

Exova Warringtonfire
Chillem House
Stocking Lane
Hughenden Valley
High Wycombe
Buckinghamshire
HP14 4ND

T: +44 (0) 1494 569 800
F: +44 (0) 1494 564 895
E: globalfire@exova.com
W: www.exova.com



Testing, calibrating, advising.

**Fire Resistance
Assessment of:**

Steel Access Hatches
for:
120 Minutes Fire
Resistance Performance

WF Report No:

BMT/CNA/F15304

Prepared For:

Fire Proofing Services Ltd
49-61 Jodrell Street
Nuneaton
Warwickshire
CV11 5EG

Valid From:

4th February 2016

Valid Until:

4th February 2021

Exova Warringtonfire – the new name for BM TRADA

On December 1st 2015, Chiltern International Fire Limited (trading as BM TRADA) commenced trading under the name Exova Warringtonfire.

To coincide with this change, our Technical Reports, Test Reports, Product Assessments, company stationery and marketing collateral have been updated to reflect the Exova Warringtonfire branding.

The validity of all documents previously issued by Chiltern International Fire Limited including certificates, test reports and product assessments is unaffected by this change. A letter to this effect is available upon request by e-mailing globalfire@exova.com.

About Exova Warringtonfire

Exova Warringtonfire is part of the Exova Group one of the world's leading laboratory-based testing groups, trusted by organisations to test and advice on the safety, quality and performance of their products and operations. Headquartered in Edinburgh, UK, Exova operates 143 laboratories and offices in 32 countries and employs around 4,500 people throughout Europe, the Americas, the Middle East and Asia/Asia Pacific. With over 90 years' experience, Exova specialises in testing across a number of key sectors from health sciences to aerospace, transportation, oil and gas, fire and construction.

Be assured that whilst the name will change, your service provision and primary contacts have not. What will be available to you is a wider team of testing experts and an extended range of testing capabilities including structural steelwork testing, ventilation duct and damper testing, ASTM testing, water mist system testing and smoke toxicity testing and covering additionally both the rail and marine sectors.

If you have any questions, please do not hesitate to contact a member of the team and we will do our best to answer them. We appreciate your business to date and we look forward to working with you in the future.

Kind regards

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E: globalfire@exova.com

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1 Introduction

This document constitutes a global assessment relating to Fire Proofing Services fire resisting steel access hatches for 120 minutes integrity performance. The assessment uses established extrapolation and interpolation techniques in order to extend the scope of application. It achieves this by determining the limits for the design, based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire resistance performance, if the elements were to be tested in accordance with BS 476 Part 22: 1987.

The application of this assessment is for national (UK) application only and cannot be considered as a means to CE marking of the product.

2 General Description of Construction

The tested construction of Metal Faced Flipfix 120 minute access hatches comprises a profiled steel panel. The following table summarises the main components.

Element		Materials	Dimensions (mm)	Details
Facings	Exposed Face	Profiled steel tray, welded at corners	13 high x 0.9 thick	14 wide platform to sides and hanging edge and 40 wide platform to closing edge.
Internal stiffeners		None fitted	-	-
Frame	Fixed sides	Profiled steel with integral architrave	55 high x 1.2 thick + 25 wide architrave	-
	Hanging side	Profiled steel with integral architrave	25 high x 1.2 thick + 25 wide architrave	-
	Locking side	Profiled steel with integral architrave	24 high x 1.2 thick + 15 wide return and 26 wide architrave	-
Frame Fixings		4 No. Flip Clips	-	2 No. fitted to two leaf sides 120mm from corners
Hinges		2 No. steel bolts to one edge	5 Ø	
Latch		Engaged budget latch	79 x 22	Centrally fitted to the edge opposite the hinged edge

For full construction details refer to the test report cited in appendix A.

3 Configurations and Orientation

Based on the test evidence listed in appendix A, this assessment covers the following configurations.

Abbreviation	Description
LSASD	Vertical orientation: Latched single acting single doorsets, opening either away from or towards the fire risk.
LSASD	Horizontal orientation: Latched single acting single doorsets, opening either away from or towards the fire risk.

4 Leaf Sizes

An increase in leaf dimensions is permitted based on the performance of the doorsets tested in IF15036 (see appendix A).

The methodology used for extending leaf sizes is based upon the extended field of application rules adopted in BS EN 15269-2:2012, which permits an increase of 20% in height or width with a maximum area increase of 25%.

Doorsets containing leaves with smaller dimensions than those stated are deemed to be less onerous and are therefore automatically covered.

Leaf size may be increased within the following range.

Maximum Leaf Dimensions	Height x Width (mm)
From	572 x 660
To	660 x 572

The dimensions of the assessed door leaf must be restricted to a maximum leaf area of 0.38m² with no linear dimension exceeding those shown above.

