

# Field of Application Report

IFC Report PAR/16927/01 Revision A

Fire Resistance Standard: BS476: Part 22: 1987



Prepared for:

Exitex Ltd

Assessed Product/System:

Door Frame Installation Using the Blue 60 System for FD30 and FD60 Timber Door Assemblies

Assessed Performance:

30 and 60 Minutes Fire Resistance

Issue Date

May 2022

Expiry Date

May 2027

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## International Fire Consultants Ltd

International Fire Consultants is part of the **Kiwa UK Group**. The company is a specialist engineering consultancy delivering independent, honest and practical fire safety solutions to professionals across the built environment. The sought after fire safety advice protects life, preserves property and safeguards business continuity.

International Fire Consultants was established in 1985 to provide high quality and impartial technical expertise concerning fire safety. Since then the team of highly qualified Fire Engineers and Fire Safety Professionals have continued to deliver robust, innovative and cost-effective fire safety solutions, including Assessments, Designs and Inspections.

International Fire Consultants are able to lend their insight and practical expertise for: Fire Safety Engineering, Fire Risk Management, Product Evaluation, Fire Life Safety Systems, Expert Witness Testimony and Fire Protection Training, to developments of all sizes and complexities; from residential, education and healthcare structures to sporting venues, airports and iconic heritage buildings, such as historical royal palaces and stately homes.

Recognised internationally as the go-to professionals in all aspects of fire safety, International Fire Consultants is one of the world's leading fire engineering and solution providers, trusted by many of the most prestigious construction firms, architects and estate owners.

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## Private and Confidential

This report should not be manipulated, abridged or otherwise presented without the written consent of International Fire Consultants.

Report Reference Number:	IFC Report PAR/16927/01 Revision A - DRAFT
Prepared on behalf of:	Exitex Limited
Project:	Mountpleasant Dundalk Co Louth Ireland
Issue Date:	May 2022
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## Issue and Amendment Record

REV	DATE	AUTHOR	REVIEW	SECTION	AMENDMENTS
-	April 2017	WL/RA	DC	-	-
A	May 2022	WL	DC	Various	Review and revalidation and updating into current IFC format

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## 1. Introduction

This report has been prepared by International Fire Consultants Ltd (IFC), on the instruction of Exitex Ltd, to define the Field of Application for door frame installation using the Blue 60 system, comprising Blue 60 foam used in conjunction with Blue 60 packers, that are required to provide 30 or 60 minutes fire resistance performance, when adjudged against BS476: Part 22: 1987.

This assessment has been produced using the principles outlined in the [Passive Fire Protection Forum \(PFPF\): 'Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence, 2021, Industry Standard Procedure'](#).

When establishing the variations in the construction that can achieve the required fire resistance performance, IFC complies with the principles found in the following documents:

- [BS ISO/TR 12470-2: 2017 'Fire resistance tests - Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Part 2: Non-load bearing elements'](#)
- [EN 15725: 2010 'Extended application reports on the fire performance of construction products and building elements'](#)

It is proposed that variations to the tested specifications, as described in the following sections, may be accommodated into door assemblies, without reducing their potential to achieve a 30 or 60 minute integrity rating, if tested in accordance with the method and criteria of BS476: Part 22: 1987. The omission of information on any components or manufacturing methods does not imply a lack of approval of those details, but these would need to be the subject of a separate analysis. Only variations specifically mentioned are supported by this assessment document, all other aspects must otherwise be as proven in tests summarised herein.

## 2. Test Evidence

The test evidence used to support this Field of Application Report is summarised in Appendix A of this report.

All of the test evidence referenced in this Engineering Assessment Report is more than 5 years old. In accordance with industry practice, IFC have reviewed this test evidence, and have concluded that the evidence is still valid, and suitable to form the basis of this approval.

## 3. Scope of Approval

### 3.1 Door Assemblies

Fire resisting door assemblies must have one of the following, appropriate, forms of evidence for their fire resisting performance:

- Fire resistance test evidence
- Engineering Assessment
- Third Party Certification

Many fire resisting assemblies will have more than one of the above, and some have all three.

