

Field of Application Report

Kiwa Fire Safety Compliance Report PAR/18385/01 Revision C



Prepared for:

Fire and Acoustic Seals Ltd

Assessed Product/System:

Fire and Acoustic Seals Ltd Fire Door Foam™ and FAS Fire Door Intumescent Acrylic Sealant for use with Timber Based Glazed Screen and Door Assemblies

Assessed Performance:

30, 60, 90 and 120 minutes fire resistance to BS476: Part 22: 1987, and BS EN 1634-1: 2014+A1: 2018, as appropriate

Issue Date

July 2023

Expiry Date

July 2028

**Partner
for
Progress**

Kiwa Fire Safety Compliance

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HEAD OFFICE/CORRESPONDENCE ADDRESS:

Kiwa Fire Safety Compliance
Ground Floor, Suite A, Building 2
Bear Brook Office Park
Walton Street
Aylesbury, Buckinghamshire
HP21 7GQ

+44 (0)1844 275500
uk.firesafety@kiwa.com

REGISTERED ADDRESS:

International Fire Consultants Limited
Kiwa House
Malvern View Business Park
Stella Way, Bishops Cleeve
Cheltenham
GL52 7DQ

Registered No: 2194010

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Prepared on behalf of:	Fire and Acoustic Seals Ltd
Client Address:	6-11 Spartan Industrial Estate West Bromwich B70 0DH
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Issue and Amendment Record

REV	DATE	AUTHOR	REVIEW	SECTION	AMENDMENTS
-	July 2018	MW/CPH	DC	-	-
A	July 2018	MW/CPH	DC	-	Door assemblies' details updated
B	May 2020	CPH	DC	-	Inclusion of further test data
C	July 2023	CS	CPH	-	Inclusion of further test data, rebrand of report to revised Kiwa template, revisions throughout

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1. Introduction

This report has been prepared by Kiwa Fire Safety Compliance (hereafter referenced as KFS) on the instruction of Fire and Acoustic Seals Ltd, to define the Field of Application for the Fire and Acoustic Seals Ltd Fire Door Foam™, and FAS Fire Door Intumescent Acrylic Sealant, when used with timber-based door assemblies, and timber-based glazed screen assemblies (with, or without door assemblies). The Fire and Acoustic Seals Ltd Fire Door Foam™, and FAS Fire Door Intumescent Acrylic Sealant, are required to provide periods of 30, 60, 90 and 120 minutes fire resistance performance, when adjudged against BS476: Part 22: 1987 and/or BS EN 1634-1: 2014+A1: 2018.

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, Kiwa Fire Safety Compliance 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: 2023: '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 timber-based door assemblies, and glazed screens, without reducing their potential to achieve 30, 60, 90 or 120 minutes integrity and insulation rating, if they were fire tested in accordance with the method and criteria of BS476: Part 22: 1987, or BS EN 1634-1: 2014+A1: 2018, as appropriate.

Fire and Acoustic Seals Ltd's 'Fire Door Foam™' has been included in multiple fire resistance tests, with and without FAS Fire Door Intumescent Acrylic Sealant. As stated in BS8214: 2016, Section 9.4.2, *'Provided that the expanding foam has been tested uncapped on both faces (e.g. without architraves) in accordance with BS476: Part 20 or BS EN1366-4, with a minimum gap width of 20mm and a maximum full fill depth of 100mm, the expanding foam is approved for frame to supporting construction gap widths up to 20mm and for all frame depths'*. It is the evaluation of KFS that Fire and Acoustic Seals 'Fire Door Foam™' exceeds the minimum requirements quoted in BS 8214 where it makes reference to expanding foam – See Section 9.4.2, Note 2.

In line with the guidance outlined in BS8214: 2016, *'for expanding foams that have been tested in accordance with BS476: Part 20 or BS EN1366-4, outside these parameters, the maximum width and required depth of foam is dictated by the manufacturer's tested approval and instructions. This could include restrictions on the type of surrounding structure that is approved for use with the expanding foam.'* Fire and Acoustic Seals 'Fire Door Foam™' has been tested beyond these parameters, the scope of approval for the use of this product is detailed within this Field of Application report, considers the performance of Fire and Acoustic Seals 'Fire Door Foam™', as part of a fire resisting assembly, when tested in accordance with BS476: Part 22 or BS EN 1634-1: 2014 + A1: 2018.

Notwithstanding the alternative installation arrangements shown in BS 8214: 2016 Tables 2 to 5, the available test evidence demonstrates that Fire & Acoustic Seals 'Fire Door Foam' can be installed with or without additional intumescent capping.