The range of permitted leaf dimensions is represented by the graph contained in appendix C.

5 Door Gaps

To ensure that doorset leaves expand and jam into the frame, it is important that the sizes of the gaps between the leaf and the frame, are controlled. Based on the test evidence, the assessed gap sizes for these doorsets are as follows.

Location	Dimension (mm)	Tolerance (mm)
All edges	1.3	±0.3

6 Glazing

Glazing has not been tested for this design and is therefore not permitted for either vertical or horizontal doorsets.

7 Overpanels and Sidelights

Overpanels, fanlights, and sidelights are not evaluated or permitted for this design.

8 Leaf Construction

8.1 General

The essential leaf design must remain as tested and detailed in section 2.

8.2 Leaf Facing Materials

Whilst the testing conducted on this design evaluated a nominally 0.9mm thick powder coated steel face, it is considered that an increase of 10% in facing thickness will not be detrimental to integrity performance and may be used if required.

A leaf facing between 0.90mm and 1.00mm is therefore assessed as acceptable.

8.3 Decorative and Protection Facings

The following additional facing materials are permitted for this door design since they would either degrade rapidly or remain inert under test conditions without significant effect to the fire resistance performance of the doorset.

Facing Material	Maximum Permitted Thickness (mm)
Paint	0.2
Vitreous Enamel	1.0
Stove Enamelling	0.1
Epoxy Powder Coating	0.4

8.4 Galvanisation Process

It is our opinion, that the effect the use of a particular galvanisation process will have on the doorset design tested, will be insignificant. Therefore, any of the galvanisation processes listed below are acceptable.

- Hot dip
- Electro-galvanisation
- Aluzinc.

9 Door Frames

All frame sections are fabricated from single 1.2mm thick profiled powder coated Zintec steel sections, which include a 25mm wide integral architrave to all edges.

The frame is fixed back to the structural surround by means of 4 No. FlipFix fittings, two on each fixed edge.

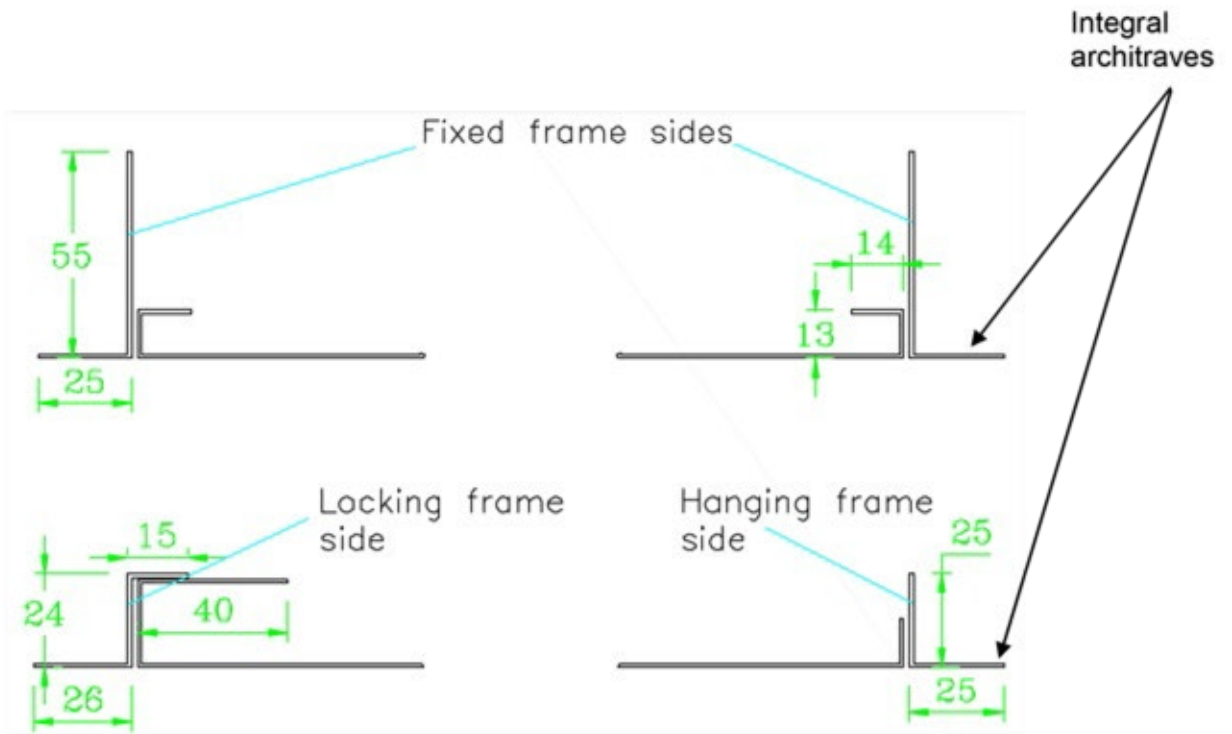
The frame profiles must be as tested and shown below.

