Specifying fire doors. How safe are YOURS?

The British Woodworking Federation

Presented by John Fletcher

John Fletcher Consulting Ltd.

Fire doors

- The fire door industry has expressed grave concerns over issues surrounding fire doors for a number of years.
  - Wrongly specified doors
  - Poor, incorrect installation
  - Using wrong / cheap products
  - Lack of attention to product certification
  - ‘It’s only a door’ attitude
- Main focus has been on new installations
  - Enforcement in new buildings
- The RRO means BUILDING OWNERS now inherit the problem
  - THEY need to get it put right
- Our focus has changed
  - The problems haven’t changed

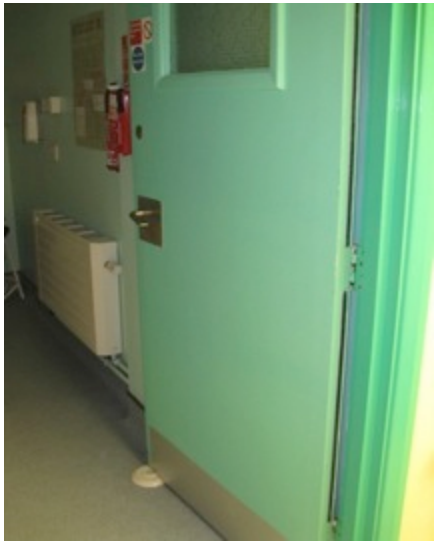
UK fire door market challenges

- 3 million fire doors sold per year
- Common supply route via merchants - approx 80%
  - Doors installed as any other door
    - Attitude - anyone can 'hang' a door
  - No understanding of certification & 'test evidence' requirements
- A fire door MUST work in event of a fire
  - "An engineered safety device"
- Poor attitudes to fire doors
  - "It's only a door"
  - Cutting apertures & glazing on site
  - Lack of understanding of compatibility of frames / ironmongery