Fire and Acoustic Seals Ltd's 'Fire Door Foam™' has been tested in accordance with BS EN 1634-3: 2004 (*Smoke Control Test for Doors, Windows and Shutters - ambient temperature*) filling a 33mm wide x 70mm deep gap, including plastic packers. A summary of the test can be found in Appendix B, but the manufacturer should be consulted for full guidance on its application and use.

1.1 General

Following completion of a fire test, the relevant fire test laboratory will issue a test report to the test sponsor. This document summarises the test specimen construction, the test conditions/data and the test results. It is this test data which Kiwa Fire Safety Compliance evaluates to determine the approved scope detailed within this Field of Application Report.

The appropriate performance of fire resisting doorsets is defined in Approved Document B of the Building Regulations England (2019 Edition with 2020 and 2022 Amendments), the Scottish Building Standards Technical Handbook (2022 edition), Approved Document B of the Building Regulations Wales (2006 Edition with 2010, 2013, 2016, 2017 and 2020 Amendments) or Technical Book E of the Building Regulations Northern Ireland (2012 Edition with 2014, 2016 and 2022 Amendments).

Table C1 in Appendix C of Approved Document B, which applies to England, identifies doorsets by their performance under test to BS EN 1634-1 or BS476: Part 22: 1987, in terms of integrity for a period of minutes, (e.g., E30/E60, if their performance is measured in terms of EN 1634-1, or FD30/FD60 for BS476: Part 22: 1987). It should be noted that a suffix (S) is added for doors where restricted smoke leakage at ambient temperatures is needed. The Scottish, Welsh and Northern Ireland documents also refer to the British and European Standards in Annex 2.A, Table B1 in Appendix B and Table 4.5 in Section 4, respectively of these documents. The BS476: Part 22: 1987 or BS EN 1634-1:2014+A1:2018 fire test evidence which has been used in support of this Field of Application Report is summarised in Appendix A.

Only the critical details for each fire test report are detailed in Appendix A to ensure that:

- The full details of the fire test reports remain confidential, therefore protecting the intellectual property of the fire test sponsors.
- The size/length of this report is kept to a minimum, so that it remains useable.

If full copies of the referenced fire test reports are required, then requests for this information should be directed to Fire and Acoustic Seals Ltd.

1.2 Door and Glazed Screen Assemblies

Timber-based fire resisting door assemblies and glazed screens must have suitable fire resistance test evidence, or have been assessed for fire resistance integrity in accordance with BS476: Part 22: 1987 or BS EN 1634-1: 2014 + A1: 2018 for 30, 60, 90 or 120 minutes, as applicable. They must also have relevant fire resistance test evidence covering their installation within the supporting constructions outlined within this report and fire resistance test evidence to cover the door frame materials outlined in Section 3.7.

Whilst this report refers to 'timber-based' fire resisting door assemblies and glazed screens, the primary focus is the framing material, which in all instances is timber-based (either solid timber or MDF frames). Glazed screens will contain glass and glazing systems within their design, and door assemblies will comprise hardware, intumescent materials, glazed apertures and elements of the door leaf, which may not be timber-based.

This report will consider interaction of the material of the door/screen frame with the surrounding supporting construction, and will provide a scope of approval for that frame material, and specific dimensions, based upon test data provided for the Fire and Acoustic Seals Ltd products considered herein. Test data, assessment or third-party certification must be available for the systems the product is proposed for use with. Where this report is used in accordance with an assessment, or third-party certification which is not provided by KFS, consideration should be undertaken (by the relevant bodies where applicable) to ensure the chain of certification is maintained. KFS accepts no responsibility for any other aspect of systems which have been assessed, or third party certified, by bodies that are not KFS, beyond the performance of the junction between the door/screen frame, and surrounding construction. Additionally, relevant test data, assessment, or third-party certification should be available to demonstrate the performance of the surrounding wall/partition system to ensure that the required level of fire resistance may be attained when fitted with a door/screen construction.

2. Suitability of Fire Test Evidence

The fire test reports summarised in Appendix A have been reviewed by Kiwa Fire Safety Compliance in accordance with 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'](#) to ensure they are original, complete and relevant to the proposed construction/application.

Where fire test reports are more than 5 years old, additional checks have been undertaken by Kiwa Fire Safety Compliance to ensure they remain valid.

The BS EN 1634-1 fire test standard has been revised a number of times since 2000, and the current version is BS EN 1634-1:2014+A1:2018. KFS have concluded that the revisions to this fire test standard would not have had a critical impact on the fire test result, or data, and, as such, fire tests undertaken in accordance with BS EN 1634-1:2000, BS EN 1634-1:2008, BS EN 1634-1:2014 and BS EN 1634-1:2014+A1:2018 have been accepted as supporting evidence for this Field of Application Report.

