Sponsor:

Fire Proofing Services Ltd
Evolution House
Aston Road
Nuneaton
Warwickshire
CV11 5EL

Fire Resistance Assessment

CONFIDENTIAL

Report: BMT/CNA/F14125

Rapid Access Hatches
120 minutes fire resistance

Issue Date: 13 August 2014
Valid Until: 13 August 2019

BM TRADA – the new name for Chiltern International Fire Ltd

From July 1st 2013, Chiltern International Fire Ltd commenced trading under the name of its parent company BM TRADA and at the same time adopted a brand new visual identity.

Historically, the group has delivered its services through a number of individual companies: BM TRADA Certification Ltd, TRADA Technology Ltd, Chiltern International Fire Ltd (including Chiltern Dynamics) and a network of international offices. Both BM TRADA Group and these individual companies will now trade under the same name - BM TRADA - and adopt the new visual identity.

To coincide with this change, our Technical Reports, Test Reports, Products Assessments, company stationery and marketing collateral have been re-designed to carry the new branding and visual identity.

The validity of all documents previously issued by the individual companies including certificates, test reports and product assessments is unaffected by this change and a letter to this effect will be available to download from our website www.bmtradagroup.com.

About BM TRADA.

With origins dating back to 1934, we have a deep history and services which are highly valued by our customers. We offer independent certification, testing, inspection, training and technical services around the world. In all these areas we continue to use industry-leading experts in their chosen fields to develop and deliver services – an ethos that has been at the heart of our approach since we began.

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A recent review of our businesses and customers revealed that the individual identities sometimes make communications confusing, and that in an already complex business area, clarity and simplicity in communications is rare, but valued. It also revealed that a single identity and combined offer would help us strengthen our appeal.

With this in mind, we brought the companies together under the name BM TRADA and took the opportunity to create a fresh new visual identity.

We have modernised our image and combined our strengths. However, our values, our people and the integrity of our services remain the same. I hope you will welcome these changes and the improvements they will bring.

Jon Osborn

Chief Operating Officer

Contents

1 Introduction

This document constitutes a global fire resistance assessment relating to 120 minute fire resisting vertical steel access hatches, produced by Fire Proofing Services Ltd. The assessment uses established extrapolation and interpretation techniques in order to extend the scope of application 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 1634-1.

The assessment is written for the purpose of national application in the United Kingdom or other jurisdictions accepting this approach. The assessment should not be used for the purposes of CE marking or for claiming compliance with regulations outside afore mentioned areas of jurisdiction.

2 General Description of Construction

The following table summarises the tested specification for the Fire Proofing Services steel access hatches.

	Material	Dimensions (mm)
Stiles	Profiled Zintec steel welded to the steel 'tray section facing	1.2 thick x 68 wide x 43 thick
Rails	Profiled Zintec steel welded to the steel 'tray section facing, butted up to the stiles	1.2 thick x 68 wide x 43 thick
Facings	Profiled Zintec steel 'tray' on unexposed face	1.2 thick
	Optional Siniat Soundbloc plasterboard fitted to the fire risk (exposed) face	15 thick
Leaf finish	Polyester powder coating	Nominally 75 microns thick
Welds	Spot welds	12.5 long at nominal 450 centres
Leaf stiffeners	None fitted	-
Meeting edge stop (double leaves only)	Profiled Zintec steel	1.2 thick x 39 wide x 41 deep welded along the hanging edge exposed face profile of the left leaf facing

All construction details are to remain as tested in RF13137 and PF14038 unless stated otherwise in this assessment document.

