



CERTIFICATE OF APPROVAL

No CF 5818

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
The undermentioned products of

PYROGUARD UK LIMITED

Millfield Lane,
Haydock,
United Kingdom
WA11 9GA
Tel: 01942 710720

Have been assessed against the requirements of the Technical Schedule(s)
denoted below and are approved for use subject to the conditions
appended hereto:

CERTIFIED PRODUCT

'Pyroguard Advance
2-EW, 2-FD and 2-EI'
Fire Resisting Glass

TECHNICAL SCHEDULE

TS 25 Fire Resistant Glass,
Glazing Systems and Materials

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan
Certification Manager

Issued:
Revised:
Valid to:

9th October 2021
1st March 2023
8th October 2026





Pyroguard Advance 2-EW, 2-FD and 2-EI Fire Resisting Glass

This certification is provided to the client for their own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.

This Certificate of Approval relates to the fire resistance of Pyroguard UK Ltd, 'Pyroguard Advance 2-EW, 2-FD and 2-EI' when used in the following applications, as defined in BS 476: Part 22: 1987, using test results achieved against the following standards:

BS 476-20:1987 Part 20: "Method for determination of the fire resistance of elements of construction (general principles)"

BS 476-22:1987: Part 22: "Methods for determination of the fire resistance of non-loadbearing elements of construction"

BS EN 1363-1 "Fire resistance tests - Part 1 General requirements"

BS EN 1364-1 "Fire resistance tests for non-loadbearing elements - Part 1: Walls".

BS EN 1364-3 "Fire resistance tests for non-loadbearing elements - Curtain walling. Full configuration (complete assembly)"

BS EN 1634-1 "Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware Part 1: Fire resistance test for door and shutter assemblies and openable windows".

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Pyroguard Advance 2-EW, 2-FD and 2-EI Fire Resisting Glass

Glass Specification	Application	Fire Resistance Performance (mins)		Page No.
		Integrity	Insulation	
Pyroguard Advance 2-EW30/7-1	Multi-pane timber framed screens	30	0	7
Pyroguard Advance 2-EW30/7-1 VI [IGU]	Multi-pane timber framed screens	30	0	8
Pyroguard Advance 2-EW30/11-2	Multi-pane timber framed screens	30	0	9
Pyroguard Advance 2-EW60/11-2	Multi-pane timber framed screens	60	0	10
Pyroguard Advance 2-EW30/7-1	Timber based doorsets	30	0	11-20
Pyroguard Advance 2-FD60/7-1	Timber based doorsets	60	0	21-22
Pyroguard Advance 2-FD60/11-1	Timber based doorsets	60	0	23
Pyroguard Advance 2-EW60/11-2	Timber based doorsets	60	0	24-34
Pyroguard Advance 2-FD90/7-1	Timber based doorsets	90	0	35
Pyroguard Advance 2-FD90/11-1	Timber based doorsets	90	0	36
Pyroguard Advance 2-EW90/11-2	Timber based doorsets	90	0	37
Pyroguard Advance 2-EW30/7-1	Multi-pane steel framed screens	30	0	38
Pyroguard Advance 2-EW30/7-1 VI [IGU]	Multi-pane steel framed screens	30	0	39
Pyroguard Advance 2-EW30/11-2	Multi-pane steel framed screens	30	0	40
Pyroguard Advance 2-EW60/11-2	Multi-pane steel framed screens	60	0	41
Pyroguard Advance 2-EW60/11-2 VI [IGU]	Multi-pane steel framed screens	60	0	42
Pyroguard Advance 2-EW30/7-1 VI [IGU]	Steel based doorsets	60	0	43
Pyroguard Advance 2-EI30/16-3	Multi-pane timber framed screens	30	30	44
Pyroguard Advance 2-EI30/16-3	Multi-pane steel framed screens	30	30	45

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Pyroguard Advance 2-EW, 2-FD and 2-EI Fire Resisting Glass

This product is approved on the basis of:

- a) Initial type testing
- b) A design appraisal against TS25
- c) Product surveillance under BS EN ISO 9001: 2015
- d) Audit testing

This Certificate of Approval must be read in conjunction with CERTIFIRE Technical Schedule TS25, Fire Resistant Glass, Glazing Systems and Materials.

General Requirements

Where the glass is installed in a timber or steel framed screen, the orientation of the screen shall be no more than $\pm 10^\circ$ from the vertical.

The edge cover to each pane shall be no less than 10mm minimum with an expansion gap in the rebate top and sides no less than 3mm.

Options

- i. Setting blocks: Hardwood and other non-combustible materials may be used. The dimensions may vary in order to centralise and stabilize the glazing within the aperture. It has also been proven that setting blocks may be removed with no detriment to performance provided that sufficient edge cover is provided on all four sides of the glazing.
- ii. Closed cell foam tapes: The closed cell foam glazing tapes listed below, may be used in 30 minute integrity only applications for timber screens and timber doorsets as a replacement for the approved glazing tapes.

Arbo F42
Compriband e TP601
Fire & Acoustic Seals
Scapa 3259
Technibond

- iii. Neutral silicone capping: Where a glazing tape is used it may, optionally, be sealed with a neutral silicone capping. This can only be used on applications where the 2-EW30/7-1 (7mm) glass is utilised for 30 minute applications or the 2-EW60/11-2 (11mm) glass is utilised for 60 minute applications.
- iv. Beads: In cases where flush or square timber beads are tested in doors or partition. Flush timber beads may be converted to chamfered or bolection while maintaining at least the overall tested bead dimension and approved fixing method. Chamfered and bolection beads may only be increased in dimension.
- v. Section: The tested framing sections may be increased but not decreased in dimension.

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Pyroguard Advance 2-EW, 2-FD and 2-EI Fire Resisting Glass

- vi. Insulated glass units (IGU, DGU, VI): The orientation of the unit with respect to the fire risk is critical to the fire resistance performance and is specified in this certificate for each application.

The approved insulated glass units may be modified in the following ways:

Counterpanes may be selected from the following list:

Annealed glass
Laminated glass (counterpane to the fire side only unless stated otherwise)
Low E glass
Obscured glass
Patterned glass
Solar Control glass
Toughened glass

Spacers may be of dimensions 6-20 mm.

Spacers materials may be selected from the listed types:

Aluminium
Stainless steel
Steel
Technoform Mww SP14 [Warm Edge]

Seal materials may be selected from types:

Hot-melt butyl
Polyurethane
Polysulphide
Silicone

- vii. Decorative: All systems may include decorative self-adhesive leading on either or both faces or may be frosted or patterned on one face.
- viii. Application of films: The glass may have 3M – Ultra 400 clear or Llumar Window Film SCL SR PS4 applied to either face or an alternative film applied to the known fire risk side only. If the fire risk may be from either side or it cannot be determined which side of the glass will be on the fire risk side, then films other than 3M – Ultra 400 clear or Llumar Window Film SCL SR PS4 shall not be applied.

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Pyroguard Advance 2-EW, 2-FD and 2-EI Fire Resisting Glass

- ix. Obscured: Pyroguard Advance 2 glass may be sandblasted, acid etched, bevelled or incorporate grooves subject to the minimum glass thickness being maintained i.e. by utilising thicker glass sheets bevelled at the edge or grooved to standard thickness.
- x. Shapes: It is acceptable to include Pyroguard Advance 2-EW, 2-FD and 2-EI in shaped apertures, i.e. circles, ovals, arches, quadrants, etc. within timber door leaves or screens (subject to limitations in the framing systems). For rectilinear apertures angles between adjoining perimeter beads should not be less than 45°. Where shaped apertures are included, only finger jointed glazing beads are acceptable. Maximum linear dimensions or areas as approved should not be exceeded.
- xi. Glazing: Glazing may be substituted for other, thicker, glazing from the same product family. For example, 2-EW30/7-1 may be substituted by 8-1, 9-1, 11-1 etc, provided that the minimum bead dimensions are respected and that there is no reduction in the thickness of the interlayer component.
- xii. Where multiple panes are approved for use within a single door leaf, the certificate holder should be contacted in regards minimum spacing requirements and further restrictions.

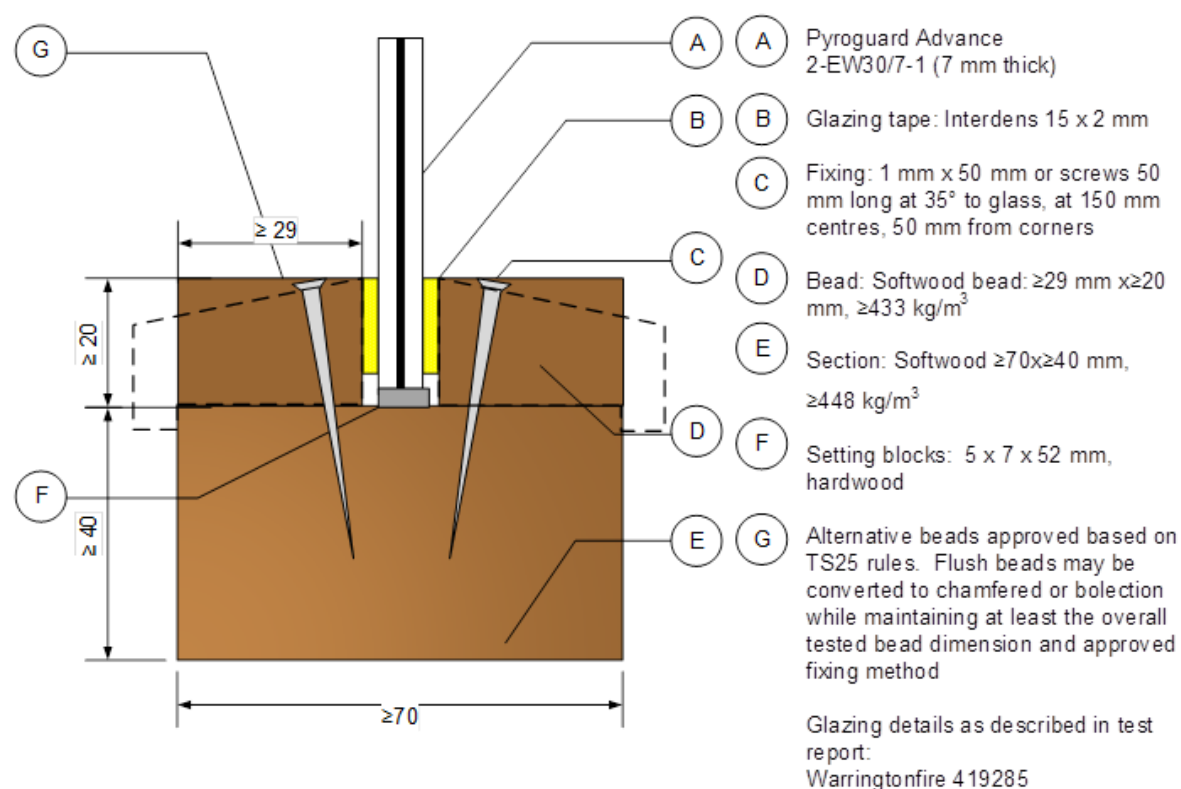
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Pyroguard Advance 2-EW30/7-1 glass in timber framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved framing system utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
930mm wide @ 2740mm high	2831mm high @ 900mm wide	2.54m ²
2025mm wide @ 900mm high	930mm high @ 1960mm wide	1.82m ²

Note: Maximum glass stock size is currently limited to 1580mm by 2780mm.