Issues with fire doors in use

Survey 100 Accredited Fire Risk Assessors / Fire Safety Officers found

- *65% of fire doors were wedged open*
- *80% had door closers disengaged*



But these aren't the ONLY issues

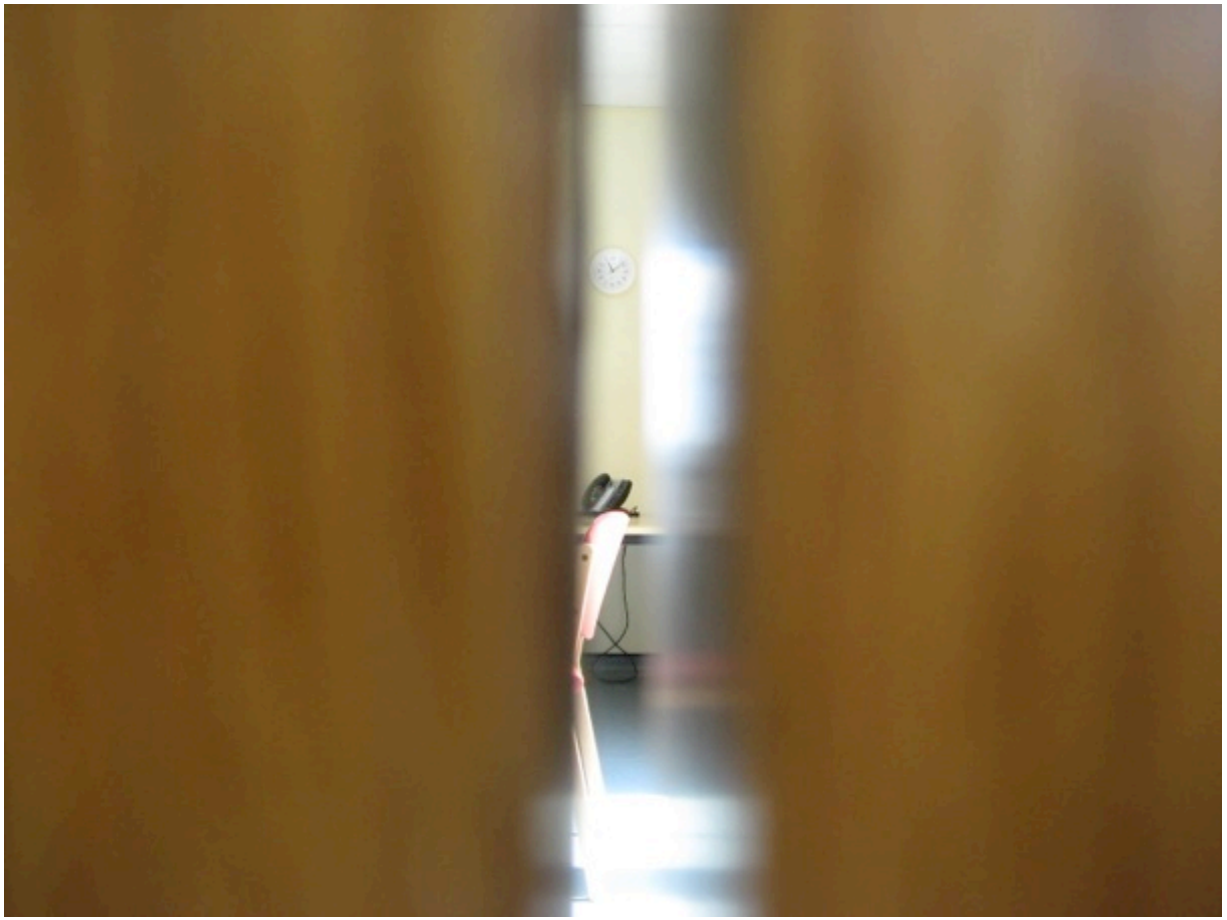
What we hear about most often

- defective doors, no certificates for doors
- no intumescent strips or smoke seals,
- an absence of suitable fire doors,
- applying fire resistant paints to existing doors
- lack of self-closing devices
- not understanding what the role of a fire door is

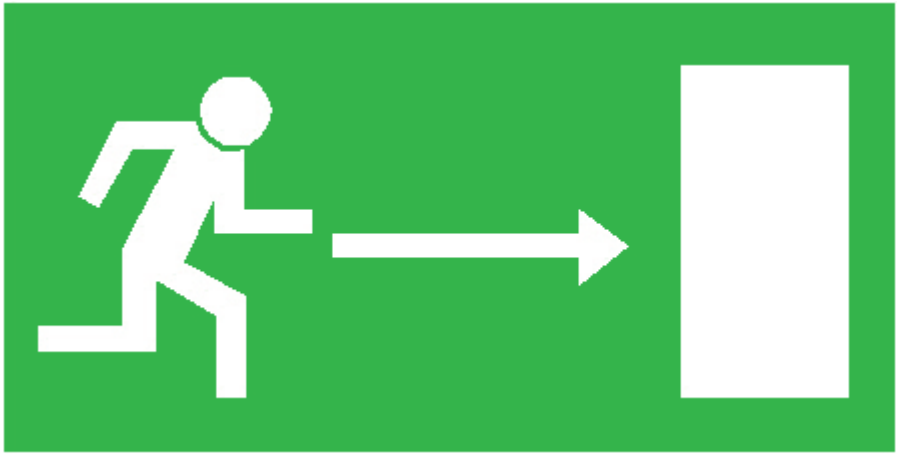
So . . . . . How Safe are YOUR fire doors?

Photos by kind permission of CheckMate Ltd

. . . and in new buildings too



What are fire doors for?



Passive and Active Fire Protection

Passive systems – built into the fabric of a building

Active systems – alarm systems, fire extinguishers and sprinklers

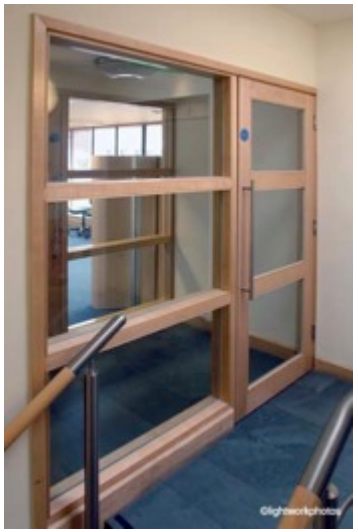
A door is part of the overall wall passive system . I.e. a way into the compartment

Passive and Active Fire Protection

Fire doors serve 2 purposes

Everyday activity

Allowing passage in and out of a building / section of a building or a room



In the event of a fire

A requirement in compartmenting a building

Protecting escape routes

Restricting initial development of a fire. E.g restricting the amount of oxygen feeding the fire

Regulations

The building regulations

- Fire doors should have the appropriate performance - given by
  - Test BS 476 Part 22
  - Classification BS EN 13501 / Test BS EN 1634 – 1/2/3

- Any test evidence used to substantiate the fire resistance rating of a door or shutter should be carefully checked to ensure that it adequately demonstrates compliance that is applicable to the **complete installed assembly.**

  Small differences in detail (such as glazing apertures, intumescent strips, door frames and ironmongery etc.) may significantly affect the rating.