A number of the fire tests referenced in Appendix A comprised specimens which experienced premature integrity failure. This does not exclude the use of these fire test reports in support of the proposed sealing materials:

- Did not directly contribute to the failure
- Were remote from the point of failure
- Continued to satisfy the test criteria for the required period of fire resistance

Only periods of fire resistance relevant to the junction between the perimeter of fire door assemblies, and glazed screens, have been noted within Appendix A.

2.1 Use of BS and EN Fire Test Evidence

The EN 1634-1 and the BS476: Part 22: 1987 fire test standard are both generally based upon the ISO 834 fire resistance test method, but differences do exist between the two, as summarised below:

- The method of measuring the furnace (exposure) temperature in the EN 1634-1 test is by means of plate thermocouples. The 'plates' require a greater thermal inertia than the bead thermocouples used in the BS476: Part 22: 1987 test, and therefore the initial heat input is higher than that required in BS476 during approximately the first 15 minutes of a fire resistance test.
- The furnace pressure in the EN 1634-1 fire test is neutral at a position 500mm above the threshold, compared to 1 metre in the BS476: Part 22: 1987 fire test. As a consequence, the pressure over the upper part of the door assembly is higher and is therefore, more onerous in the EN test.

There are other minor procedural matters that also increase the severity of the EN method. These, combined with the two main issues identified above, mean that the EN 1634-1 test is generally accepted as being a more onerous test than BS476: Part 22: 1987. This is borne out by Kiwa Fire Safety Compliance's experience of fire resistance testing already performed since the introduction of the European test standard.

As such, any test results applicable to BS EN testing can be used in situations requiring BS476: Part 22: 1987 evidence, or when making evaluations against the BS476 criteria, but not vice versa.

For each period of fire resistance referenced, a scope has been detailed both for testing to the BS, and BS EN standards. The specified performance to the BS standard may only be used for applications where the BS standard is acceptable. The specified performance to the BS EN standard may be used for applications where the BS, and the BS EN standards are acceptable.

3. Installation Specifications

3.1 Guidance on Installation

In order to maintain the fire resistance of a fire-resisting wall or partition when fitted with a door/screen assembly, the junction between the two elements should be adequately sealed.

A wall or partition should be built up to the rear of the frame of a door/screen assembly without any gaps. However, as this is not always possible, and to ensure ease of installation of the assembly, the opening is often made with permitted tolerance gaps to facilitate the installation of the assembly and to allow for any adjustments. The gap between the frame and wall opening can vary greatly and can be masked with an architrave.

Unless evidence for the respective assembly gives more restrictive specifications, the 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/frame member). Screws shall be of sufficient length to penetrate the structural element of the wall (i.e timber/steel stud, or blockwork) 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).

PVC, timber (minimum density as per door frame material), MDF (minimum density 700kg/m³) or hardboard (minimum density 800kg/m³) packers shall be used at all fixing positions. Packers must be fitted ensuring that excessive gaps do not exist around the packer, and should allow a flush substrate for the proposed fire stopping products to directly abut to.

Minimum frame depths for the different fire ratings are to be as outlined in the relevant tables in Sections 3.7 and 3.8. The provided frame depths are based upon the minimum dimensions incorporated into the test data described in Appendix A, when used with the proposed fire stopping materials. This does not supersede the test data for the door assemblies/glazed screens, and the minimum depth of frame required for the door/screens must be utilised (based on its own test, assessment or third-party certification), assuming it is equal to, or greater than the depths detailed in Sections 3.7 and 3.8. Frames must meet or exceed all other required specifications detailed for their use as outlined in their respective fire approval documentation.

The choice of frame material must be as tested/assessed for the specific door/glass type, but the proposed method of fire stopping would only be applicable if their respective fire approval documentation covers the use of the frame material referenced for use with the proposed Fire and Acoustic Seals Ltd sealing products.

3.2 Installation of Fire and Acoustic Seals Ltd Fire Door Foam™

The proposed Fire Door Foam™ must be installed in accordance with the manufacturer's installation instructions, which, in turn, must be based upon the test data summarised in Appendix A. The foam must be fitted to the full depth of the junction between the rear of the door frame and associated supporting construction. The foam must be installed such that it is densely applied, ensuring that no voids are present. Where required, once installed, foam may be cut back such that it is flush with the door frame.