It is the assumption of this report that fire resisting door assembly has the relevant evidence of performance within the supporting construction into which it is to be installed.

This report makes its conclusions on the inclusion of the gap sealing system only and no other features of door assemblies are approved by this report.

Where Engineering Assessment Reports are used to support the design of the door assemblies, these shall approve the use of 'foams' as a fire stopping technique, so as to ensure that this Field of Application Report does not conflict with, and make void, the scope of approval for the door assembly.

## 3.2 Guidance on Installation

To maintain the fire resistance of a fire-resisting wall or partition fitted with a door assembly, the junction between the two elements shall be adequately sealed.

Ideally a wall or partition should be built up to the rear of the door frame without gaps. This is not always possible, and to ensure easy installation of the door assembly, the opening should be made within the permissible tolerance. The gap between door frame and wall opening can vary greatly and is usually masked with an architrave.

The following sections provide details of how the Blue 60 sealing system can be used. The specifications included herein assumes that no feature rebates or shadow gaps are present at the junction of the frame and wall, and that the face of the frame does not project beyond the face of the wall.

The following sections give guidance on the frame installation and filling of the gap between door frame and supporting construction.

### 3.2.1 Frame Installation

As a minimum, frames must meet the following, however if the supporting documentation for the door assemblies requires enhanced specifications then the documentation specific to the door assembly shall take precedence.

- Frames must be fixed back to suitable fixing points within the supporting construction with steel fixings at centres not exceeding 600mm on the vertical edges; (minimum 200mm from the top and bottom of each jamb).
- Screws shall be of sufficient length to penetrate the wall by at least 40mm and shall be positioned such that they are not exploited by charring of the frame, irrespective of the direction of test exposure; (this may necessitate a twin line of screws).
- Blue 60 Packers shall be used at all fixing positions.
- Frame depth, unless evidence for the respective door assembly requires deeper frames;
  - FD30 assemblies must be a minimum of 80mm
  - FD60 assemblies must be a minimum of 100mm and a minimum of 100mm for FD60 assemblies.
- Frames must meet or exceed all other required specifications detailed for their use with the associated leaf for each assembly.

### 3.2.2 FD30 Timber Door Assemblies

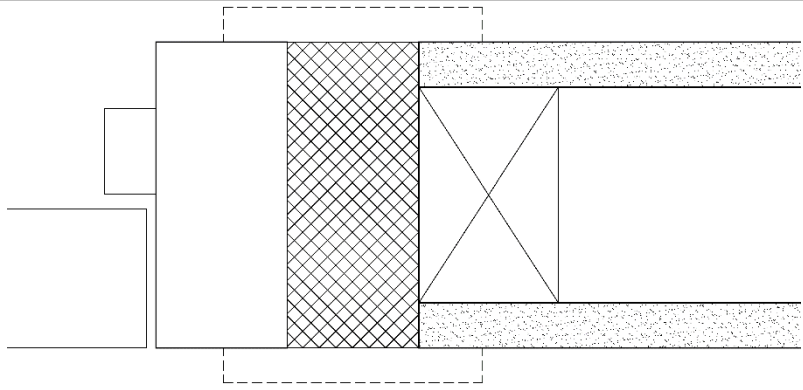
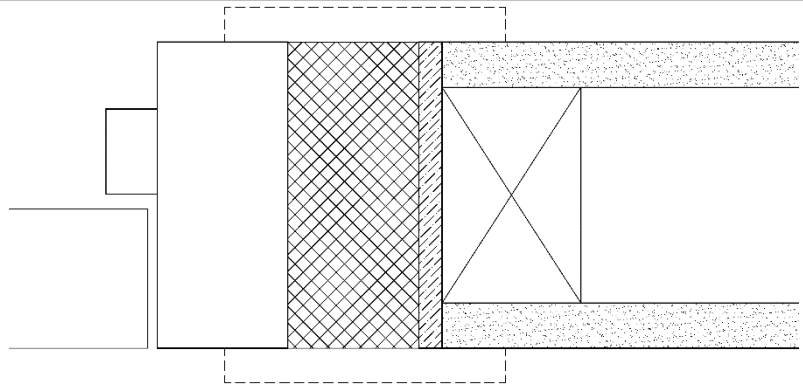
The following table details the scope of approval for installation gap dimensions approved for use with the Blue 60 sealing system for 30 minutes fire resistance. The gap must be filled for its complete width and the complete depth. The installation gap refers to the gap between the rear of the timber door frame and reveal of the supporting construction.

