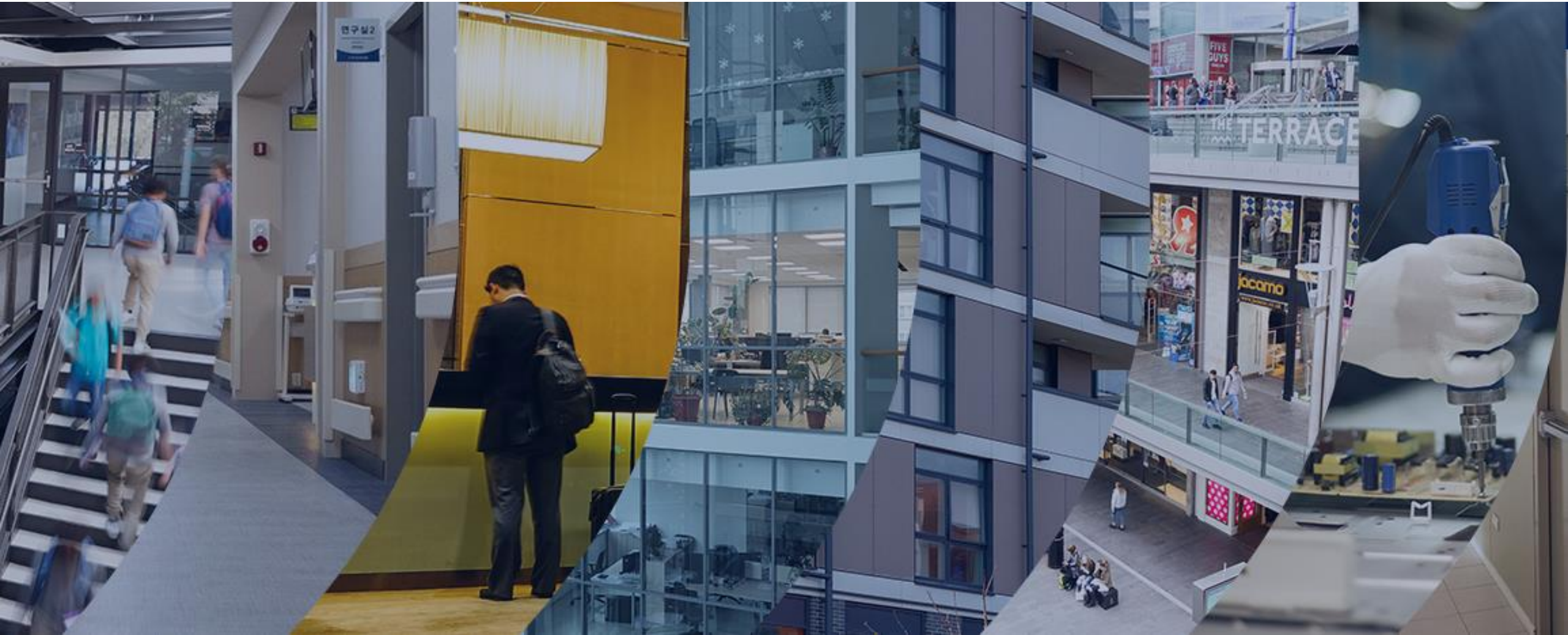




Inspection & maintenance guide to Fire Doors

Passive Fire Protection Team



AGENDA

- Importance of having compliant fire doors
- The life-saving benefits of fire doors
- Five common fire door faults
- Checking fire doors
- Common terminology
- BS 9999:2017 Annex I Routine fire door inspections and maintenance
- Upgrading fire doors
- Third party certification scheme