Building Regulations

New buildings

		UK Regulatory Parts			
Performance	**Notes**	**England & Wales : Approved Documents**	**Scotland : Technical Handbook : sections**	**Northern Ireland : Technichal Booklets**	
Fire Safety	- Where a fire door is required - The fire resistance period expected - Specific requirements e.g. smoke seals and signage	**B**	**2**	**E**	
Sound	- Minimum sound resistance performance of the door	**E**	**5**	**G**	Seals
Ventilation	- Minimum air transfer gap required under the door	**F**	**3**	**K**	Seals
Thermal	- Minimum thermal performance of the door if required	**L**	**6**	**F**	Glazing
Accessibility	- Access to buildings for disabled people, including door width, hardware locations, opening forces, provision of vision panels and light reflectance values required	**M**	**3**	**R**	Door closers Vision panels Light reflectance
Safety Glazing	- Where safety glass is required	**N**	**4**	**V**	Glazing

Regulatory Reform Order (2005)

Existing buildings

Applies to England and Wales:

Fire Safety (Scotland) Act

- Premises that provide care including care homes and hospitals
- Community halls, places of worship and other community premises
- The shared areas of properties occupied by several households
- Pubs, clubs and restaurants
- Schools and sports centres
- Tents and marquees
- Hotels and hostels
- Factories and warehouses

Regulatory Reform (Fire Safety) Order : 2005

Existing buildings *(non-domestic)*

- Replaced 118 pieces of previous Fire safety legislation
  - Fire Precautions Act 1972 + Fire Precautions (Workplace) Act 1997
- Brought about focus on the need for increased fire safety and reduction of fire hazards.

- 'Eliminate or reduce the risk from fire as far as is reasonably practical . . . and deal with any residual risk'.
  - Includes attention to escape routes
  - need for greater fire door inspection and maintenance

- Link with Building Regs via Regulation 38 (previously 16b)

the person carrying out the work must provide sufficient information for persons to operate and maintain the building in reasonable safety.

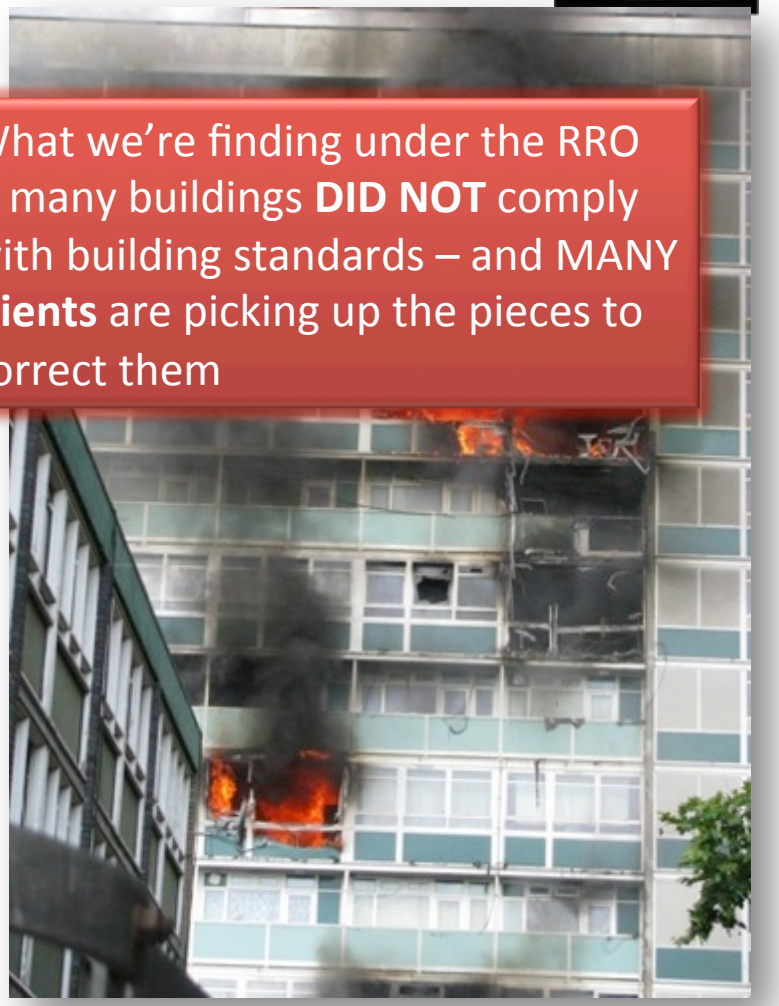
Fire doors at sister block in Camberwell
Source : London Standard

