

KFS Field of Application Report

KFS Report PAR/25017/01

Fire Resistance Standard: BS EN 1366-4: 2021



Prepared for:

ARC Building Solutions Limited

Site Address:

Unit J, Gildersome Spur, Leeds, West Yorks LS27 7JZ

Assessed Product/System:

Field of Application for ARC Building Solutions FFB Cavity Barrier Linear Joint Seal

Assessed Performance:

Between 120 and 240 Minutes Fire Resistance Depending on Configuration when Tested to BS EN 1366-4: 2021

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**Partner
for
Progress**

Kiwa Fire Safety Compliance

Kiwa Fire Safety Compliance (KFS) is part of the **Kiwa UK Group**. The company is a specialist engineering consultancy delivering independent 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.

Formerly named International Fire Consultants, the company 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.

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Report Reference Number:	KFS Report PAR/25017/01		
Prepared on behalf of:	ARC Building Solutions Ltd		
Client Address:	Unit J Gildersome Spur Leeds West Yorks LS27 7JZ		
Issue Date:	July 2024	Expiry Date:	July 2029
Ref ID:	#25017		

Issue and Amendment Record

REV	DATE	AUTHOR	REVIEW	SECTION	AMENDMENTS
-	July 2024	ES	DC	All	-

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1. Introduction

This Field of Application Report has been prepared by Kiwa Fire Safety Compliance (KFS), on the instruction of ARC Building Solutions Limited, to define the Field of Application for their FFB Cavity Barriers that are required to provide a minimum of 120 minutes fire resistance performance, when installed as a joint seal in a wall fire-separating element or as a joint seal in a floor fire separating element. Additional aspects which are included are the following with and without features:

- Damp Proof Course (DPC) strip;
- Fixing hangers (brackets);
- Compression of seal;
- Masonry Support Brackets (MSBs):

The seals will be adjudged against the test conditions of BS EN 1366-4: 2021.

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, KFS 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 on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports'*

The Technical Assessment is based upon the information supplied to us, (detailed in Section 2), and upon the fire resistance test evidence for parts of the constructions (detailed in Section 3). An analysis of the fire resistance performance of the FFB Cavity Barriers is presented in Section 4, herein which also defines the scope of approval by KFS. 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 in Section 3, herein.

Anyone using this report should verify that details in their possession match those which are kept on file by KFS. If variations occur between details described, herein, and those on the relevant documents, the former shall take precedence, or KFS should be contacted for clarification. Refer to Section 7 for recommendations with respect to audit and verification of the manufactured/installed assembly.

2. Proposal

2.1 General Overview

The test reports summarised in Section 3, herein, demonstrate the efficacy of the ARC Building Solutions FFB Cavity Barriers, when installed as part of a separating element (i.e. floor or wall), and tested to the furnace conditions of EN 1366-4: 2021. The specimens were tested in both a floor (horizontal gap) and a wall (vertical gap) with two gap widths, and it is proposed that these seals will also provide the same levels of fire resistance, with intermediate gap widths. The ARC Building Solutions FFB Cavity Barriers are available as batts 1200mm long x 450 mm wide x 100mm thick and have been tested with butt joints to enable longer cavities to be sealed.

The most recent tests were carried out to BS EN 1366-4: 2021 which is the current European standard for Linear Joint Seals whereas earlier tests were carried out to BS EN 1366-4: 2006 + A1: 2010. After reviewing the reports KFS has decided that the test evidence from the earlier tests is valid for this report.

The specification of the ARC Building Solutions' FFB Cavity Barriers is briefly summarised in Section 2.2, below based upon the details in the test reports. Further details of the parameters for the proposed application are described in Section 4, herein.

2.2 General Product Description

The ARC Building Solutions' FFB Cavity Barrier comprises a piece of non-combustible material from a stone wool slab 100mm thick and supplied in a 1200mm length with aluminium foil facings. It is factory cut to the required size and is either compression fitted or friction fitted into the gap that requires sealing.