IMPORTANCE OF HAVING COMPLIANT FIRE DOORS

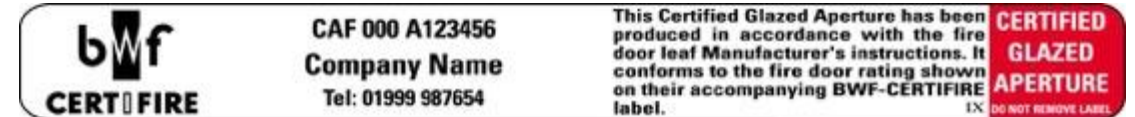
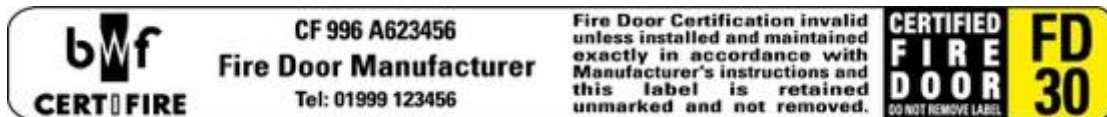
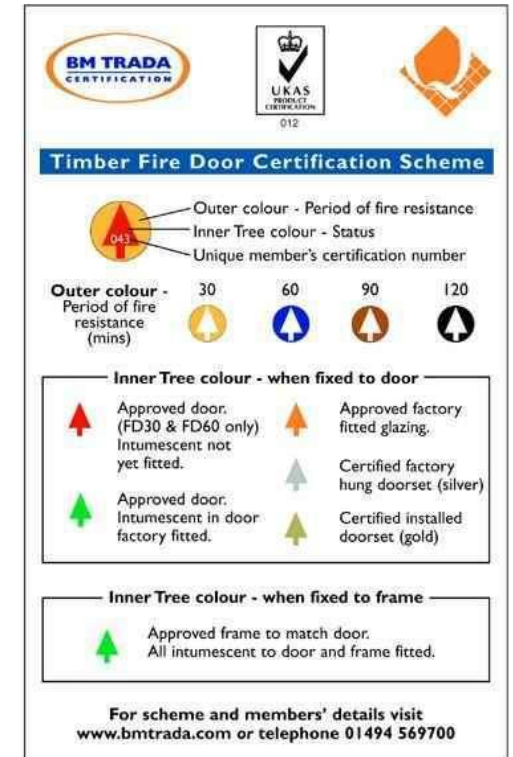


Compliant and well maintained fire doors will:

1. Hinder the spread of fire throughout a building
2. Hinder the spread of fire, smoke, heat onto escape routes
3. Protect storage areas e.g. Data or combustible materials
4. Provide a minimum of 30 minutes resistance to fire, smoke and heat to compartmentalised safe area

Remember to check for certification

Is there a label or plug on top (or occasionally on the side) of the door to show it is a certificated fire door? You can use the camera your smart phone or a mirror to check. If there is, that's good news, otherwise report it to whoever is in charge of your building.



THE LIFE-SAVING BENEFITS OF FIRE DOORS



When a fire ripped through the creative arts block at a Dorset school it was a blessed relief that the fire-safety professionals had done their job properly.

Pictures released by Dorset Fire & Rescue Service demonstrate starkly the benefits of fire doors in slowing the spread of fire, restricting damage and – most importantly of all – giving people more time to evacuate.

The fire, which began on the roof, fortunately occurred during school holidays. It had been burning for more than hour before a 999 call was made. By the time fire engines arrived it was impossible for firefighters to get near it so the blaze remained unsuppressed for several more hours – and still, the fire doors stood firm, as the pictures clearly demonstrate.

The photos of the aftermath of this school fire, “clearly show the value of fire doors” says Andy Fox, head of fire safety at Dorset Fire & Rescue Service. “It’s usually difficult to describe just how important they are but these pictures need no description and show exactly how effective correctly installed and maintained fire doors can be.”

Says Neil Ashdown, general manager of the Fire Door Inspection Scheme: “These images show just how important it is to ensure that the people responsible for fire-door installation and maintenance are aware of the faults we see. From gaps between doors and frames and unsuitable hinges to incorrectly fitted or missing seals, the problems are all too common. It is crucial that before a fire occurs these issues are addressed and an effective inspection regime is in place so that all fire doors

FIVE COMMON FIRE DOOR FAULTS



Over 61% had fire or smoke seals either missing, installed incorrectly or not filling perimeter gaps correctly.