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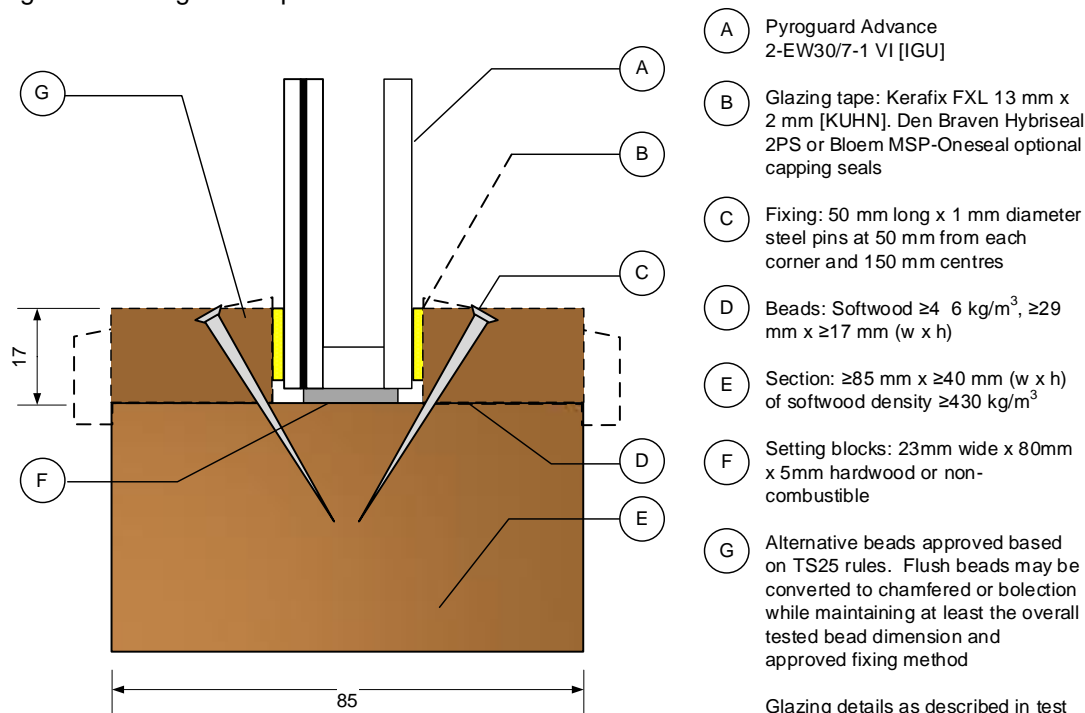
Paul Rogers

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Pyroguard Advance 2-EW30/7-1 VI IGU glass in timber framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved framing system utilising the following basic specification:



- (A) Pyroguard Advance 2-EW30/7-1 VI [IGU]
- (B) Glazing tape: Kerafix FXL 13 mm x 2 mm [KUHN]. Den Braven Hybriseal 2PS or Bloem MSP-Oneseal optional capping seals
- (C) Fixing: 50 mm long x 1 mm diameter steel pins at 50 mm from each corner and 150 mm centres
- (D) Beads: Softwood ≥ 4 6 kg/m³, ≥ 29 mm x ≥ 17 mm (w x h)
- (E) Section: ≥ 85 mm x ≥ 40 mm (w x h) of softwood density ≥ 430 kg/m³
- (F) Setting blocks: 23mm wide x 80mm x 5mm hardwood or non-combustible
- (G) Alternative beads approved based on TS25 rules. Flush beads may be converted to chamfered or bolection while maintaining at least the overall tested bead dimension and approved fixing method

Glazing details as described in test report:
Warringtonfire WF505065

This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 VI glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1240mm wide @ 2750mm high	2841mm high @ 1200mm wide	3.41m ²
1715mm wide @ 860mm high	888mm high @ 1660mm wide	1.47m ²

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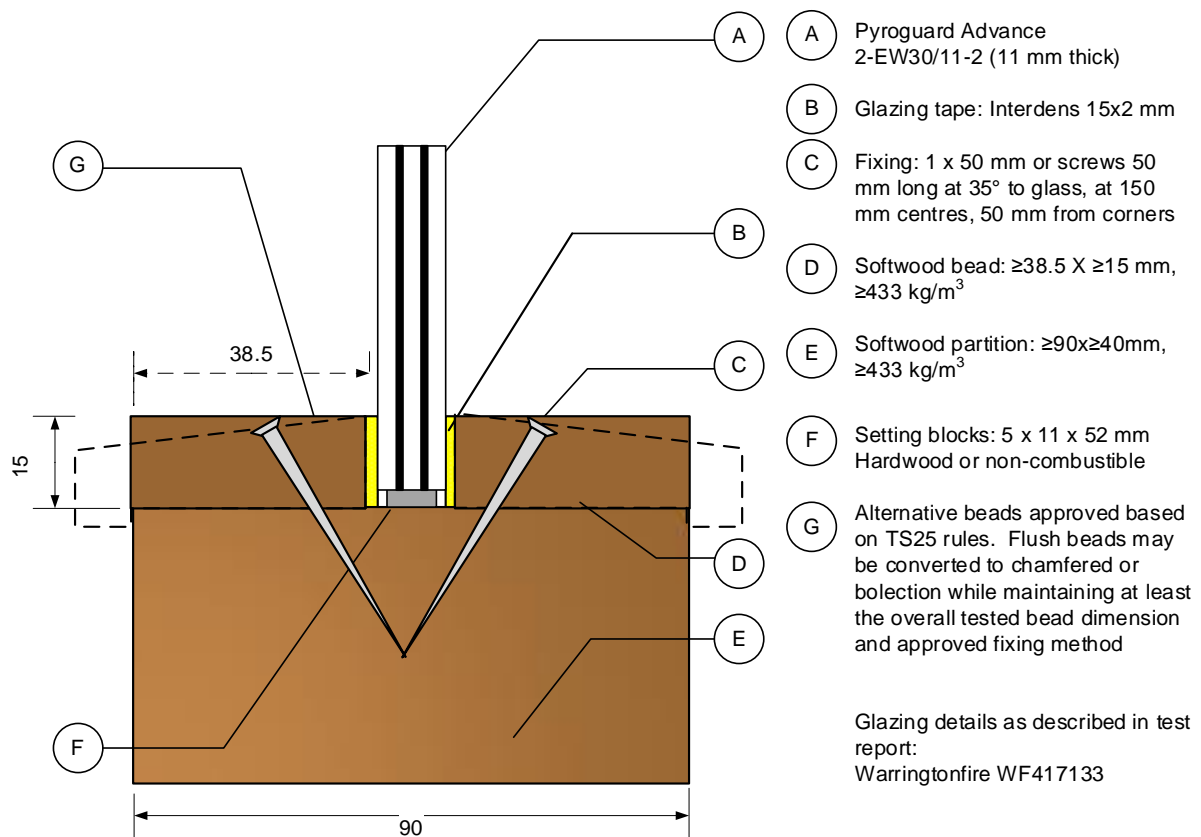
Paul Rogers

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Pyroguard Advance 2-EW30/11-2 glass in timber framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved framing system utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/11-2 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1875mm wide @ 2697mm high	3371mm high @ 1500mm wide	5.05m ²

Note: Maximum glass stock size is currently limited to 1580mm by 2780mm.

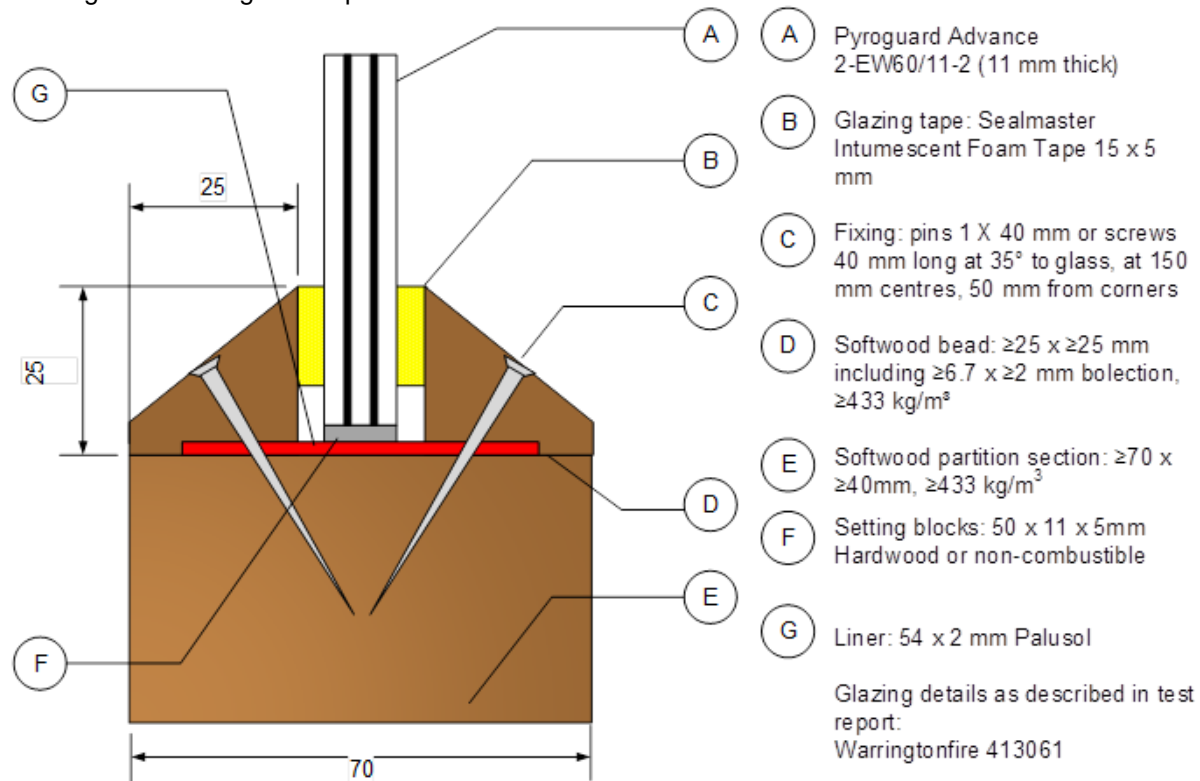
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Pyroguard Advance 2-EW60/11-2 glass in timber framed screens for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved framing system utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
827mm wide @ 2743mm high	2834mm high @ 801mm wide	2.27m ²
1925mm wide @ 801mm high	934mm high @ 1650mm wide	1.54m ²
949mm wide @ 1033mm high	1222mm high @ 802mm wide	0.98m ²