The ARC Building Solutions' FFB Cavity Barrier normally fills a gap in a separating element wall or floor. For a compression fit the seal should be cut 5mm larger than the gap width but may also be friction fitted. The strips are 1200mm long and are butt jointed to fill longer gaps, the approved minimum length of the terminating piece is 250mm so the adjacent piece may need to be cut down to achieve this minimum length. Tests have been carried out in a joint with an autoclaved aerated concrete (AAC) lintel on both sides or with a cement particle board (CP) or 12.5 Windliner sheathing board facing to one of the AAC lintels. Tests have also been done with a polyethylene damp proof course (DPC) strip bonded to one face of the FFB Cavity Barrier to demonstrate that the performance of the barrier is not affected by the presence of the combustible DPC material. Tests have been carried out in conjunction with two common types of masonry support bracket and also with a corner joint bracket with different amounts of penetration of the bracket into the cavity barrier which affects the insulation rating achieved in the test.

2.3 Proposed Scope of Approval

The proposed scope is summarised in Tables 1a and 1b, below.

Variation	Orientation	Maximum Gap width (mm)	Hangers	Compression (mm)	Substrate	Integrity (minutes)	Insulation (minutes)
Compression no hangers	Floor	450	None	5	AAC to AAC or sheathing board see 4.1.4	120	45
	Wall/Vertical						
Friction fit with hangers	Floor	450	Y	F Note 1	AAC to AAC or sheathing board see 4.1.4	240	60
	Wall/Vertical						
DPC	Floor	450	Y	F Note 1	AAC to AAC or sheathing board see 4.1.4	240	60
	Wall/Vertical						

Table 1a. Proposed Scope for ARC Building Solutions FFB300 and FFB450 Cavity Barriers

Note 1 The FFB450 is friction fitted.

MSB Penetration	Orientation	Maximum Gap width (mm)	Hangers	Compression (mm)	Substrate	Integrity (minutes)	Insulation (minutes)
Bracket A Straight 50%	Floor/wall	300	Y	5	AAC to AAC	120	120
Bracket A Straight 90%	Floor/wall	300	Y	5	AAC to AAC	120	120
Bracket C Straight 50%	Floor/wall	300	Y	5	AAC to AAC	120	120
Bracket C Straight 90%	Floor/wall	300	Y	5	AAC to AAC	120	90
Corner Bracket B 50%	Floor/wall	300	Y	F Note 2	AAC to AAC	120	30
Corner Bracket B 90%	Floor/wall	300	Y	F Note 2	AAC to AAC	120	30

Table 1b Proposed Scope for ARC Building Solutions FFB300 Cavity Barriers over MSBs

Note 2 The FFB300 is friction fitted.

3. Test Evidence

The test evidence used to support this Field of Application Report is summarised in Tables 2a and 2b below. Full specifications of the tested product are recorded in the test reports, copies of which are held on confidential file by KFS. Two of the tests in Table 2a (WF358532 and WF502321A/R) were carried out to BS EN1366-4: 2006+A1: 2010 but the rest were carried out to EN 1366-4: 2021 for FFB Cavity Barriers in a wall with vertical joints and in a floor. All tests had a butt jointed splice in the FFB Cavity Barrier to demonstrate that butt joints are feasible and don't lead to premature failure.

Warrington fire Test Number/ Specimen/ Orientation	Product	Gap width (mm)	Seal depth (mm)	Seal recess (mm)	Seal Com- pression (mm)	Hangers No/penet- ration	Substrate	Seal Splice (mm)	Integrity Cotton Pad/ Sustained Flaming (minutes)	Insulation (minutes)
WF358532 Specimen C Floor	FFB300	300	100	150	5	3/100	AAC to AAC	750/250	264*/264*	264*
WF510928 Specimen D Wall/Vertical	FFB450	450	100	115	5	0	AAC to 9mm cement board	1200/ 1150/ 650	145/145	52
WF513883 Specimen E Wall/Vertical	FFB300	300	100	115	5	0	AAC to AAC	650/350	183/187	54
WF538245/R Specimen A Floor	FFB450	450	100	310	5	0	AAC to 12.5mm Windliner board	700/300	264*/264*	213
WF538246/R Specimen B Wall/Vertical	FFB450	450	100	270	F Note 3	4/200	AAC to 12.5mm Windliner board	700/300	264*/264*	126
WF538248 Specimen A Floor	FFB450	450	100	240	F Note 3	4/200	AAC to 12.5mm Windliner board	700/300	264*/264*	104
WF538248 Specimen D Wall/Vertical	FFB450	450	100	240	F Note 3	4/200	AAC to 12.5mm Windliner board	700/300	264*/264*	79
WF538248 Specimen B Floor	FFB450 with DPC	450	100	245	F Note 3	4/200	AAC to 12.5mm Windliner board	700/300	264*/264*	93
WF538248 Specimen F Wall/Vertical	FFB450 with DPC	450	100	270	F Note 3	4/200	AAC to 12.5mm Windliner board	700/300	225/264*	75

Table 2a. Summary of Test Evidence for ARC Building Solutions FFB Cavity Barrier

Note 3 The FFB450 is friction fitted.