3 Configurations

Based on the test data listed in appendix A, this assessment covers the following hatch configurations:

Abbreviation	Description
LSASD	Latched single acting single hatch doorset
LSADD	Latched single acting double hatch doorset

Notes:

1. The 3 point locking system fitted to the door leaves must be fully engaged when the doors are in the closed position.
2. Double leaf doorsets incorporating unequal width leaves are covered by this assessment; the smaller leaf dimension must be no more than 50% narrower than the larger leaf, and the larger leaf must remain within the permitted size limits in section 4.
3. The access hatches must be installed opening away from the fire risk when constructed with the Soundbloc plasterboard panel (the hatches are uni-directional with respect to fire risk when fitted with the Soundbloc panel)
4. The access hatches can be considered for fire resistance in either direction when fitted without the Soundbloc plasterboard panel

4 Dimensions

4.1 General

Approval for increased leaf dimensions is based on the tests listed in appendix A and takes into account the margin of performance above 120 minutes integrity and the characteristics exhibited during test. Size increase is permitted up to 15% in height and 15% in width but not amounting to more than a 20% increase in leaf area, based on the methodology adopted in BS EN 1634-1.

Doorsets containing leaves with smaller dimensions than those stated are deemed to be less onerous and are therefore automatically covered, reduction in leaf dimensions is limited to a 50% reduction in width and a 75% reduction in height compared to the tested construction.

4.2 120 Minutes Integrity Performance

For single and double doorsets up to 120 minutes integrity performance leaf size may be varied within the following range based on the assessed results from the tests listed in appendix B:

Doorset		**Maximum Dimension** (mm)	
		Single	**Double**
Height	From:	599	599
	To:	2757	2755
Width	From:	449	449
	To:	1032	1032

The dimensions of the assessed door leaves must also be restricted to a maximum leaf area of 2.58m^2 with no linear dimension exceeding the maximum height or width shown above.

5 Perimeter seals

5.1 Intumescent Seals

The door leaves must be fitted with the following intumescent seal specification:

Application		Location	Product/manufacturer
Edge seals	Single leaf doorsets	Fitted to the upstand of the doorstop on all edges	10 x 2mm G10-10 – Envirograf

Notes:

1. It is not required to fit intumescent seals to the edges of double leaf doorsets

5.2 Acoustic Seals

The following acoustic seal may be fitted to the door leaves as required:

Application		Location	Product/manufacturer
Edge seals	Single and double leaf doorsets	Fitted in the corner of the upstand of the doorstop on all edges, adjacent to the intumescent seal	IS1020 ‘P’ seal – Lorient Polyproducts
	Double leaf doorsets	Fitted in the corner of the meeting edge stop oriented towards the fire risk (exposed face)	

Notes:

1. The fitting of the acoustic seal must not replace or remove any of the intumescent strip required for the single leaf doorsets

5.3 Open Cell Foam Strip

The following open cell foam strip may be fitted to the door leaves as required:

Application		Location	Product/manufacturer
Edge seals	Single and double leaf doorsets	Fitted to the face of the exposed face profile of the door leaf at the threshold, head and jambs	8mm x 4mm Foam Sponge Strip– CB Frost
	Double leaf doorsets	Fitted to the face of the exposed face profile at the meeting edge of one of the door leaves	

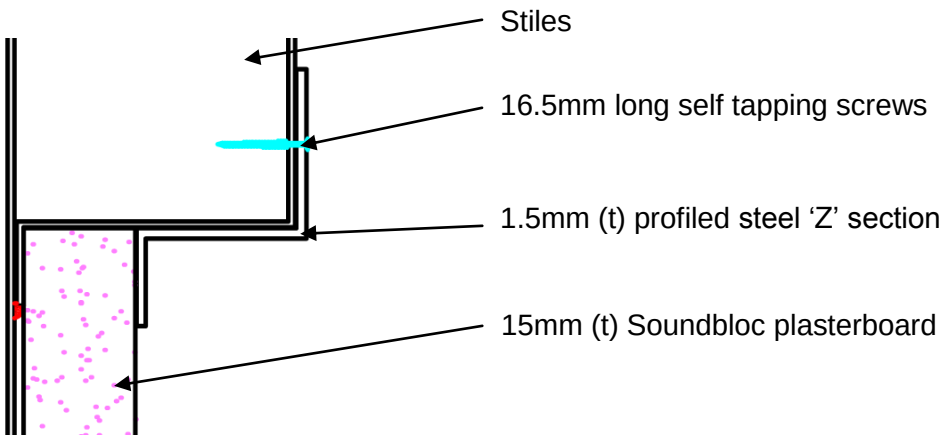
Notes:

1. The fitting of the foam sponge strip must not replace or remove any of the intumescent strip required for the single leaf doorsets

6 Hatch facing material

6.1 Soundbloc plasterboard panel

It is permitted to fit a 15mm thick piece of Soundbloc plasterboard (manufactured by Siniat) to the fire risk side (exposed face) of single and double leaf doorsets. The plasterboard is retained using a profiled 1.5mm thick steel 'Z' section fixed to stiles with 16.5mm long self tapping screws 75mm from the corners.



