



INTERNATIONAL FIRE
CONSULTANTS LIMITED

PRIVATE & CONFIDENTIAL

IFC FIELD OF APPLICATION REPORT

Field of Application of Firehalt 90:60 (90/60) Horizontal Fire Barrier Systems

Fire Resistance Standard: BS 476: Part 20/22: 1987

IFC Report PAR/17184/04

Prepared on behalf of:

Culimeta-Saveguard Ltd
Tame Valley Mill
Wainwright St
Dukinfield
SN16 5NB

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International Fire Consultants Ltd

Head & Registered Office: Park Street Business Centre, Princes Risborough, Buckinghamshire, England HP27 9AH

Tel: +44(0)1844 275500, Fax: +44(0)1844 274002, E-mail: info@ifcgroup.com

Registered No: 2194010 England

An International Fire Consultants Group Company

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CONTENTS

1. INTRODUCTION.....	4
2. TEST EVIDENCE	4
2.1 WF TEST REPORT No. 382396	5
3. SCOPE OF APPROVAL	6
3.1 GENERAL	6
3.2 FABRIC.....	6
3.3 PERIMETER FIXING BRACKETS	6
3.4 BARRIER SIZE	7
3.5 SUPPORTING CONSTRUCTIONS	7
3.6 SERVICE PENETRATIONS	7
4. CONCLUSION	8
5. DECLARATION BY THE APPLICANT	9
6. LIMITATIONS	10
7. VALIDITY	12

1. INTRODUCTION

This report has been prepared by International Fire Consultants Ltd, (IFC), on the instruction of Culimeta-Saveguard Ltd to determine the field of application, using existing fire resistance test evidence, for Firehalt 90:60 (90/60) horizontally orientated fire barrier systems, manufactured by Culimeta-Saveguard Ltd.

This assessment has been produced using 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, 2019, 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 12470-1: 2017 *'Fire resistance tests - Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Part 1: Load bearing elements and vertical and horizontal separating elements'*.
- 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 assemblies, without reducing their potential to achieve a 90 minute integrity rating and a 60 minute insulation rating, if tested in accordance with the method and criteria of BS 476: Part 20/22: 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, and all other aspects must otherwise be as proven in tests summarised herein.

2. TEST EVIDENCE

Test evidence is available to support the fire resistance performance of Firehalt 90:60 (90/60) horizontal fire barrier systems when installed in rigid supporting constructions and this is summarised in Section 2.1 below;

2.1 WF Test Report No. 382396

This test was performed at the Exova Warringtonfire fire test laboratory in Warrington, United Kingdom, on 12 April 2017. The test specimen was a horizontally orientated non-loadbearing fire barrier system.

The assembly was built into the framework that forms the top horizontal face of the furnace. The overall size of the assembly measured 1250mm x 2050mm.

The fabric of the tested assembly was layers of cloth with central layers of insulation. The cloth comprised chemically treated woven glass fabric with a weight of 440gsm and the insulation layers 780gsm. The fabric was referenced 90/60.

The barrier was fixed onto the furnace using a galvanised steel angle perimeter. The angle measured 50mm x 25mm (width x depth) with a thickness of 0.7mm and was fitted along all four perimeter edges at the exposed face of the barrier. The assembly used 6mm diameter x 100mm long Turbo screws to fix the perimeter framing to the masonry surround, at nominally 250mm centres. The fixings passed through the angle and the fabric barrier, which was trapped between the angle and the face of the supporting construction.

The barrier was installed such that excess fabric was located at all edges past the retaining angle. The edge of the excess fabric was stapled together using 12mm x 12mm steel staples at nominally 200mm centres.

A continuous bead of high temperature adhesive was used to seal between the fabric barrier and the supporting construction, beneath the retaining angle.

The system comprised a single piece of fully framed, approximately 21mm thick, barrier.

The fire resistance performance of the fire barrier system was determined by testing in accordance with BS 476: Part 22: 1987. The test specimen satisfied the criteria of the BS 476: Part 22: 1987 test standard as follows:

Integrity	:	96 minutes
Insulation	:	62 minutes

The test was terminated at 99 minutes.

The test report is referenced with permission from the test sponsor.

3. SCOPE OF APPROVAL

3.1 General

The Firehalt 90:60 (90/60) horizontal fire barriers are partially-insulating fixed fire barrier systems, which consist fabric retained within galvanised steel angles at all edges.

3.2 Fabric

The Firehalt 90:60 (90/60) horizontal fire barrier system consists of a fabric, manufactured by Culimeta-Saveguard Ltd. The thickness of the fabric is nominally 19mm, with a typical fabric weight of 4900g/m². The fabric is supplied in widths of 1300mm.