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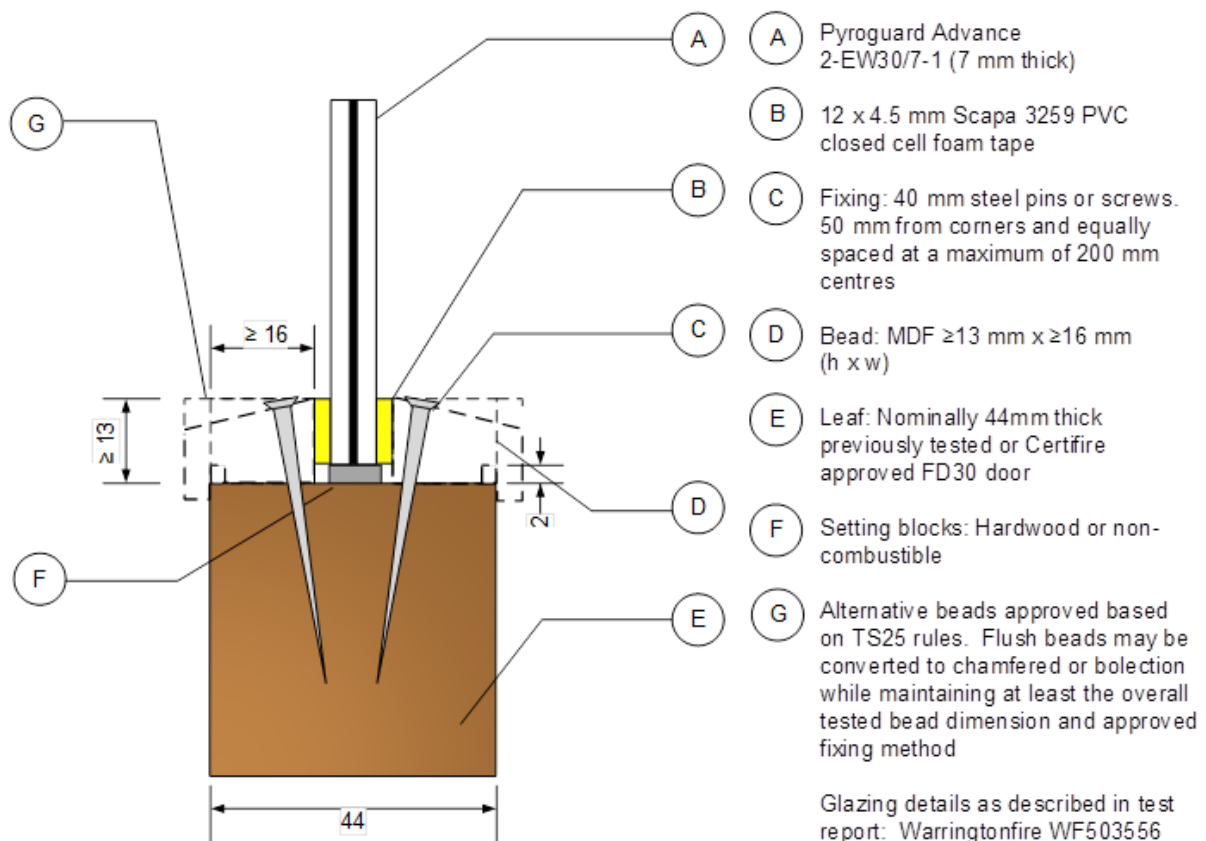
Paul Duggan

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
900mm wide @ 1294mm high	1617mm high @ 720mm wide	1.16m ²

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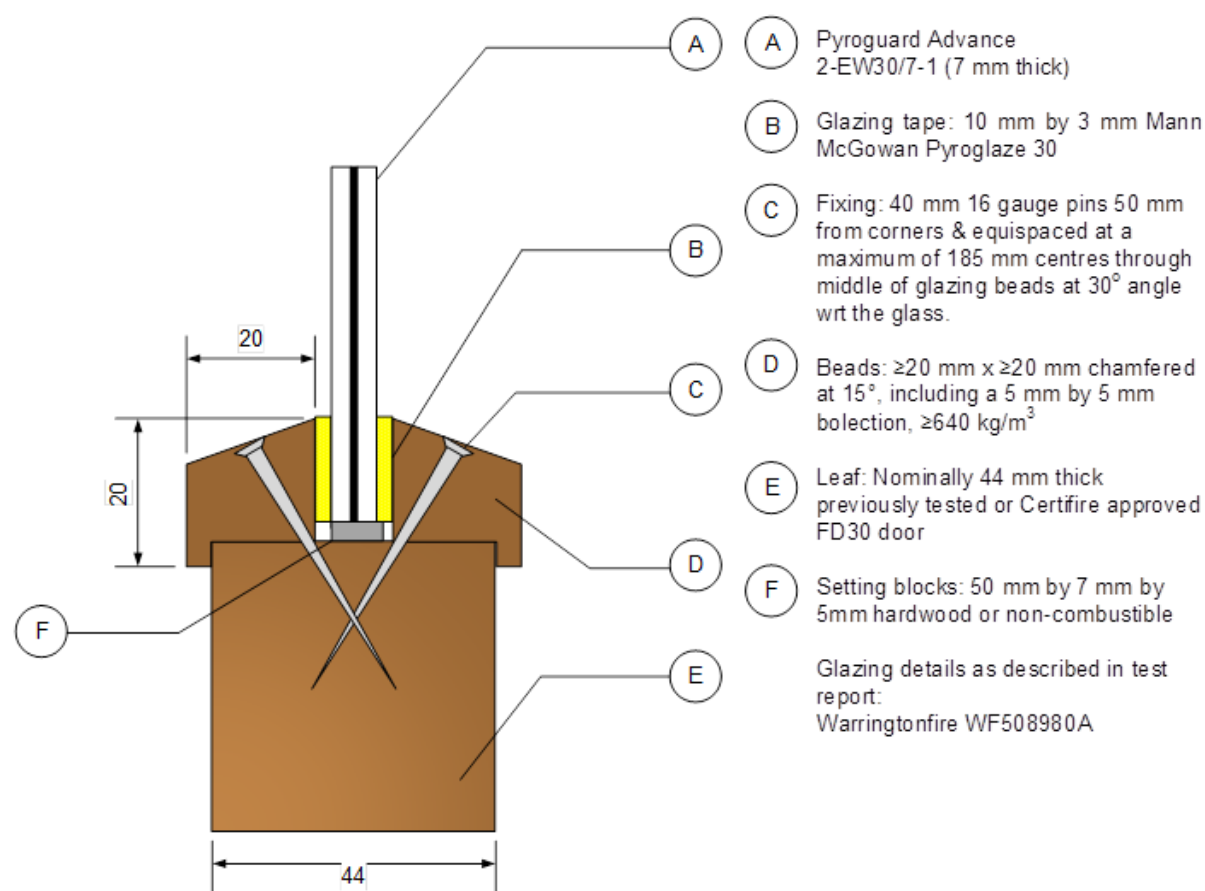
Paul Rogers

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
600mm wide @ 1600mm high	1920mm high @ 500mm wide	0.96m ²

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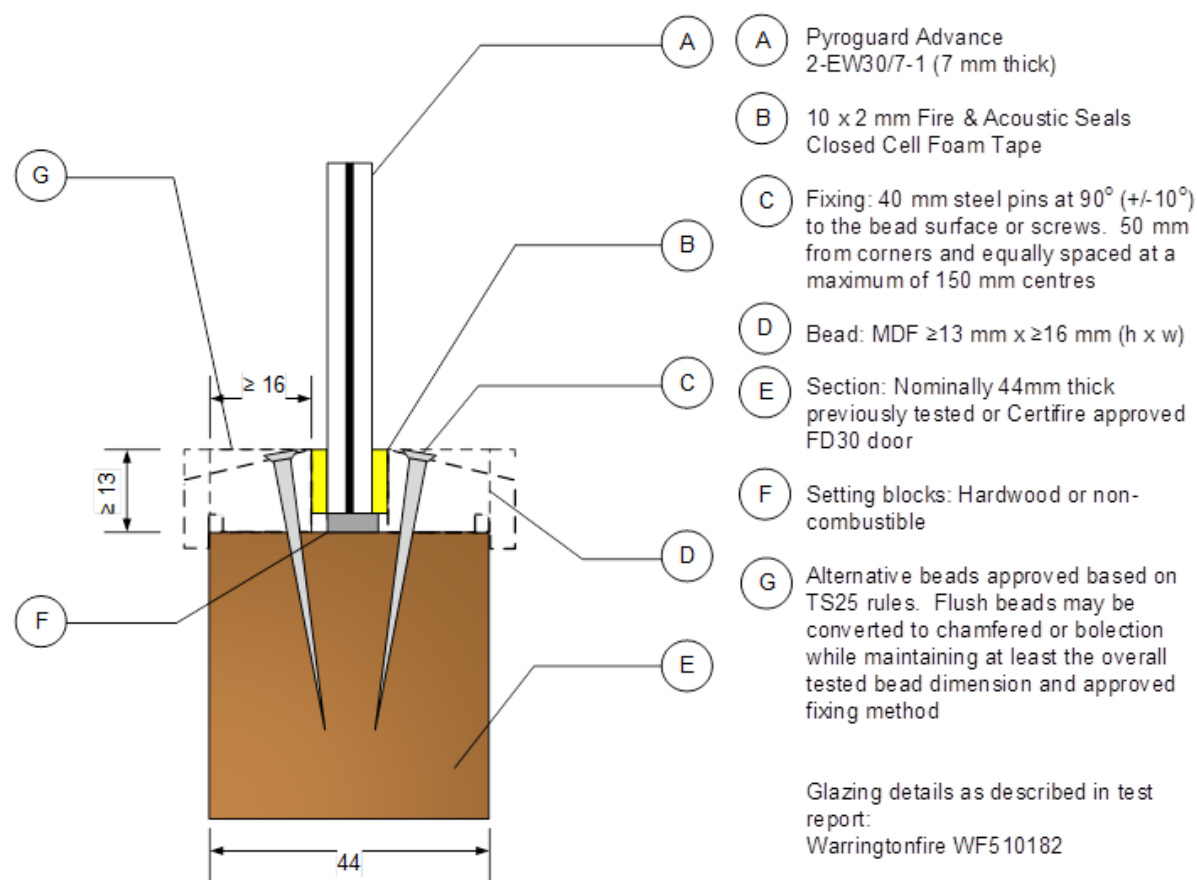
Paul Rigg

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
900mm wide @ 1294mm high	1617mm high @ 720mm wide	1.16m ²

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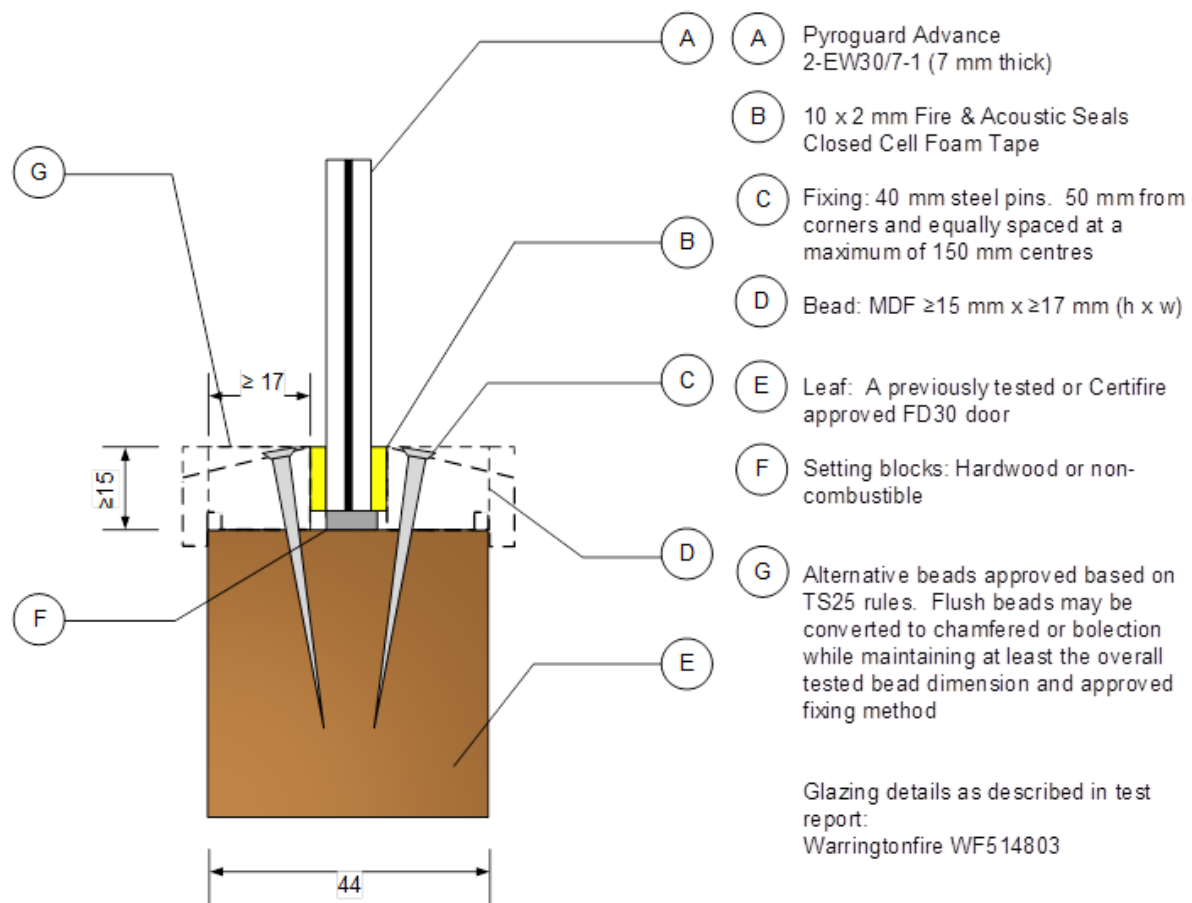
Paul Rogers