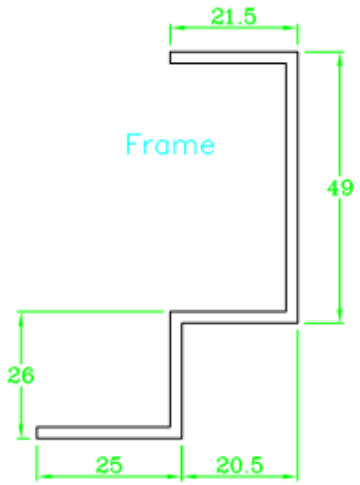
6.2 Decorative finish

It is permitted to finish the leaves and frames in polyester powder coating approx 75 microns thick on the non-fire risk and fire risk side of the doorset.

7 Door frames

The door frame is constructed using profiled steel meeting the following specification:

1.5mm thick x 75mm deep x 45mm wide including a 47mm wide x 20.5mm high integral stop and a 25mm wide integral architrave



The frame was tested with mineral fibre infill and it is therefore possible to offer gypsum board, gypsum plaster, mortar and concrete as alternative infills. Hollow frames and timber or PU foam infills are not permitted.

8 Hardware

The following hardware has been tested with the access hatches and is therefore approved for use:

	Make/type	Size (mm)	Location
Hinges	Steel pin hinge	6Ø (pin size)	Fitted at head and threshold of leaf
	Fire Proofing Services 'in-house' manufactured continuous hinge	44.5mm (w) x full height (blade size)	Fitted for the full height of the leaf
Lock – engaged	3-point locking system, with lock operating 2No. Ø8 diameter rods, acting at top and bottom of both leaves	110 high x 36 wide x 16 thick (lock body size)	Fitted 1200mm from the threshold of the leaf
Locking rod guide blocks	8No. steel rod blocks stitch welded on exposed face of stile	20 x 20 x12 with an 8mmØ hole to accept the rod	Fitted 4mm, 30mm, 405mm, 780mm, 1518mm, 1910mm, 2295mm and 2320mm from the head of the leaf
Furniture	Steel security bolts on hanging edges	Ø5 x 12mm protruding from leaf edge	Fitted at 405mm centres, 340mm from the threshold of the leaf
	Steel security bolts on meeting edge of left leaf	Ø13 bolt head x 8mm protruding from leaf edge	Fitted equispaced along the meeting edge

The access hatches do not require self closing devices as they are kept locked shut when not in use. Fire door signage must state "Fire doors keep locked shut".

Single and double leaf configurations can be hung on either type of hinge listed above and all leaves must be fitted with the locking system and bolts as tested, which must be engaged when the door leaf is in the closed position.

No other hardware has been approved for use with the access hatch designs.

9 Supporting construction

The supporting construction must be capable of staying in place and intact for the full period of fire resistance required from the doorset.

The following supporting constructions are directly supported by the fire resistance test evidence detailed in this report:

Brickwork & Blockwork	1600kg/m^3
Light weight cast concrete	≥ 2100kg/m^3
Cast concrete	≥ 2400kg/m^3
Plasterboard clad steel stud partitions	The partition system must be capable of staying in place and intact for the intended integrity duration of 120 minutes.
Plasterboard clad timber stud partitions	

10 Fixings

10.1 Masonry

The access hatches are to be fixed to masonry supporting construction on all edges using 80mm long Spax screws fitted at 50mm from corners and at 250mm centres on all edges.

