



Fire Resistance Assessment

Vistamatic VS2 Vision Panel

for

**Fire Resisting Timber Doorset
Assemblies**

30 Minutes Fire Resistance

Report No: Chilt/A12242

Valid From: 6 November 2012

Valid Until: 6 November 2017



committed to excellence

Prepared for:

**Vistamatic Ltd
51 – 55 Fowler Road
Hainault Industrial Estate
Hainault
Essex
IG6 3XE**

www.chilternfire.co.uk

www.chilterndynamics.co.uk

www.qmark.info

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1 Introduction

This document constitutes a scope of application report relating to the Vistamatic VS2 vision panel system for 30 minute fire resisting doorsets installations on behalf of Vistamatic Ltd

The report will summarise the scope of application of the Vistamatic VS2 when used to glaze timber based fire resisting doorsets, glazed sidescreens and fanlights; and will be based on the associated test and assessment data.

The report uses established extrapolation and interpretation techniques in order to extend the scope of application by determining the limits for the vision panel, based on the tested constructions and performances obtained.

Elementary design changes are in line with the field of direct application of test results as given in the appropriate BS EN test standard for non-load bearing elements - BS EN 1364-1: 1999.

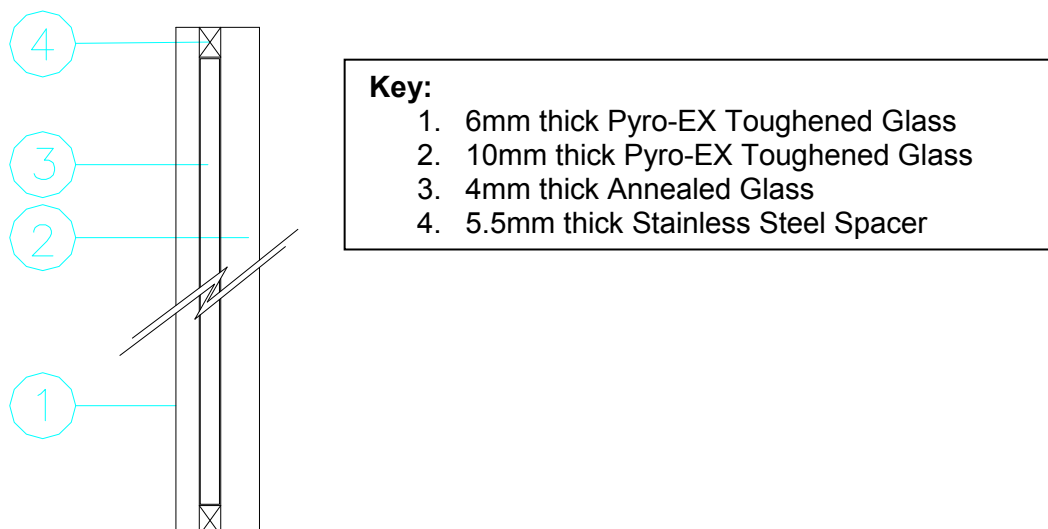
This assessment is for national application only; this document does not constitute a direct or extended field of application report in terms of the relevant European standards. The report is an evaluation of the potential fire resistance performance, if the elements were to be tested in accordance with BS EN 1634-1: 2008 and BS EN 1363-1: 1999.

2 Description of Vistamatic VS2

2.1 General

The Vistamatic VS2 vision panel comprises a double glazed unit with an additional, movable, centre layer of obscure glass.

The drawing below shows the essential elements of the double glazed unit. The 10mm thick toughened glass must be oriented to the fire risk side of the doorset.

