hammersmith & fulham

FIRE DOORS

GUIDANCE FOR SCHOOLS

WHAT YOU NEED TO DO

- Ensure fire doors are identified and included in the fire risk assessment for the school
- Ensure that where new fire doors are installed, this is completed by a competent organisation
- Ensure there is a regime of care and maintenance for for doors including regular inspections

INTRODUCTION

Fire doors are one of the least understood of all the passive fire protection measures in a school. Most of the time, a fire door is just like any other door and will be treated as such. However, if fire breaks out, fire doors are required to perform a specific function in preventing smoke and fire spread and in allowing the safe evacuation of staff.

A fire door is also much more than just a door leaf. It is a carefully, precisely, designed and engineered item of equipment, tested in accordance with British and European standards to ensure that if it is ever called upon, it does what it is supposed to do.

The door frame, the glass in the vision panels and the intumescent seals are all interdependent upon each other to ensure the effectiveness of the door. Of equal importance is the door hardware that will perform a number of essential and non-essential functions.

WHAT IS A FIRE DOOR?

A fire door is defined as “a door provided for the passage of persons, air or objects which together with its frame and furniture as installed in a building, is intended (when closed) to resist the passage of fire and/or gaseous products of combustion, and is capable of meeting specified performance criteria to those ends”.

The criteria referred to above relates to the fire doors level of integrity in terms of resisting fire and smoke spread. The performance criteria required will normally be determined by reference to Building Regulation codes of practice and other standards such as BS9999, with appropriate doors being installed accordingly.

A doors performance criteria will normally be identified by the prefix FD on the door followed by the required integrity rating expressed in minutes, e.g. FD30, a fire-resisting door able to resist integrity failure for 30 min. Certain doors are also required to restrict the spread of ambient temperature smoke. These doors are identified by the suffix S, e.g. FD30S.

Fire doors, when being installed are normally supplied in two main formats.

1) Fire door sets are defined by British Standard BS EN 12519 as a ‘complete unit consisting of a door frame and a door leaf or leaves, supplied with all essential parts from a single source’. A fire doorset is a fully finished,

engineered unit from a single manufacturer, with all components matched and pre-assembled in the factory.

2) Fire door assemblies are defined by BS EN 12519 as being a 'complete assembly as installed, including door frame and one or more leaves, together with its essential hardware supplied from separate sources'. This means that it is a fire door installation made up from loose, correct, compatible components sourced from different suppliers and manufacturers, made up on site into the final door assembly.

FIRE RISK ASSESSMENT

All schools are subject to the requirements of the Regulatory Reform (Fire Safety) Order 2005. Under this piece of legislation the 'responsible person' is required to take general fire precautions to reduce the risk of fire spread on the premises. This will include the provision of fire doors along with their on-going care and maintenance.

The responsible person must make a suitable and sufficient assessment of the risks to which relevant persons are exposed for the purpose of identifying the general fire precautions he needs to take to comply with the requirements and prohibitions imposed on him by or under the Order.

This will include a determination of whether the fire doors installed (when first built or subsequently updated) are adequate, based upon the risks from fire identified and analysed by the fire risk assessor.

Schools should review their fire risk assessment to determine if any recommendations have been made in relation to the current fire doors and put in place remedial action plans to address the recommendations made.

INSTALLING NEW FIRE DOORS

To determine integrity fire doors are tested as a complete assembly to BS 476/BS EN 1634. When the door passes the test, all the components and hardware in the assembly have passed. The test indicates that the door is reliable only when used in conjunction with those particular items and it is therefore incorrect to assume that a component is reliable with any fire door design or configuration.

This is an important factor to remember when purchasing and installing replacement fire door components, for example due to damage or change of use of the premises. Thought will need to be given to whether the entire door set will require replacement.

However, it can prove harder to find a door set to match non-standard sizes for replacement works. In these cases, a fire door assembly made up of individual compatible components may be more appropriate.

Whatever the circumstances, advice from a reputable organisation with membership of an appropriate trade association should be sought.