FIRE RESISTANCE	MINIMUM GAP WIDTH	MAXIMUM GAP WIDTH	MINIMUM GAP DEPTH	MAXIMUM GAP DETPH
30 minutes	5mm	30mm	80mm	No limit if a seal for the full depth can be achieved.

For each of the following constructions, it is not necessary that an architrave be fitted, overlapping the door frame and supporting construction, however, as an option architraves may be installed should they be required. Should the door leaf and frame specification in the supporting documentation require the installation of architraves then they should be installed.

The Blue 60 system may be used for sealing the gaps of existing FD30 assemblies, whereby an intumescent seal is found to be fitted to the rear of the door frame, assuming that all other criteria of this assessment are met.

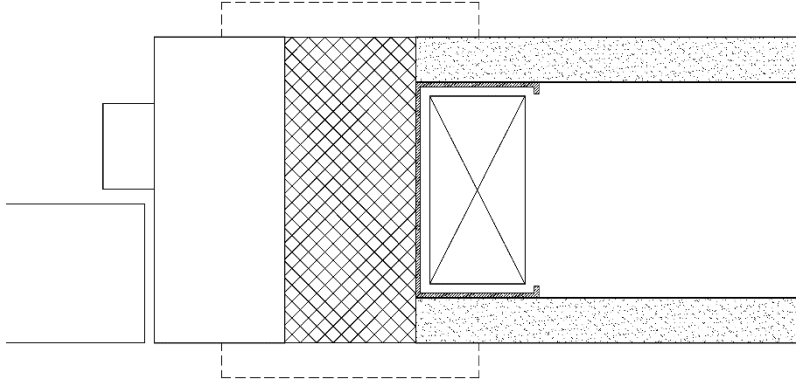
#### Timber Stud Partition

SUPPORTING CONSTRUCTION	FIGURE
Unlined timber stud	
Lined timber stud <sup>Note 1</sup>	

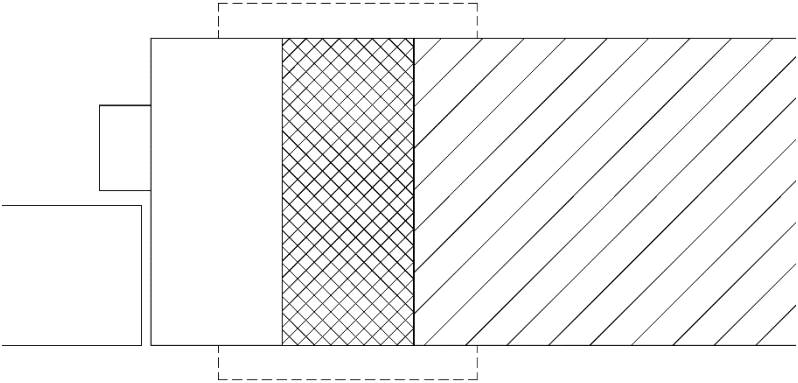
*Note 1 The lining of the timber stud must use the same board, of the same thickness, as used in the construction of the wall.*



### Steel Stud Partition

SUPPORTING CONSTRUCTION	FIGURE
Standard steel stud	

### Masonry Wall

SUPPORTING CONSTRUCTION	FIGURE
Masonry	

### 3.2.3 FD60 Timber Door Assemblies

The following table details the scope of approval for installation gap dimensions approved for use with the Blue 60 sealing system for 60 minutes fire resistance. The gap must be filled for its complete width and the complete depth. The installation gap refers to the gap between the rear of the timber door frame and reveal of the supporting construction.