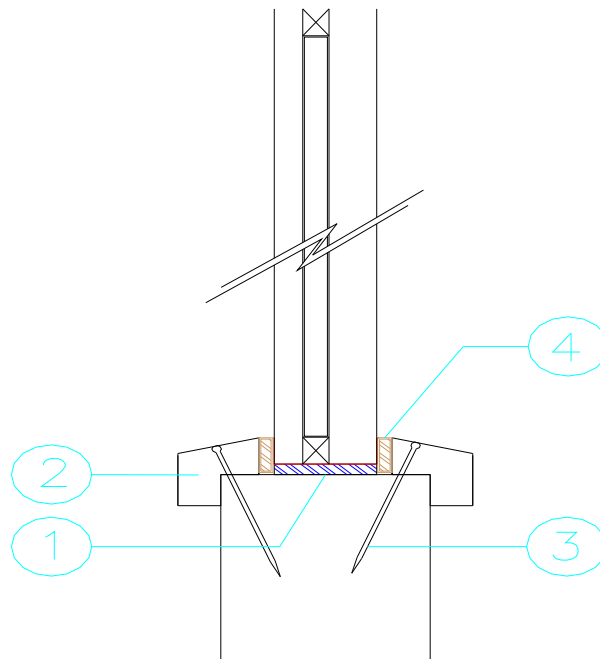


The vision panel is retained within the door leaf or screen element with either timber or steel beads, which must meet the specifications below.

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2.2 Timber Beads

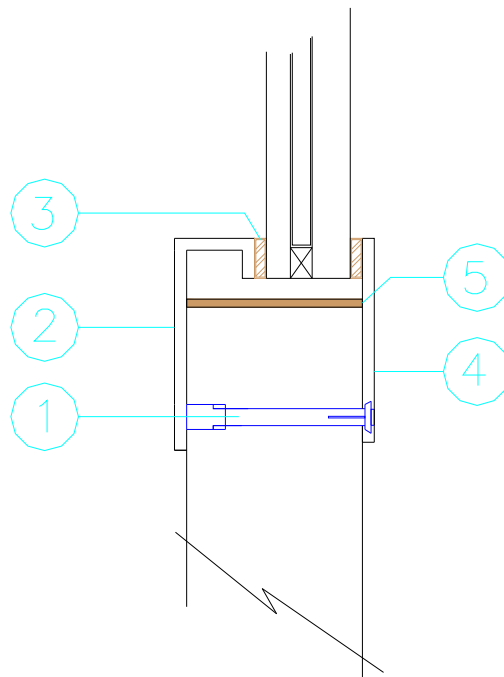
Element	Specification
Timber Bead material ² :	Hardwood (min density 640kg/m ³)
Glazing System ⁴ :	10mm high x 4mm thick Pyroglaze30 – Mann McGowan Ltd
Aperture liner ¹ :	3mm thick Intumescent Mastic – Norseal Ltd
Bead fixings ³ :	40mm long no. 6-8 steel screws or 40mm long x 1.8mm diameter steel pins located at minimum 150mm centres and 50mm from each corner. Fixings must be inserted at 35-40° to the vertical and located to 'cradle' the vision panel.
Minimum required bead size:	19mm (h) x 17mm (w) including a 9mm x 9mm bolection return. Bead to be chamfered 10-15°.
Additional information:	See section 6



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2.3 Steel Beads

Element		Specification
Bead material:		2mm thick stainless steel
Glazing System ³		10mm high x 2.5mm thick Raw Graphite ref: 2.5-390 x 10/SA – Norseal Ltd
Aperture liner ⁵ :		Intumescent Liner ref: 1.8-408 x 53/SA – Norseal Ltd
Bead fixings ¹ :		40mm long M5 machine steel screws fixed from the exposed face to threaded studs welded to the unexposed face beads located at minimum 170mm centres and 20mm from each corner.
Bead Profile	Exposed Face ⁴	50mm high x 2mm thick
	Unexposed Face ²	50mm high x 20 mm deep x 2mm thick
Additional information:		See section 6



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3 Scope of Application for Vistamatic VS2

3.1 Proprietary fire resisting doors

It has been proposed to summarise the use of the Vistamatic VS2 with the following proprietary fire resisting doorset designs.

This report will only consider the aperture size relevant to each doorset design for use with the Vistamatic VS2. For all other details, the full construction requirements in the assessment 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
Halspan	30 Prima	30	Tri layer particle board
Pacific Rim Wood	Flamebreak 30	30	Lamella core door with various facing coverings
Blankfort Inc	Blankfort 30 & 30+	30	Lamella core door with various facing coverings
Egger (UK) Ltd	Eurospan	30	Graduated density chipboard

All of the above designs have been tested and proven to BS476: Part 22: 1987 and/or BSEN 1634-1: 2000 or 2008. The global assessment documentation relevant to each door type is referenced before the data sheet for each proprietary door type - contained in section 4 below.

