Fire Rated Doors

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Overview

Fire-rated doors can offer increased protection against fire in your home. But are they a legal requirement?

Houses and bungalows: In many homes in the UK, fire doors are not a legal requirement; however, there are some exceptions. Building regulation details where fire doors should be used:

Any new build or home renovation with three or more floors must have fire doors fitted to every habitable room that leads from a stairwell. This applies to loft conversions where an extra floor has been added to a two-storey home.

Any door leading from your home into an integral garage must be a fire door. FD30 (fire doors with a 30-minute fire rating) are sufficient in most domestic situations.
The Regulatory Reform (Fire Safety) Order 2005 states that fire doors must be "subject to a suitable system of maintenance and are maintained in an efficient state, in efficient working order and good repair".

Following the Regulatory Reform (Fire Safety) Order in 2005, property owners are now required by law to fit all premises (other than private homes) with appropriate fire doors. The fire door must be fitted by a ‘competent person’, defined by the Act as ‘someone with sufficient training and experience, qualifications and knowledge to be able to implement fire safety measures (some or all) in a building’.

If a fire door is not fitted correctly, it will fail in less than 5 minutes and put lives and property in imminent danger. We have compiled all the necessary information you need to follow protocol when installing fire doors.

Non-domestic buildings must follow the 2005 Regulatory Reform (Fire Safety Order). These rules state that all fire doors must be checked at least every six months.

What Are Fire Doors?

A fire door, when used correctly, will prevent fires from spreading through a building, giving people time to evacuate and the Fire Brigade time to respond and potentially save the structure.

If a fire door is correctly constructed by a BWF-certified manufacturer, compatible parts, and verified by a certified third party. In that case, it should be effective in holding back a fire for at least 30 minutes.

The difference between a fire door and a regular door

The primary purpose of standard doors is usually to improve room segregation, sound insulation and/or security against intruders rather than protection against flames, smoke and

heat. However, a fire door has received a fire-resistance rating, signifying its effectiveness in slowing or halting the spread of fire and smoke throughout a building.

How to identify a fire door

Fire doors can be identified by looking for the mandatory signage, usually a blue sticker with white writing that says “fire door keep shut.”

You can also identify fire doors by their hinges, closing mechanism, seal, and gaps.

- **Gaps-** There should be a maximum gap of 4mm around the tops and sides of the door.
- **Intumescent Seals-** An intumescent seal is necessary to prevent the spread of fire and smoke by swelling and filling the gap between the door and frame when warmed. Check the frame and door profile for a thin intumescent strip running down the middle.
- **Hinges-** There should be a minimum of 3mm between the door and the hinges.
- **Closing Mechanism-** The door should close itself firmly from a halfway-open position and should not stick.

Types of fire doors we offer

Glass fire doors

Even though they're not as popular as steel fire doors, pyropanel glass fire doors are growing in popularity because they're more aesthetically pleasing.

Every pyropanel fire door has to use fire-rated glass. Fire-rated glass has been tested and proven to prevent flames and smoke from passing through. Some fire-rated glass can also withstand high temperatures. It can stay intact in temperatures above 900°C while regular glass starts to break down at 120°C. Property fires typically burn hotter than 600°C, so it's essential that your glass fire door meets fire safety regulations.

Steel fire doors

The robustness and longevity of steel fire doors mean that they are more often chosen for their sleekness and minimalism. Steel fire doors are also easy to clean and are widely used in private residences and commercial buildings because of their low-maintenance needs.

The level of fire protection will be determined after the testing procedure specified in BS 476-22:1987 or BS EN 1634-1:2014.

BS 476-22:1987: Fire tests on building materials and structures. Methods for determination of the fire resistance of non-loadbearing elements of construction.

BS EN 1634-1:2014: Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Fire resistance test for doors and shutter assemblies and openable windows.

Double fire doors

Double fire doors must meet the requirements of BS 8214:2008, which states that the gap along the sides, top and between the leaves of double doors should be 3 mm +/- 1 mm. Double-fire doors are ideal for more significant residential and commercial buildings.

