WHITEPAPER

Where fire doors must be fitted

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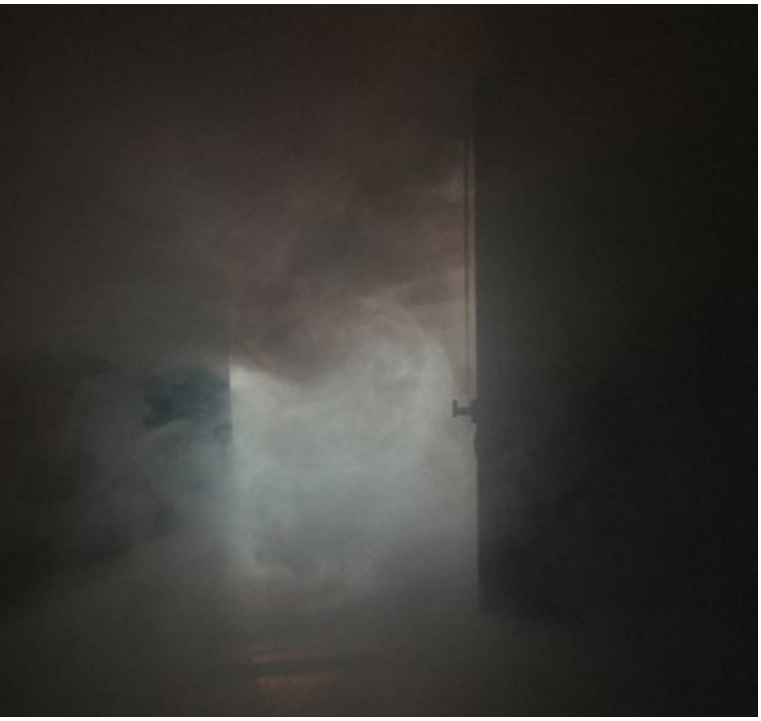


Where must fire doors be fitted?

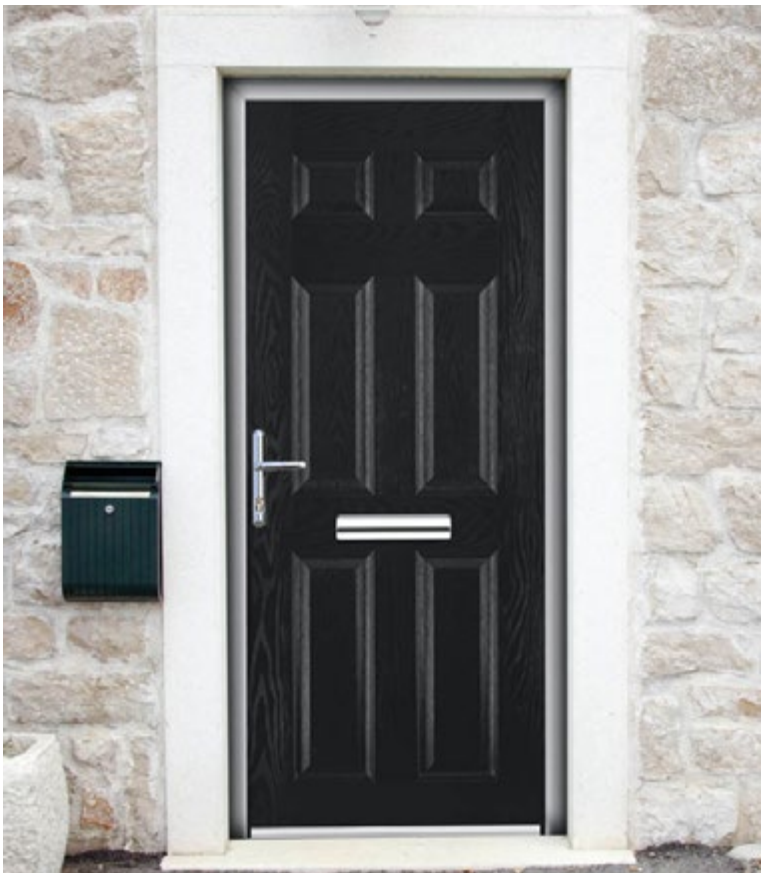
Fire doors are a familiar feature of many buildings, but not every door is a fire door, and neither does it have to be.

So, when and where are they legally required? That's the question this paper aims to answer – in broad terms at least.