Where it is required that Fire and Acoustic Seals Ltd FAS Fire Door Intumescent Acrylic Sealant is required to 'cap' the foam to the door frame to wall construction junction, the foam should be fitted to the full depth of the void, as described above, and then cut back to allow for the installation of the sealant, at the specified depths, once the foam has hardened.

The tables within Section 3.7 detail the maximum width at which the foam may be applied based upon the frame material, however, they do not detail a minimum width. Whilst no minimum width has been specified, it is highlighted that the practicality of installing the foam into narrow junctions means that there would likely be inconsistencies in the application. This report has only considered the performance of the fire foam when fitted to the full depth of the frame, fully filling the void between the frame and associated supporting construction.

Where the foam cannot be consistently fitted in accordance with this report due to narrow voids, it is advised that the foam, in isolation, should not be used. Based upon the testing summarised in Appendix A, it is permitted that voids of up to 5mm, may be sealed with 10mm deep Fire and Acoustic Seals Ltd acrylic intumescent sealant, without a backing material, for periods up to 60 minutes. This may be used in conjunction with the fire foam to ensure that the full perimeter of door assemblies/screens is fire stopped. For example, if a void to one jamb, or across the head, is equal to, or less than 5mm, the FAS Fire Door Intumescent Acrylic Sealant may be used, with the remaining perimeter void infilled with Fire Door Foam™. Additionally, where the void reduces to less than 5mm, for example, to the bottom of door/screen frame jambs, FAS Fire Door Intumescent Acrylic Sealant may be applied, with the Fire Door Foam™ used where the void then increases beyond 5mm in width. The sealant must be fitted once the foam has been applied and has hardened, and must be applied directly abutting the foam, ensuring there are no voids between the foam and the sealant. However, wherever possible, gaps between the rear of the door frame and structural opening should be controlled so that the gap width is consistent over the entire perimeter of the door frame, and is of a size which enables the installation of the proposed fire stopping systems.

For required fire resistance periods in excess of 60 minutes, a proven system should be used to the full perimeter of the junction, if the foam cannot be installed as per the specification provided herein.

Generally, within the testing summarised in Appendix A, the foam was allowed to cure for 24 hours prior to testing. KFS would advise that the performance of the foam, as described herein, is based upon a minimum period of 24 hours following the installation of the foam.

3.3 Maximum Height and Width of Assemblies

The largest permitted system the proposed Fire and Acoustic Seals Ltd fire stopping solutions may be fitted with must not exceed 2650mm high x 2650mm wide, assuming the requirements of this report are met. The relevant door/screen system must have sufficient data to demonstrate that the performance permits assemblies at these sizes.

3.4 Frame Material and Density

The relevant tables within Sections 3.7 and 3.8 detail the frame material, and the minimum density for that frame material. The frame material density is considered to be the minimum permitted density, however, the door/screen system used with the proposed fire stopping products must have approval for use with that material.

Where hardwood is utilised, it is not permitted to use beech (*Fagus sylvatica*) for periods of fire resistance greater than 30 minutes.

All timber used in the manufacture/construction of the proposed timber door assemblies must meet the following requirements:

1. Must achieve the stated minimum densities when measured at 15% moisture content.
2. The timber must be straight grained and of appropriate quality in accordance with BS EN 942: 2007.

The moisture content must be $11 \pm 2\%$ for the UK market, or to suit internal joinery moisture content specification of export countries.

Additionally, this report only considers square edged, rectilinear door frames.

Where architraves are used to cover the joint between frames and the adjacent supporting construction, they should be constructed of MDF, or hardwood, at the minimum dimensions/densities specified.

3.5 Supporting Construction

The supporting wall/partition for the door assemblies and glazed screens, fitted with Fire and Acoustic Seals Ltd fire stopping systems, must be constructed in accordance with the manufacturers instructions, which in turn, must be based upon primary fire resistance test data. The following limitations also apply;

- The structure above the proposed timber door assemblies must be self-supporting and must not impose any load upon the timber door/glazed screen assemblies under cold-state or fire conditions
- The supporting construction must have been fire tested or assessed to provide in excess of the required fire resistance period, at the required size, when incorporating door/screen openings
- If fitted into timber or steel stud partitions, the method of forming the door assembly opening must be as tested by the partition and/or door assembly manufacturer
- When utilising steel stud/plasterboard clad partitions, KFS recommends that the steel studs and steel head profile at the perimeter of the proposed timber door/screen assemblies are reinforced with lengths of timber which are a minimum of 38mm thick, and which are adjusted in width to completely fill the steel profiles
- Apertures within the utilised wall system must be rectilinear, and consistent in depth across the depth of the wall, such that the minimum required depth is maintained.