3.2 Timber based fire resisting doors

It has been proposed to assess the use of the Vistamatic VS2 with the following, generic, timber based fire resisting doorset types.

This report will only consider the aperture size relevant to each doorset design for the Vistamatic VS2.

The maximum glazed area assessed for Vistamatic VS2 installations within timber based door designs not specifically mentioned in the data sheets in section 4 is 1.0m².

The door blank must have been previously tested for fire resisting performance with installed glazing at a UKAS accredited laboratory or assessed for use with glazing by Chiltern International Fire Ltd. 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, that area must take precedence.

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The vision panel has been successfully subjected to testing for 30 minutes fire resistance to BS EN 1634-1: 2008 and BS EN 1363-1: 1999 and is approved for use with different types of timber door construction subject to the provisos contained in this report.

For all other details the full construction requirements in the relevant door blank manufacturer's test evidence or assessment documentation must be complied with.

The following timber based door types can be considered for use with the Vistamatic VS2 subject to the provisos above:

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

3.3 Assessed Glass

Glass used for the outer panes of the Vistamatic VS2 vision panel must be as tested (see section 2) or the assessed variations shown in the table below.

Glass Thickness Combination (mm)	Permitted Bead Type	
	Timber (section 2.2)	Steel (section 2.3)
6/10 ¹	√	√
10/10	√	√

Notes:

1. Glass combination as tested with the 10mm glass oriented to the exposed face
2. 6mm glass elements must NOT be oriented to the fire risk side
3. Where 6mm glass is used, the vision panel will be uni-directional with respect to fire risk; care must be taken to ensure the unit is installed the correct way round otherwise the fire resistance performance will be compromised
4. When specifying panels, the required orientation of the operating handle for the central pane must be considered in relation to the fire risk side
5. The bead profile shown as item 2 in section 2.3 may be adjusted in depth only, in order maintain the flush fit of the beads - to suit the specified glazing thickness
6. Glass must be Pyro-EX Toughened Glass
7. Other than the glass thickness, all installation provisions must remain as shown in section 2.

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4 Data Sheets

The maximum glazed area shown may be comprised of multiple openings, subject to the minimum framing dimensions stipulated within the appropriate supporting global assessment.

The global assessment report references given below are current at the time of issue of this report; the manufacturer of the specified doorset should be contacted to ensure the most up to date revision of each global assessment is used. Subsequent revisions to the reports below will supersede them, provisions within may change and must be complied with.

4.1 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 (m²)	Single Aperture	1.0
	Multiple Apertures	1.33

4.2 Halspan Ltd – Prima 30

Door manufacturer:		Halspan Ltd
Door core reference:		30 Prima
Global assessment report reference:		FEA/F97174 Revision G
Description:		Tri-layer particle board
Maximum permitted glazed area (m²)	Single Aperture	1.0
	Multiple Apertures	1.25

4.3 Pacific Rim Wood Ltd – Flamebreak 30

Door manufacturer:		Pacific Rim Wood Ltd
Door core reference:		Flamebreak 30
Global assessment report reference:		FEA/F98164 Revision J
Description:		Lamella core door with various facing coverings
Maximum permitted glazed area (m²) Single or multiple apertures		0.72

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4.4 Blankfort Inc – Blankfort 30

Door manufacturer:		Blankfort Inc
Door core reference:		Blankfort 30 & 30+
Global assessment report reference:		Chilt/A12151
Description:		Lamella core door with various facing coverings
Maximum permitted glazed area (m²)	Single Aperture	1.0
	Multiple Apertures	1.32

4.5 Egger (UK) Ltd – Eurospan 30

Door manufacturer:		Egger (UK) Ltd
Door core reference:		Eurospan
Global assessment report reference:		Chilt/A09077
Description:		Graduated density chipboard blank
Maximum permitted glazed area (m²)	Single Aperture	1.0
	Multiple Apertures	1.29

4.6 Non-Proprietary Timber based fire resisting doors

Door manufacturer:		Various
Door core reference:		Various
Global assessment report reference:		Various
Description:		See Section 3.2
Maximum permitted glazed area (m²) Single or multiple apertures		1.0

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5 Side Panels and Fanlights

The Vistamatic VS2 may be used to glaze fanlights and/or sidepanels.