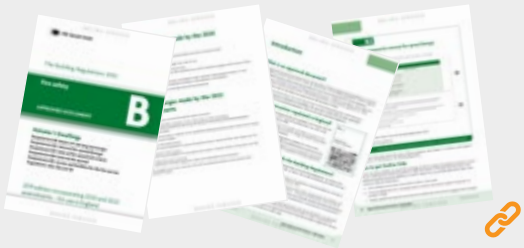
The reasons why fire doors are subject to regulations

Before looking at where fire doors are legally required, it is worth reminding ourselves of the reasons for installing fire doors at all. This will help to explain why the regulations are in place and what they set out to achieve.

Fire doors are designed to prevent fire spreading quickly. By doing so, they give building occupants time to evacuate safely, and help to reduce fire and smoke damage to the building itself. They also contribute to a safe route of access for the emergency services, and protect those building occupants unable to evacuate while they await rescue. These benefits – which can mean the difference between life and death – are what regulations seek to deliver and maximise.



The regulations governing where fire doors must be sited

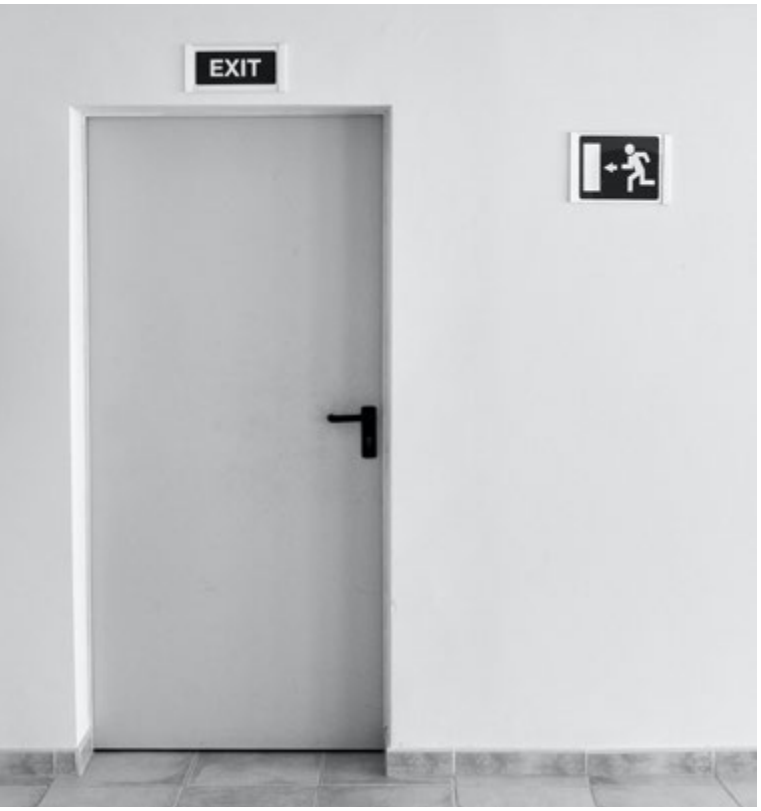


Regulations governing where fire doors must be sited are found in several different places. A key governing document for fire safety is The Regulatory Reform (Fire Safety) Order 2005 (RRO).

However, this specifically excludes domestic properties from its scope and gives only general requirements for fire doors. For example, within Article 14 of the RRO it states that 'Emergency doors must open in the direction of escape' (but this 'requirement' is modified by Building Regulations, which allow doors to open in the other direction in specific circumstances). Rather than setting out the specifics around where fire doors must be used, the RRO is primarily an instrument that gives the government authority to create legally binding regulations relating to fire safety.

> "The real nitty-gritty of where fire doors must be installed is found in Building Regulations and, specifically, Fire Safety - Approved Document B."

This is split into two volumes, with the first covering 'dwellings', i.e. residential properties, and the second covering all other buildings. Just to complicate matters, the regulations in Document B apply in England but not in their entirety to Wales, Scotland and Northern Ireland (although most regulations do apply in each nation). Document B, as it is generally referred to, provides specific criteria for where fire doors should be fitted. In the next section, we will look at some of the different criteria as they apply to different types of building.



What requirements apply to which buildings?

The Building Regulations around where fire doors should be installed are implicitly related to how long it might take an occupant to safely evacuate a building and how many occupants there are. For instance, someone living at the top of a tall block of flats will usually take longer to get outside than someone living in a two-storey semi. A block of flats will also be home to many more people. Hence the regulations require more fire doors in blocks of flats.

Domestic properties

With many domestic properties, there is no requirement to install fire doors. This is the case for all single-storey dwellings as well as most two-storey houses. However, for houses with storeys above 4.5 metres (as measured from the ground to floor level), fire doors are required.