In respect of installation, BS 8214 notes that Approved Document B of the Building Regulations 'recommends that the installation of fire-resisting products be covered by product conformity certification or by independent registered installer schemes, where such schemes are available' (such as CERTIFIRE, BRE Certification and BM TRADA).

CARE AND MAINTENANCE

All fire doors in a school should be subject to a regime or regular inspection and on-going care and maintenance as they can be subject to significant use and potential damage.

The recommended inspection periods for fire doors are as follows:

1) Frequently used doors: monthly
2) Other doors: every term

To ensure all fire doors a subject to appropriate inspection, schools should:

- Develop a register of all fire doors in the premises noting the type and location (modern doors will have a tag detailing this information)
- Undertake a visual inspection of fire doors utilising the guidance below
- Where damage is found or adjustments are required, ensure these are undertaken by a competent person
- Make a record of the inspection/s undertaken in a suitable format (e.g. fire log-book)

FIRE DOOR INSPECTION CHECKLIST

The following list of questions may assist in undertaking an inspection:

Door leaf

- Does the door leaf sit against the door stop and is it free of distortion?
- If the door is veneered or lipped, is the glue still holding these products firmly in place?
- Is the door free from damage including dents, and holes?

Door frame

- Is the door frame firmly attached to the wall?
- If a planted door stop is present, is it firmly attached?
- Is the frame to door leaf gap consistently 3 mm?

Intumescent/smoke/acoustic seals

- Are intumescent seals in place?
- Are the seals well attached inside the groove in the frame or door leaf?
- Are the seals free from damage and paint?

- If you have a brush or fin type seal, is it free from damage or breakage?
- If fitted are the smoke and acoustic seals continuous around the frame or door leaf?

Hinges

- Is there a minimum of 3 hinges with all the screws fitted?
- Are all the screws the correct size?
- Are the hinges free of metal fragments and oil leakage? (these are signs of wear)
- Are the hinges free from non-combustible packing?

Door closers

- Open the door to approximately 5 degrees or 75 mm. Does it close and engage with the latch?
- Is the closer securely attached to the door and frame?
- Is the closer free from damage and not leaking?
- If unlatched, does the closer hold the door in line with the frame and intumescent seal?
- If hung in pairs, do they close in line if both opened and released together?
- If hold-open device is used, is it electronically released?
- Does the hold-open device release the door when required?

Lock and latch

- Does the latch hold the door firmly in place without rattling?

Glazing and glass

- Is the intumescent seal continuous and attached to the glass and bead?
- Are the glazing beads well attached to the frame and free from damage?
- Is the glass free from damage and cracking?
- If the glass has been replaced, is it fire rated glass?
- If glazing panels are below 1500 mm from the bottom of door, is the glass safety glass?

Threshold gap

- Is there a consistent gap under the door that allows it to swing without touching the floor covering?
- Is the door to floor covering gap consistently 10 mm (3 mm if smoke seals are fitted) or less when the door is closed?
- If the door leaf is fitted with a threshold seal, does the seal make contact with the floor covering when the door is closed?


CERTIFIED FIRE DOOR FD 30
1. Check it is a fire door
Look for labels or similar markings that show the door is certificated.
Fire door keep shut
2. Signage
Check the door is marked correctly with the appropriate signage.
9. Electro-mechanical Hold Open Devices
The only legal way of holding fire doors open. Should be linked to fire alarm systems.
3. Door levers and furniture
Check they operate smoothly and return to position.
8. Mechanical Door Closer
Check its fitted securely, free from damage and not leaking oil.
4. Locks and Latches
The latch should hold the fire door firmly in place without rattling to work properly.
7. Gaps
There should be an even gap all around the door and frame of no more than 3mm.
6. Hinges
Fire doors must have three certified hinges, fitted firmly with no missing screws.
5. Intumescent Fire and Smoke Seals
Swell up and expand in a fire to stop smoke and toxic gases from getting through gaps.