Fact Card 4 – Fire Doors and the Building Regulations

Giving you the facts about Fire Doors and the Building Regulations

Fire Doors are required in many buildings built in the UK according to the requirements of the relevant national fire safety regulations. The Building Regulations provide guidance as to the minimum building standards to be achieved. They reference the relevant British and European Standards defining the test requirements and performance of the fire door assembly or fire doorset. A building designer or owner may choose to fit fire doors in other locations than specified in the regulations to further protect life and property and reduce risk.

There are regional variations of the Building Regulations and the documents used for reference also vary. English & Welsh Building Regulations use Approved Documents[1], Building Regulations in Scotland uses The Technical Handbook and Northern Ireland uses The Technical Booklet.

The following information is based on the English Building Regulations.

The Regulations in Wales, Scotland and Northern Ireland contain minor differences. The sections overleaf shows the different regulations
detail of all the construction elements and performance relating to fire doors and identifies where to find the corresponding information for Wales, Scotland and Northern Ireland.

1 England & Wales have separate approved documents, please check those local to you for guidance

Approved Document B – Fire Safety

The principal regulation and guidance affecting fire doors is contained in Approved Document B :2019 Volumes 1 and 2. These specifically cover fire safety guidance for buildings in which fire doors play a unique role.

Approved Document B provides guidance provides guidance for the minimum provision of fire doors, e.g. their location and rating. Further provision maybe necessary following a Fire Risk Assessment (FRA). The FRA must always be carried out by a competent, trained and qualified individual.

Fire Doors in Dwellings (Approved Document B – Volume 1
For residential houses (known as 'dwellings'), fire doors are required:

- In a cavity barrier (wall) where applicable;

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- Above two levels, every door leading to the stairwell (at all levels). Where the doors leads to a habitable room which have fire rated separating walls;
- When a property has a loft conversion;
- Between a house with an integral garage;
- Between the business and residential elerments in a mixed-use building.

Note: This this list is not exhaustive and other locations may require fire doors depending on the layout, use and fire plan of the individual dwelling.

Fire Door in Flats (Approved Document B - Volume 1)

In residential flats, fire doors are required:

- For the front door of individual flats;
- Within individual flats to stop the spread of fire between rooms;
- Other locations depending on the layout, use, fire risk assessment and fire plan of the individual building.

Fire Doors in Buildings other than Dwellings (Approved Document B – Volume 2)

Fire doors are required in many different non-domestic buildings. The list below is not an exhaustive list but does provide examples of where fire doors are required by law. Many other locations may require fire doors depending on the layout, use and fire plan of the individual building.

- Schools
- Hospitals
- Flats
- House of Multiple Occupancy (HMO)
- Nursing Homes
- Hotels
- Public Buildings
- Offices
- Warehouses
- Entertainment Venues
- Factories.

What fire resistance period should be required*?

In a compartment wall that separates buildings, the fire door must match the fire resistance period of the wall containing the door with a minimum period of 60 minutes. In all other situations, a 30 minute fire door (FD30) is normally allowed. Approved Document B identifies the rating of the door (e.g. FD30, FD60 etc.). The guidance refers to the use of 20 minute fire doors (FD20) in some circumstances. However, the BWF Fire Door Alliance Scheme recommends that any fire door should be designed to last a minimum of 30 minutes, so an FD20 is no longer manufactured by the Scheme's members. (See our fact card Explaining FD20 and FD30 Fire Doors).

Note: The Building Regulations also refer to E30 or E30Sa etc. This refers to product tested to the European test methods (EN1634 Part 1 or EN 1634 Part 3) rather than the British Standards (BS476-22).

Where is signage required?

Correct signage is required on all fire doors installed in non-domestic buildings. Signs should be put on both sides of the door and must clearly indicate that the door is a fire door and any further instructions required such as "Keep Closed" or "Keep Locked". Standard signs are generally available from fire door stockists.

Where are smoke seals required?

Smoke seals are recommended on doors approaching or protecting escape shafts such as stairs and corridors and where a door separates a private area from a common space such as a flat front door. Smoke seals are also recommended on doors in sections of corridors that lead to dead ends.
Note: Where smoke seals are required, the threshold gap (at the bottom of the door) must be set at no more than 3 mm.

Approved Document E – Resistance to Sound

This document explains the minimum sound resistance performance recommended for buildings of multiple occupancy. Where a door separates the occupants of a building, for example, the front door of an apartment, the door must maintain the sound performance requirements. Sound performance of a door is generally based on the weight, with higher density materials giving more resistance to sound. Acoustic seals may be required on a fire door, including at the threshold.

Approved Document F – Ventilation

In dwellings, a ventilation gap totalling 7600 mm² is recommended at the threshold of the door, to allow air movement throughout the building. This measurement is taken from the highest finished floor covering to the bottom edge of the door. For a 762 mm wide door, this represents a 10 mm gap, (reducing to 8 mm for a 926 mm wide door). This can be achieved by making an undercut of 10 mm above the fitted floor finish.

For buildings other than dwellings, the ventilation requirements are likely to be the responsibility of the heating and ventilating designer.

The maximum under door gaps permitted by the test evidence supporting a fire door maybe less than 10mm.

Approved Document L – Conservation of fuel and power

Where a fire door divides a heated and unheated area, it will be required to provide a thermal performance (energy efficiency) that will control the heat leakage. Examples of this are flats with doors leading to common corridors, integral garages or external doors.

Approved Document M – Access to and Use of Buildings

This document introduces a number of recommendations to improve access to and movement through buildings for disabled persons.

Minimum Door Widths

- For dwelling situations, the minimum clear door opening required when the approach can be made head on is 750 mm, which increases to 800 mm if passing through the doorway from a corridor that is 900 mm wide.
- For buildings other than dwellings, a minimum of 800 mm clear opening is required when the approach can be made straight-on, which increases to 825 mm if passing through a doorway from a corridor that is 1200 mm wide.
- Access through an external door for buildings other than dwellings requires a clear opening of 1000 mm irrespective of the approach. Measurements for replacement doors in existing buildings, other than dwellings, are slightly less.

Visual contrast for doors and surroundings

For buildings other than dwellings, door opening furniture (i.e. handles or push bars etc.) must contrast visually with the door surface, as must the leading edge of a door if a hold-open device is used.

The frame or architraves should contrast visually with the surrounding wall so that the exit is clearly identifiable.

Minimum Opening Forces

For buildings other than dwellings where doors need to be opened manually, the opening force at the leading edge of the door must not exceed 20 Newtons.

Provision of vision panels (glazed apertures)

Where required, vision panels (glazed apertures) should be fitted between 500 mm and 1500 mm from the top of the floor covering, although a division is allowed between 800 mm and 1150 mm from the floor.

The full Building Regulations guidance documents for England are available to download from:

www.gov.uk/government/collections/approved-documents

Disclaimer:

Note: Whilst every effort has been made to ensure the accuracy of advice given, the BWF cannot accept liability for loss or damage arising from the use of the information supplied in this publication.

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