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Title:
Field of Application Report

Between Glass Blinds Ltd
BGB Vision Panels for
Fire Resisting Timber Doorset Assemblies

30 Minutes Fire Resistance

Report No:
WF413784

Valid From: 20th December 2019
Valid Until: 20th December 2024

Prepared for:
Between Glass Blinds Ltd
51 – 55 Fowler Road
Hainault Industrial Estate
Hainault
Essex
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Contents

1 Foreword

This field of application report has been commissioned by Between Glass Blinds Ltd and relates to the Between Glass Blinds vision panel system for 30 minute fire resisting doorset installations.

This field of application report is for National Application and has been written in accordance with the general principles outlined in BS EN 15725: 2010; *Extended application reports on the fire performance of construction products and building elements*, as appropriate.

This field of application (scope) uses established empirical methods of extrapolation and experience of fire testing similar door assemblies, 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 476: Part 22: 1987 and therefore can neither be considered for a CE marking application nor can the conclusion be used to establish a formal classification against EN13501-2.

This field of application has been written using appropriate test evidence generated at a UKAS accredited laboratory to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturers stated door design and is summarised in section 3 and appendix A.

The scope presented in this report relates to the behaviour of the proposed door design variations under the particular conditions of the test; they are not intended to be the sole criterion for considering the potential fire hazard of the door assembly in use.

This field of application 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) guidelines to undertaking assessments. 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.

The PFPF guidelines are produced by the UK Fire Test Study Group (FTSG) an association of the major fire testing laboratories in the UK and are published by the PFPF, the representative body for the passive fire protection industry in the UK.

2 Proposal

It is proposed to consider the fire resistance performance of the BGB vision panel designs described in the technical specification in section 4 of this report, for 30 minutes fire resistance integrity, if the doorsets into which they are fitted were to be tested to the requirements of BS 476: Part 22: 1987, *Fire tests on building materials and structures – Part 22: Method for determination of the fire resistance of non-load bearing elements of construction.*

The field of application defined in this report is based on the fire resistance test evidence for the BGB vision panel design 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.

3 Test Data

The test evidence summarised below has been generated to support the fire resistance performance of the BGB vision panel design that is the subject of this field of application.

Abbreviations: (h) = high; (w) = wide; (t) = thick; (d) = deep; (l) = long.
Dimensions are in millimetres unless otherwise stated.

3.1 Test report WF 403484

The referenced test report, the essential details of which are summarised below, is primary data for the vision panel designs being considered for assessment in this report.

Date of test		14th August 2018
Identification of test body:		Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:		Between Glass Blinds Ltd
Tested Product:		Unlatched, single leaf, single acting, timber based, flush door leaves fitted with Between Glass Blinds vision panels. The doorsets were referenced Doorset A and Doorset B
Orientation:		Both doorsets were oriented to open in towards the furnace
Summary of test specimens (mm):		Doorset A Dimensions: 2100 (h) x 1140 (w) x 54 (t) Doorset B Dimensions: 2100 (h) x 1140 (w) x 45 (t) Doorset A comprised a Flamebreak 660 lamel core leaf and Doorset B comprised a Halspan **Prima** 30 graduated density particleboard core leaf. The details of both leaf constructions are held on file, in confidence, at Warringtonfire. Both leaves were lipped on the vertical edges with 8 (t) thick sapele of nominal density 640kg/m^3. Each leaf incorporated a 1500 (h) x 600 (w) BGB vision panel comprising 7 (t) Pilkington Pyrodur glass to the exposed face with Pilkington Optiwhite toughened glass to the unexposed face 4 (t) to doorset A and 6 (t) to doorset B. The outer panes were separated by a 20 (t) steel spacer with a centrally fitted 12.5 (t) BGB magnetically operated internal blind consisting of an aluminium frame and shutter assembly operated with a string pulley system. The glass panes were retained by sapele hardwood beading 20 (h) x 17 (d) including a 9 x 9 bolection return and a 15º chamfer, of nominal density 640kg/m^3 and fixed with 60 long steel pins 50 from corners at 150 centres and 35° to the glass panes. Both leaves were hung in Redwood softwood frames using 3No. Royde and Tucker lift off steel hinges and fitted with Rutland TS3204 surface mounted overhead closers and E*S tubular steel mortice latches, disengaged for the duration of the test.
Test Standard:		BS 476: Part 22:1987 and BS 476: Part 20:1987
Performance	**Doorset A**	Integrity: 40 minutes Integrity: 0 minutes[1]
	Doorset B	Integrity: 40 minutes Integrity: 0 minutes[1]

[1] In accordance with Section 8.6.1 of BS 476: Part 22: 1987, the samples were not evaluated for insulation.