The frame material may be increased from the tested 1.2mm by up to 30% but may not be decreased. The remaining frame dimensions must remain as tested.

The frame sections must be assembled utilising welded mitre joints at each corner. The joints must be tight and secure with no gaps.

Frames must be fixed directly onto the structural surround, as tested.

The following diagram illustrates the frames for each edge of the doorset:



10 Intumescent

No intumescent were tested for this design and they are therefore not required or permitted.

11 Tested Hardware

The following hardware has been successfully incorporated in the tests on this design.

Element	Make/type	Size (mm)	Location/fixings
Hinge	Pivot type steel bolts	5Ø	2 No. one fitted to each edge of the hanging side
Lock– engaged as tested in IF15036	Budget lock with rods acting at top and bottom.	79 x 22	Centrally on the closing edge platform
Fixings	FlipFix	-	2 No. to each fixed edge (head and threshold of vertical doorsets)

12 Additional & Alternative Hardware

Hardware must either be as tested or components of equal specification that have demonstrated contribution to the required performance of this type of insulated steel doorset design, when tested to BS 476: Part 22: 1987 or BS EN1634-1, for up to 120 minutes integrity.

Additionally, for doorsets to be supplied to countries within the EU, the following items of hardware must also bear the CE mark, where newly supplied:

- locks and latches (EN 12209)
- electro mechanically operated locks (EN 14846)
- single axis hinges (EN 1935).

12.1 Hinges

Leaves must be mounted on pivot hinges, as tested.

12.2 Environmental and Smoke Seals

This design was not tested with seals and their incorporation is therefore not permitted.

13 Structural Openings

Based on the test evidence cited in this report, the following supporting constructions are assessed for use with this design.

Construction Type	Requirements
Plasterboard clad steel stud partitions with a plasterboard aperture lining	The partition must be proven for 120 minutes integrity duration.
Plasterboard clad timber stud partitions with a plasterboard aperture lining	The partition must be proven for 120 minutes integrity duration.

14 Fixings

The supporting construction must be capable of staying in place and intact for the full period of fire resistance required from the doorset. The FlipFix fixings must be installed as tested, using steel retaining bolts.

FlipFix fixings must be no more than 150mm from any corner and at maximum 360mm centres.

15 Sealing to Structural Opening

Gaps between the frame/integral architrave and the structural surround should be controlled to a maximum of 5mm. For gaps up to 5mm a 5mm wide bead of intumescent acrylic mastic (fire performance tested to BS 476: Part 20 or Part 22: 1987 or BS EN 1363-1: 1999 or BS EN 1634-1 for the required period of fire resistance between the required substrates), must be inserted between the frame and surround.

16 Conclusion

If the Fire Proofing Services steel access doorsets, constructed in accordance with the specification documented in this global assessment, were to be tested in accordance with BS 476 Part 22: 1987, it is the opinion of Exova Warringtonfire that they would provide a minimum fire performance integrity of 120 minutes, as appropriate.

17 Declaration by the Applicant

1. We the undersigned confirm that we have read and comply with obligations placed on us by FTSG Resolution No 82: 2001.
2. 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.
3. 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.
4. We are not aware of any information that could adversely affect the conclusions of this assessment.
5. If we subsequently become aware of any such information we agree to ask the assessing authority to withdraw the assessment.

Signed:

A handwritten signature in black ink, appearing to read 'R. Stokes', with a long horizontal line extending to the right.

Name: Ross Stokes

For and on behalf of: **Fire Proofing Services Ltd**

18 Limitations

The following limitations apply to this assessment:

1. This assessment addresses itself solely to the elements and subjects discussed and does not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.
2. This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, Exova Warringtonfire reserves the right to withdraw the assessment unconditionally but not retrospectively.
3. This assessment has been carried out in accordance with Fire Test Study Group Resolution No 82: 2001.
4. This assessment relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. 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 assessment, the element is suitable for its intended purpose.

19 Validity

1. The assessment is initially valid for five years after which time it must be submitted to Exova Warringtonfire for technical review and revalidation.
2. This assessment report is not valid unless it incorporates the declaration given in Section 17 duly signed by the applicant.

