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Title

Field of Application for:

The 'Total Comfort Smoke & Fire Barrier', non-loadbearing fabric barrier partition wall, if the assembly were to be tested to BS EN 1364-1: 2015.

For up to a 120 minute period of fire resistance

Report No.:

WF 541581 Issue 1

Issue Date:

23rd February 2024

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23rd February 2029

Job Reference:

541581

Prepared for:

ARC Lancaster T/A MC Resources/ Lancaster Insulation
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1 Foreword

This Field of Application assessment has been commissioned by ARC Lancaster T/A MC Resources/ Lancaster Insulation and relates to the fire resistance of the 'Total Comfort Smoke & Fire Barrier', non-loadbearing fabric barrier partition wall assembly for 120 minutes integrity, 30 minutes insulation and 120 minutes thermal radiation fire resistance performance.

The report is for national application and has been written in accordance with the general principles outlined in BS EN 15725.

This Field of Application assessment uses established empirical methods of extrapolation and experience of fire testing similar non-loadbearing partition systems, in order to extend the scope of application by determining the limits for the designs based on the tested constructions and performances obtained. The scope is an evaluation of the potential fire resistance performance if the variations specified herein were to be tested in accordance with BS EN 1364-1: 2015.

This scope document cannot be used as supporting documentation for either a UKCA or CE marking application nor can the conclusion be used to establish a formal classification against EN13501-2.

This Field of Application assessment has been written using appropriate test evidence generated at UKAS accredited laboratories, to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturers stated non-loadbearing partition wall design and is summarised in section 3.

The scope presented in this report relates to the behaviour of the proposed non-loadbearing partition wall under the particular conditions of the test; they are not intended to be the sole criterion for considering the potential fire hazard.

This Field of Application assessment has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Passive Fire Protection Forum (PFPF) 'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence' 2021. The aim of the PFPF guidelines is to give confidence to end-users that assessments that exist in the UK are of a satisfactory standard to be used for building control and other purposes.

2 Proposal

It is proposed to consider the fire resistance performance of the 'Total Comfort Smoke & Fire Barrier', a non-loadbearing fabric barrier partition wall assembly for 120 minutes integrity, 30 minutes insulation and 120 minutes thermal radiation fire resistance performance, if the system were to be tested to the requirements of BS EN 1364-1:2015, Fire resistance tests for non-loadbearing elements Part 1: Walls.

The field of application defined in this report is based on the fire resistance test evidence for the partition system design, which is summarised in section 3.

Analysis of specific construction details that require assessment are given within this report against the relevant element of construction, as appropriate.

The technical specification for the proposed non-loadbearing fabric barrier partition system is based on the details extracted from the test report summarised in section 3 of this report.

The analysis of the fire resistance performance of the proposed non-loadbearing fabric barrier partition system is included within the minimum construction specification in section 5, as appropriate.

2.1 Additional Note

The product is referenced as 'Total Comfort Smoke & Fire Barrier'. This product was tested to BS EN 1364-1: 2015 which does not consider smoke as one of the performance criteria. Therefore this assessment will consider fire resistance performance only.

3 Test Evidence

The test evidence summarised below has been generated to support the fire resistance performance of the proposed non-loadbearing fabric barrier partition system which is the subject of this field of application assessment. The summary details are considered to be the key aspects of the design tested and/or assessed.

3.1 Primary Evidence

3.1.1 Test Report WF 521289/R Issue 3

The referenced test report, the essential details of which are summarised below, is to be used to support the fire resistance of the 'Total Comfort Smoke & Fire Barrier' non-loadbearing fabric barrier partition system. The partition system is to be constructed in accordance with the requirements of the test report unless otherwise stated in section 5 of this report.