4 Technical Specification

4.1 General

The technical specification for the proposed vision panels is given in the following sections and is based on the test evidence for the panels, summarised in section 3.

4.2 Intended use

The intended use of the proposed vision panels is summarised below:

Incorporation into specified proprietary pedestrian doorset designs including specified frames, door leaves, fanlights and sidelights, as applicable, which are provided to give a fire resisting capability when used for the closing of permanent openings in fire resisting separating elements, which, together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control or for other purposes such as draught or acoustics), form the assembly.

4.3 Description of Construction

4.3.1 Between Glass Blinds (BGB) Vision Panels

The BGB vision panel comprises a double glazed unit with an additional, central, magnetically operated blind, comprising the following elements:

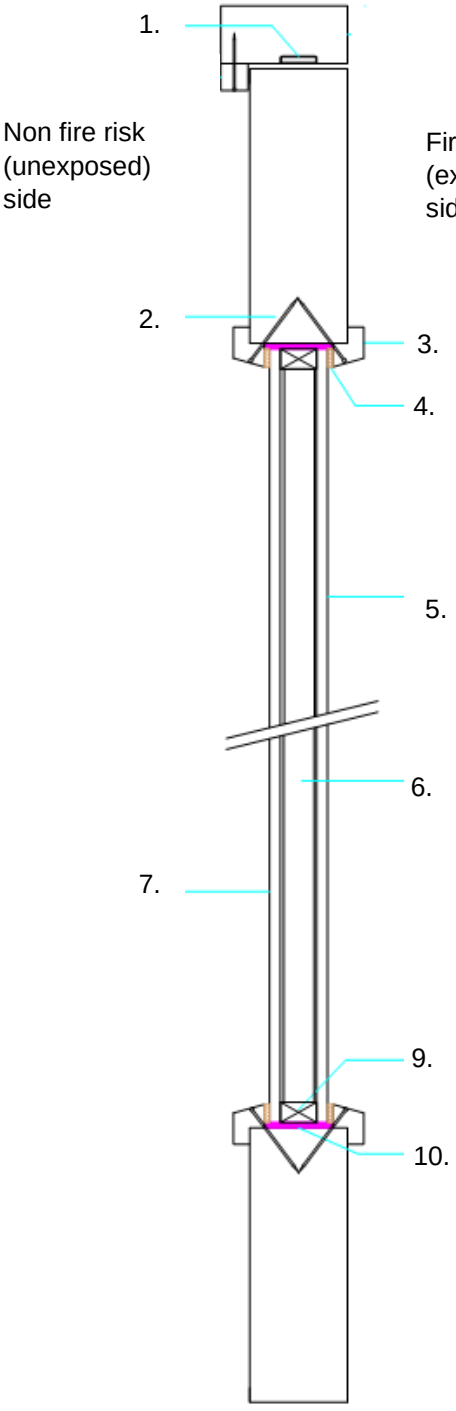
Element		Product/Materials	Dimensions (mm)	Details
Between Glass Blinds™ double glazed unit with magnetic adjustable privacy blinds between the glass layers. Overall unit thickness 31 -33mm		Pilkington Optiwhite Toughened Glass	4 thick (31 thick unit) 6 thick (33 thick unit)	Fitted on the unexposed face, 290mm from the leaf head and 260mm from the closing edge of the leaf
		Pilkington Pyrodur	7 thick	Fitted on the exposed (fire risk) face of the leaf, as above
		BGB magnetically operated internal blind – comprising an aluminium frame and shutter assembly with a string and pulley operated system	12.5 thick	Fitted between the outer layers of glass.
		Steel spacer	20 thick	Between the outer layers of glass
Perimeter Sealing		Hot Melt Butyl Sealant [1]	-	Applied to all edges of the glazed unit
Glazing Beads	44 thick leaves	Hardwood timber with a minimum density of 640kg/m^3	20 high x 12 deep with a 9 x 9 bolection and 15º chamfer	Applied to all edges on both faces of the glazed unit
	54 thick leaves		20 high x 17 deep with a 9 x 9 bolection and 15º chamfer	
Bead Fixings		steel pins	60 long x 2 Ø	50mm from each corner at max 150mm centres and at 35º to the plane of the glass
Glazing System		Mann McGowan Pyroglaze	3 thick	Fitted between the glass and bead on both faces

[1] Details held on file by Warringtonfire.