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1013mm wide @ 2205mm high	2205mm high @ 1013mm wide	2.23m ²

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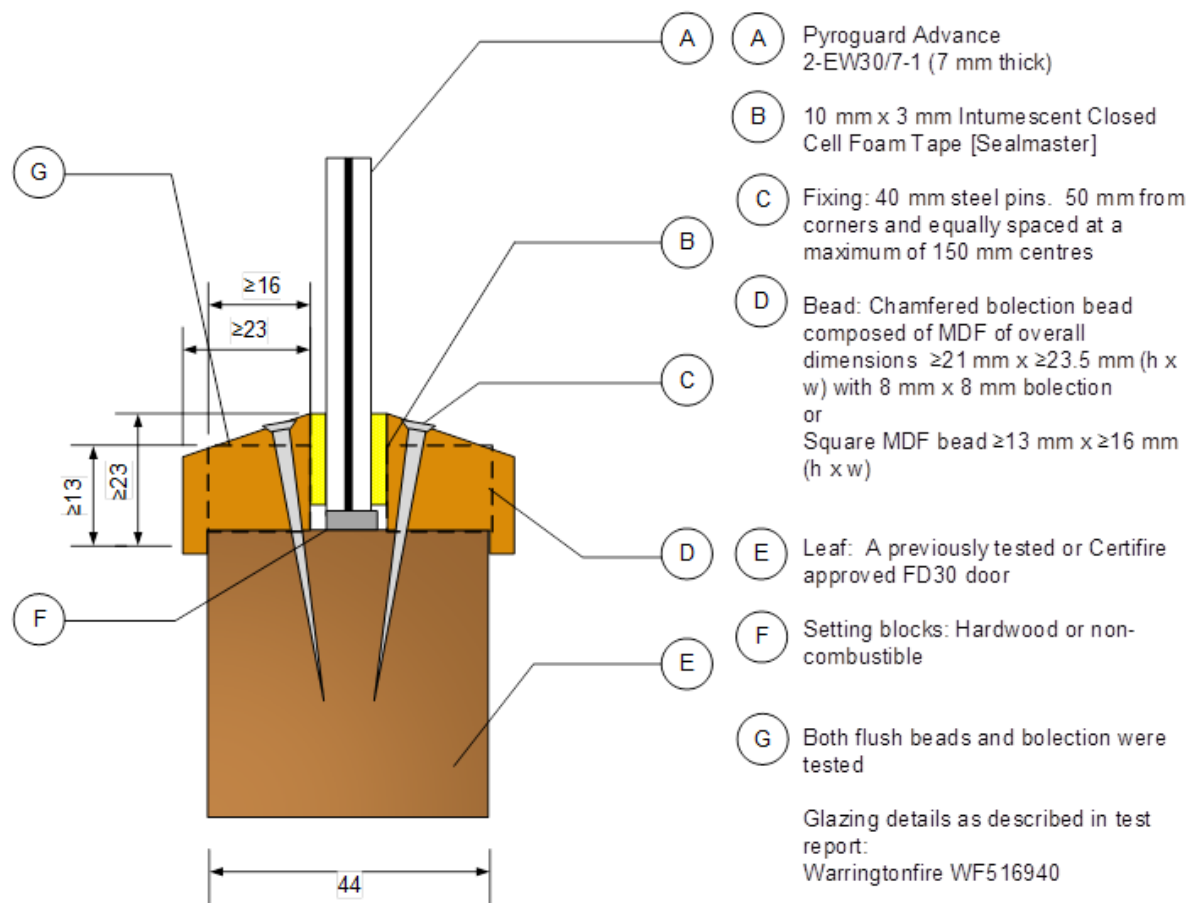
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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Beading	Maximum Width	Maximum Height	Maximum Area
Square	786mm wide @ 351mm high	407mm high @ 678mm wide	0.28m ²
Chamfered	839mm wide @ 1714mm high	2108mm high @ 682mm wide	1.44 m ²

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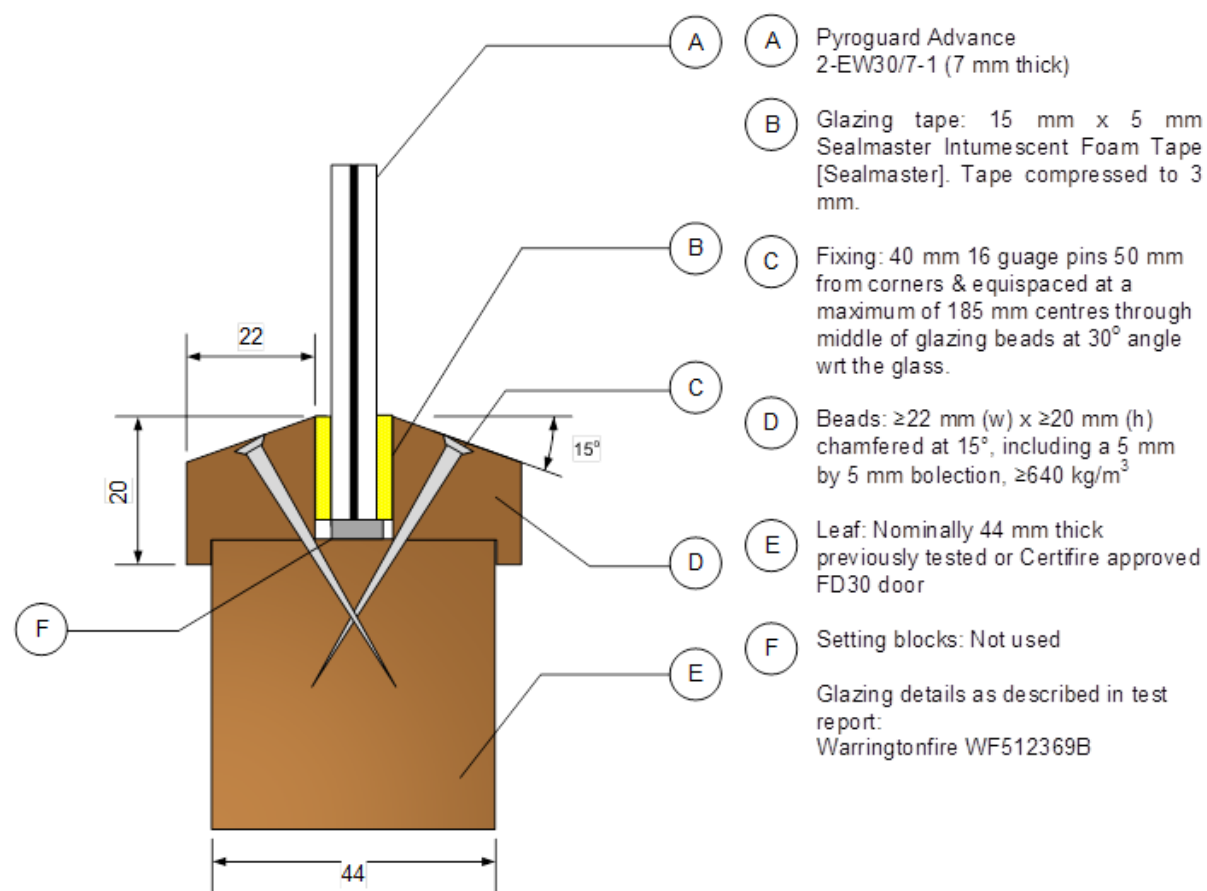
Paul Ryan

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1267mm wide @ 2026mm high	2532mm high @ 1014mm wide	2.57m ²

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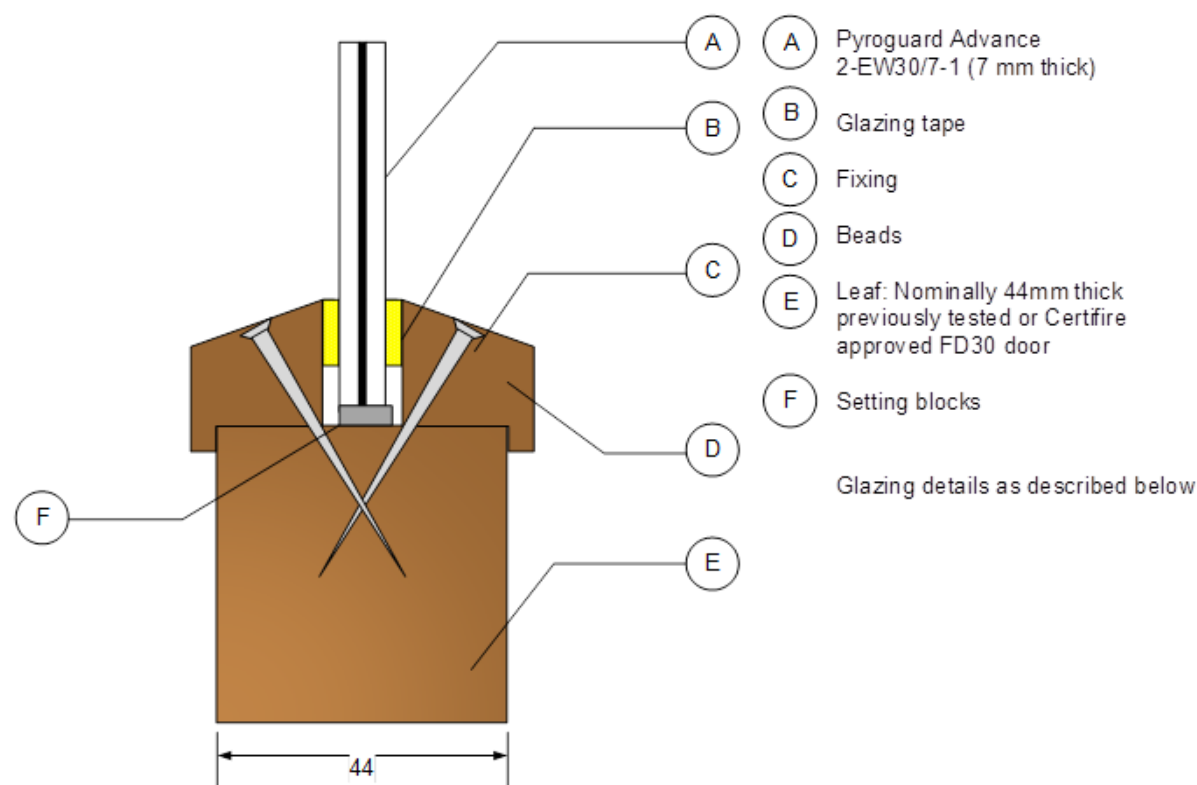
Paul Aggar

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the Table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity (cont.)