10.2 Timber

The access hatches are to be fixed to plasterboard clad partitions with timber studs or steel studs (with timber infill) using M4 x 70mm long screws fitted at 50mm from corners and at 450mm centres on all edges

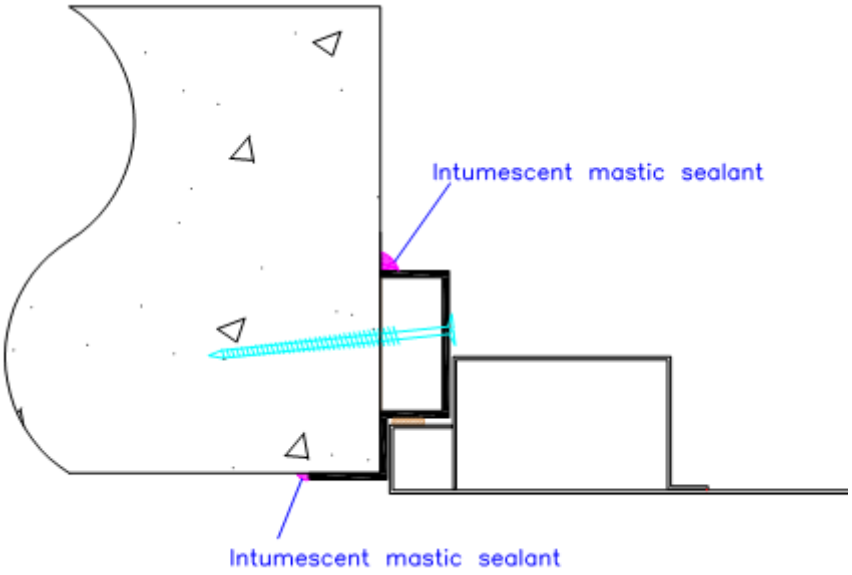
11 Door gaps

Edge gaps and alignment tolerances must be set within the range defined in the following table:

Location	Dimension
Access hatch edge gaps	3mm (± 1mm).
Alignment tolerances	The hatch leaf must be flat and in contact with the frame around the perimeter

12 Sealing to Structural Opening

The door frame for the access hatches incorporates an integral architrave that returns around the face of the supporting construction. To ensure a suitable seal between the frame and the supporting construction a 5mm wide bead of acrylic intumescent mastic is to be applied on all edges. See below for diagram:



13 Conclusion

If the Fire Proofing Services access hatch designs, constructed in accordance with the specification documented in this assessment report were to be tested in accordance with BS EN 1634-1, it is our opinion that they would provide a minimum of 120 minutes integrity.

14 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:

Name:

For and on behalf of Fire Proofing Services Ltd

15 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, BMTRADA 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

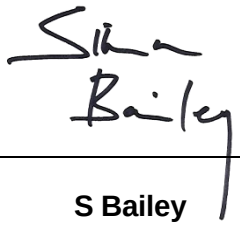
4) Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

5) 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.

16 Validity

1) The assessment is valid for 5 years from the date of issue after which time it must be submitted to BM TRADA for technical review.

2) This assessment report is not valid unless it incorporates the declaration given in Section 14 duly signed by the applicant.

Signature:		
Name:	**P N Barker**	**S Bailey**
Title:	Senior Consultant	Product Assessor

Appendix A

Test Evidence

Primary Data

Test No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
RF13137	LSASD	2398 898 44	BS EN 1634-1	132
PF14038	LSADD	2396 898 44		139

Appendix B

Revisions

Revision	BM TRADA Reference	Date	Description

CHILTERN INTERNATIONAL FIRE LTD *(trading as BM TRADA)*

BM TRADA provides independent certification, testing, inspection, training and technical services around the world. We help customers large and small to prove their business and product credentials and to improve performance and compliance. With an international presence across many industry sectors, we offer a special focus and long history of technical excellence in supply chain certification, product certification and testing, and technical services to the timber, building, fire and furniture industries.

testing@bmtrada.com

bmtradagroup.com

+44 (0) 1494 569800

CHILTERN INTERNATIONAL FIRE LTD CHILTERN HOUSE, STOCKING LANE, HUGHENDEN VALLEY, HIGH WYCOMBE, BUCKS, HP14 4ND, UK

REGISTERED IN ENGLAND NO. 3125010