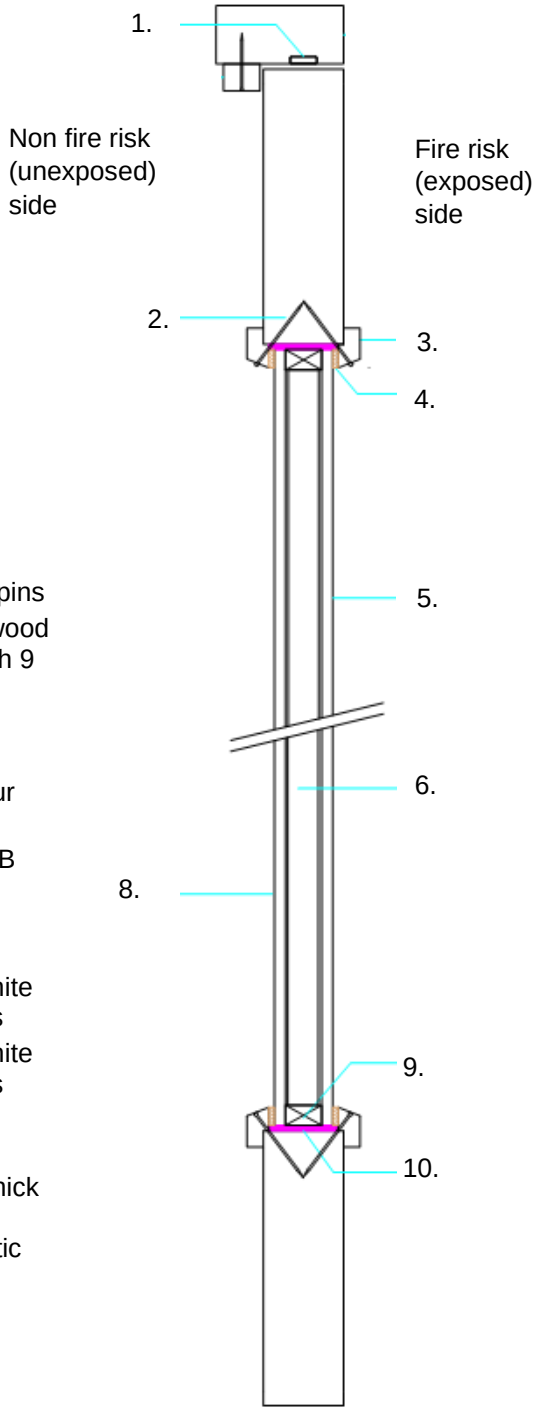
4.3.2 Vertical Sections of the Tested BGB Vision Panel Constructions

The drawings below show the essential elements and arrangement of the tested BGB Vision Panel detailed in section 4.3.1, above.

Option 1 – 4mm Optiwhite Toughened Glass



Option 2 – 6mm Optiwhite Toughened Glass



Key:

1. Perimeter intumescents
2. 60mm long steel pins
3. 20mm high hardwood glazing beads with 9 x 9 bolection
4. Mann McGowan Pyroglaze 30
5. 7mm thick Pyrodur Glass
6. 12.5mm thick BGB magnetically operated internal blind
7. 4mm thick Optiwhite Toughened Glass
8. 6mm thick Optiwhite Toughened Glass
9. 20mm thick Steel Spacer
10. Nominally 3mm thick Norseal acrylic intumescent mastic between the Pyroglaze strips

4.4 Proprietary Fire Resisting Door Designs

BGB Vision Panels are approved for use with the following proprietary fire resisting doorset designs.

This report only considers the aperture size relevant to each doorset design for use with the BGB Vision Panel. For all other details, the full construction requirements in the field of application documentation relevant to the chosen doorset must be referred to.