The test evidence for masonry brackets is given in Table 2b both for two types of straight support brackets and for a corner bracket. The Type A support bracket has an angle tray fitted to the end of the bracket so it does not blank off the cavity whereas Type C does cover the cavity completely. The cavity barriers are fitted above the angle tray in each case with cuts made to accommodate the support brackets or stiffeners. The height of the barrier above the angle tray is set so that the brackets of Type

A support bracket penetrate either 50% of the width of the barrier or 90% of the barrier and the same arrangement is carried out for Type C support brackets. The cavity barrier covers the brackets and stiffeners completely for both types.

The corner support brackets B are the same for all specimens with an open cavity but the three support brackets (B1, B2 and B3) to each corner bracket are of different heights to cover different sized brackets. In specimens A and B the brackets penetrate 50% of the width of the cavity barrier and in specimens C and D they penetrate 90% of the width of the barrier. The barrier is fitted at 194mm above the angle tray in specimens A and B and at 39mm above the angle tray in specimens C and D. This results in the longer brackets protruding through the cavity barrier by different amounts depending on the position of the cavity barrier and the height of the bracket. These protruding brackets are covered by fitting caps in the form of pieces of cavity barrier over them to improve the insulation result for the test. Bracket B2 has a 300mm x 150mm piece of barrier as a cap on the unexposed face and Bracket B3 has 300mm x 200mm piece of barrier as a cap on the unexposed face.

Warrington fire Test Number/ Specimen/ Orientation	Product/ Penetration	Gap width (mm)	Seal depth (mm)	Seal recess (mm)	Seal Compression (mm)	Hangers No/penetration	Substrate	Seal Splice (mm)	Integrity Cotton Pad/ Sustained Flaming (minutes)	Insulation (minutes)
WF533725/R Specimen A straight	FFB300 Bracket A 50%	300	100	347	5	4/150	AAC to AAC	650/350	133*/133*	133*
WF533725/R Specimen B straight	FFB300 Bracket A 90%	300	100	310	5	4/150	AAC to AAC	500/500	133*/133*	133*
WF533725/R Specimen C straight	FFB300 Bracket C 50%	300	100	350	5	4/150	AAC to AAC	650/350	133*/133*	133*
WF533725/R Specimen D straight	FFB300 Bracket C 90%	300	100	310	5	4/150	AAC to AAC	650/350	133*/133*	111
WF533726/R Specimen A Floor Corner	FFB300 Bracket B 50%	300	100	404	F <i>Note 4</i>	(2 + 1)/ 150	AAC to AAC	-	132*/132*	79
WF533726/R Specimen B Floor Corner	FFB300 Bracket B 50%	300	100	404	F <i>Note 4</i>	(2 + 1)/ 150	AAC to AAC	-	132*/132*	57
WF533726/R Specimen C Floor Corner	FFB300 Bracket B 90%	300	100	250	F <i>Note 4</i>	(2 + 1)/ 150	AAC to AAC	-	132*/132*	31
WF533726/R Specimen D Floor Corner	FFB300 Bracket B 90%	300	100	250	F <i>Note 4</i>	(2 + 1)/ 150	AAC to AAC	-	88/132*	53

Table 2b. Summary of Test Evidence for ARC Building Solutions FFB300 Cavity Barrier fitted over MSBs

Note 4 The FFB300 is friction fitted.

4. Analysis and Approved Scope

4.1 Analysis

The test reports summarised in Tables 2a and 2b of Section 3 demonstrate the efficacy of the ARC Building Solutions FFB Cavity Barriers when installed either in a wall or in a floor. Most of the tests were done to BS EN 1366-4: 2021 but two of the earlier ones (WF 358532 and WF 502321A) were done to the earlier version BS EN 1366-4: 2006+A1: 2010. KFS has reviewed these earlier tests and concluded that they are appropriate for this technical assessment.