Maximum Permitted Glass Dimensions

Glazing System	Maximum Pane dimension – height (mm)	Maximum Pane dimension – width (mm)	Maximum Pane Area (m ²)
Sealmaster Therm-A-Strip 10mm x 2mm ⁽⁸⁾	2125 (at 300 w)	800 (at 800 h)	0.64
Sealmaster G30 glazing gasket between beads and glass ⁽⁸⁾	2125 (at 300 w)	800 (at 800 h)	0.64
Sealmaster G30 glazing gasket in Pyroguard UK Ltd's bead system ⁽⁹⁾	800	800	0.64
Sealmaster Intumescent Foam Glazing Tape, 10x5mm ⁽¹⁵⁾	1680	610	0.85
Sealmaster Intumescent Foam Glazing Tape, 10x5mm ⁽¹⁶⁾	1846	760	1.31
Sealmaster Intumescent Foam Glazing Tape, 15x5mm ⁽¹⁷⁾	2040 (at 700 w)	840 (at 1700 h)	1.42
Hodgsons Sealants Firestrip 30 ⁽¹⁾	875 (at 500 wide)	875 (at 500 high)	0.44
Interdens 10mm x 2mm glazing strip ⁽¹⁰⁾	1846	760	1.31
Lorient Flexible Figure 1 glazing system ⁽²⁾	1236 (at 574 w)	750 (at 960 h)	0.72
Lorient System 36/7 ⁽³⁾	875	750	0.66
Pyroplex 8193 glazing system ⁽⁴⁾	600	610	0.36
Pyroplex 30049 glazing system ⁽⁵⁾	750	750	0.56
Pyroplex 30054 glazing system ⁽⁶⁾	750	750	0.56
Pyroplex 8492 glazing system ⁽⁷⁾	403	626	0.25
IGU + Therm-A-Strip 10mm x 2mm ⁽¹¹⁾	1210	610	0.74
IGU + 'K' tape 15mm x3mm ⁽¹²⁾	952	749	0.68
Technibond Closed cell foam tape 15mm x 3mm ⁽¹³⁾	1680 (at 508 wide)	610 (at 1400 high)	0.85
Moreland Quickfix FD30 Glazing Bead System ⁽¹⁴⁾	1392	492	0.57
	1500	200	0.3
The aspect ratio of the glass may be unlimited within these pane dimensions or area			

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Glazing Arrangements

Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity (cont.)

Glazing Arrangements

(1)	The glazing beads shall be of Sapele, or equivalent or higher density (610 kg/m ³), sections, 22mm wide by 21mm high, chamfered by approximately 13° and fixed using 1.5mm diameter, 50mm long steel pins at a maximum of 100mm centres and angled to pass under the face of the glass.
(2)	The glazing beads shall be hardwood of minimum density 550 kg/m ³ or MDF of minimum 750 kg/m ³ density, sections, 22mm wide by 15mm high with a 5mm by 5mm bolection return, chamfered by approximately 15° and fixed using 1.5mm diameter, 40mm long steel pins or screws at a maximum of 150mm centres and angled to pass under the face of the glass. A secondary hardwood liner (integral or separate) or an LX4402 intumescent liner shall be used to line apertures cut within flaxboard substrates.
(3)	The glazing beads shall be of minimum density 550 kg/m ³ , sections, 22mm wide by 13mm high, chamfered by approximately 15° and fixed using 1.5mm diameter, 40mm long steel pins or screws at a maximum of 200mm centres and angled to pass under the face of the glass. A secondary Palusol based intumescent material is required to be used as a lining around the perimeter of apertures cut within flaxboard substrates which have a density below 500 kg/m ³ .
(4)	The glazing beads shall be of minimum density 630 kg/m ³ , sections, 20mm wide by 14.5mm high with a 5mm by 5mm bolection return, chamfered by approximately 20° and fixed using, 50mm long steel screws at a maximum of 150mm centres and angled at 30-45°. A secondary 6mm thick hardwood liner (min. density 630 kg/m ³) shall be used to line apertures cut within all substrates.
(6)	The glazing beads shall be of minimum density 630 kg/m ³ , sections, 20mm wide by 14.5mm high with a 5mm by 5mm bolection return, chamfered by approximately 20° and fixed using, 50mm long steel screws at a maximum of 150mm centres and angled at 30-45°. A secondary 6mm thick hardwood liner (min. density 630 kg/m ³) shall be used to line apertures cut within all substrates.
(7)	The glazing beads shall be of minimum density 630 kg/m ³ , sections, 20mm wide by 14.5mm high with a 5mm by 5mm bolection return, chamfered by approximately 20° and fixed using, 45mm long steel screws at a maximum of 150mm centres and angled at 30-45°.
(8)	The glazing beads shall be hardwood of minimum density 500 kg/m ³ , sections, 25mm wide by 23mm high with a 5mm by 5mm bolection return, chamfered by approximately 15° and fixed using, 38mm long steel pins or screws at a maximum of 150mm vertical and 100mm horizontal centres and angled at 15°. A secondary 6mm thick hardwood liner (min. density 500 kg/m ³) shall be used to line apertures cut within all substrates.
(9)	Asymmetrical beading system as shown in Pyroguard UK Ltd Drawing no. G20011-01 (01/07/04)
(10)	The glazing beads shall be Sapele hardwood of minimum density 610 kg/m ³ , sections, 20mm wide by 21mm high with a 5mm by 5mm bolection return, chamfered by approximately 21° and fixed using, 50mm long steel pins or screws at nominally 70mm at corners and a maximum of 200mm centres and angled at 45° to glass.
(11)	The glazing beads shall be hardwood of minimum density 650 kg/m ³ , sections, 16.5mm wide by 25mm high with a 5mm by 5mm bolection return, chamfered by approximately 15° and fixed using, 40mm long steel pins or screws at a maximum of 150mm centres and angled at 30°. A secondary 6mm thick hardwood liner (min. density 500 kg/m ³) shall be used to line apertures cut within all substrates.

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Pyroguard Advance 2-EW30/7-1 glass in timber based doorsets for periods of 30 minutes integrity (cont.)

Glazing Arrangements cont.

(12)	The glazing beads shall be Sapele hardwood, or equivalent or higher density (610 kg/m^3) sections, 15.5mm wide by 20mm high with a 5mm by 5mm bolection return, chamfered by approximately 21° and fixed using, 50mm long steel pins or screws at nominally 70mm at corners and a maximum of 200mm centres and angled at 45° to glass.
(13)	The glazing beads shall be MDF, minimum density 700 kg/m^3 , 20mm wide by 25mm high including a 4.5mm wide by 10mm high bolection return, chamfered at 15° to the glass. Beads were fixed using 2.0mm diameter, 50mm long steel pins equally spaced at a maximum of 150mm centres (vertical beads) and 230mm centres (horizontal beads) angled at 30° to the MDF beads. A 15mm by 3mm closed cell foam tape (Technibond) was located between the glass and beads. An intumescent acrylic sealant can optionally be applied around the perimeter of the glass. An MDF or hardwood liner, minimum density 700 kg/m^3 shall be used to line apertures cut within all substrates.
(14)	Morland QuickFix FD30 Glazing Bead system (comprising bead and glazing gasket), 50mm long steel pins at 150mm max. centres (30o to vertical bead edge), Intumescent Acrylic Sealant under perimeter edge of glass. Core incorporating voids or hollow tubes should not be glazed using this system unless a 6mm hardwood aperture liner is fitted within the perimeter of the aperture (CF5241 must be consulted for full details of this system).
(15)	Sealmaster Intumescent Foam Glazing Tape, $\text{Ø}1.6 \times 40\text{mm}$ long steel pins or No.8x40mm long screws at 150max. centres and 50mm from corners (fixed at 45°), 15mm high beads, with a 5x5mm min. bolection, from softwood or hardwood (min. density 510 kg/m^3 with a 20° chamfer) or MDF (min. density 700 kg/m^3 with a 15° chamfer). System may be used with and without non-combustible setting blocks.
(16)	Sealmaster Intumescent Foam Glazing Tape, $\text{Ø}1.6 \times 40\text{mm}$ long steel pins or No.8x40mm long screws at 150max. centres and 50mm from corners (fixed at 45°), 15mm high beads, with a 5x5mm min. bolection, from hardwood (min. density 620 kg/m^3 with a 20° chamfer). System may be used with and without non-combustible setting blocks.
(17)	Sealmaster Intumescent Foam Glazing Tape, beads 21mm by 20mm including a 5mm by 5.5mm bolection in 640 kg/m^3 hardwood secured using 16 gauge by 40mm steel pins at 150mm max. centres, 50mm from corners, at 30° relative to the glass. System may be used with and without non-combustible setting blocks.

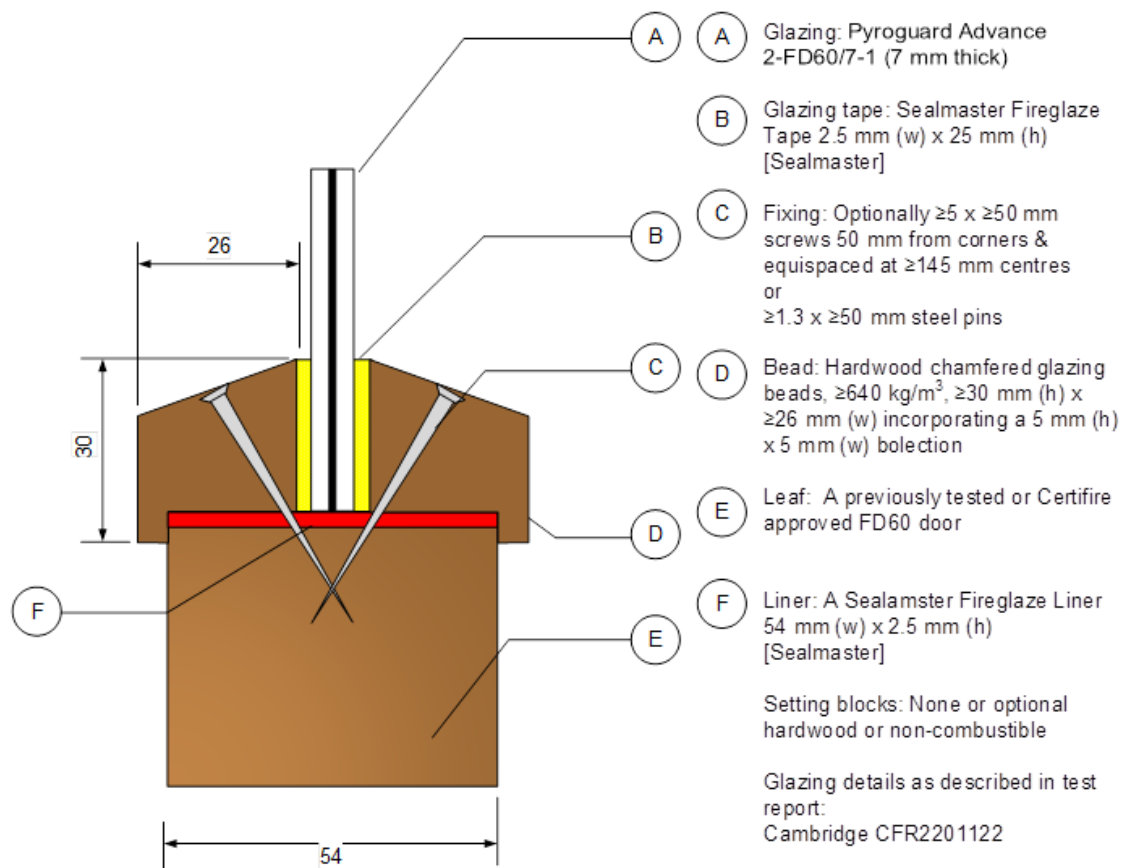
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E/056

