

IN THE MATTER OF THE INQUIRIES ACT 2005

AND IN THE MATTER OF THE INQUIRY RULES 2006

THE GRENFELL TOWER INQUIRY

EXHIBIT RD7

TG 003 – ACDM interpretation of Annex A requirements for Composite Fire-resistant Doorsets

Introduction

On 20th January 2020 the Secretary of State, Robert Jenrick made a statement in the House of Commons relating to fire safety in blocks of flats. This statement included a reference to fire-resistant flat entrance doors.

Following this statement by the Secretary of State, MHCLG published the consolidated advice note, 'Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings'. The full document can be downloaded from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869532/Building_safety_advice_for_building_owners_including_fire_doors_January_2020.pdf.

The consolidated advice note contains an Annex A, 'Advice for Building Owners on assurance and assessment of flat entrance fire doors'. Annex A deals with flat entrance fire doors, providing advice on both existing fire doors and the requirements for new flat entrance fire doorsets. Annex A can be downloaded from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/859279/Annex_A_-_Assurance_and_Assessment_of_Fire_Doors_-_January_2020.pdf

Scope

The aim of this guidance note is to provide the details of the guidance provided in the Approved Documents in relation to Fire safety and the relevant parts of the MHCLG Consolidated Advice Note, published in January 2020, in relation to existing, replacement and newly built Flat Entrance Fire Doorsets.

Annex A provides advice on assessing existing composite fire doorsets and is based on the guidance provided in the Local Government Association's 'Fire safety in purpose-built blocks of flats' which can be downloaded from:

<https://www.local.gov.uk/fire-safety-purpose-built-flats>

Building Regulations and compliance with Approved Document B guidance

Building Regulations in England and Wales

Building regulations set standards for the design and construction of buildings to ensure the safety and health for people in or about those buildings. They also include requirements to ensure that fuel and power is conserved and facilities are provided for people, including those with disabilities, to access and move around inside buildings.

Building Regulations do not provide specific details on how legal compliance with them can be demonstrated. Guidance on how compliance may be demonstrated is provided by Governments through a series of Approved Documents. Approved Documents are for guidance only, and if the guidance contained in the Approved Documents is used, the building works will comply with the Building Regulations. Alternative means of demonstrating compliance with the Building Regulations may be used although it will be necessary to

demonstrate the alternative means is as robust in demonstrating compliance as the guidance provided in the Approved Document(s).

England - **Approved Document B Volume 1:2019 – Fire safety** (AD B Vol 1:2019)

Requirement B3: Internal fire spread (structure)

- Openings in compartmentation
 - Openings in other compartment walls, or in compartment floors, states:
 - Clause 7.20 – Openings should be limited to those for any of the following.
 - Fire doorsets of the appropriate fire-resistance, fitted in accordance with the provisions in Appendix C.

The guidance relating to the requirements of fire-resistant flat entrance doors is referenced in Appendices B and C of AD B Vol 1:2019¹.

Appendix B: ‘Performance of materials, products and structures’:

Clause B1:

Much of the guidance in this document is given in terms of performance classifications in relation to British or European Standards. In such cases, it will be necessary to demonstrate that a system or product can meet the relevant performance classification. This will be achieved if the system or product complies with one of the following.

- a. They should be in accordance with a specification or design that has been shown by a specific test to be capable of meeting that performance classification.*
- b. They should have been designed by using relevant design standards in order to meet that performance classification.*
- c. They should have been assessed by applying relevant test evidence, in lieu of carrying out a specific test, as being capable of meeting that performance classification.*

Clause B2:

Any test evidence used to demonstrate the fire performance classification of a product or system should be carefully checked to ensure that it is applicable to the intended use. Small differences in detail, such as fixing method, joints, dimensions, the introduction of insulation materials and air gaps (ventilated or not), can significantly affect the performance.

Clause B5:

Tests and assessments should be carried out by organisations with the necessary expertise. For example, organisations listed as ‘notified bodies’ in accordance with the European Construction Products Regulation or laboratories accredited by the United Kingdom Accreditation Service (UKAS) for the relevant test standard can be assumed to have the necessary expertise.

Table B3 – ‘Specific provisions of the test for fire-resistance of elements of structure, etc’, line 23, Fire doorsets refers to Appendix C table C1

Appendix C: ‘Fire doorsets’

Clause C1:

All fire doorsets should have the performance shown in Table C1, based on one of the following.