FIRE RESISTANCE	MINIMUM GAP WIDTH	MAXIMUM GAP WIDTH	MINIMUM GAP DEPTH	MAXIMUM GAP DETPH
60 minutes	5mm	30mm	100mm	No limit if a seal for the full depth can be achieved.

For each of the following constructions, it is not necessary that an architrave be fitted, overlapping the door frame and supporting construction, however, as an option architraves may be installed should they be required. Should the door leaf and frame specification in the supporting documentation require the installation of architraves then they should be installed.

The Blue 60 system may be used for sealing the gaps of existing FD30 assemblies, whereby an intumescent seal is found to be fitted to the rear of the door frame, assuming that all other criteria of this assessment are met.

### Timber Stud Partition

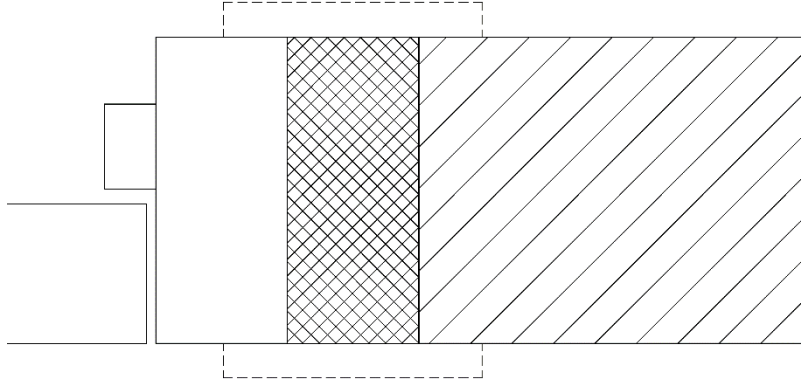
SUPPORTING CONSTRUCTION	FIGURE
Unlined timber stud	
Lined timber stud <sup>Note 2</sup>	

*Note 2* The lining of the timber stud must use the same board, of the same thickness, as used in the construction of the wall.

### Steel Stud Partition

SUPPORTING CONSTRUCTION	FIGURE
Standard steel stud	

## Masonry Wall

SUPPORTING CONSTRUCTION	FIGURE
Masonry	

## 4. Conclusion

Based upon the available test evidence, and subsequent analysis performed by International Fire Consultants Ltd, if the proposed door frame installation utilising the Blue 60 system, and otherwise tested assessed or Third Party Certified door assemblies were manufactured and installed within the limitations of this Field of Application Report and tested for fire resistance, they would satisfy the integrity criteria of BS476: Part 22: 1987 for 30 or 60 minutes, as applicable.

## 5. Declaration by the Applicant

Kiwa IFC Engineering Assessment Report	PAR/16927/01 Revision A
Client	Exitex Ltd
Project Address	Mountpleasant Dundalk Co Louth Ireland
<p>We the undersigned confirm that we have read and complied with the obligations placed on us by the</p>	
<p><b>Passive Fire Protection Forum (PFPF) - Industry Standard Procedure 2021</b>  ‘Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence’</p>	
<ul style="list-style-type: none"> <li>• We confirm that any changes which are subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.</li> <li>• We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made.</li> <li>• We understand that this assessment is based on test evidence and will be withdrawn should evidence become available that causes the conclusion to be questioned. In that case, we accept that new test evidence may be required.</li> <li>• We are not aware of any information that could affect the conclusions of this assessment. If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment.</li> </ul>	
Signature	
Name	
Position	
Company Name	
Date	

## 6. Limitations

This report addresses itself solely to the ability of the proposed assemblies described to satisfy the criteria of the fire resistance test and does not imply any suitability for use with respect to other unspecified criteria.