Fire door ratings

Fire doors are assigned an FD rating to indicate how long they can withstand fire. For example, an FD30 fire door will offer 30 minutes of protection, while an FD60 fire door will offer 60 minutes of protection. The FD rating is assigned following stress testing in conditions specified in British Standards 476 part 22:1987.

The most common integrity ratings are:

- FD30 – 30 minutes
- FD60 – 60 minutes
- FD90 – 90 minutes
- FD120 – 120 minutes

Fire Door Regulations in the UK

What are fire door regulations?

All buildings that are not private residences are subject to the Regulatory Reform (Fire Safety) Order: 2005 (RRO) requirements.

In England and Wales, Regulation 38 of the Building Regulations connects the Building Regulations to the RRO. This requires that all fire safety information be given to the 'responsible person once a project is finished or when the building or extension is first used.

Under the Regulatory Reform (Fire Safety) Order 2005, in any non-domestic premises, a 'Responsible Person' must be identified, and this person must ensure that fire safety standards are met. The Responsible Person is usually an employer, landlord, building manager or managing agent, but in a building such as a school, this may be the head teacher or a governor. This means that as well as having a moral obligation to ensure access control systems adhere to the latest regulations, there is also a legal requirement for those in charge.

The person responsible for implementing these regulations must ensure that the premises reach the required standards and that the occupants of the building are provided with adequate fire safety guidance.

The Fire Safety Order encompasses almost every building, place and structure, such as shared spaces in houses in multiple occupations (HMOs), blocks of flats and maisonettes. However, private homes are not subject to the Order.

The Fire Safety (England) Regulations 2022 will make it a legal requirement from 23 January 2023 for responsible persons for all multi-occupied residential buildings in England with storeys over 11 metres in height to:

- Undertake quarterly checks of all fire doors (including self-closing devices) in the common parts and undertake – on a best endeavour basis – annual inspections of all flat entrance doors (including self-closing devices) that lead onto a building's common elements.
- The regulations will also require responsible persons to provide residents of all multi-occupied residential buildings with two or more sets of domestic premises (that have common parts) information on the importance of fire doors to a building's fire safety.
- The regulations will require responsible persons to undertake the best endeavour of annual checks of flat entrance doors and quarterly inspections of communal doors in multi-occupied residential buildings above 11m.
- The checks required under regulations do not replace the existing duty under the Fire Safety Order for the responsible person to put in place general fire precautions and their duties under Article 17 of the Fire Safety Order in all buildings which are in the scope of the Fire Safety Order, regardless of height.

Checks of fire doors in buildings below 11 metres

The regulations do not replace the existing duty for a responsible person to put in place general fire precautions in any premises covered by the Fire Safety Order, regardless of the building's height.
The Fire Safety Act 2021 has clarified that any residential building with two or more sets of domestic premises is within the scope of the Fire Safety Order.
Responsible persons for residential buildings below 11 metres in height have a duty to put general fire precautions in these buildings; this duty includes ensuring that all fire doors – including flat entrance doors – are capable of providing adequate protection.
Responsible persons will also be required to provide residents in all residential buildings with two or more sets of domestic premises with information on fire doors.
Minimum requirements for inspections of fire doors

The minimum requirement is for the responsible person to inspect the doors to identify any apparent damage or issues. It should not be necessary to engage a specialist for these checks as the responsible person should be able to carry out these checks themselves. Several helpful guides are available online to support a responsible person in undertaking checks.
A responsible person should consider the following:

- if there have been any alterations or damage to a door's glazing apertures or air transfer grille
- if there are any gaps around the door frame and that seals and hinges are fitted correctly
- that the door closer shuts the door
- that the door closes correctly around the whole frame
- that there is no visible damage (either deliberate or from wear and tear) to the door or door closer

If any issues are identified from these checks. In that case, it might be appropriate to undertake more detailed checks of doors (or the self-closing device) if any damage is identified from the initial inspection. This could include engaging a specialist.

