

WHITEPAPER

How to ensure your fire doors meet BS 8300





What is BS 8300?

BS 8300 is the British Standard that sets out the code of practice to follow to ensure the 'Design of an accessible and inclusive built environment'. It originally arose out of the Disability Discrimination Act 1995 which, amongst many provisions, required everyone with a role in constructing and managing buildings to make them as accessible as possible for people with disabilities.

However, the wording of the Act was rather vague, talking about 'reasonable steps' that must be taken and quoting a few examples of what these might be. It left somewhat open the question of what 'steps' could be taken and whether or not they could be considered 'reasonable', which could be a very subjective judgement call.

The purpose of BS 8300 is effectively to remove those doubts by providing clear guidance, drilling down into real detail about how buildings should be designed, from their general layout right down to the nature of fittings used.

Since its introduction, BS 8300 has been revised and updated several times, with the latest major update coming in 2018. This version has changed the emphasis: rather than BS 8300 being about designing environments for disabled people, the focus now is on building them so that they work for everybody.

From the perspective of the Standard as it applies to fire doors, this change in emphasis makes sound sense. Even 'able-bodied' people vary in fitness, strength and flexibility, so their ability to escape from a burning building also varies. And during a fire, even the most fit and able-bodied person (who might in the event find their normally excellent vision significantly impaired by smoke) will benefit from having doors that are easy to both access and open, in order to make a swift escape.



BS 8300, Building Regulation Part M and the Equality Rights Act

While BS 8300 applies the principle of inclusive accessibility to buildings as a whole, Approved Document M relates specifically to the 'access to and use of buildings'. As an Approved Document, Document M gives "...guidance about how to meet the requirements of the Building Regulations for England".

It is important to note that Document M does not itself constitute a regulatory document. However, if its guidance is followed, "there will be a presumption of compliance with the requirements covered by the guidance". In layman's terms, although the guidance in Document M doesn't have to be followed, adopting a different course without strong reasons for doing so is likely to end up in a breach of Building Regulations. Should any prosecutions for breaches arise, they will be brought under the Equality Act 2010, which swept up the earlier Disability Discrimination Act along with other pieces of anti-discriminatory legislation.



What design features will ensure fire doors attain BS 8300?

While fire doors are designed with the overriding aim of protecting building occupants from the effects of fire, they must also serve their day-to-day purpose of providing access and, therefore, meet the standard set in BS 8300. There are some points of the standard that apply to doors in general and others that are particularly pertinent to fire doors.

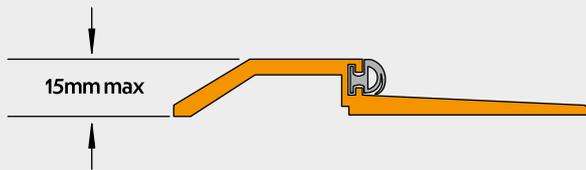
In providing inclusive access for all building users, the key considerations for doors could be summarised as follows:

- They should be easy to use by people with mobility issues, including those in wheelchairs
- They should be easy to use by anyone with a visual impairment
- They should be easy to use by people whose strength is diminished, for example by age or illness
- They should be easy to use by people of all ages and statures

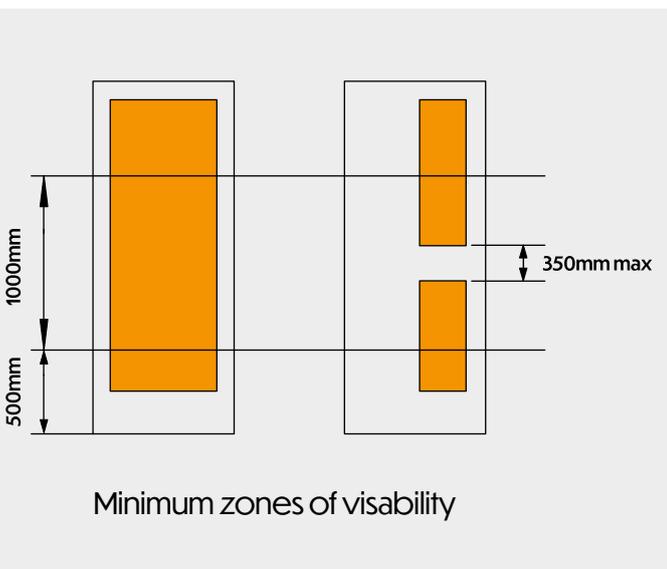
Compliant design features

Thresholds

Where possible, doors should be installed with no threshold. However, in the case of fire doors, a threshold is an essential element in providing a seal to make a fire door effective at withstanding smoke and heat. The rule is then that the depth of any door threshold should not exceed 15mm. This is low enough to allow wheelchair users to pass over the threshold without being hindered.