July 3rd : Lakanal House Camberwell
Source London :Standard

We just don't know . . .

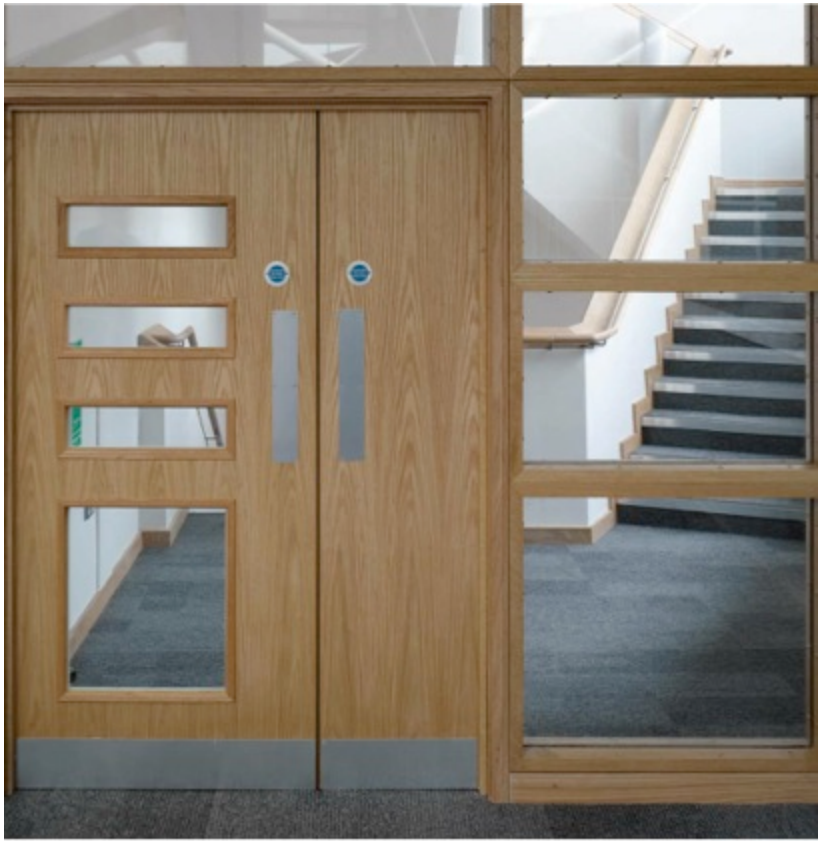
. . .when a fire will break out

- A new building must comply with current building standards / regulations
- An existing building MUST continue to operate but are compromised by
  - Ventilation
  - Energy
  - Mobility requirements
  - Fire
  - Security
- We need to check that all parts continue to function correctly WITHOUT compromise



What we're finding under the RRO is many buildings **DID NOT** comply with building standards – and MANY **clients** are picking up the pieces to correct them

How safe are YOUR fire doors?



Test Evidence

What type of test evidence?

What does it tell us?

How do we know it's correct / up-to-date?

Fire door installations

- In the UK, a fire door installation is achieved in one of two ways
  - as a doorset,
  - or as an assembly.

Doorset:

- frame, a pre-hung door leaf (with any vision panels) and essential ironmongery, all matched and pre-assembled in the factory

Door Assembly:

- a fire door leaf, frame and additional components needed to install them, supplied and fitted separately.

In the latter case, the components that are fitted MUST match the test evidence. I.e. They MUST be compatible with the door leaf

Can you trust ‘Test Evidence’

Test Information

Tested to BS 476 Part 22

- The simplest form of 'Test Evidence' approval is **'Self Declaration'**
- Manufacturer makes their own claim of conformity

But . . . . .