Manufacturer	Product	Integrity Rating	General Description
Falcon Panel Products	Strebord 44	30	Graduated density particle board
	Strebord 54	30	Graduated density particle board
Halspan®	Halspan® 30 **Optima**	30	Tri layer particle board
	Halspan® 30 **Prima**	30	Tri layer particle board
	Halspan® 60 **Optima**	30	Tri layer particle board
	Halspan® 60 **Prima**	30	Tri layer particle board
Pacific Rim Wood	Flamebreak 30	30	Lamel 3-layer core door with various facing coverings
	Flamebreak 60	30	Lamel 3-layer core door with various facing coverings
Blankfort Inc	Blankfort 30 & 30+	30	Lamella core door with various facing coverings
	Blankfort 60 & 60+	30	Lamella core door with various facing coverings
Egger (UK) Ltd	Décor 44	30	Graduated density chipboard
	Eurospan	30	Graduated density chipboard

The above designs have been tested and proven to BS 476: Part 22: 1987 and/or BS EN 1634-1. The documentation for each proprietary door type is referenced in section 5 below.

4.5 Non-proprietary timber based fire resisting doors

The BGB vision panel has been successfully subjected to testing for 30 minutes fire resistance to the principles of BS 476 Part 20:1987 and BS 476 Part 22:1987 and is therefore approved for use with different types of timber door construction, subject to the provisos contained in this report. In addition to the approved proprietary door designs above, the BGB is approved for use with the following generic types of timber based fire resisting doorsets:

- Graduated density chipboard and three layered particleboard door blanks.
- Softwood or hardwood laminated door constructions with tested or assessed cellulosic facings.
- Stile and rail constructions with flax, chipboard or timber based cores.
- Stile and rail constructions with non-combustible sub-facings.

Assessment of these generic design types is subject to the following four provisos:

1. This report will only consider the aperture size relevant to each doorset design for the BGB Vision Panel.
2. The door blank must have been previously successfully tested, with installed glazing, for 30 minutes fire resisting integrity performance, at a UKAS accredited laboratory to either BS 476 Part 22:1987 or BS EN 1634-1, or assessed for use with glazing by Warringtonfire. The glazed area stated herein is the maximum that may be installed within any selected blank. If the permitted area within the selected blank's supporting documentation is smaller, then the smaller area must take precedence.
3. The door blank must be a minimum of 44mm thick.
4. For all other details, the full construction requirements in the relevant door blank manufacturer's test evidence or assessment documentation must be complied with, including the margins specified within the relevant test or global assessment between glazed apertures and leaf edges and between multiple glazed apertures.
5. It is the responsibility of the user of this document to ensure the most recent revisions of applicable doorsets are utilised. See section 5.1.

4.6 BGB Vision Panel Applications

Based on the testing conducted in WF 403484:

- The 7mm thick Pilkington Pyrodur glass must always be oriented to the fire risk side of the doorset, as tested.
- The maximum individual pane size assessed for BGB Vision Panels is 0.90m^2.
- The maximum individual pane size and maximum total area for glazed apertures when utilising the approved proprietary door designs, must not exceed those detailed for the applicable proprietary design in section 5.
- BGB Vision Panels may be utilised for 30 minute applications with both 44 and 54 thick leaves as detailed in sections 4.4 and 4.5.
- BGB vision panels must be glazed as tested, utilising the appropriate bead size, as detailed in section 4.3.1.

5 Data Sheets

5.1 General

The maximum glazed area shown for the supporting field of application reports below may be comprised of multiple apertures, subject to the minimum framing dimensions stipulated within the appropriate supporting field of application report.

The stated maximum glazed areas for single and multiple apertures for each proprietary design are valid at the date of issue of this report. However, all field of application reports are subject to revalidation every five years and to revisions from time to time in-between.

It is the responsibility of the user of this field of application report to obtain up to date reports as they become available and to check that the key factors relating to glazing installation or permitted glazed areas are unchanged. If any relevant details change in the field of application report then that door design cannot be used with the BGB vision panel design without a review from Warringtonfire.

