate for use in your particular circumstance.

For further information contact East Midlands Building Consultancy.