- May not have been tested
- If it was- when?
- Not impartial
- May not meet all requirements
- To what standards?
- What about ongoing product manufacture?

What's the risk?

Risk to the end user or specifier

Common claims:

"Complies with …"

"Designed to …"

"Tested to …"

- These claims are no guarantee that products will meet the right standards or that they will continue to do so.

BEWARE : There are a growing number of products on the market with such claims

The Certificate

"My products are tested"

Producers or manufacturers may have 'tested' their product to provide 'evidence'

- They have a certificate
- Caution needs to be taken with this additional information
  - Was the sample representative of what they ALWAYS produce?
  - What standards?
  - Was the test Independent?
  - Will future products be the same?
- What if
  - materials change?
  - processes change?
  - designs change?

Only a snapshot test

Third-party Accreditation

- Third party accredited product conformity certification schemes not only provide a means of identifying materials and designs of systems, products or structures which have demonstrated that they have the requisite performance, but additionally provide confidence that the systems, materials, products or structures actually supplied **are provided to the same specification or design as that tested/assessed.**

How 3rd party accreditation works

Test House

Manufacture tests products at UKAS test house.

Certificate provides evidence

UKAS approved body checks evidence

Checks regularly audited products against evidence by testing

Manufacture has ISO 9000 QMS

3rd party audits company and products

Manufacturer

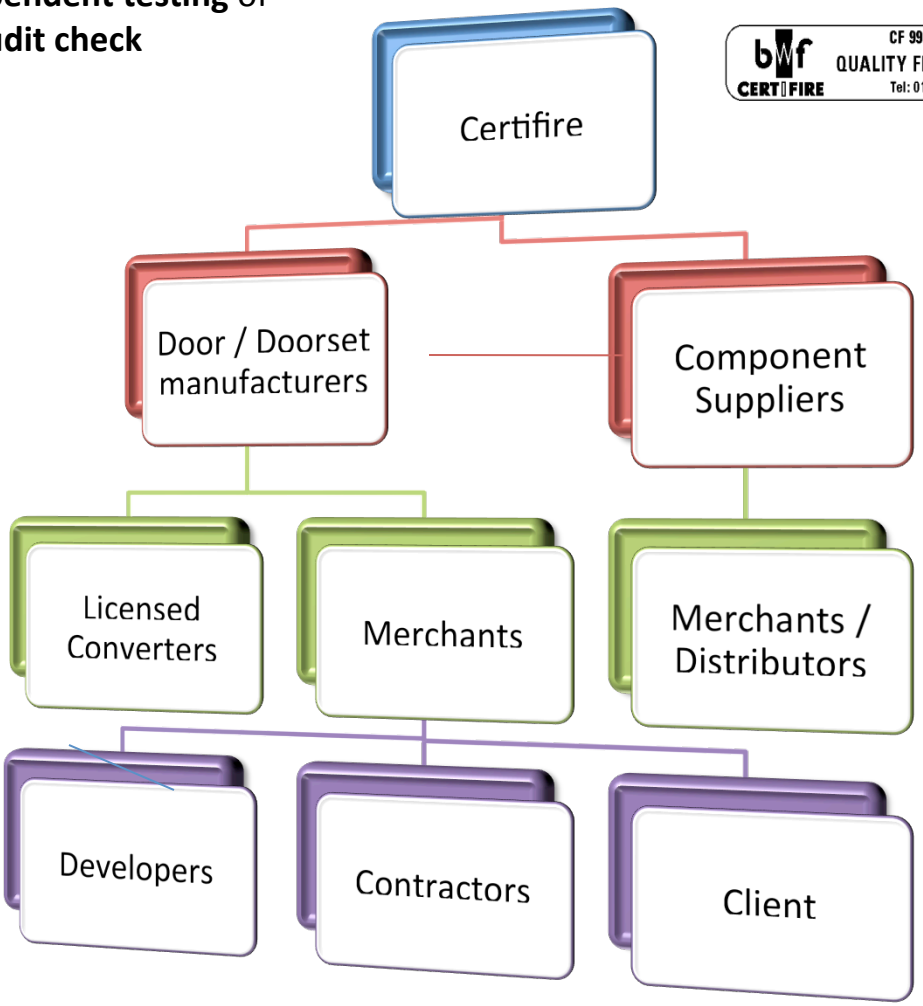
3rd party certification

3rd party Accreditation

Exova Warrington Certifire is the UKAS test laboratory who **conduct independent testing** of doors and components and **audit check** members

The performance of timber doors is judged by subjecting them to the standard test procedure specified in BS 476 : Part 22: 1987 or BS EN 1634-1: 2000.