5.2 Falcon Panel Products – Strebord 44

Door manufacturer:		Falcon Panel Products Ltd
Door core reference:		Strebord 44
Global assessment report reference:		Chilt/A02066 Revision J
Description:		Graduated density chipboard blank
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.90

5.3 Falcon Panel Products – Strebord 54 blank for 30 minutes application

Door manufacturer:		Falcon Panel Products Ltd
Door core reference:		Strebord 54
Global assessment report reference:		Chilt/A02067 Revision I
Description:		Graduated density chipboard blank
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.90

5.4 Halspan Ltd – Optima 30

Door manufacturer:		Halspan Ltd
Door core reference:		Halspan® 30 **Optima**
Global assessment report reference:		FEA/F01204 Revision E
Description:		Tri-layer particle board
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	0.90

5.5 Halspan Ltd – Prima 30

Door manufacturer:		Halspan Ltd
Door core reference:		Halspan® 30 **Prima**
Global assessment report reference:		FEA/F97174 Revision J
Description:		Tri-layer particle board
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.75

5.6 Halspan Ltd – Optima 60 blank for 30 minute applications

Door manufacturer:		Halspan Ltd
Door core reference:		Halspan® 60 **Optima**
Global assessment report reference:		FEA/F01205 Revision F
Description:		Tri-layer particle board
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.75

5.7 Halspan Ltd – Prima 60 blank for 30 minute applications

Door manufacturer:		Halspan Ltd
Door core reference:		Halspan® 60 **Prima**
Global assessment report reference:		FEA/F96103 Revision N
Description:		Tri-layer particle board
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.75

5.8 Pacific Rim Wood Ltd – Flamebreak 30

Door manufacturer:		Pacific Rim Wood Ltd
Door core reference:		Flamebreak 30
Global assessment report reference:		FEA/F98164 Revision M
Description:		Lamella core door with various facing coverings
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.15

5.9 Pacific Rim Wood Ltd – Flamebreak 60 blank for 30 minute applications

Door manufacturer:		Pacific Rim Wood Ltd
Door core reference:		Flamebreak 60
Global assessment report reference:		FEA/F02141 Revision J
Description:		Lamella core door with various facing coverings
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.15

5.10 Blankfort Inc – Blankfort 30 and 30+

Door manufacturer:		Blankfort Inc
Door core reference:		Blankfort 60 & 60+
Global assessment report reference:		Chilt/A12151 Revision D
Description:		Lamella core door with various facing coverings
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.92

5.11 Blankfort Inc – Blankfort 60 and 60+ blank for 30 minute applications

Door manufacturer:		Blankfort Inc
Door core reference:		Blankfort 60 & 60+
Global assessment report reference:		Chilt/A12152 Revision D
Description:		Lamella core door with various facing coverings
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.92

5.12 Egger (UK) Ltd – Eurospan 30

Door manufacturer:		Egger (UK) Ltd
Door core reference:		Décor 44
Global assessment report reference:		Chilt/A13085 Revision D
Description:		Graduated density chipboard blank
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.29

5.13 Egger (UK) Ltd – Eurospan 60 blank for 30 minute applications

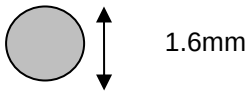
Door manufacturer:		Egger (UK) Ltd
Door core reference:		Eurospan 60
Global assessment report reference:		Chilt/A10187 Revision D
Description:		Graduated density chipboard blank
Maximum permitted glazed area (m^2)	**Single Aperture**	0.90
	Multiple Apertures	1.29

6 Additional Installation Requirements

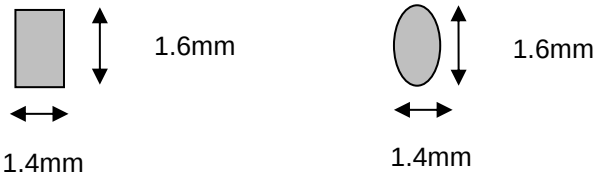
In addition to the provisos above, the following points must be complied with when glazing fire resisting doorsets using the BSB panel.

1. Gaps between glass and framing, to permit expansion, should be set at 3mm on all edges, using non-combustible or hardwood setting blocks at the bottom edge.
2. Timber for glazing beads must be straight grained joinery quality hardwood, free from knots, splits and checks.
3. Pneumatically (gun) fired steel pins are acceptable providing the pins meet the specifications shown below, are a minimum of 60mm long, and for rectangular or oval pins are orientated perpendicularly to the glass where possible.