Prior to the Fire Safety Act 2021, flat entrance doors in multi-occupied residential buildings may not have been routinely considered as part of the fire risk assessment process. The Fire Safety Act 2021 has removed the legal ambiguity and confirms that flat entrance doors are in the scope of the Fire Safety Order.

Internal & external fire door regulations

An internal fire door is designed to divide a building into compartments during a fire so that occupants have an escape route. In contrast, an external fire door is at the end of this escape route and does not need to be fire-resistant or kept closed. As long as this external door complies with the regulations for fire doors (clear signage, method of opening from the inside) and is never blocked, it can be classified as a fire door.

Fire door requirements for domestic v non-domestic buildings

Domestic buildings

In domestic buildings with more than two floors, every door leading to the stairwell (at all levels) must be a fire door if the door leads to a habitable room. Fire doors are also required in loft conversions, between the house and the integral garage, and between the business and residential areas in a mixed-use building.

Non-domestic buildings

Guidance for non-domestic and commercial buildings is divided into two sections based on horizontal and vertical escape routes. Vertical evacuation is simply the process of evacuating all residents of a multi-level building using flights of stairs. Horizontal evacuation allows people within the building to move horizontally away from the blaze into a fireproof area of the building or ‘compartment’ without leaving the floor they are already on.

The preferred method of evacuation, vertical or horizontal, is decided on a case-by-case basis, with the priority being whichever option is quickest and safest for the inhabitants of a building. According to the Regulatory Reform (Fire Safety) Order 2005, fire doors must be fitted to line this route as a minimum requirement. The necessary FD rating of these doors should be determined based on an individual assessment, considering the type of building, the location of the door, and what surrounds the door.

The Regulatory Reform (Fire Safety) Order 2005, Article 3, defines the responsibility of fitting fire doors in a commercial building as the ‘responsible person.’ This is generally:

- An employer or a self-employed person with business premises
- A charity or voluntary organisation
- A contractor with a degree of control over any premises
- A person providing accommodation for paying guests

Regulations for installing fire doors

Although there is no legal obligation for the installation of fire doors to be carried out by an individual with a specific qualification or accreditation, it is essential that a trusted and experienced professional fits them. If there is even a small gap or crack between the door and the frame, glasswork or seal, the fire door can become faulty and not meet Regulatory Reform (Fire Safety) Order 2005 requirements.

Fire door frame regulations

A fire door frame is just one of the elements that make up a fire door. Door frames should only be bought from the door manufacturer, a company licensed to manufacture them, or a BWF Approved Fire Door Centre. Sometimes it is not possible or practical to fit new frames, and in these cases, it is more sensible to fit intumescent seals into the door edge. It is worth repeating that the gap between the door and the frame should be no more than 4mm.

Fire door maintenance regulations

Fire doors must be inspected and maintained regularly to ensure they will be effective if they need to be used. More frequently, checks should be carried out at least every six months for doors that experience high traffic volumes or are more susceptible to damage. It is beneficial to have a registered FDIS inspector check your fire doors. FDIS inspectors have the necessary qualifications and skills to match the doors' safety thoroughly.

British standards for fire doors

BS 8214 covers the rules for specifying, installing and caring for fire doors, stipulating that they provide the same degree of fire resistance as fixed building elements.

BS 5839-1:2013 guides installing Door Opening Retention Devices on fire doors and is the standard that sets the benchmark for such components.

BS 9999:2008 is a fire safety code of practice for building design, management and use. This standard can review existing buildings, buildings under construction, and expansions or remodelling of existing buildings. The standard can also be used as an assessment tool to ensure the fire safety strategy is still valid.

Differences between Fire Doors and Fire Exit Doors

Fire doors are found in residential and commercial buildings and are internal doors that need to be kept shut to prevent the fire from spreading to different parts of the building. In buildings with multiple occupants, they must be fitted on the entrance to each dwelling, often leading into a communal hallway. Fire exit doors are the final door on an emergency exit route and must lead to a safe place.