Where there is just one storey above 4.5 metres, there must either be an alternative means of escape to the main staircase (e.g. a second staircase or external fire escape) or a 'protected stairway'. The design of many properties does not allow for the former option, so a protected stairway is more often the option followed. The intention of a protected stairway is to create an escape route that gives enough time for anyone, wherever they are in the building, to escape in the event of fire. The protected stairway must give uninterrupted access to a final exit to outside of the building and be protected by materials – including fire doors – rated to protect against fire for a minimum of 30 minutes.

Fire doors must therefore be fitted to rooms (other than bathrooms) opening off the stairway. A fire in a room should therefore be prevented from spreading to the stairwell for at least 30 minutes. By the same token, if the fire is in the stairwell itself, it should not penetrate any room for at least 30 minutes and so allow some time for a rescue to be effected.

If buildings have two or more storeys over 4.5 metres above ground level, there are further regulations, including the need to have a fire door separating any storey above 7.5 metres from the storeys below.

From the above, it will be seen that fire doors are required in many private houses, including, for example, when a loft extension is added to a two-storey house.

Communal domestic properties

Where flats and houses in multiple occupation (HMOs) are concerned, more regulations apply. The aim here is still to enable anyone who needs to get out of the building to have time to do so safely, but also to protect those who might not (or are physically unable to) leave the building.

In addition to the creation of protected stairways as described above, the regulations for flats and HMOs introduce the concept of 'compartmentation', whereby safety measures are also designed to prevent a fire spreading from one part of the block to another. Within blocks of flats, any door on to a communal area must be fire rated to at least 30 minutes. There are also some situations where this concept is extended so that areas within, as well as between, flats must be separated by fire doors.

Buildings other than dwellings

The second volume of Document B sets out the Building Regulations relating to all buildings other than dwellings. Virtually every one of these buildings – offices, schools, factories, shops, etc – is required to have at least some fire doors fitted.

Due to the infinite variability of sizes and shapes of such buildings, it is impossible for the regulations to be completely specific about where each individual fire door must be sited. Rather, they set out the general principles that must be followed. As always, the priority is to provide anyone in a building with adequate time to evacuate, bearing in mind also that they may be less familiar with the building – even to the extent of being a one-time visitor – than a resident would be in their own home. The regulations therefore require that fire doors are situated such that they protect a clear horizontal or vertical escape route.

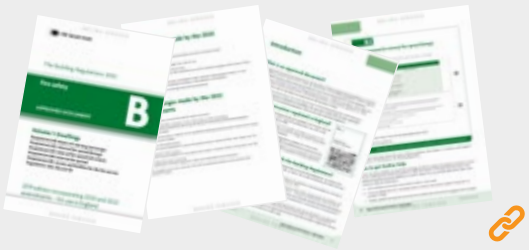
The only concession the regulations make to the variability of building types is that 'small' buildings are given slightly less onerous regulations to follow. Even then, 'small' is tightly defined: the building must be single occupancy, comprise no more than a basement storey, ground storey and first storey, and none of the storeys should have a floor area exceeding 280m2. Other criteria also apply, and the differences from the regulations applying to larger buildings are tightly limited.

The actual siting of fire doors within any specific non-dwelling building will be based on a Fire Risk Assessment (FRA) carried out by a competent, trained and qualified individual. The FRA takes into account the specific building's design and purpose.

Departing from the Regulations

Rather than attempting the impossible task of closely defining when fire doors must be fitted in every possible situation, Document B recognises its own limitations. It says:

> The fire safety requirements of the Building Regulations will probably be satisfied by following the relevant guidance in this approved document. However, approved documents provide guidance for some common building situations and there may be alternative methods of complying with the Building Regulations' requirements. If alternative methods are adopted, the overall level of safety should not be lower than the approved document provides. It is the responsibility of those undertaking the work to demonstrate compliance.



This pragmatic approach allows architects and builders scope for flexibility, which may be useful when dealing with non-standard buildings, such as historic properties, but the onus is then on them to demonstrate compliance.

It should also be noted that Building Regulations set the minimum standard required, and that fire safety experts and insurance companies can require additional fire doors and/or ones of a higher specification than are legally required.

Fire regulations are complex and undergo constant evolution

It is important to recognise that fire regulations constantly evolve as new materials are developed and our understanding of how fire safety can be optimised improves.

Inevitably, gaps emerge in the light of experience, and regulations are revised to reflect lessons learned. For example, The Fire Safety (England) Regulations 2022 came about as the result of lessons learned following the Grenfell fire.

The task of creating regulations that deliver good levels of safety is daunting, given the many different types, layouts and designs of buildings that exist and the serious consequences that can flow from errors or gaps in the rules. While we have given an overview of the current rules and regulations in this article, we have also highlighted that there are many subtleties that only an expert can identify, which is why a suitably qualified and experienced person should always be consulted to ensure that fire doors are sited where they should be.

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