Tests are made on complete door assemblies, the door and frame with all the necessary hardware.



Doors + components can be traced up or down the supply chain

MAIN FIRE DOOR LABEL

Permanent, Tamper Evident, Full Traceability

Manufacturer and contact details

Mfctrs Certifire No.

Unique door No.

Fire door rating

Fire Door Certificates

What you should look for . . .

Door types and configurations:

- Flush, panelled, glazed, etc
- Single door*
- Pairs of doors *
- Single or double swing*

A separate door test to cover each configuration that is fit for purpose

** These are shown as :-*
SA / SL (Single Acting – Single Leaf)
SA / DL (Single Acting – Double Leaf)
DA / SL (Double Acting – Single Leaf)
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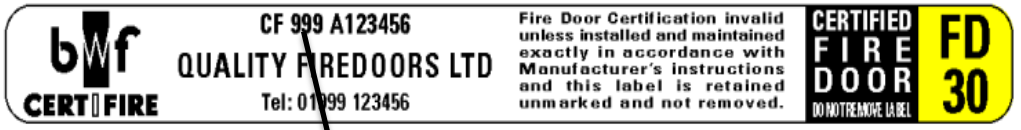
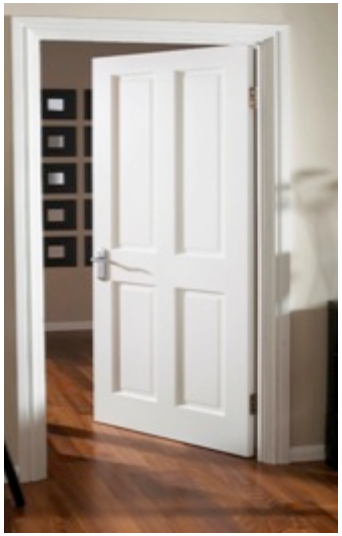


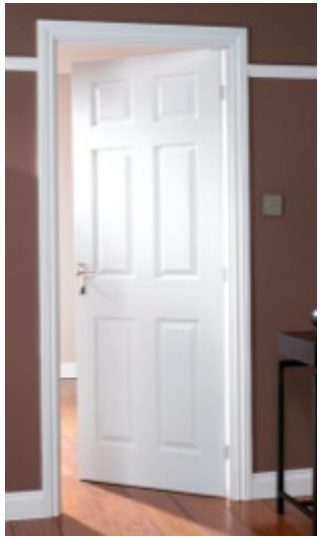
Door type

You may have specified FD30 but . . .

- Each door type requires different construction - AND a different test
- And MAY NOT be suitable for glazing