Issue date:	12th February 2024
Identification of issuing body:	Warringtonfire Testing and Certification Ltd. UKAS No. 0249
Report Sponsor:	Lancaster Insulation/ MC Resources
Summary of testing report:	The specimen had overall nominal dimensions of 3050 mm high by 3050 mm wide by 175 mm thick and was formed from a fire barrier referenced 'Total comfort smoke & fire barrier'. The barrier comprised a single layer of 50 mm thick mineral rock fibre fire barrier with a stated density of 100 kg/m^3, with a galvanised mild steel mesh to the unexposed face. Two layers of the 1000 mm wide sections were installed with a nominal 75 mm air cavity between them, joints were stitched together using stainless steel lacing wire, and were typically offset by 200 mm. The perimeter of the test specimen was secured using 1.5 mm thick galvanised mild steel angle, the specimen was secured on all four edges.
Fire resistance performance achieved:	**Integrity:** 132 minutes (no failure by test termination) **Insulation:** 30 minutes **Thermal Radiation:** 132 minutes (no failure by test termination)
Test Standard utilised in test:	BS EN 1364-1: 2015
Test Date:	29th September 2022

Extracted relevant sections from the test report that detail the tested arrangement are detailed in figures 1 and 2 below:

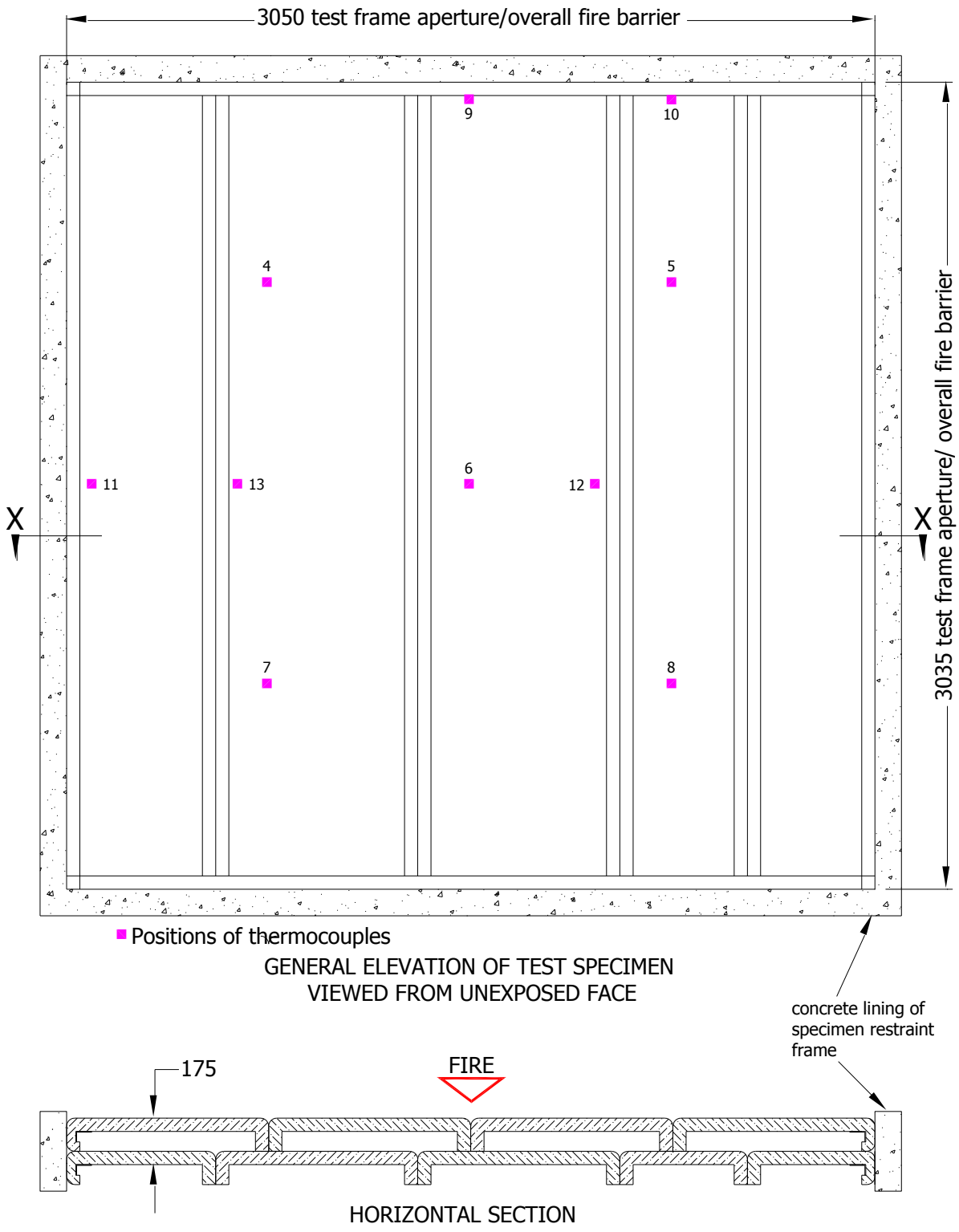

Figure 1: Unexposed face and horizontal section of tested specimen

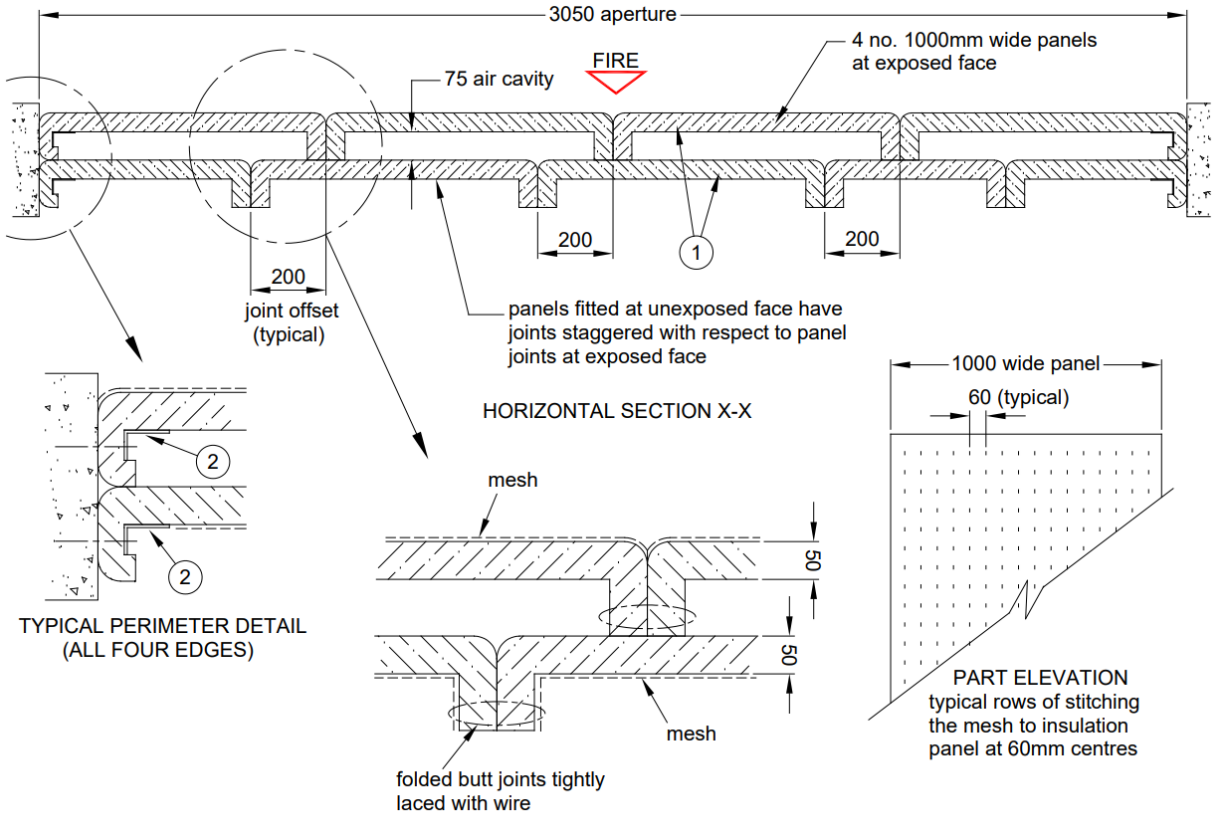

Figure 2: Horizontal section of tested specimen

4 Technical Specification

4.1 General

The technical specification for the proposed non-loadbearing fabric barrier partition system as outlined in section 2 is given in the following sections and is based on the test evidence for the system, summarised in section 3.