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-FD60/7-1 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-FD60/7-1 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Fixing method	Maximum Width	Maximum Height	Maximum Area
Pins or Screws	304mm wide @ 1593mm high	1991mm high @ 243mm wide	0.48m ²
Screws	449mm wide @ 1593mm high	1991mm high @ 359mm wide	0.71m ²

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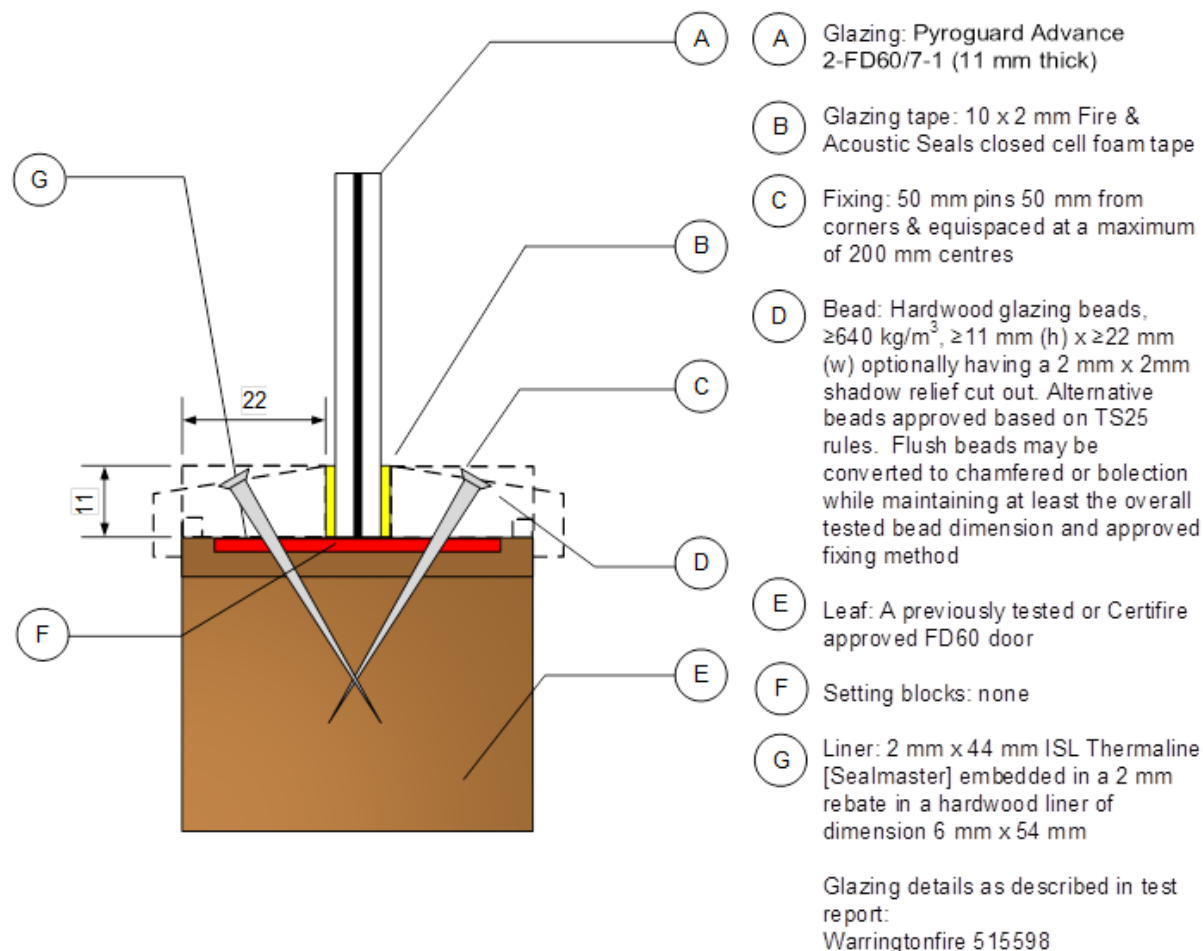
Paul Aggar

Issued: 9th October 2021
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Valid to: 8th October 2026

Pyroguard Advance 2-FD60/7-1 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-FD60/11-1 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Width	Maximum Height	Maximum Area
648mm wide @ 1290mm high	1393mm high @ 600mm wide	0.84m ²

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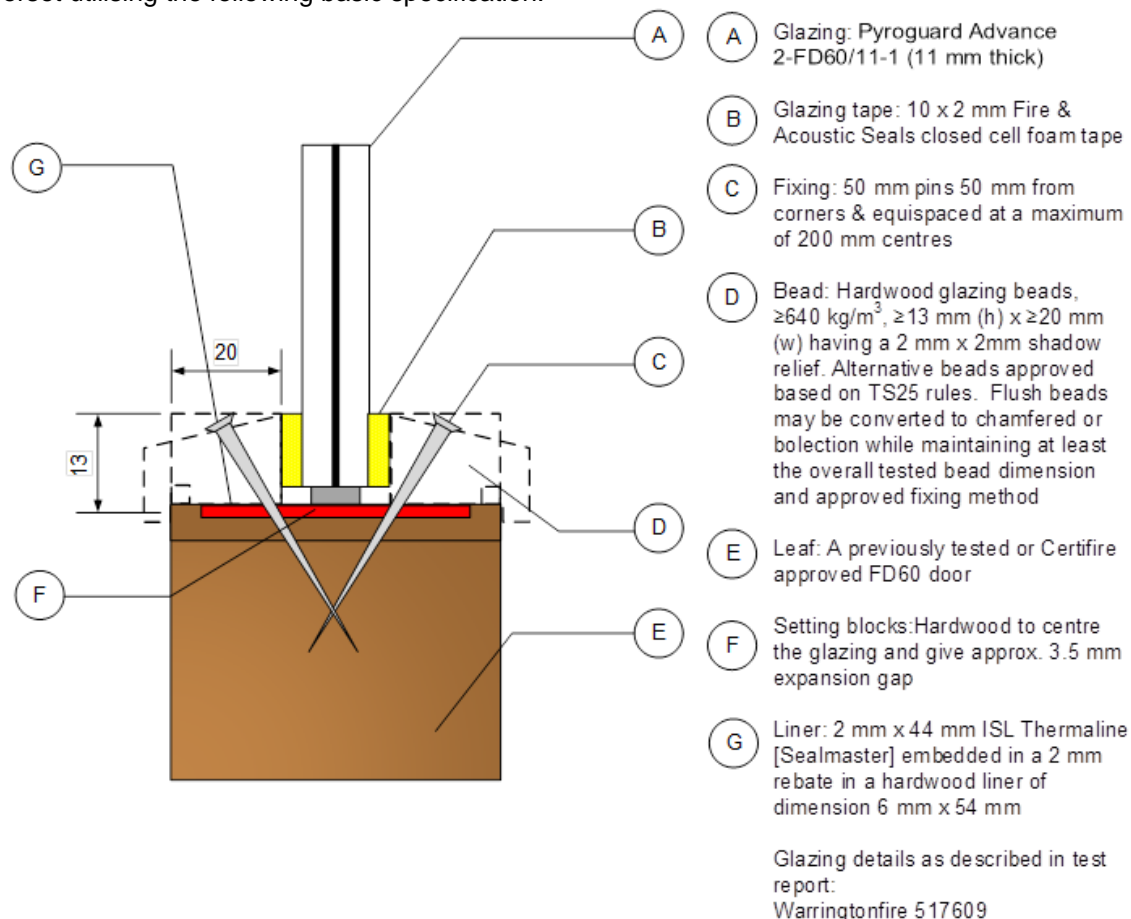
Paul Rogers

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Valid to: 8th October 2026

Pyroguard Advance 2-FD60/11-1 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-FD60/11-1 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
895mm wide @ 1290mm high	1612mm high @ 716mm wide	1.15m ²

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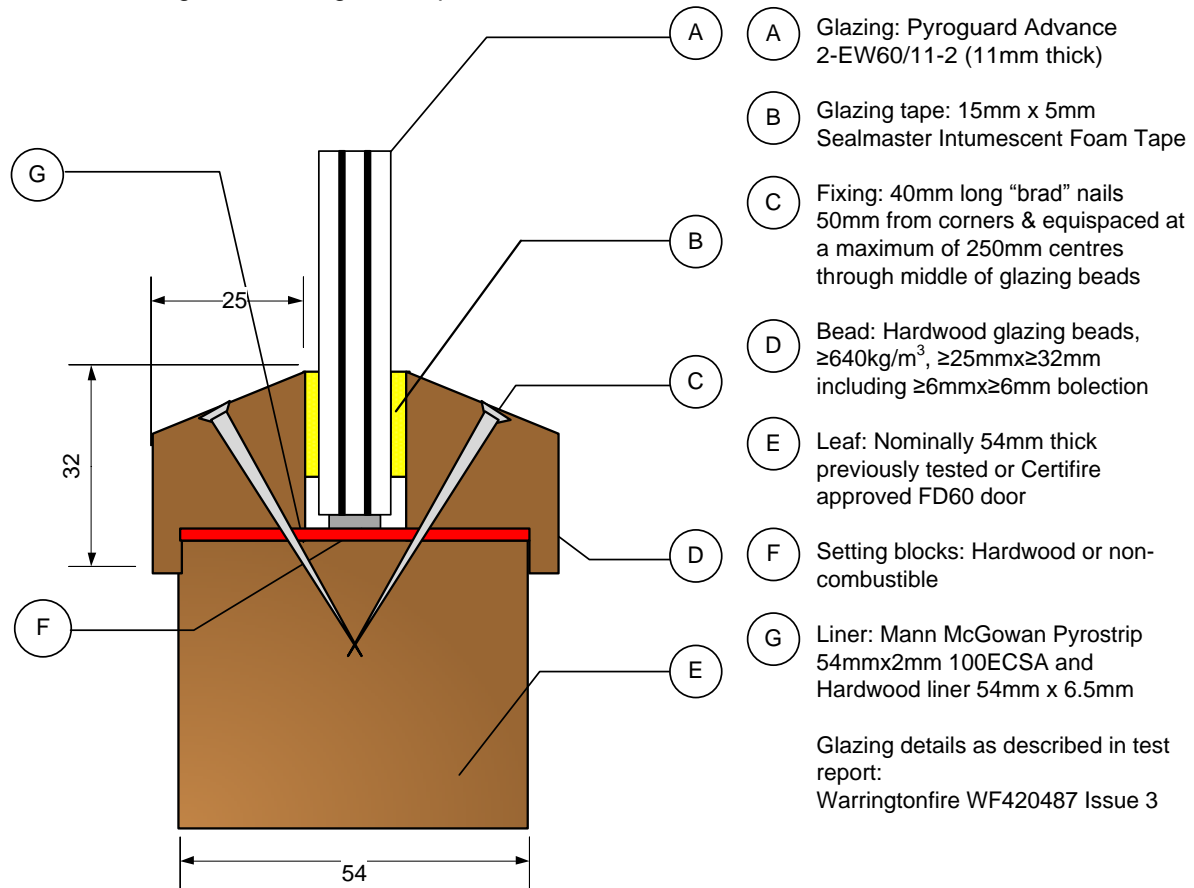
Paul Aggar

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in the table below when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
723mm wide @ 1500mm high	1550mm high @ 700mm wide	1.08m ²

These systems may also be included in previously tested doorset fan and side-lights.