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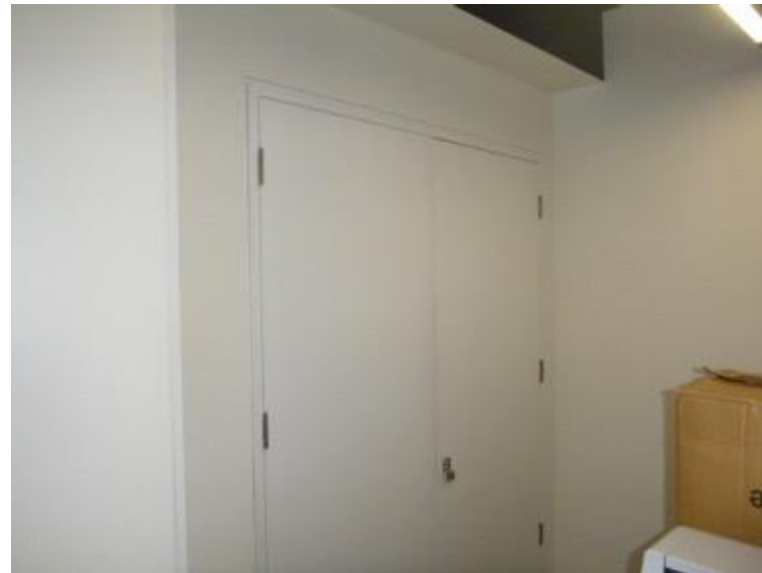


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FIVE COMMON FIRE DOOR FAULTS



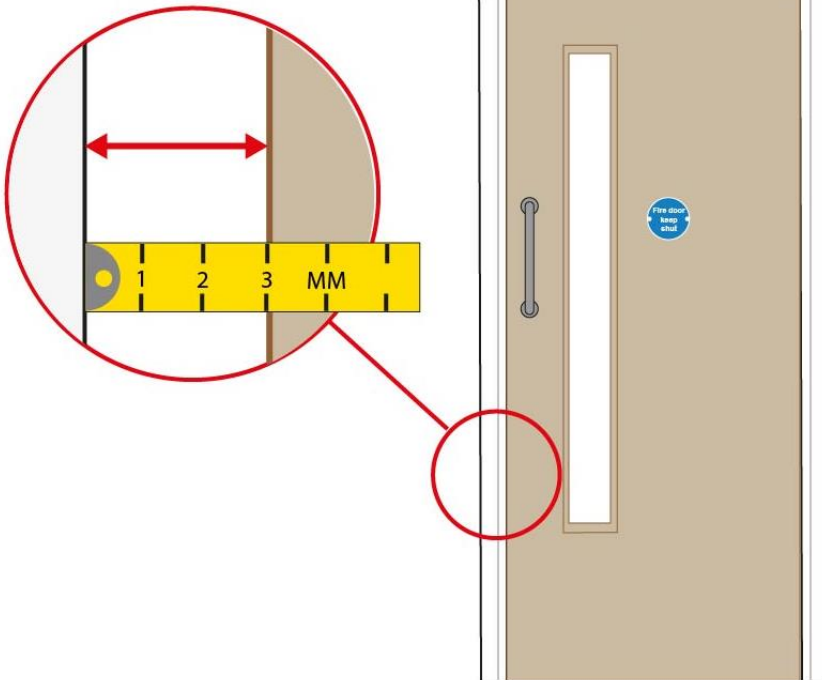
Over a third had incorrect or missing mandatory signage.