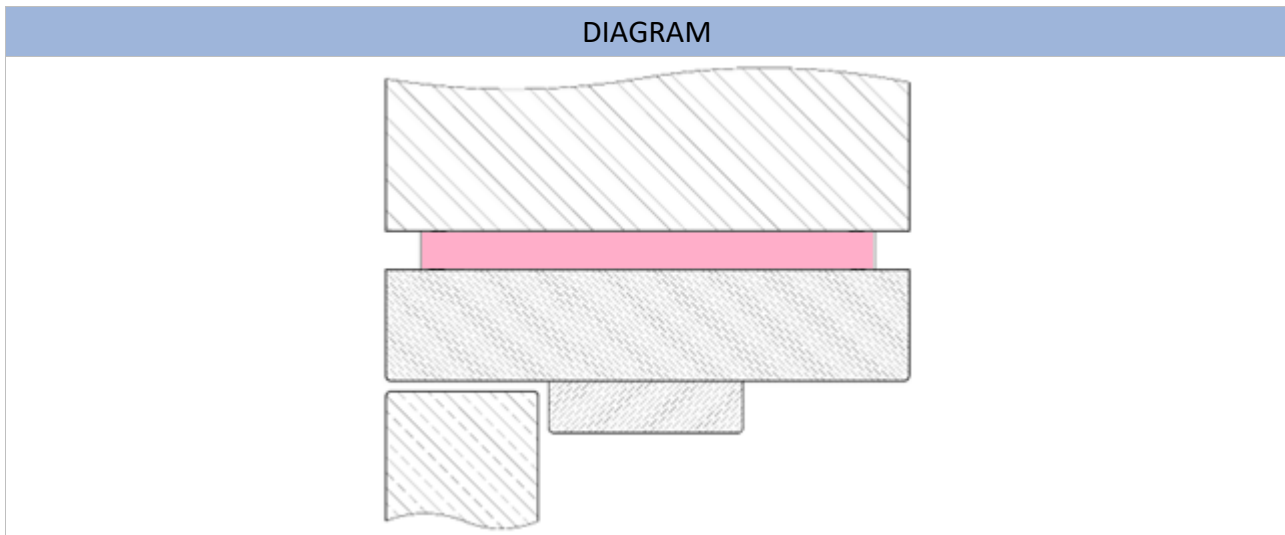
Note Any reference to steel stud partitions is in the context of permanent elements, such as those designed and proven by the plasterboard manufacturers – this report does not approve use of the proposed timber door/screen assemblies in proprietary ‘demountable’ partitions.

Where required, aperture liners may be fitted to reduce the void width between the frame and adjacent supporting construction. Aperture liners should comprise boards which are at least classified as A2, S1, D0, in accordance with BS EN 13501-1. Where aperture liners are utilised, the overall length of fixings must be increased by at least the thickness of the aperture liner, to maintain the minimum 40mm fixing penetration depth into the structural members of the wall. Based upon the test evidence provided, it is the evaluation of KFS that the interaction between the proposed fire stopping systems, and the board classified as detailed above, would prove a less onerous condition than tested, and would be suitable to maintain the required level of fire resistance.

It is noted that the testing summarised in Appendix A did not include any aperture liners, therefore, the Fire and Acoustic Seals Ltd fire stopping systems were fitted directly abutting either steel framework, timber framework, or blockwork. Based upon the outcome of the testing, KFS are of the opinion that the performance will be maintained when the fire stopping systems are fitted directly abutting steel, timber, or concrete.

3.6 Shadow Gaps (30 and 60 minute Assemblies Only)

It is permitted that shadow gap details may be created using the Fire and Acoustic Seals Ltd Fire Door Foam™. Shadow gaps may be up to 10mm wide x 5mm deep. Where shadow gaps are utilised, the overall depth of the frame must be increased such that the depth of the Fire Door Foam™ is not reduced comparatively to the minimum dimensions highlighted in the tables in Section 3.7. The minimum overall frame width must be at least 45mm where shadow gaps are utilised. Where the approved door/screen type has a frame that is in excess of 45mm wide, the larger dimension must be utilised.



3.7 Approved Specifications for Fire and Acoustic Seals Limited Fire Door Foam™

3.7.1 30 Minute Timber-Based Assemblies

The following specification has been provided to seal the junction between the frame of timber-based door assemblies, and glazed screens, to provide a minimum fire resistance period of 30 minutes.