The maximum assessed fanlight height is 600mm.

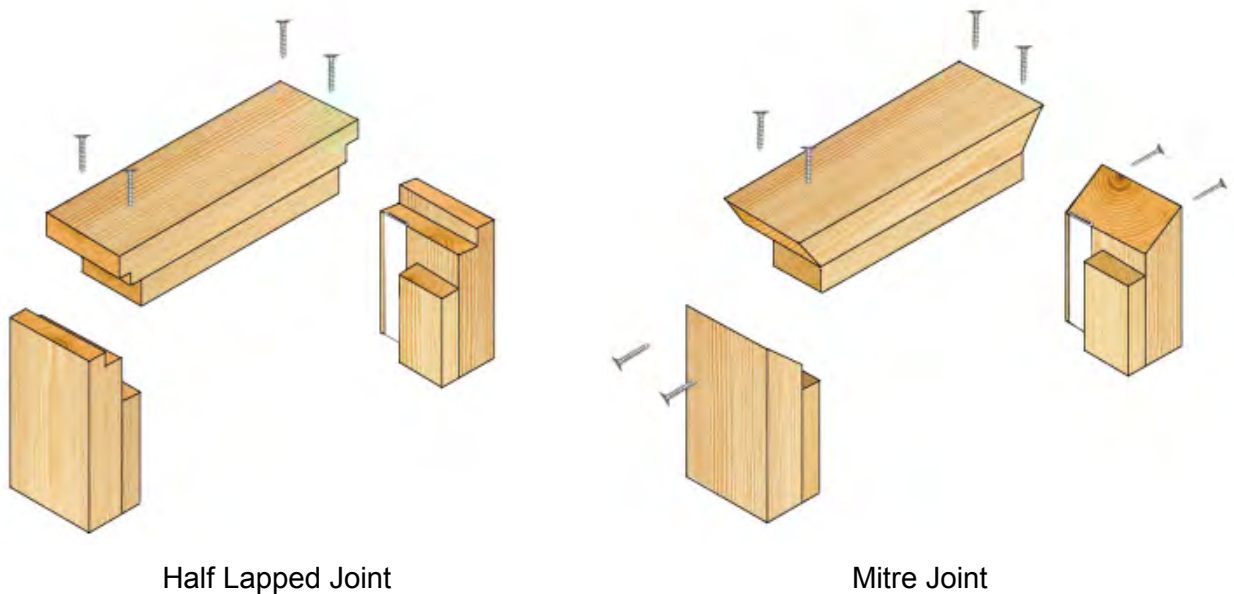
The maximum assessed sidepanel width is 500mm.

The maximum glazed area for a single panel (fanlight or sidepanel) is 1.0m².