It is the responsibility of others to establish whether the proposed product meets any other relevant requirements, including any other requirements for fire performance and life safety, as defined in documents such as the Building Regulations, and the Fire Strategy/Risk Assessment for the project.

This document only considers the door assemblies described, herein, and assumes that the surrounding construction will provide no less restraint than the tested assembly and that it will remain in place and be substantially intact for the full fire resistance period.

This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to International Fire Consultants Ltd (IFC) the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly, the assessment evaluation is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.

As per the guidance outlined in the [Passive Fire Protection Forum \(PFPF\): 'Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence, 2021, Industry Standard Procedure'](#), appropriate action has been taken to mitigate the risk of a conflict of interest arising during the preparation of this report. All individuals involved in the production, or subsequent review, of this assessment have declared any perceived conflicts of interest, with regards to the sponsor or subject(s) of this report, prior to working on this project.

The assessor and reviewer have been deemed suitable for involvement in the production of this assessment in accordance with the guidance outlined in the [Passive Fire Protection Forum \(PFPF\): 'Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence, 2021, Industry Standard Procedure'](#).

Where the constructional information in this report is taken from details provided to International Fire Consultants Ltd (IFC) and/or from fire resistance test reports referenced herein, it is, therefore, limited to the information given in those documents. It is necessarily dependent upon the accuracy and completeness of that information. Where constructional or manufacturing details are not specified, or discussed, herein, it should not, therefore, be taken to infer approval of variation in such details from those tested or otherwise approved.

The analysis and conclusions within this report are based upon the likely fire resisting performance of a complete door assembly that is manufactured and installed in accordance with this document, and offered for fire resistance testing in 'perfect' condition. In practice, management procedures must be in place in any building where the door assemblies are installed, to ensure that no parts of the assembly are damaged or faulty. Further, the doors must open and close without the use of undue force. The edge gaps/alignment of door leaves must be in accordance with the tolerances defined, herein, when the doors are closed. Any such shortfalls in respect to the condition of the assemblies will invalidate the approval by IFC, and may seriously affect the ability of the assemblies to provide the required level of fire resistance performance. Determination of what constitutes wear or damage, and any corrective actions in order to return assemblies to the required condition, should only be carried out following consultation with the manufacturer and IFC.

This report is not intended to be a complete specification for the proposed products and it is the responsibility of others to ensure that the products are suitable for the intended purpose; whilst incorporating the requirements of this report. Further, the products must be manufactured/installed by experienced/trained personnel using appropriate and established working practices/techniques.

This report applies to fire door assemblies that are evaluated to BS476: Part 22: 1987; which is an applicable test method currently referenced within guidance to Building Regulations in the United Kingdom, and in building codes in some other countries. However, IFC have a duty of care to advise that introduction of CE Marking may become compulsory for fire resisting doorsets marketed in the EU, during the validity period of this report; in which case, users should contact IFC for further details/advice.

Where the assessed constructions have not been subject to an on-site audit by International Fire Consultants Ltd, it is the responsibility of anyone using this report to confirm that all aspects of the assemblies fully comply with the descriptions and limitations, herein.

Any materials specified in this report have been selected and judged primarily on their fire performance. IFC do not claim expertise in areas other than fire safety. Whilst observing all possible care in the specification of solutions, we would draw the reader's attention to the fact that during the construction and procurement process, the materials used should be subjected to more general examination regarding the wider Health and Safety, and CoSHH Regulations. Designers, manufacturers and installers are reminded of their responsibilities under the CDM Regulations; but particularly with regard to installation and maintenance of heavy or inaccessible items.

This assessment considers the fire resistance performance of the door assemblies when tested with the leaves in the closed position, within the frame reveal; either retained by the latch, or self-closing device, or locked shut, as applicable. The door assemblies will only provide the assessed fire performance when in a similar configuration; and it is the responsibility of the building occupants/owner to ensure that this is the case.