¹ Prior to the publication of the revised AD B Vol 1:2019, the requirements for flat entrance doors was contained in Approved Document B Volume 2: 2010. In transferring flats to Volume 1 in 2019, no technical changes to the requirements were made.

a. Fire-resistance in terms of integrity, for a period of minutes, when tested to **BS 476-22**, e.g. FD 30. A suffix (S) is added for doorsets where restricted smoke leakage at ambient temperatures is needed.

b. As determined with reference to Commission Decision 2000/367/EC regarding the classification of the resistance to fire performance of construction products, construction works and parts thereof. All fire doorsets should be classified in accordance with **BS EN 13501-2**, tested to the relevant European method from the following. i. **BS EN 1634-1**.

ii. **BS EN 1634-2**.

iii. **BS EN 1634-3**.

Clause C2:

The performance requirement is in terms of integrity (E) for a period of minutes. An additional classification of Sa is used for all doors where restricted smoke leakage at ambient temperatures is needed.

Clause C3:

The requirement is for test exposure from each side of the doorset separately. The exception is lift doors, which are tested from the landing side only.

Clause C4:

Any test evidence used to verify the fire-resistance rating of a doorset or shutter should be checked to ensure both of the following.

a. It adequately demonstrates compliance.

b. It is applicable to the **complete installed assembly**. Small differences in detail may significantly affect the rating.

Clause C5:

All fire doorsets, including to flat entrances and between a dwellinghouse and an integral garage, should be fitted with a self-closing device, except for all of the following.

a. Fire doorsets to cupboards.

b. Fire doorsets to service ducts normally locked shut.

c. Fire doorsets within flats and dwellinghouses.

Table C1 – 'Provisions for fire doorsets'

Position of door	Minimum fire-resistance of door in terms of integrity (minutes) when tested to the relevant European Standard	Minimum fire-resistance of door in terms of integrity (minutes) when tested to BS 476-22
2. In a compartment wall:		
a. if it separates a flat from a space in common use	E 30 Sa ²	FD 30 S ³

Wales – Approved Document B Volume 2:2015 – Fire safety (AD B Vol 2:2015)

The guidance provided by the Welsh Government is similar to that issued by MHCLG in England. Fire safety affecting flat entrance doors relates to Compartmentation as described in Building Regulation B3, Section 9. The relevant clauses and appendices are as follow:

² European testing for fire-resistance to EN 1634-1 and for smoke leakage to EN 1634-3. Test results classified in accordance with EN 13501-2.

³ Fire-resistance testing to BS 476-22 and smoke leakage to BS 476-31.1.

- Openings in compartmentation
 - Openings in other compartment walls or in compartment floors
 - Clause 9.34
 - Openings in compartment walls (other than those described in paragraph 9.32) or compartment floors should be limited to those for:
 - a. doors which have the appropriate fire-resistance given in Appendix B, Table B1 and are fitted in accordance with the provisions of Appendix B;

Appendix B: Fire doors

- Clause 1
 - All fire doors should have the appropriate performance given in Table B1 either:
 - a. by their performance under test to BS 476-22 Fire tests on building materials and structures. Methods for determination of the fire-resistance of non-loadbearing elements of construction, in terms of integrity for a period of minutes, e.g. FD30. A suffix (S) is added for doors where restricted smoke leakage at ambient temperatures is needed; or
 - b. as determined with reference to Commission Decision 2000/367/EC of 3 May 2000 implementing Council Directive 89/106/EEC as regards the classification of the resistance to fire performance of construction products, construction works and parts thereof. All fire doors should be classified in accordance with BS EN 13501-2: 2003, Fire classification of construction products and building elements. Classification using data from fire-resistance tests (excluding products for use in ventilation systems). They are tested to the relevant European method from the following:
 - BS EN 1634-1:2008 Fire-resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Fire-resistance tests for doors, shutters and openable windows;
 - BS EN 1634-2: 2008 Fire-resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Fire-resistance characterisation test for elements of building hardware;
 - BS EN 1634-3:2004 Fire-resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Smoke control test for door and shutter assemblies;
 - The performance requirement is in terms of integrity (E) for a period of minutes. An additional classification of Sa is used for all doors where restricted smoke leakage at ambient temperatures is needed.
 - The requirement (in either case) is for test exposure from each side of the door separately, except in the case of lift doors which are tested from the landing side only.
 - 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 and is applicable to the adequately complete installed assembly. Small differences in detail (such as glazing apertures, intumescent strips, door frames and ironmongery etc) may significantly affect the rating.
- Clause 2
 - All fire doors should be fitted with a self-closing device except for fire doors to cupboards and to service ducts which are normally kept locked shut and fire doors within flats (self-closing devices are still necessary on flat entrance doors).