4.2 Intended Use

The intended use of the proposed non-loadbearing partition system is summarised below:

'A wall designed not to be subject to any load other than its self-weight'. The extract has been taken verbatim from BS EN 1364-1: 2015.

4.3 Tested construction details

The non-loadbearing fabric barrier partition system is to be constructed in accordance with that tested, summarised in the extracts below. The specific construction details are summarised in the test summary in section 3.1 of this report. The build-up of the partition system as tested in test reference WF 521289/R Issue 3 is as follows:

The specimen had overall nominal dimensions of 3050mm high by 3050mm wide by 175mm thick and was formed from a fire barrier referenced 'Total comfort smoke & fire barrier'. The barrier comprised a single layer of 50mm thick mineral rock fibre fire barrier with a stated density of 100kg/m^3, with a galvanised mild steel mesh to the unexposed face. Two layers of the 1000mm wide sections were installed with a nominal 75mm air cavity between them, joints were stitched together using stainless steel lacing wire, and were typically offset by 200mm. The perimeter of the test specimen was secured using 1.5mm thick galvanised mild steel angle, the specimen was secured on all four edges.

5 Analysis

This section will provide the justification to support variations in the tested design based upon the direct field of application allowances from BS EN 1364-1:2015. Unless otherwise stated within this section, the non-loadbearing fabric barrier partition design shall be constructed as tested within WF 521289/R Issue 3.

5.1 Partition Height

The tested partition, as summarised in section 4, was tested at a height of 3050mm. In accordance with Clause 13.3 of BS EN 1364-1:2015, the height of the partition may be increased by 1000mm in addition to the tested height, provided that the expansion allowances are increased pro-rata (which are to be confirmed by the manufacturer), thereby bringing the maximum height of the partition to 4050mm. The maximum recorded distortion was 34mm, significantly below the requirement of no greater than 100mm, as stipulated by Clause 13.3 of BS EN 1364-1:2015.

In accordance with Clause 13.1 of BS EN 1364-1:2015, a reduction of the height of the partition is also permitted. This is because a smaller wall panel is likely to deflect less than a larger wall panel.

5.2 Thickness of Component Materials

In accordance with Clause 13.1 of BS EN 1364-1:2015, an increase in the thickness of component materials is permitted. Therefore, the thickness of the 50mm thick mineral rock fibre fire barrier may be increased. Increasing the thickness of the component materials will increase the robustness/rigidity of the partition system plus also provide more material to resist the fire and heat spread from the exposed face to the unexposed face.

5.3 Partition Width

The tested partition, as summarised in section 4, was tested at a width of 3050mm and was secured on all four edges. In accordance with Clause 13.2 of BS EN 1364-1:2015, the width of the partition may only be increased, provided that minimum tested width was 3000mm and that one vertical edge was without restraint. Owing to the specimen being tested without a free edge, the width must not be increased beyond that tested.

5.4 Decrease In Distance of Fixing Centres

In accordance with Clause 13.1 of BS EN 1364-1:2015, a decrease in distance of fixing centres is permitted. Reducing the distance between the lacing wire and the fixings for the galvanised mild steel angle at the perimeter would result in more fixing points closer together when compared to that tested. This would increase the restraint of the fabric and therefore be seen as a betterment. For clarity, the lacing wire locations are shown in figure 3 below, the mild steel perimeter angle in figure 4, both extracted from figure 2 above:

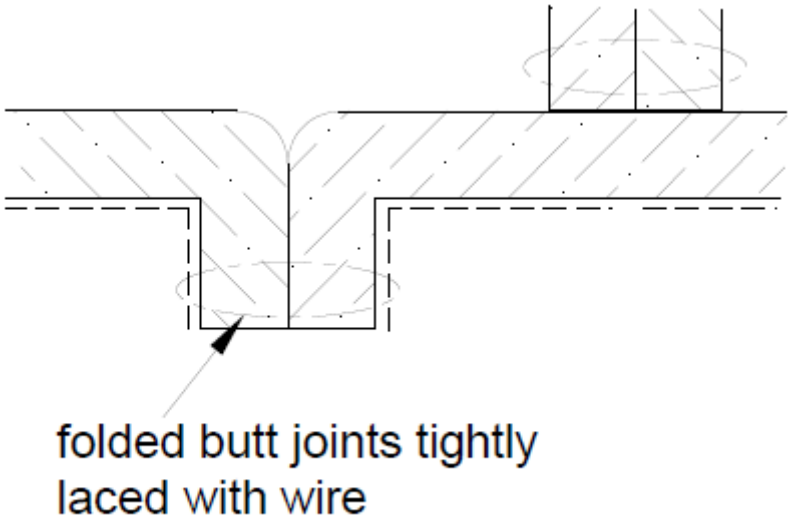

Figure 3: Lacing wire detail

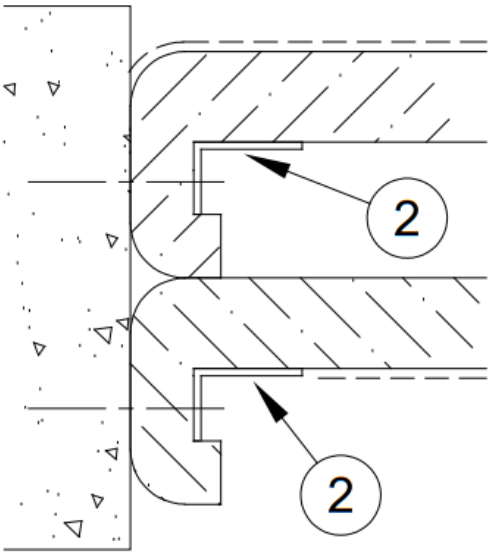

Figure 4: Mild steel perimeter angle detail (Key to figure 2)

6 Conclusion

If the 'Total Comfort Smoke & Fire Barrier' non-loadbearing fabric barrier partition was constructed in accordance with the specification documented in this field of application assessment and were to be tested in accordance with BS EN 1364-1:2015, it is our opinion that the system would provide a minimum of 120 minutes integrity, 30 minutes insulation and 120 minutes thermal radiation fire resistance performance.

7 Declaration by the Applicant

1) We the undersigned confirm that we have read and comply with obligations placed on us by the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments and engineering evaluations based on fire test evidence 2021 Industry Standard Procedure
2) We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.
3) 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 has been made.
4) 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.
5) 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.

(in accordance with the principles of FTSG Resolution No. 82: 2001)

Signed: DocuSigned by: Andrew Mark Clokey 04D124D29CBE444...

Name: Andrew Mark Clokey

Position: M Director

Date: 28-Feb-2024

For and on behalf of: **ARC Lancaster T/A MC Resources/ Lancaster Insulation**

8 Limitations

The following limitations apply to this assessment:

1) This field of application addresses itself solely to the elements and subjects discussed and do not cover any other criteria or modifications. All other details not specifically referred to should remain as tested or assessed.
2) This field of application report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, Warringtonfire reserves the right to withdraw the report unconditionally but not retrospectively.
3) This field of application has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
4) Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.
5) This field of application relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions, against the ISO 834 time/temperature curve that is stipulated in the standard this assessment concludes to. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this field of application, the element is suitable for its intended purpose.
6) This field of application report represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS EN 1364-1:2015, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this field of application would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.
7) This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at https://www.element.com/terms/terms-and-conditions or upon request.
8) The version/revision stated on the front of this field of application supersedes all previous versions/revisions, if applicable. Previous revisions of the Field of Application cannot be used once an updated Field of Application has been issued under a new revision.

9 Validity

1) The assessment is initially valid for five years after which time it is recommended to be submitted to Warringtonfire for re-appraisal.
2) This assessment report is not valid unless it incorporates the declaration given in Section 7 duly signed by the applicant.

Position:	Assessor	Reviewer
Signature:	DocuSigned by: DE5B8657DAF149D...	DocuSigned by: B130CD47CCDA452...
Name:	***Eliot Power**	***Chris Tye**
Title:	Product Assessor	Technical Manager

* For and on behalf of Warringtonfire

Appendix A: Revisions

Issue	WF Ref.	Date	Description
1	541581	23/02/2024	First issue