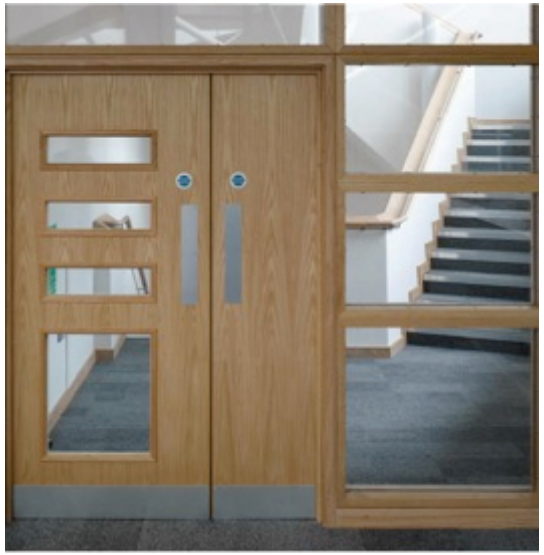


Panel



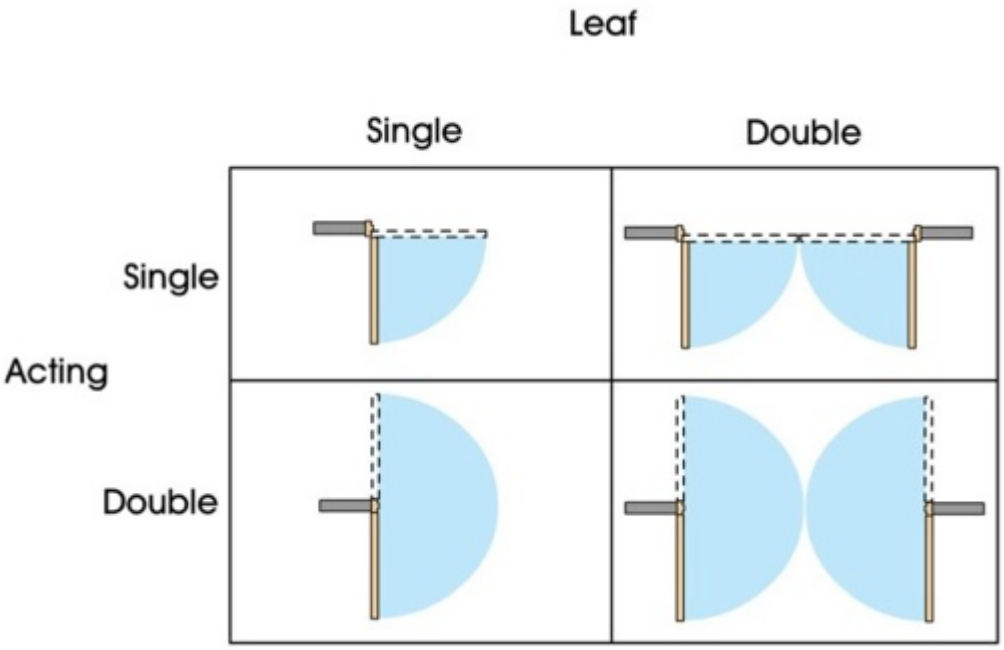
Moulded Panel

Flush



Glazed 1 ½ pair with screen

Fire Door Configurations



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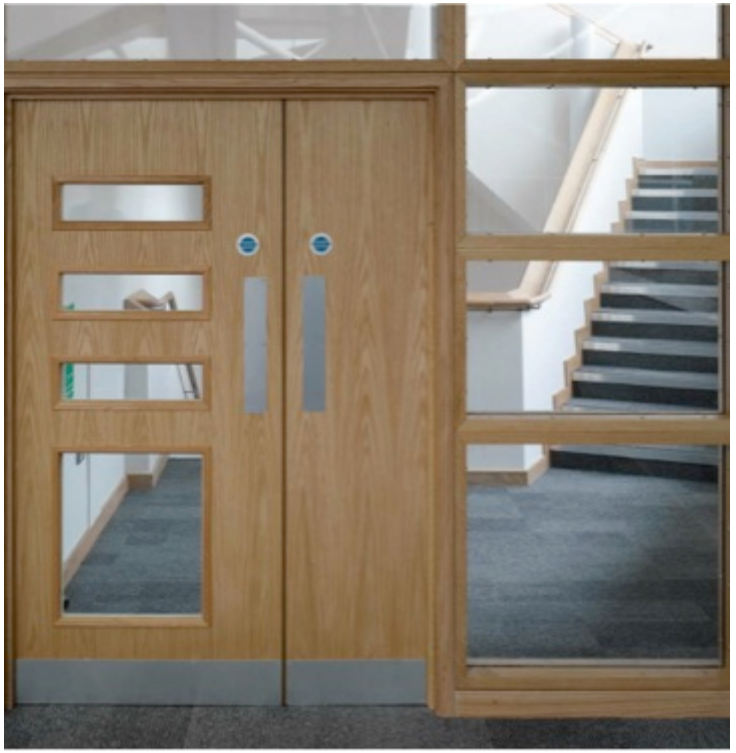
Will installed the door be the same as when it was tested?

How safe are YOUR fire doors?