Table B1 – ‘Provisions for fire doorsets’

Position of door	Minimum fire-resistance of door in terms of integrity (minutes) when tested to BS 476-22	Minimum fire-resistance of door in terms of integrity (minutes) when tested to the relevant European Standard
2. In a compartment wall: b. if it separates a flat from a space in common use	FD 30 S	E 30 S _a

Post Grenfell Tower fire advice notes issued by MHCLG

In England, the Ministry of Housing, Communities and Local Government (MHCLG) published a Consolidate Advice Note (CAN) on 20 January 2020 which supersedes the existing Advice Notes 1 to 22 that have been published since the Grenfell Tower fire in 2017. Section 10 of the CAN summarises the general requirements for flat entrance fire doors

The CAN contains an Annex A – ‘Advice for Building Owners on assurance and assessment of flat entrance fire doors’, that provides specific guidance for building owners on existing flat entrance fire doorsets, replacement flat entrance fire doors and flat entrance doorsets being installed in new buildings.

Annex A - Summary:

- Flat entrance fire doors leading to a shared or communal area are required to provide fire and smoke protection and are part of a layered approach to most fire strategies for buildings.
- It is important that all fire doors, including the compulsory closers, are routinely maintained by a suitably qualified professional. Residents should be made aware of the importance of a working self-closing device on all fire doors which under any circumstances should not be altered.
- Manufacturers of modern or replacement flat entrance fire doors will have test evidence demonstrating that they meet the performance requirement in Building Regulations guidance for fire-resistance and smoke control from both sides of the door.
- It is important to ensure that the specification within the test evidence relates to the doorset being installed.
- Building owners should aim to replace existing timber flat entrance doorsets if they suspect they do not meet the fire or smoke resistance performance contained in the Local Government Association guide “Fire safety in purpose-built blocks of flats”. The building owner should use an appropriate risk assessment process to determine how urgently such doors should be replaced.

Annex A – Introduction:

- Clause 4:
 - For new doorsets, for compliance with the Building Regulations in England, guidance in Approved Document B advises that flat entrance doorsets that allow access directly into the dwelling from a shared or communal corridor should achieve at least 30 minutes fire-resistance, with additional requirements for resistance to the passage of “cold” smoke (i.e. smoke at a temperature below that required to cause intumescent seals to expand and seal the gaps around the door leaf). It is accepted that older timber doors, manufactured or installed before current fire-resistance test standards came into force would not achieve the level of performance if tested to current test standards. These doors may still be acceptable if the doors are in good condition, with minimum gaps between the door leaf and the frame.

- Clause 5:
 - This advice note primarily concentrates on fire safety; however, newly installed front doors to flats should also meet security requirements set out in Approved Document Q.6 There are also requirements for doorsets in other relevant Building Regulations guidance included in other Approved Documents including part E, L & M. Therefore, it is imperative that doorsets are designed to meet all the relevant requirements in one package, i.e. the same specification. The full suite of approved documents can be accessed from the Ministry of Housing, Communities and Local Government website.

Annex A – Fire door risk assessments:

- Clause 15
 - The following sections provide information on how test evidence should be considered as part of the assessment of fire doors and provide for different scenarios where test evidence is, or isn't, available for the fire doors installed.
- *Where test evidence is available for timber and GRP composite fire doors*
 - Clause 16
 - Where test evidence is available and a fire door has been shown to meet the required standard, no immediate remediation action is required. All fire doors should be routinely maintained by a suitably qualified professional, including closers.
 - Clause 17
 - Where test evidence shows that an existing GRP composite fire door does not meet the required standard, building owners should refer to the flow chart in Appendix A for guidance on remediation action.
- *Where no test evidence is available for GRP composite fire doors:*
 - Clause 22
 - Where no test evidence is available for GRP composite fire doors, Building Responsible Persons should seek advice from a competent person.
 - Clause 23
 - A competent person may wish to consider what test evidence is available as a potential indicator of failure, particularly test evidence from those tests undertaken by the MHCLG fire doors investigation.
 - Clause 24
 - Where a large number of doors are involved, and there is significant uncertainty as to the likely fire-resistance, advice should be sought from a specialist and/or sample door might be tested in accordance with BS 476-22 / EN 1634-1. Subject to test results, any remedial or replacement action should be guided by the advice outlined above.