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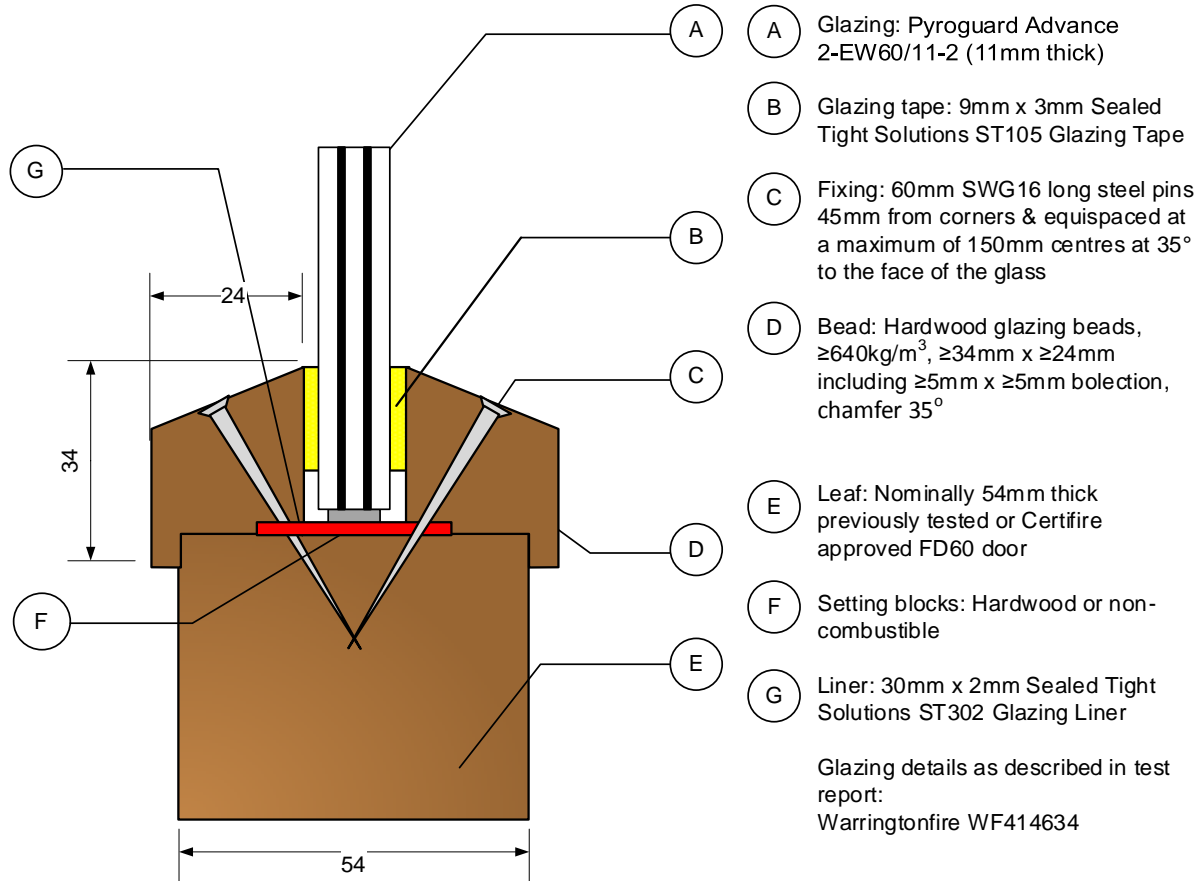
Paul Hogg

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in the table below when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
397mm wide @ 1600mm high	1813mm high @ 351mm wide	0.63m ²

These systems may also be included in previously tested doorset fan and side-lights.

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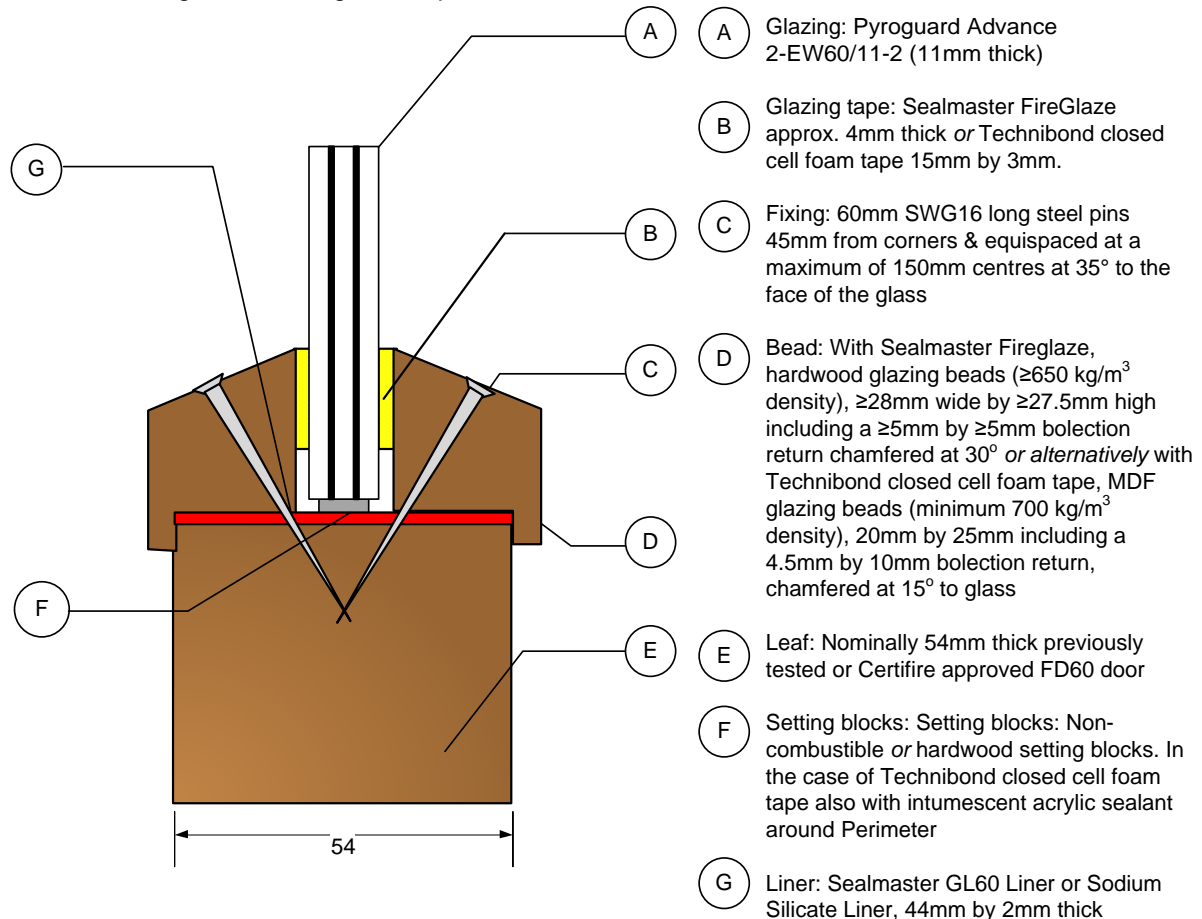
Paul Riggall

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions.



Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity (continued)

This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in the diagram below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Glazing Tape	Maximum Width	Maximum Height	Maximum Area
Sealmaster Fireglaze	460mm wide @ 1250mm high	1437mm high @ 400mm wide	0.58m ²
Technibond Closed Cell Foam Tape	508mm wide @ 1200mm high	1200mm high @ 508mm wide	0.58m ²
Technibond Closed Cell Foam Tape	200mm wide @ 1400mm high	1400mm high @ 200mm wide	0.28m ²

These systems may also be included in previously tested doorset fan and side-lights.

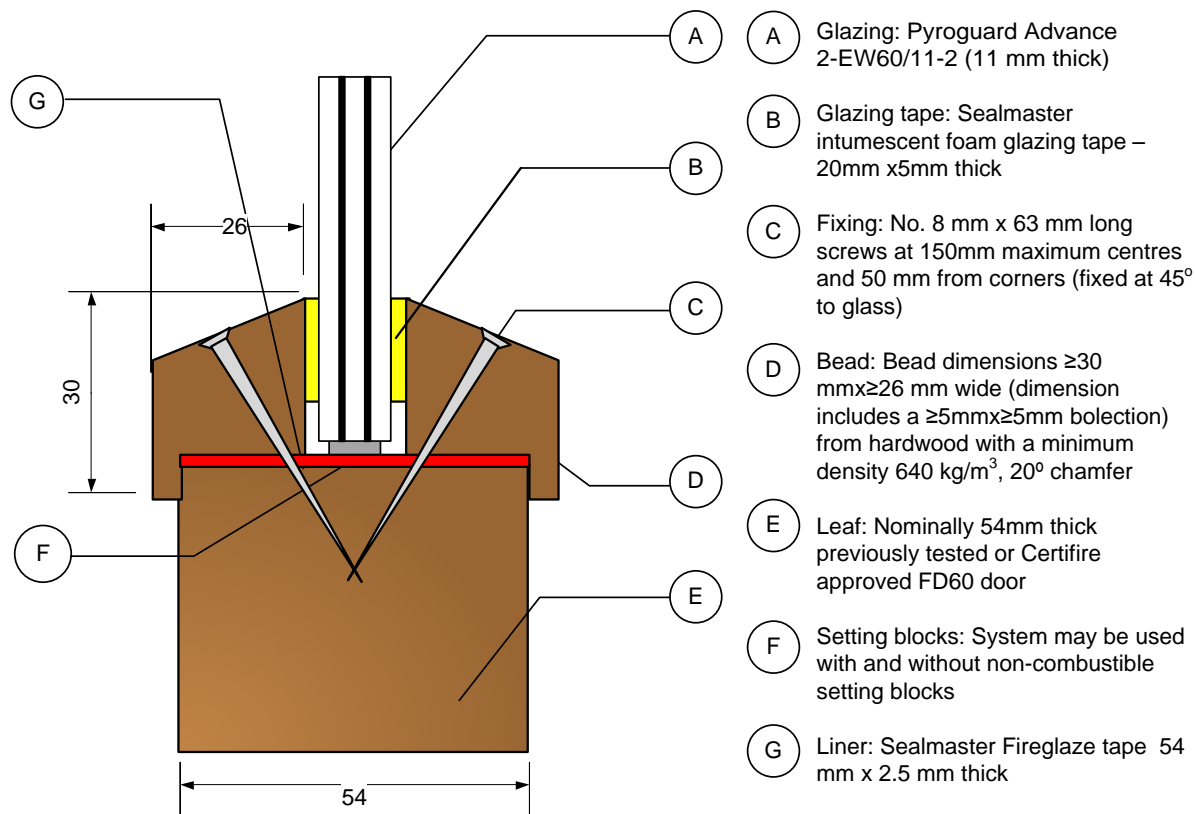
Signed Page 27 of 45
E/056

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2 EW60/11-2 glass shown in diagram below, when used in conjunction with the glazing system detailed previously