Signatures:		
Name:	S Bailey	A M Winning
Title:	Product Assessor	Senior Product Assessor

Appendix A

Performance Data

Primary Data

Report Reference	Configuration	Leaf Size (mm) ¹	Test Standard	Performance (mins)	
IF15036	B: LSASD ⁴	550 550 13	Conditions of: BS 476: Part 20: 1987 + principles of: BS 476: Part 22 1987	Integrity:	150 ²
				Insulation:	0 ³

Notes:

1. Leaf dimensions: height x width x thickness.
2. Failure due to 25mm gap gauge test
3. The specimen was not evaluated for insulation.
4. LSASD = Latched Single Acting Single Doorset

Appendix B

Revisions

Revision	Exova Warringtonfire Reference	Date	Description

Appendix C

Data Sheets

for:

Fire Proofing Sevices Ltd

120 Minutes Steel Access Doorsets

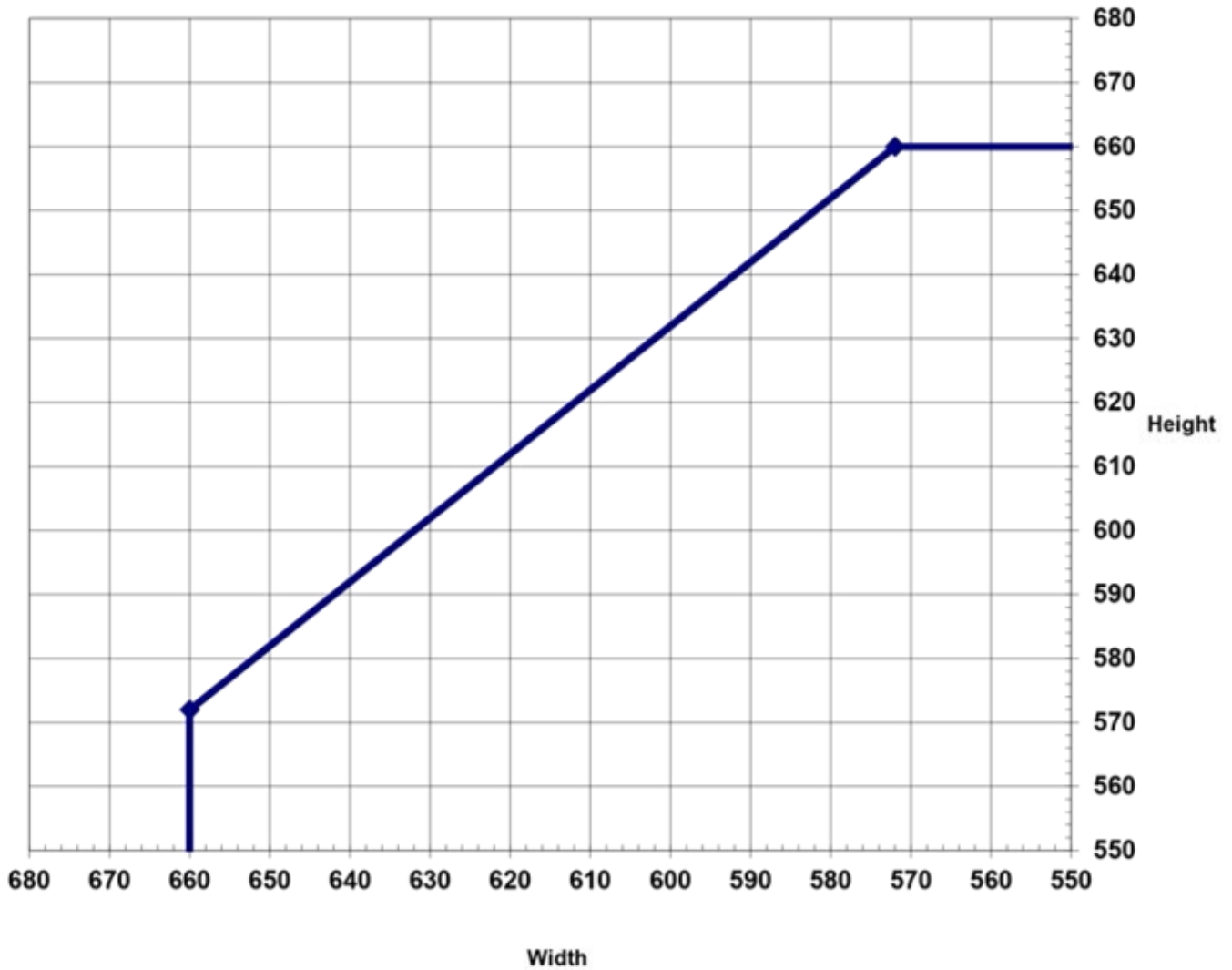
Fire Proofing Services Steel Access Doorsets: 120 Minutes Fire Resistance

Latched, Single Acting Single Leaf Access Doorsets

Leaf Sizes	Configuration		Height (mm)		Width (mm)
	LSASD	From:	572	x	660
	To:	660	x	572	

Maximum Door Leaf Size

— LSAMD



Appendix D

Construction Drawings