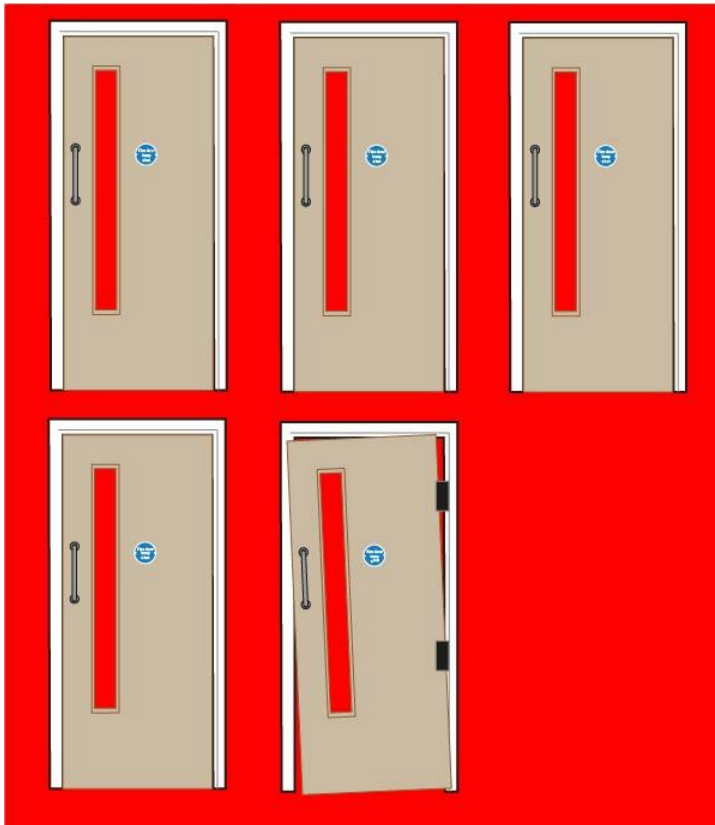
FIVE COMMON FIRE DOOR FAULTS



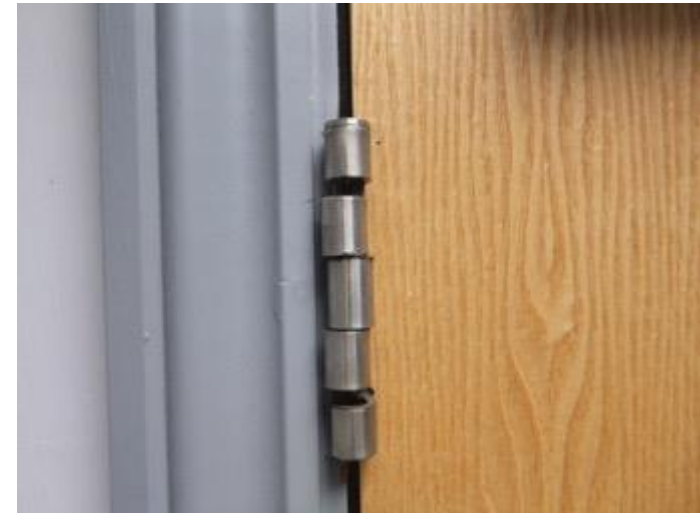
More than 230 (34%) fire doors inspected had excessive gaps between the door and its frame (i.e. over 3mm)



FIVE COMMON FIRE DOOR FAULTS



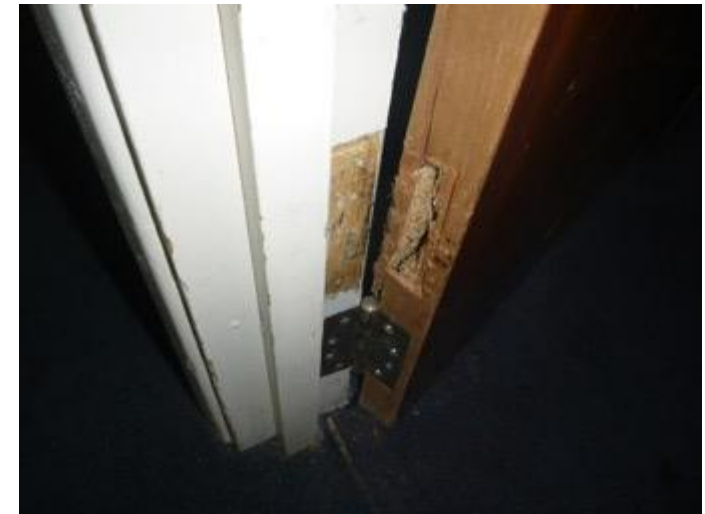
Almost one in five had unsuitable hinges.