4.1.1 Width of Cavities

ARC Building Solutions FFB Cavity Barriers have been tested at a maximum cavity width of 450mm both in floors and in a vertical orientation in walls both at mid cavity depth and flush with the unexposed face and the Field of Direct Application (Section 13.5.4) in BS EN 1366-4: 2021 permits the use of the barriers in narrower cavities using the same degree of compression as tested.

4.1.2 Fitting of FFB Cavity Barriers

ARC Building Solutions FFB Cavity Barriers have been tested with what the test described as a friction fit which implies almost zero compression. A friction fit will work only if there are no gaps as a result of undulations in the surface of the wall but the test shows that the product is capable of performing satisfactorily under the test conditions with smooth flat surfaces. It is advised that 5mm of compression should be added to ensure there are no gaps

Most of the tests have butt joints in the barriers to demonstrate that longer runs may be facilitated. The shortest length tested is 250mm so the end piece of a series of butt jointed barriers shall not be less than 250mm. If the remaining space is less than 250mm the adjacent barrier is reduced in length to ensure that the final end piece meets the minimum requirement.

4.1.3 Hangers (Brackets)

Although most tests have been carried out with hangers to support the FFB cavity barriers there is test evidence in Table 2a that the barriers perform satisfactorily without hangers when 5mm compression has been applied during fitting. The distance penetrated by the hanger into the barrier is either 150mm or 200mm for FFB450 and 100mm or 150mm for FFB300 so these distances are acceptable.

4.1.4 Sheathing Boards

Most of the tests have been carried out with a 12.5mm thick Windliner gypsum sheathing board but two tests had Cement Particle boards 9mm and 10mm thick so any of these or other sheathing boards of the same density, thickness and fire resistance are acceptable sheathing boards.

4.1.5 Damp Proof Course Polyethylene Strip

Tests shown in Table 2a indicate that the presence of a DPC polyethylene strip on FFB450 does not have a deleterious effect on the performance of FFB450 either in a floor or in a wall.

4.1.6 Masonry Support Brackets

Two types of masonry support brackets have been tested in linear cavities and a further type has been tested in a corner configuration as shown in Table 2b. The test evidence shows that allowing the strengtheners to penetrate the barrier to some extent does not affect the fire resistance but it does reduce the insulation value.

4.2 Scope of Approval

Based on the experimental evidence provided the ARC Building Solutions FFB450 and FFB300 Cavity Barriers are approved with the ratings indicated for the maximum gap widths shown in Tables 3a and 3b. Both types have the same thickness, 100mm, and have aluminium foil facings. The ARC Building Solutions FFB Cavity Barriers have been tested oriented vertically in a wall and in a floor with non-combustible substrates. Section 13.1 Orientation of BS EN 1366-4: 2021 permits horizontal wall joints to be filled with cavity barriers that have been tested in a floor. The tests at 5mm compression across the width have been successful with and without hangers so these are optional in these circumstances.

Tests have been successful with minimum compression (friction fit) but hangers are required when a friction fit is used. As no intermediate degrees of compression have been tested the option of no hangers is restricted to barriers with 5mm compression across the width. The performance of the ARC Building Solutions Cavity Barriers depends on the inner and outer walls not deflecting more than the autoclaved aerated concrete used for testing. Consequently, the inner wall shall be constructed from concrete, blockwork or masonry of density greater than or equal to 670kg/m³, or from SFS with A2 rated sheathing board which has direct and appropriate test evidence that it can provide the required level of fire resistance and does not deform or deflect in the event of a fire, thereby ensuring that the performance of the cavity barrier will be unaffected.

Variation	Orientation	Maximum Gap width (mm)	Hangers	Compression (mm)	Substrate	Integrity (minutes)	Insulation (minutes)
Compression no hangers	Floor	450	None	5	AAC to AAC or sheathing board see 4.1.4	120	45
	Wall/Vertical						
Friction fit with hangers	Floor	450	Y	F <i>Note 1</i>	AAC to AAC or sheathing board see 4.1.4	240	60
	Wall/Vertical						
DPC	Floor	450	Y	F <i>Note 1</i>	AAC to AAC or sheathing board see 4.1.4	240	60
	Wall/Vertical						

Table 3a. Approved Scope for ARC Building Solutions FFB300 and FFB450 Cavity Barriers

Note 5 The FFB450 is friction fitted.