This Report is provided to the sponsor on the basis that it is a professional independent engineering evaluation as to what the fire performance of the construction/system would be should it to be tested to the named standard. It is IFC's experience that such an evaluation is normally acceptable in support of an application for building approvals, certainly throughout the UK and in many parts of Europe and the rest of the world.

However, unless IFC have been commissioned to liaise with the Authorities that have jurisdiction for the building in question for the purpose of obtaining the necessary approvals, IFC cannot assure that the document will satisfy the requirements of the particular building regulations for any building being constructed.

It is, therefore, the responsibility of the sponsor to establish whether this evidence is appropriate for the application for which it is being supplied and IFC cannot take responsibility for any costs incurred as a result of any rejection of the document for reasons outside of our control. Early submittal of the Report to the Authorities will minimise any risks in this respect.

## 7. Validity

This Field of Application Report has been prepared based on International Fire Consultants Ltd's present knowledge of the products described, the stated testing regime and the submitted test evidence.

The assessment is valid initially for a period of five years after which time it is recommended that it be submitted to International Fire Consultants Ltd for re-evaluation. For this reason, anyone using this document after May 2027 should confirm its ongoing validity.

This assessment report is not valid unless it incorporates the declaration, in Section 5, duly signed by the applicant.

Prepared by:

A handwritten signature in black ink, appearing to read "Will Lightfoot".

### Will Lightfoot

BEng (Hons) MSc AIFireE  
Senior Fire Safety Engineer  
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Reviewed by:

A handwritten signature in black ink, appearing to read "David Cooper".

### David Cooper

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## Appendix A Summary of Fire Test Evidence

### A.1 Summary of Primary FD30 Fire Test Evidence

TEST LABORATORY AND REPORT NUMBER	TEST DATE	TEST SPECIMEN	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1604291	29.04. 2016	ULSASD Core: Strebord Frame/Blue 60 depth: 102mm Gap width 28mm Supporting construction: Timber stud partition	BS 476: Part 22: 1987	44 minutes
		ULSASD Core: Strebord Frame/Blue 60 depth: 102mm Gap width: 28mm Supporting construction: Timber stud partition		36 minutes
Cambridge Fire Research CFR1603241	24.03. 2016	ULSADD Core: Vicaima Frame/Blue 60 depth: 100mm Gap width: 25mm Supporting construction: Flexible wall in accordance with EN1363-1:2012	BS EN 1634-1: 2014	31 minutes
Cambridge Fire Research CFR1703171	17.03. 2017	ULSASD Core: Vicaima Frame/Blue 60 depth: 80mm Gap width: 18mm at closing jamb, 30mm at hanging jamb, 20mm at head Supporting construction: Timber stud partition	BS 476: Part 22: 1987	44 minutes
		ULSASD Core: Strebord Frame/Blue 60 depth: 80mm Gap width: 28mm at closing jamb Supporting construction: Timber stud partition		48 minutes



TEST LABORATORY AND REPORT NUMBER	TEST DATE	TEST SPECIMEN	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1603041	04.03.2016	ULSADD Core: Strebord Frame/Blue 60 depth: 101mm Gap width: 7mm Supporting construction: Flexible wall in accordance with EN1363-1:2012	BS EN 1634-1: 2014	34 minutes
Cambridge Fire Research CFR1606031	03.06.2016	ULSASD Core: Jeld Wen Frame/Blue 60 depth: 100mm Gap width: 18mm at top, 7.5mm at sides Supporting construction: Timber stud partition	BS 476: Part 22: 1987	36 minutes
		ULSASD Core: Jeld Wen Frame/Blue 60 depth: 100mm Gap width: 18mm at top, 7.5mm at sides Supporting construction: Timber stud partition	BS 476: Part 22: 1987	33 minutes