“ All Solidcor doorsets have thresholds within the 15mm limit. ”



Vision panels

BS 8300 requires that communal entrance doors and doors in passageways should either be fully glazed doors or have vision panels fitted. Where vision panels are used, they must fulfil a range of criteria to ensure all users benefit from them. Although they can in theory be of any size, shape and number, they must provide a 'zone of visibility' between 500mm and 1500mm from floor level so that any potential hazards and obstacles (including other building users!) can be seen before the door is opened. The lower limit of 500mm means wheelchair users and children benefit from the 'zone of visibility' in the same way as able-bodied adults.

Doors which are likely to be held open should have a visually contrasting leading edge. In the case of fire doors this can be delivered by having a minimum 15mm wide intumescent seal running the full height of the leading edge.

Compliant design features

Door closers

Although there are a few exceptions, nearly all fire doors should be self-closing. Fire doors deliver protection against heat and fire only when they are closed, so an automatic door-closer prevents doors being carelessly left open and ineffective.



“ Solidcor use fully tested and approved Rutland closers to facilitate ease of opening and enable compliance with BS 8300. ”

Door-closers have their own standard to achieve (BS EN 1154) but also need to comply with BS 8300 when it comes to providing inclusive accessibility. A closer must be powerful enough to close a door, but it would represent a problem if its closing force was such that many users lacked sufficient strength to pull or push against it in order to open the door.

BS8300 states that, when measured at a door's leading edge, an opening force of no more than 30N until the door is opened to 30 degrees and then 22.5N for the next 30 degrees should be necessary. The 'N' stands for 'Newton', which is the amount of force that would give a mass of one kilogram an acceleration of one metre per second. Measuring the force of door closers has to be done in testing laboratories, but the practical effect of no more than 30N force being needed to start opening a door means that the majority of people should be able to open a door with very little effort. They should also be able to pass through the door without being injured by it closing with excessive force and speed.



Door handles

Some designs of door handles are harder to use than others. For example, a round knob requires that a person has the hand strength to grip and turn it. BS8300 requires handles that can be operated with a closed fist, so levers are the expected norm. Not only that, but the levers used must also conform to specific criteria that include their diameter and the size of gap between the handle and the door panel (to allow hands of all sizes to grip the handle comfortably). Lever handles should also return to their starting positions automatically when released.

With blind and partially sighted people in mind, door opening furniture (or ironmongery) should also contrast visually with the elements of the door where it is sited. There should be at least 15 points difference in the Light Reflectance Values (LRV) of the door opening furniture and the door itself.





Let Solidcor ensure your fire doors are compliant

BS 8300 has many pages (as does Approved Document M), so we have only been able to give an overview of some of the most salient points here, and this is far from the only standard that fire doors must achieve. Other standards govern door security, weather tightness, energy efficiency and – of course! – fire resistance.

Solidcor doorsets are designed and built to meet all the standards that are applicable to fire doors, meaning the burden of compliance for you, the customer, is lifted. We also monitor changes in all the relevant laws, regulations and standards to ensure our doors adapt to any amendments and continue to comply. Order a Solidcor product and you can be confident that your doorset is compliant and so proven to meet the needs of your building occupants while providing crucial protection in the event of fire.



You can leave Solidcor to look after the doorsets, but building managers should still ensure that they cover other aspects of BS 8300. For example, main entrances must be easily identifiable, either by lighting or through standing out from their immediate surroundings.



Our industry leading commitment

Every Solidcor door is delivered within just 10 days of being ordered, and arrives to site ready to fit, with no further finishing required.

Find out more – contact sales@solidcor.co.uk