FIVE COMMON FIRE DOOR FAULTS



Over 15% had damage to the door leaf.



CHECKING FIRE DOORS



1 Check the gaps around the top and sides of the door are consistently less than 4mm when closed.

Use a £1 coin to give a feel for scale, this is about 3mm thick.

The gap under the door can be slightly larger (up to 8mm is not uncommon), but it does depend on the door - as a rule of thumb, if you can see light under the door, the gap is likely to be too big.

If the gaps between the door and its frame are too big smoke and fire could travel through the cracks.

A doors threshold gap should be no more than 10mm, allowing the door to swing unhindered.

It's good news if the door fits the frame and both the frame and door are not damaged. While checking for damage and making sure the frame is fitted securely, look out for the doors certification label or plug. This will confirm if the door is fire resistant to 30 or 60 minutes.



CHECKING FIRE DOORS



2 Check that the fire door has a working door closure system and closes correctly as designed.

Fire doors should be kept closed at all times, or if kept open, should use an automatic release unit when the fire alarm is activated.

Open the door about halfway, let go and allow it to close by itself.

Does it close firmly onto the latch without sticking on the floor or the frame?

A fire door only works when it's closed. A fire door is completely useless if it's wedged open or can't close fully.

Fire doors that are 'Kept locked shut' do not require door closers providing the door is actually kept locked shut!



CHECKING FIRE DOORS



3 Check that intumescent seals or intumescent cold smoke seals are fitted into a groove in the frame or door.

Are there intumescent seals or intumescent cold smoke seals around the door or frame?

If fitted, are they intact with no sign of damage? (Intumescence is a sealing substance that expands in a fire, filling the gap between the door and frame).

Seals are vital to the fire door's performance, preventing smoke from passing through the gaps between the door and frame then expanding if in contact with heat, stopping the fire from spreading to other compartments and escape routes.

Fire doors in older premises may not be fitted with seals but will have one inch door stops. See [UPGRADING OF FIRE DOORS](#).



CHECKING FIRE DOORS



4 Check that the door has three hinges.

Hinges must be the correct type, and should have the correct fire rating.

Three is critical in helping the door stay in position and not break away from the frame in a fire.

Are the hinges firmly fixed, with no missing or broken screws?

Are the hinges showing signs of wear?

Worn hinges will cause the door to drop and gaps between the door and frame to vary eventually causing the door to not close as designed.



CHECKING FIRE DOORS



5 Check vision panels have correctly installed glazing which is appropriately fire rated.

Fire rated glass vision panels must be installed using intumescent seals. Intumescent helps hold the glass in a fire, maintaining its position under heat.

Without the use of an intumescent seal the glass will collapse allowing the fire to spread!

Fire rated glass will have a manufacturers logo complete with product compliance information.

If in doubt contact the door manufacturer or a third party certified door installer / inspector.



CHECKING FIRE DOORS



6 Check that correct door furniture is installed.

Ensure that the lock and latch holds the door firmly in place. If it does not this should be resolved - as all fire doors must close firmly into the frame.

Check manufacturers product information when installing new door furniture, the item may require installing with intumescent material so the doors fire resistance is not compromised.

Only use approved fire rated products when installing new door furniture. CERTIFIRE is an independent third party certification scheme that assures performance, quality, reliability and traceability of fire protection products.