There are many components to a fire door assembly

Door leaf
Door Frame
Glazed areas and vision panels
Hinges
Closers
Locks and latches
Seals

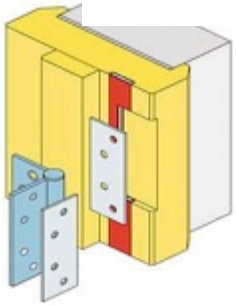
ALL must be compatible



Ironmongery for Fire Doors must be compatible with the door

Essential Ironmongery

- Hinges
- Closers
- Locks and latches



Non-Essential Ironmongery

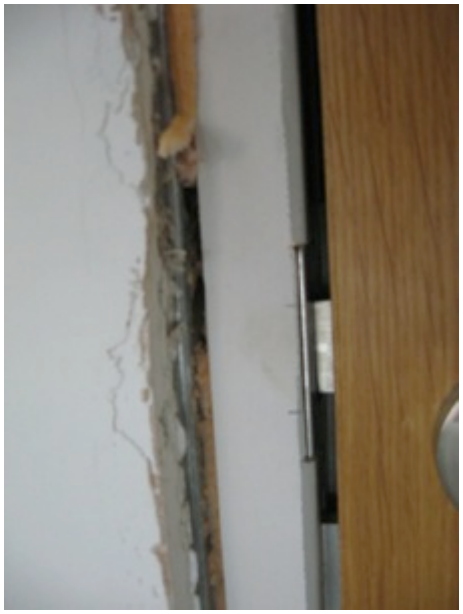
- Handles
- Knobs
- Spy holes
- Letter plates

Door Leaf

- Does the door have a certificate? Is it 3rd-party Accredited
- Does the door leaf sit in the door frame?
  - is it free from distortion?
- Is the door leaf free from damage?
  - No cracked / split panels
- If the door leaf is veneered or lipped, is the glue still holding these products firmly in place?
- Don't consider upgrading an ordinary door with intumescent paints
  - It's a very specialised job
  - You can't apply the paint accurately enough with a paint brush
- Don't patch up the door

Door Frame

- Is the door frame made from the right material?
  - Hardwood for 1 hour and above
- Is the door frame firmly attached to the wall?
- Is the planted stop firmly attached to the frame?
- Is the frame to door leaf gap consistently 3mm (with a tolerance of +/- 1mm)?
- Does the door close evenly into the frame



Intumescent and smoke seals

- Must be tested to BS 476: Pt 22
  (OR BS EN 1634-1:2000 AND a separate test for smoke leakage under BS 476: Pt 31.1)
- Typically fitted into groove in door leaf OR PREFERABLY frame.
- Fitted along 2 vertical sections and top edge
  - not fitted to threshold
- Save lives, and property - prevent flow of cold / hot smoke
- Should be supplied fitted by manufacturer.
- If replaced due to repair MUST be equal to original doorset / assembly
- Many doorsets now need to provide fire, smoke *and* acoustic containment

The gap is important

How safe are YOUR fire doors?

Conclusion

1. Only specify / use 3rd-party accredited fire doors
2. Ensure they are installed / maintained by competent persons
3. Get them checked or inspected by competent personnel
4. ONLY use the correct compatible components for the door leaf
5. Don't play with fire - don't cut corners
6. If in ANY DOUBT, then ASK

Further Information

www.bwfcertifire.org.uk

BRENT HOUSING PARTNERSHIP

The importance of knowing that a Fire Door, will do its job!

Graham Fieldhouse

Fire Doors & the Fire Risk Assessment

- Fire doors that are maintained properly can do their job, but don't leave it to chance;
- The damage in the picture was as result of a fire (arson) started in an escape route. What could have happened, if the door had failed?

Do we know how compliant our fire doors are?

- Have any repairs been carried out?
- Has glazing been changed?
- Are all the fire door fittings compliant?
- Have smoke seals & intumescent seals been fitted?
- Have smoke seals been painted over?
- What are the size of gaps around the door, including threshold gaps?

Replace that fire door TODAY or leave it until TOMORROW

- Programme the work in, work with enforcement.
- BHP have estimated £8million will be spent on fire safety to high rise blocks alone.
- Rome was not built in a day neither can you implement £8 million worth of fire safety in a day;
- Don't be complacent, be compliant, we should have been doing this since October 2006. This October will be 6 years since the order came into effect, so the "***we can't afford to do it!***" is not a good defence;
- ***Delay*** and you could ***Pay***.

Our approach to carrying out the FRA correctly

- BHP have ensured that they know what is required Gavin Pierson has taken the lead in this approach;
- By undertaking fire qualifications Gavin now has the knowledge to pick the right people to carry out the work;
- Many organizations allow the contractors to tell ***them*** **what to do** and/or **what they Need**. Never do this, **you** should work with your contractor to get it right;
- Working together as a team we have developed our document in a format that meets the requirements of the RRO, specifically for social housing requirements.

Any Questions?

Thank you