Frame Material	Minimum Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Foam (mm)	Capping	Architrave	Test Standard Requirement
MDF	81	700	25	Not required	Not required	BS 476: Part 22: 1987
Softwood or Hardwood	78	510	11	Not required	Not required	
	100	510	23	Not required	Not required	
Hardwood	81	640	25	Not required	Not required	
	90	640	33	Not required	45 x 18mm MDF or Hardwood*	

* Refer to Section 3.4 for specification requirements of timber

Frame Material	Minimum Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Foam (mm)	Capping	Architrave	Test Standard Requirement
MDF	81	700	25	Not required	Not required	BS EN 1634-1: 2014+A1: 2018
Softwood or Hardwood	102	510	13.8	Not required	Not required	
Hardwood	81	640	25	Not required	Not required	
	90	640	33	Not required	45 x 18mm MDF or Hardwood*	

* Refer to Section 3.4 for specification requirements of timber

3.7.2 60 Minute Timber-Based Assemblies

The following specification has been provided to seal the junction between the frame of timber-based door assemblies, and glazed screens, to provide a minimum fire resistance period of 60 minutes.

Frame Material	Minimum Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Foam (mm)	Capping	Architrave	Test Standard Requirement
MDF	81	700	25	Not required	Not required	BS 476: Part 22: 1987 or BS EN 1634-1: 2014+A1: 2018
Hardwood	81	640	25	Not required	Not required	
	90	640	33	Not required	45 x 18 MDF or Hardwood*	

* Refer to Section 3.4 for specification requirements of timber

3.7.3 90 Minute Timber-Based Assemblies

The following specification has been provided to seal the junction between the frame of timber-based door assemblies, and glazed screens, to provide a minimum fire resistance period of 90 minutes.

Frame Material	Minimum Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Foam (mm)	Capping	Architrave	Test Standard Requirement
Hardwood	132	640	24	10mm to both faces*	Not required	BS EN 1634-1: 2014+A1: 2018

* Capping to be Fire and Acoustic Seals Ltd FAS Fire Door Intumescent Acrylic Sealant. Where a fire risk side may be identified, it is permitted that the 10mm capping may be fitted only to the risk side of the assembly. If fire resistance is required from both directions, capping should be fitted to both faces of the foam.

3.7.4 120 Minute Timber-Based Assemblies

The following specification has been provided to seal the junction between the frame of timber-based door assemblies, and glazed screens, to provide a minimum fire resistance period of 120 minutes.

Frame Material	Minimum Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Foam (mm)	Capping	Architrave	Test Standard Requirement
Hardwood	132	640	11	10mm to both faces*	Not required	BS EN 1634-1: 2014+A1: 2018

* Capping to be Fire and Acoustic Seals Ltd FAS Fire Door Intumescent Acrylic Sealant

3.8 Approved Specification for Fire and Acoustic Seals Ltd FAS Fire Door Intumescent Acrylic Sealant

3.8.1 30 Minute Timber-Based Assemblies

The following specification has been provided to seal the junction between the frame of timber-based door assemblies, and glazed screens, to provide a minimum fire resistance period of 30 minutes.

Frame Material	Minium Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Sealant (mm)	Sealant depth (mm)	Backing Material	Architrave	Test Standard Requirement
Softwood, MDF or Hardwood	100	510	15	10	Stonewool Insulation with a minimum density of 45kg/m ³ *	Not required	BS 476: Part 22: 1987
Hardwood	100	640	5	10mm to both faces	N/A	Not required	BS 476: Part 22: 1987

* Stonewool to be tightly packed into void, and capped with Fire and Acoustic Seals Ltd FAS Fire Door Intumescent Acrylic Sealant, to the stated depth

3.8.2 60 Minute Timber-Based Assemblies

The following specification has been provided to seal the junction between the frame of timber-based door assemblies, and glazed screens, to provide a minimum fire resistance period of 60 minutes.

Frame Material	Minium Frame Depth (mm)	Minimum Frame Density (kg/m ³)	Maximum permitted Width of Sealant (mm)	Sealant depth	Backing Material	Architrave	Test Standard Requirement
Hardwood	100	640	5	10mm to both faces	N/A	Not required	BS 476-22: 1987
Hardwood	90	640	18	10mm to both faces	Stonewool Insulation with a minimum density of 45kg/m ³ *	Not required	BS EN 1634-1: 2014+A1: 2018

* Stonewool to be tightly packed into void, and capped with Fire and Acoustic Seals Ltd FAS Fire Door Intumescent Acrylic Sealant, to the stated depth

4. Conclusion

Based upon the available test evidence, and subsequent analysis performed by Kiwa Fire Safety Compliance, if the proposed Fire and Acoustic Seals Ltd Fire Door Foam™, and FAS Fire Door Intumescent Acrylic Sealant, were fitted to the junction between timber door/glazed screen assemblies, and the associated supporting construction, in accordance with the limitations of this Field of Application report and tested for fire resistance, they would satisfy the integrity criteria of BS476: Part 22: 1987 or BS EN 1634-1: 2014+A1: 2018 for 30, 60, 90 or 120 minutes, as applicable.