If in doubt contact the door manufacturer or a third party certified door installer / inspector.



CHECKING FIRE DOORS



7 Check that the door has correctly fitted mandatory signage.

Fire door signage should be positioned at eye level on the door and not on vision panels as this may compromise the fire resistance of the glass.

Staff, students and visitors can only be expected to use fire doors correctly if instructed.

Cross corridor or room doors opening on to escape routes require 'Fire door keep shut' on both faces of each leaf of self closing doors.

Automatic doors fitted with a device that releases the door in the event of a fire require 'Automatic fire door keep clear' placed on the visible side of the door when held open.

Fire doors without self closing devices i.e. store rooms, risers and services rooms require 'Fire door keep locked shut' fixed to the outer door face.



COMMON TERMINOLOGY



Description	Key
A fire door with 30 minutes integrity and 30 minutes insulation (FD30/30)	FD30
A fire door with 60 minutes integrity and 60 minutes insulation (FD60/60)	FD60
Smoke Seals	(S)
Self Closing-Closed by automatic device MB. See BS 6459	SC
Vision Panel (If in a Fire Door must be FRG)	VP
Fire Resistant Glazing (30/60 minutes resistant)	FRG
Push Bar	PB

ROUTINE FIRE DOOR INSPECTIONS AND MAINTENANCE



BS 9999:2017 Annex I Routine inspection and maintenance of fire safety installations

Daily:

- Fire door automatic release mechanisms
- All fire doors that are held open by automatic release mechanisms should be released daily.

Monthly:

Automatic opening doors

The operation of fail-safe mechanisms should be tested once a month, either by "breaking out" the doorset or by simulating failure of the mains power supply, as appropriate. The result of the test should be recorded. Any doors that are found to be faulty should be repaired or replaced.

Doors on hold open devices

The operation of hold open devices should be tested once a month by simulating failure of the mains power supply or operation of the fire detection and alarm system. The result of the test should be recorded. Any doors that are found to be faulty should be repaired or replaced.

Emergency and panic escape doors

The operation of all emergency and panic escape devices, especially on external doors not used for other purposes, should be checked once a month for ease of operation and opening of the door. Weather conditions can effect the door and frame relationship, and therefore the ease of operation of escape devices.



ROUTINE FIRE DOOR INSPECTIONS AND MAINTENANCE



BS 9999:2017 Annex I Routine inspection and maintenance of fire safety installations

Six-monthly:

Fire doors

All fire doors should be inspected every six months. In particular, it should be ensured that:

- a) heat-activated seals and smoke seals are undamaged;
- b) door leaves are not structurally damaged or excessively bowed or deformed;
- c) gaps between the door leaf and the frame are not so small as to be likely to bind, or so large as to prevent effective fire and smoke-sealing;
- d) Hanging devices, securing devices, self closing devices and automatic release mechanisms are operating correctly.

Fire Doors Regulation 10

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 door (including self-closing devices) in the common parts
- undertake – on a best endeavour basis – annual checks of all flat entrance doors (including self-closing devices) that lead onto a building's common parts.

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For full details, refer to **Fact sheet: Fire doors (regulation 10)** at the HM Gov Website.



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UPGRADING OF FIRE DOORS



- Is it worthwhile to upgrade or is a replacement a more effective alternative?
- What level of fire resistance is required?
- Will an upgraded solution satisfy an Enforcement Officer or the control authority?
- Has each existing door leaf and frame the potential for being upgraded?
- Has the method of improving the burn-through resistance of the door leaf been proven or does it need assessment by a specialist?
- Has the door to frame gap been upgraded in terms of fit, intumescent protection and smoke sealing?
- Is the frame adequate and sufficiently well sealed into the wall?
- Is the ironmongery appropriate for use on a fire resisting doorset?

If in doubt about any of the above, contact a competent fire door installer / inspector.

CERTIFICATION SCHEME



Third party accreditation coming soon.