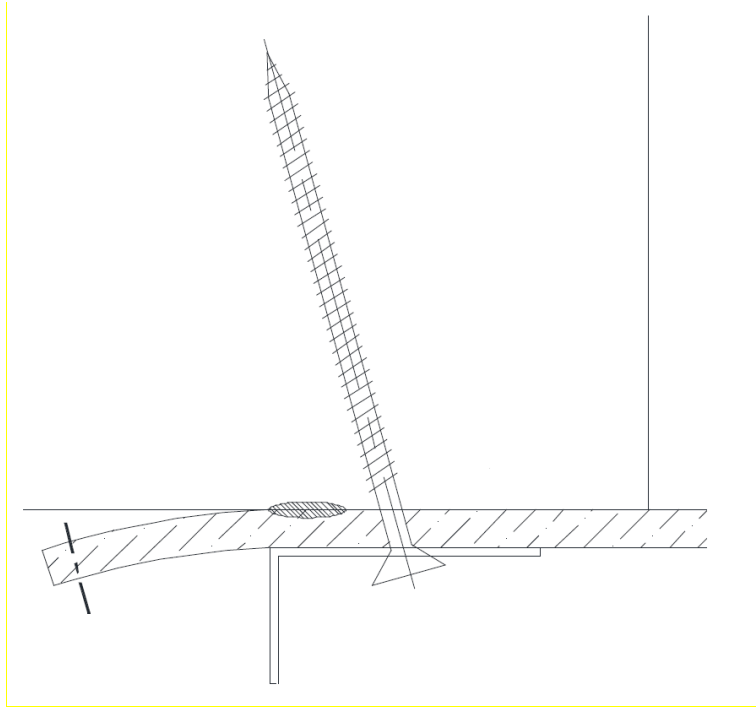
3.3 Perimeter Fixing Brackets

The fabric is retained at the perimeter of the assembly held between a galvanised steel angle and the supporting construction. The angle, 50mm wide x 25mm deep x 0.7mm thick, is fixed back to the supporting construction at maximum 250mm centres and 250mm from the ends of each bracket section (therefore at a corner junction, or a butt joint between 2No. sections of bracket).

Fixings used to secure the angle to the supporting construction shall be 6mm diameter steel screws extending into the substrate at a minimum length as required for a robust fixing, but no less than 40mm. It shall be ensured that the concrete screws are hand torque tightened to the correct tension as listed on the relevant product specification, for a robust fixing.

The fabric is trapped between the angle and the supporting construction and installed such that there shall be a length of excess fabric at the all edges, which is required to be a minimum of 100mm. A row of staples shall be installed, at maximum 200mm centres at all perimeter edges of the excess length of fabric to bind the individual layers of fabric together.

See figure below.



3.4 Barrier Size

The Firehalt 90:60 (90/60) horizontal fire barrier system is approved for use in the following sizes.

3.5.1 Single Fabric Section

A fully framed, see Section 3.3, single section of fabric may be used in a Firehalt 90:60 horizontal fire barrier system to a maximum size of:

- 2000mm x 1100mm (plus excess fabric required at the perimeter)

The entire width shall be made up of a 'complete' piece of fabric 1300mm wide.

3.5 Supporting Constructions

The supporting construction may be blockwork, brickwork or a concrete wall /soffit, but shall be of a type that has been tested or assessed to provide in excess of 90 minutes fire resistance, at the required size, when incorporating openings.

3.6 Service Penetrations

No penetrations are approved within Culimeta-Saveguard Ltd.'s Firehalt 90:60 (90/60) horizontal fire barrier system.

4. CONCLUSION

Based upon the available test evidence, and subsequent analysis performed by International Fire Consultants Ltd, if the proposed fire barrier systems utilising Firehalt Ultralite 90:60 (90/60) installed horizontally in galvanised steel framework were manufactured and installed within the limitations of this Field of Application Report and tested for fire resistance, they would satisfy the criteria of BS476: Part 22: 1987 for 90 minutes integrity and 60 minutes insulation.

5. DECLARATION BY THE APPLICANT

Reference: IFC Field of Application Report **PAR/17184/04**

We, the undersigned, confirm that we have read and complied with the obligations placed on us by the

Passive Fire Protection Forum (PFPF)
**Guide to undertaking technical assessments of the fire performance
of construction products based on fire test evidence**
2019
Industry Standard Procedure

We confirm that the component or element of structure, which is the subject of this assessment has not to our knowledge been subjected to a fire test to the standard against which this assessment is being made.

We confirm that the change which is the subject of this assessment has 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 be the subject of a fire 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 International Fire Consultants Ltd (IFC) to withdraw the assessment.

Signature:

Name:

Position:

Company:

Culimeta-Saveguard Ltd

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.

This document only considers the 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 the fire performance of construction products based on fire test evidence, 2019, 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 the fire performance of construction products based on fire test evidence, 2019, 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 assemblies 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 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.

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 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 October 2024 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:



Will Lightfoot BEng (Hons), AIFireE
Fire Safety Engineer
International Fire Consultants Ltd. (IFC)

and:



Rob Axe
Senior Fire Safety Engineer
International Fire Consultants Ltd. (IFC)

Reviewed by:



David Cooper BEng (Hons) AIMMM AIFireE
Associate Director
International Fire Consultants Ltd. (IFC)