5. Limitations

This report addresses itself solely to the ability of the Fire and Acoustic Seals Ltd Fire Door Foam™, and FAS Fire Door Intumescent Acrylic Sealant, described herein, to satisfy the criteria of the fire resistance test when used in conjunction with a relevant door/glazed screen assembly (see Section 1.2) and does not imply any suitability for use with respect to other unspecified criteria.

It is the responsibility of others to establish whether door assemblies and glazed screens used with the Fire and Acoustic Seals Ltd Fire Door Foam™, and FAS Fire Door Intumescent Acrylic Sealant, meet any other relevant requirements, including 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 Fire and Acoustic Seals Ltd Fire Door Foam™, and FAS Fire Door Intumescent Acrylic Sealant, and assumes that the surrounding construction will provide no less restraint than the tested assemblies 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 Kiwa Fire Safety Compliance 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 Kiwa Fire Safety Compliance 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 system 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 or glazed screens are installed, to ensure that no parts of the assembly are damaged or faulty.

Any such shortfalls in respect to the condition of the assemblies will invalidate the approval by KFS 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 KFS.

This report is not intended to be a complete specification for the proposed timber door and glazed screen assemblies and it is the responsibility of others to ensure that the proposed assemblies are suitable for the intended purpose; whilst incorporating the requirements of this report (see also Section 2.1, and 3.5). Further, the proposed timber door and glazed screen assemblies must be manufactured/installed by experienced/trained personnel using appropriate and established working practices/techniques.

Where the assessed constructions have not been subject to an on-site audit by Kiwa Fire Safety Compliance, 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. KFS 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 Field of Application 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 KFS'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 KFS have been commissioned to liaise with the Authorities that have jurisdiction for the building in question for the purpose of obtaining the necessary approvals, KFS 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 KFS 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.

6. Validity

This Field of Application Report has been prepared based on Kiwa Fire Safety Compliance present knowledge of the products described, the stated testing regime and the submitted test evidence.

This Field of Application Report is valid for a period of five years, after which time it is recommended that it be submitted to Kiwa Fire Safety Compliance for re-evaluation. For this reason, anyone using this document after July 2028 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:



Callum Sempill BSc (Hons) MSc AIFireE ACABE
Senior Fire Safety Engineer
Kiwa Fire Safety Compliance
(Part of the Kiwa UK Group)


Reviewed by:



Chris Houchen BSc. AIFireE
Associate Director of Product Evaluation
Kiwa Fire Safety Compliance
(Part of the Kiwa UK Group)

By signing this report, the above signatories declare that they have no conflict of interest with the report sponsor, or with the products/constructions which are the subject of this engineering assessment report, thereby meeting the requirements for impartiality, as set out 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'](#).

7. Declaration by the Applicant

KFS Field of Application Report	PAR/18385/01 Revision C
Client	Fire and Acoustic Seals Ltd
<p>We, the undersigned, confirm that we have read and complied with the obligations placed on us by the Passive Fire Protection Forum (PFPF), details of which are outlined in the following document;</p>	
	
<p>Passive Fire Protection Forum (PFPF) - Industry Standard Procedure 2021 ‘Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence’</p>	
<ul style="list-style-type: none"> • 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. • 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. • 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. 	
Signature	
Name	
Position	
Company Name	Fire and Acoustic Seals Ltd
Date	