Round pin diameter (mm) = minimum 1.6mm:



Oval/rectangular pin minimum linear dimensions = 1.6mm x 1.4mm:



7 Conclusion

If BGB vision panels were to be used for glazing fire resisting doors, in accordance with the specification documented in this report, and were to be tested in the appropriate configuration in accordance with BS 476 Part 22:1987, it is the opinion of Warringtonfire that the glazing installation would achieve a minimum of 30 minutes fire resistance integrity.

8 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 Between Glass Blinds Ltd.

9 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, 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) Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

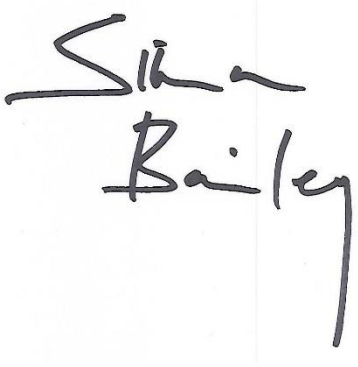
5) This assessment relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility 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.

6) This assessment represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS 476 Part 22:1987, on the basis of the evidence referred to herein. We express no opinion as to whether that evidence, and/or this assessment, would be regarded by any Building Control authority as sufficient for that or any other purpose. This assessment is provided to the client for its own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any 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.

10 Validity

1) The assessment is initially valid for five years after which time it must be submitted to Warringtonfire for technical review and revalidation.
2) This assessment report is not valid unless it incorporates the declaration given in Section 8 duly signed by the applicant.

Signature:		
Name:	**Simon Bailey**	**A M Winning**
Title:	Senior Product Assessor	Senior Product Assessor

Appendix A

Performance Data

Primary Test Data

Report No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
WF403484	A: LSASD (Lamel core blank)	2100 1140 54	BS 476 Part 22: 1987	Integrity: 40 Insulation 0
	B: LSASD (Particleboard blank)	2100 1140 45	BS 476 Part 22: 1987	Integrity: 40 Insulation 0

Assessed Proprietary Doorsets

Report No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
Chilt/A02066 Revision L Strebord 44 Falcon Panel Products	Various	Various	BS 476: Part 22: 1987	30
Chilt/A02067 Revision H Strebord 54 Falcon Panel Products	Various	Various	BS 476: Part 22: 1987	30
FEA/F97174 Revision J Halspan® 30 **Prima** Halspan Ltd	Various	Various	BS 476: Part 22: 1987	30
FEA/F96103 Revision N Halspan® 60 **Prima** Halspan Ltd	Various	Various	BS 476: Part 22: 1987	30
FEA/F01204 Revision E Halspan® 30 **Optima** Halspan Ltd	Various	Various	BS 476: Part 22: 1987	30
FEA/F01205 Revision F Halspan® 60 **Optima** Halspan Ltd	Various	Various	BS 476: Part 22: 1987	30
FEA/F98164 Revision M Flamebreak 30 Pacific Rim Wood Ltd	Various	Various	BS 476: Part 22: 1987	30
FEA/F02141 Revision J Flamebreak 60 Pacific Rim Wood Ltd	Various	Various	BS 476: Part 22: 1987	30

Report No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
Chilt/A12151 Revision E Blankfort 30 & 30+ Blankfort Inc.	Various	Various	BS 476: Part 22: 1987	30
Chilt/A12152 Revision E Blankfort 60 & 60+ Blankfort Inc.	Various	Various	BS 476: Part 22: 1987	30
Chilt/A13085 Revision D Décor 44 Egger (UK) Ltd	Various	Various	BS 476: Part 22: 1987	30
Chilt/A10187 Revision D Eurospan 60 Egger (UK) Ltd	Various	Various	BS 476: Part 22: 1987	30

Notes:

1. Proprietary doorsets referenced in the above table are listed with the revision current at the time of issue of this report. Please refer to section 5.1 for the responsibilities of users of these reports to utilise the most recent revisions.
2. The 60 minutes Field of Application reports listed above are listed to enable use of the 54 mm thick blanks for 30 minutes application. BGB Vision Panels are not permitted for 60 minute applications.

Appendix B

Revisions

Revision	Warringtonfire Reference	Date	Description