Annex A – Guidance on testing of fire doors:

- Clause 25
 - All new composite doorsets must have undergone fire-resistance testing on both sides.
- Clause 26
 - The guidance provided in Approved Document B (2019) Volume 1 and 2 Appendix C3 is clear that fire doors should be tested separately on both sides.

Annex A – Incomplete fire test evidence for composite flat entrance fire doors:

- Clause 30
 - The Expert Panel published initial advice on the need to test composite fire doors on both sides in early 2018, it is therefore expected that any door installed after this date will have been

appropriately tested. However, it is recognised that, there may be limited circumstances where it may be possible to retain existing fire resisting composite flat entrance doors where the door was tested on one side.

- Clause 31
 - In the absence of obvious defects (e.g. glazing units fixings, etc.) it is the expectation of the Expert Panel that:
 - The fire-resistance from the internal side should accord with the guidance set out in Appendix A;
 - An assessment by a fire risk assessor determines that a fire of a severity similar to that in the British/ European fire-resistance tests within the common parts is an event of remote probability;
 - Management standards are likely to ensure that the fire load (the amount of combustible material in a building or confined space and the amount of heat this can generate) within the common parts remains low and that the need for this is identified in all fire risk assessments. *Note that any replacement door should be tested from both sides.*

Annex A – Repair and renovation of existing doorsets:

- Clause 33
 - Where doorsets have parts that need replacing, care should be taken to ensure replacements are of the same specification used in the original design as evidenced in the manufacturer's test evidence/certification and documentation for the doorset and that the doorset itself has not been altered in any way. Where the manufacturer or supplier is unknown, then an assessment can be carried out by a competent expert.
- Clause 34
 - All assessments and repairs should be carried out in line with the manufacturer's instructions by a suitably qualified person or organisation that can demonstrate the appropriate levels of skill and competency. Certification under a UKAS accredited door installer scheme¹⁰ would be a way of establishing those criteria.

Annex A – Replacing flat entrance doorsets:

- Clause 37
 - Replacement doorsets should have test evidence from a UKAS accredited test facility, or equivalent, to ensure they meet the standards set out in the Building Regulations guidance. Test evidence used should be carefully checked to ensure it is to the same specifications of the doorsets being installed. Small differences in detail (such as glazing apertures, intumescent strips, door frames and ironmongery etc.) may have a detrimental effect to the fire, smoke or security performance of a doorset.
- Clause 38
 - The Expert Panel advise that doorsets which aim to meet fire-resistance as well as security criteria, should be based on a single combined design specification, which is certified for fire-resistance and for security. Additionally, there should be test evidence for smoke control based on the same doorset design.
- Clause 39
 - The self-closing device should be capable of closing the door securely into its frame from any open position and overcoming the resistance of the any latch and edge seals.
- Clause 40
 - The Expert Panel advise that, while it should not be solely relied upon, third party certification by a UKAS accredited body of manufacture, installation and maintenance and inspection for fire, smoke and security can provide building owners with greater assurance on the performance of the doors. Doorsets certificated and supplied to the same specification for fire, smoke and security performance will provide additional assurance of performance, as will certification in the name of the company producing the doorset with the doorset name listed on the certificate.



Association of Composite Door Manufacturers Summary

In accordance with the extracts from Annex A above, fire door test evidence to either BS 476-22 and BS 476-31.1 or EN 1634-1 and BS 1634-3 should be available in the name of the composite doorset manufacturer to demonstrate compliance with the guidance published in Approved Documents B Volume 1:2019 in England or Approved Document B Volume 2:2015. Test reports and the doorset being supplied should be checked to

ensure the doorset being supplied is the same specification, including all essential hardware, as the fire doorset described in the test reports.

The composite doorset manufacturer's evidence should demonstrate compliance to the required performance as detailed in Appendix C, Table C1 in England and Appendix B, Table B1 in Wales, when tested, to either of the appropriate standards, from both sides.

Although third party product certification may provide additional assurance of performance to the building owner, third party product certification is not a Building Regulation requirement for flat entrance fire doors. Clients should be prepared to accept primary test evidence of performance, as required by the guidance provided in the Approved Documents and the Consolidate Advice Note, to demonstrate both fire-resistance and security in compliance with both AD B (Fire safety) and AD Q (Security).

The ACDM requires their members to either have or be working towards third party certification within 12 months for both Fire-resistance and Security (PAS 24). Where the member is working towards third party certification, the member is required to provide evidence that they are contracted to a UKAS or equivalent certification body for the certification of their doorset(s), with a time limit of 12 months to achieve certification. During this period, members should have test evidence to support their claims to place their fire-resistant doorset on the UK market.