Appendix A - Summary of Fire Test Evidence

Test Report, Laboratory and Date	Core	Frame/Fire and Acoustic Seals Ltd Fire Stopping Depth	Gap between Frame and Supporting Construction	Supporting Construction	Test Standard	Integrity (relating to the firestopping)
WF 386228 AR1 Warringtonfire 31 July 2017	Vicaima FD30 blank	78mm	25mm	Plasterboard clad timber stud partition	BS 476: 20/22	53 minutes
WF 389582 Warringtonfire 5 October 2017	Falcon Strebord	90mm	25-33mm	British Gypsum steel stud partition	BS EN 1634- 1:2014	62 minutes
WF 384623 Warringtonfire 30 June 2017	Falcon Strebord	81mm	25mm	Flexible supporting construction	BS EN 1634- 1:2014	49 minutes
	Falcon Strebord	96mm	20mm	Flexible supporting construction	BS EN 1634- 1:2014	5 minutes
CFR1803081_1 Cambridge Fire Research 8 March 2018	Falcon- Strebord	90mm	hanging jamb: 4.6mm head: 8.1mm closing jamb: 7.3mm	Plasterboard clad timber stud partition	BS 476: 20/22	49 minutes
	Nan ya Corporation - Phenolic foam	78mm	hanging jamb: 10.5mm head: 7.4mm closing jamb: 11mm	Plasterboard clad timber stud partition	BS 476: 20/22	43 minutes
CFR1908301 Cambridge Fire Research 30 August 2019	Falcon Strebord	119mm	Jambs: 15.9- 23.7mm head: 3.9mm	Plasterboard clad timber stud partition	BS 476: 20/22	66 minutes
CFR1911291_2 Revision 1 Cambridge Fire Research 29 November 2019	Halspan Prima Plus 120	132mm	7-11.5mm	Plasterboard clad steel stud partition	BS EN 1634- 1:2014	120 minutes
	Halspan 120	132mm	15-23.9	Plasterboard clad steel stud partition	BS EN 1634- 1:2014	110 minutes
EUI-19-B- 000059 Efectis UK/Ireland 10 May 2019	Jeld-Wen Master	100	20mm	Plasterboard clad timber stud partition	BS 476: 20/22	67 minutes

Test Report, Laboratory and Date	Core	Frame/Fire and Acoustic Seals Ltd Fire Stopping Depth	Gap between Frame and Supporting Construction	Supporting Construction	Test Standard	Integrity (relating to the firestopping)
WF 413375 Warringtonfire 29 April 2019	PremCORE Lite	100mm	20mm	Plasterboard clad timber stud partition	BS 476: 20/22	30 minutes
	Premdor CF198	100mm	20mm	Plasterboard clad timber stud partition	BS 476: 20/22	30 minutes
WF 405307 Warringtonfire 25 October 2018	Falcon Strebord	100mm	9-15mm	Plasterboard clad timber stud partition	BS 476: 20/22	40 minutes
	Falcon Strebord	100mm	9-15mm wide	Plasterboard clad timber stud partition	BS 476: 20/22	40 minutes
WF 414882 Warringtonfire 11 June 2019	Falcon Strebord	102mm	2.5-13.8mm	Plasterboard clad steel stud partition	BS EN 1634-1:2014	37 minutes
WF 411193 Rev A Warringtonfire 28 February 2019	Falcon Strebord	100mm	18-22.5mm	Plasterboard clad timber stud partition	BS 476: 20/22	37 minutes
CFR2209012 Cambridge Fire Research 1 September 2022	Halspan Optima	126mm (including silicone capping)	3.9-15.6mm	Plasterboard clad steel stud partition	BS 476: 20/22	68 minutes
CFR2204071_1 Cambridge Fire Research 19 April 2022	Halspan Optima	124mm (including silicone capping)	24.5-31.9mm	Plasterboard clad timber stud partition	BS 476: 20/22	68 minutes
20210419-00321A UK Testing Centre 17 August 2021	Falcon Strebord	94mm	18.1-22.9mm	Plasterboard clad steel stud partition	BS EN 1634-1: 2014 +A1 2018	31 minutes
	Falcon Strebord	94mm	16.6-23.9mm	Plasterboard clad steel stud partition	BS EN 1634-1: 2014 +A1 2018	41 minutes
WF 429152 Warringtonfire 02 June 2020	Falcon Strebord	Stonewool capped with 10mm deep F&AS Sealant	3-18mm wide	Blockwork	BS EN 1634-1: 2014 +A1 2018	69 minutes
	Falcon Strebord	Stonewool capped with 10mm deep F&AS Sealant	3-18mm wide	78	BS EN 1634-1: 2014 +A1 2018	69 minutes

Appendix B - Summary of Smoke Test Evidence

TEST REPORT, LABORATORY AND DATE	FRAME/FIRE AND ACOUSTIC SEALS LTD 'FIRE DOOR FOAM' DEPTH	GAP BETWEEN FRAME AND SUPPORTING CONSTRUCTION	TEST STANDARD	MAXIMUM LEAKAGE AT 25PA
WYC400348, Exova, 17 May 2018	70mm	33mm wide x 2000mm high	BS EN 1634-3	1.44m ³ /hr/m
WYC501934, Warringtonfire 9 July 2021	78mm	16.1mm – 21mm wide to full perimeter of frame	BS EN 1634-3	1.43m ³ /hr/m