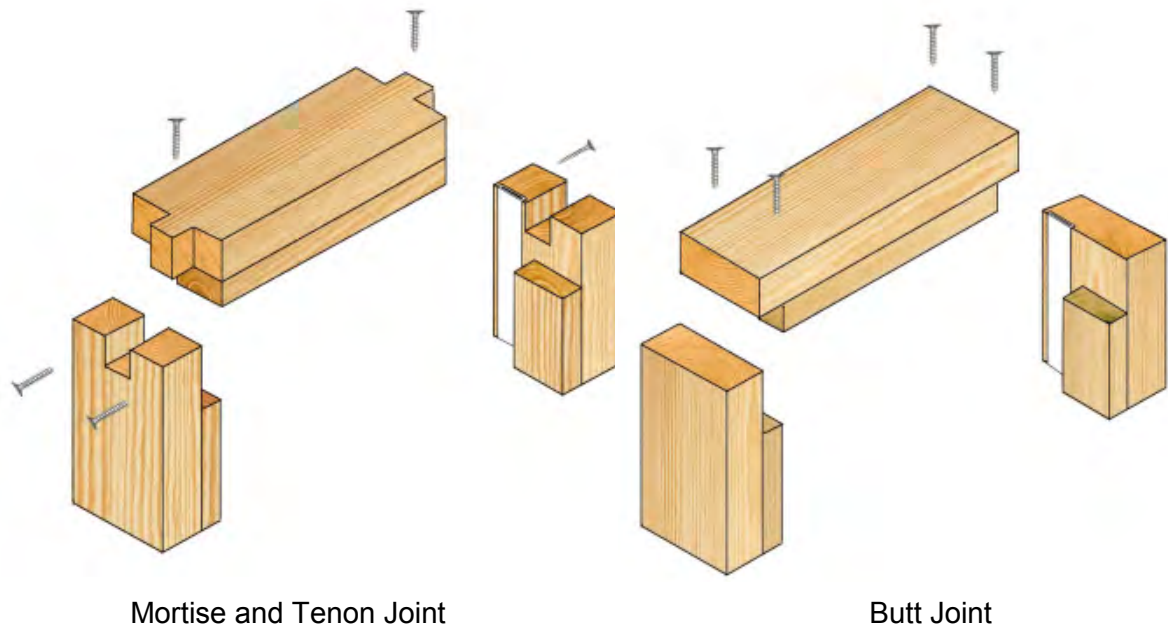
If the required glazed area of the fanlight or sidepanel exceeds the area stated above, timber framing elements must be installed (jointed as below) to divide up the glazing area.

Notes:

1. The door frame and fanlight and sidepanel framing must be hardwood with a minimum density of 640 kg/m³
2. The frame section must be a minimum of 70mm x 44mm
3. All other installation details of the Vistamatic VS2 must otherwise meet the provisions within section 2
4. Frame joints may be mortice and tenoned, mitred, half lapped or butted and with no gaps (see below). All jointing methods require mechanical fixing with the appropriate size ring shank nails or screws.



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6 Additional Installation Requirements

In addition to the provisos above, the following points must be considered when glazing fire resisting doorsets using the Vistamatic VS2 vision panel.

1. Gaps between glass and framing, to permit expansion, should be set at 2 - 3mm on all edges, using non combustible or hardwood setting blocks at the bottom edge
2. If it is necessary to increase the height of the timber bead beyond the minimum stated in section 2.2, the length of the bead fixing must be increased commensurately, to ensure that the fixings locate into the door core to a depth of approximately 20 - 25mm
3. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 2.2
4. Timber for glazing beads must be straight grained joinery quality hardwood, free from knots, splits and checks.

7 Conclusion

If the Vistamatic VS2 were to be used for glazing fire resisting door types, sidescreens or overpanels in accordance with the specification documented herein, and were to be tested in the appropriate configuration in accordance with BS EN 1634-1: 2008 and BS EN 1363-1: 1999, it is our opinion that the glazing installation would achieve a minimum of 30 minutes integrity.

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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 Vistamatic Ltd.

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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, CIF 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.

10 Validity

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

Signature:		
Name:	A M Winning	P N Barker
Title:	Product Assessor	Senior Consultant

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Appendix A

Performance Data

Vistamatic glazing evidence

Report No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
RF12065 (Particleboard Blanks)	2No LSASD A – timber beads B – Steel Beads	A & B 2100 1140 44	BS EN 1634-1: 2008 and BS EN 1363-1: 1999	A - Integrity: 30 B – Integrity: 34
IF12021	Hinged Door Leaf Section	1005 928 44	BS EN 1634-1: 2008	Integrity: 44

Proprietary Doorsets

Report No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
Chilt/A02066 Revision J – Falcon Panel Products: Strebord 44	Various	Various	BS 476: Part 22: 1987	30
FEA/F97174 Revision G – Halspan: 30 Prima	Various	Various	BS 476: Part 22: 1987	30
FEA/F98164 Revision J – Pacific Rim Wood: Flamebreak 30	Various	Various	BS 476: Part 22: 1987	30
Chilt/A12151 – Blankfort Inc: Blankfort 30 & 30+	Various	Various	BS 476: Part 22: 1987	30
Chilt/A09077 – Egger (UK): Eurospan 30	Various	Various	BS 476: Part 22: 1987	30

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Appendix B Revisions

Revision No.	Date	Description

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