## A.2 Summary of Secondary FD30 Fire Test Evidence

TEST LABORATORY AND REPORT NUMBER	TEST DATE	TEST SPECIMEN	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1603081	08.03.2016	ULSADD Core: Halspan Frame/Blue 60 depth: 101mm Gap width: 7mm Supporting construction: Flexible wall in accordance with EN 1363-1: 2012	BS EN 1634-1: 2014	20 minutes (failure local to glazing). <b>39 minutes without integrity failure at the Blue 60 installation</b>
Cambridge Fire Research CFR1604131	13.04.2016	ULSADD Core: Flamebreak Frame/Blue 60 depth: 100mm Gap width: 25mm Supporting construction: Flexible wall in accordance with EN 1363-1: 2012	BS EN 1634-1: 2014	18 minutes (failure local to glazing) <b>39 minutes without integrity failure at the Blue 60 installation</b>

### A.3 Summary of Primary FD60 Fire Test Evidence

TEST LABORATORY AND REPORT NUMBER	TEST DATE	TEST SPECIMEN	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1703211 Right Hand Leaf	21.03.2017	<p>ULSASD</p> <p>Core: Vicaima</p> <p>Frame/Blue 60 depth: 80mm</p> <p>Gap width: 25mm</p> <p>Supporting construction: Timber stud partition</p>	BS 476: Part 22: 1987	66 minutes

### A.4 Summary of Secondary FD60 Fire Test Evidence

TEST LABORATORY AND REPORT NUMBER	TEST DATE	TEST SPECIMEN	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1604281	28.04.2016	<p>ULSASD</p> <p>Core: Strebord</p> <p>Frame/Blue 60 depth: 100mm</p> <p>Gap width: 25mm</p> <p>Supporting construction: Timber stud partition</p>	BS 476: Part 22: 1987	58 minutes (flaming at the head of the leaf) <b>67 minutes without integrity failure at the Blue 60 installation</b>
		<p>ULSASD</p> <p>Core: Strebord</p> <p>Frame/Blue 60 depth: 100mm</p> <p>Gap width: 25mm</p> <p>Supporting construction: Timber stud partition</p>		58 minutes (flaming at the hanging stile) <b>67 minutes without integrity failure at the Blue 60 installation</b>
Cambridge Fire Research CFR1608261	26.08.2016	<p>ULSADD</p> <p>Core: Halspan</p> <p>Frame/Blue 60 depth: 102mm</p> <p>Gap width: 30mm left jamb, 20mm right jamb</p> <p>Supporting construction: Flexible wall in accordance with EN 1363-1: 2012</p>	BS EN 1634-1: 2014	54 minutes (flaming at the meeting stiles) <b>65 minutes without integrity failure at the Blue 60 installation</b>

TEST LABORATORY AND REPORT NUMBER	TEST DATE	TEST SPECIMEN	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1608251	25.08.2016	ULSADD Core: Strebord Frame/Blue 60 depth: 102mm Gap width: 25mm Supporting construction: Flexible wall in accordance with EN 1363-1: 2012	BS EN 1634-1: 2014	57 minutes (flaming at meeting stiles) <b>62 minutes without integrity failure at the Blue 60 installation</b>
Cambridge Fire Research CFR1703211 Left Hand Leaf	21.03.2017	ULSASD Core: Strebord Frame/Blue 60 depth: 80mm Gap width: 25mm Supporting construction: Timber stud partition	BS 476: Part 22: 1987	54 minutes (cotton pad failure at the closing stile) <b>64 minutes (failure at junction between frame and supporting construction)</b>
Cambridge Fire Research CFR1604211 Rev 1	21.04.2016	ULSASD Core: Strebord Frame/Blue 60 depth: 101mm Gap width: 25mm Supporting construction: Flexible wall in accordance with EN 1363-1: 2012	BS EN 1634-1: 2014	33 minutes (cotton pad failure at glazing) <b>60 minutes without integrity failure at the Blue 60 installation</b>

ULSASD = Unlatched, Single Acting. Single Leaf Door assembly

ULSADD = Unlatched, Single Acting, Double Leaf Door assembly

All of the test evidence referenced in this Engineering Assessment Report is more than 5 years old. In accordance with industry practice, IFC have reviewed this test evidence, and have concluded that the evidence is still valid, and suitable to form the basis of this approval.