The ARC Building Supplies FFB300 Cavity Barrier is approved for use in conjunction with Masonry Support brackets (MSBs) as shown in Table 3b. The penetration of stiffeners of the MSBs does not affect the performance of the cavity barrier for two types of MSBs in a linear gap with 50% penetration of the cavity barrier. At 90% penetration one of the barriers had a lower insulation performance but the other did not. When the barriers were placed in a corner arrangement the integrity was unaffected but the insulation values were considerably lower. The lowest level of insulation (30 minutes) was achieved using a cap of Cavity Barrier over the otherwise exposed support of the corner MSB and this provided 20mm of stone wool protection to each side of the support.

MSB Penetration	Orientation	Maximum Gap width (mm)	Hangers	Compression (mm)	Substrate	Integrity (minutes)	Insulation (minutes)
Bracket A Straight 50%	Floor/wall	300	Y	5	AAC to AAC	120	120
Bracket A Straight 90%	Floor/wall	300	Y	5	AAC to AAC	120	120
Bracket C Straight 50%	Floor/wall	300	Y	5	AAC to AAC	120	120
Bracket C Straight 90%	Floor/wall	300	Y	5	AAC to AAC	120	90
Corner Bracket B 50%	Floor/wall	300	Y	F <i>Note 6</i>	AAC to AAC	120	30
Corner Bracket B 90%	Floor/wall	300	Y	F <i>Note 6</i>	AAC to AAC	120	30

Table 3b. Approved Scope for ARC Building Solutions FFB300 Cavity Barriers over MSBs

Note 6 The FFB300 is friction fitted.

5. Conclusion

A review of the test evidence for ARC Building Solutions FFB450 and FFB300 Cavity Barriers has been carried out and has resulted in an approval of the product for the fire resistance periods shown in Tables 3a and 3b, Section 4.2.

Tests have shown that good results are obtained with a friction fit but it must be emphasized that this is only achievable if there are no gaps between the barrier and the substrate.

6. Declaration by the Applicant

KFS Field of Application Report	PAR/25017/01
Client	ARC Building Solutions Ltd
Address	Unit J Gildersome Spur Leeds West Yorks LS27 7JZ
We the undersigned confirm that we have read and complied with the obligations placed on us by the	
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'	
- 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. - 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	ARC Building Solutions Ltd
Date	

7. Limitations

This report addresses itself solely to the ability of the proposed cavity seal 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 cavity seals 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 Kiwa Fire Safety Compliance (KFS) 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 (KFS) 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 cavity seal 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 cavity seal is installed, to ensure that no parts of the cavity seal, or the adjacent walls, are damaged or faulty.

Any such shortfalls in respect to the condition of the cavity seal/walls 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 cavity seal and it is the responsibility of others to ensure that the products/assemblies are suitable for the intended purpose whilst incorporating the requirements of this report. Further, the products/assemblies must be manufactured/installed by experienced/trained personnel using appropriate and established working practices/techniques.

The assessed products/installations 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.

These linear joint seal tests have mostly been described in the test reports as "generally in accordance with EN 1366-4" and this is because the test furnace used is less than 3m x 3m. Smaller furnaces are permitted according to the standard but there is a requirement that the aspect ratio of the test specimen should be at least 10:1 in smaller furnaces which is not the case for some of the specimens tested. Several specimens were successfully tested in a 3m x 3m furnace, thus satisfying the 10:1 ratio requirement. It is the opinion of KFS that the tests carried out in smaller furnaces are satisfactory for this application because butt joints have been included in all cases without a problem and this view is confirmed by the evidence from the full-scale tests

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 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.

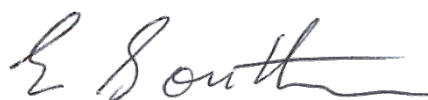
8. Validity

This Field of Application Report has been prepared based on Kiwa Fire Safety Compliance'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 Kiwa Fire Safety Compliance for re-evaluation. For this reason, anyone using this document after July 2029 should confirm its ongoing validity.

This assessment report is not valid unless it incorporates the declaration, in Section 6, duly signed by the applicant.

Prepared by:



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