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
460mm wide @ 1437mm high	1437mm high @ 460mm wide	0.66m^2
508mm wide @ 1200mm high	1200mm high @ 508mm wide	0.61m^2

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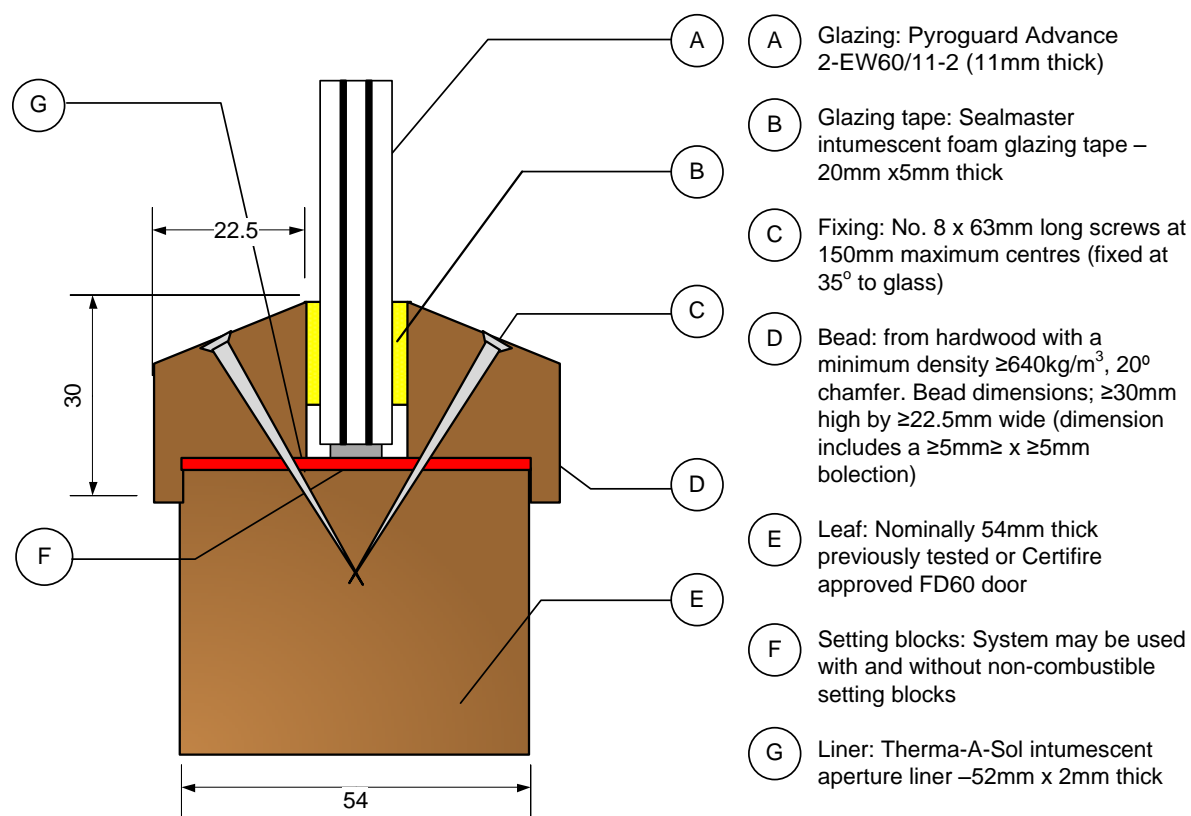
Paul Aggar

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Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
414mm wide (at 1650mm high)	1925mm high (at 350mm) wide	0.68m ²

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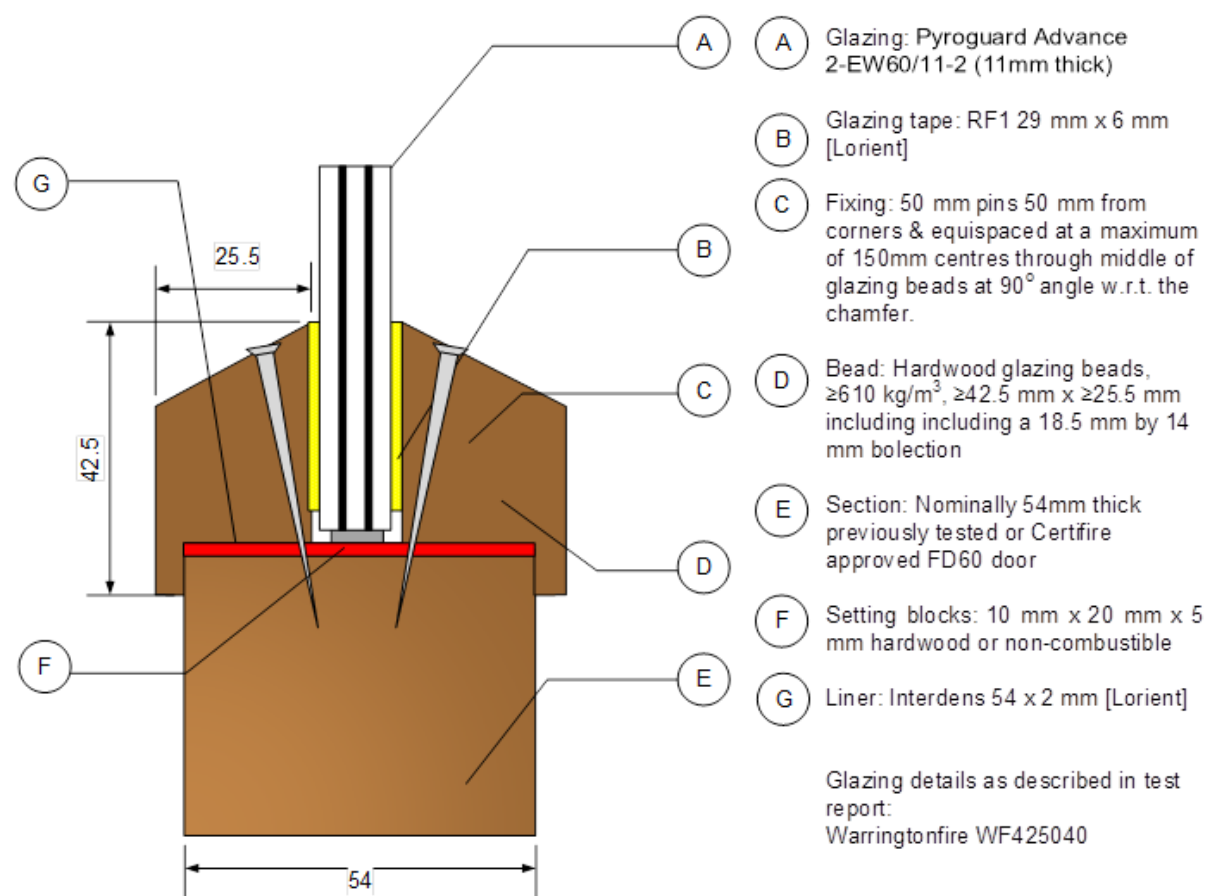
Paul Eggen

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
420mm wide @ 1200mm high	1440mm high @ 350mm wide	0.50m ²

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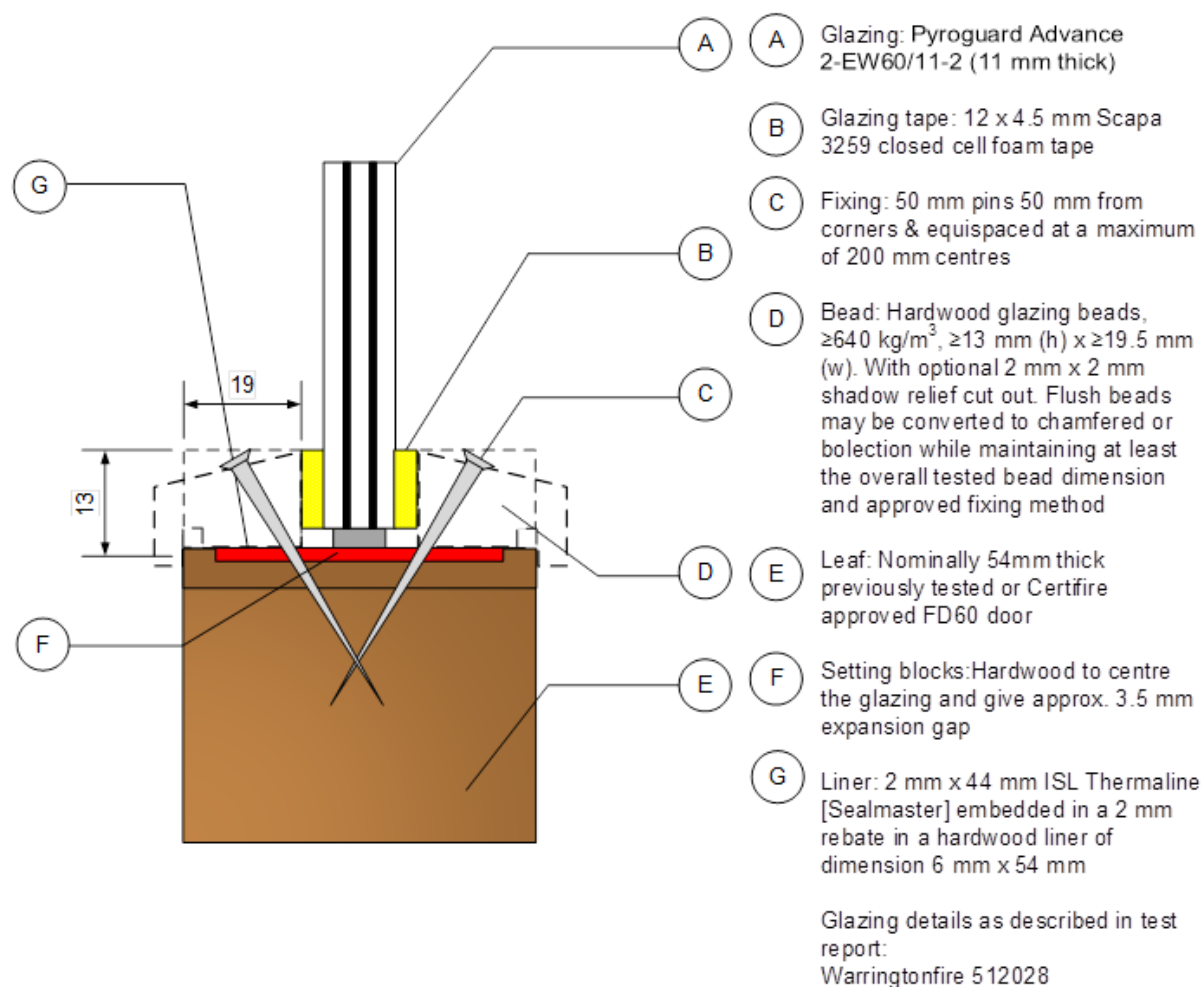
Paul Hogg

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Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
898mm wide @ 1290mm high	1612mm high @ 719mm wide	1.15m ²

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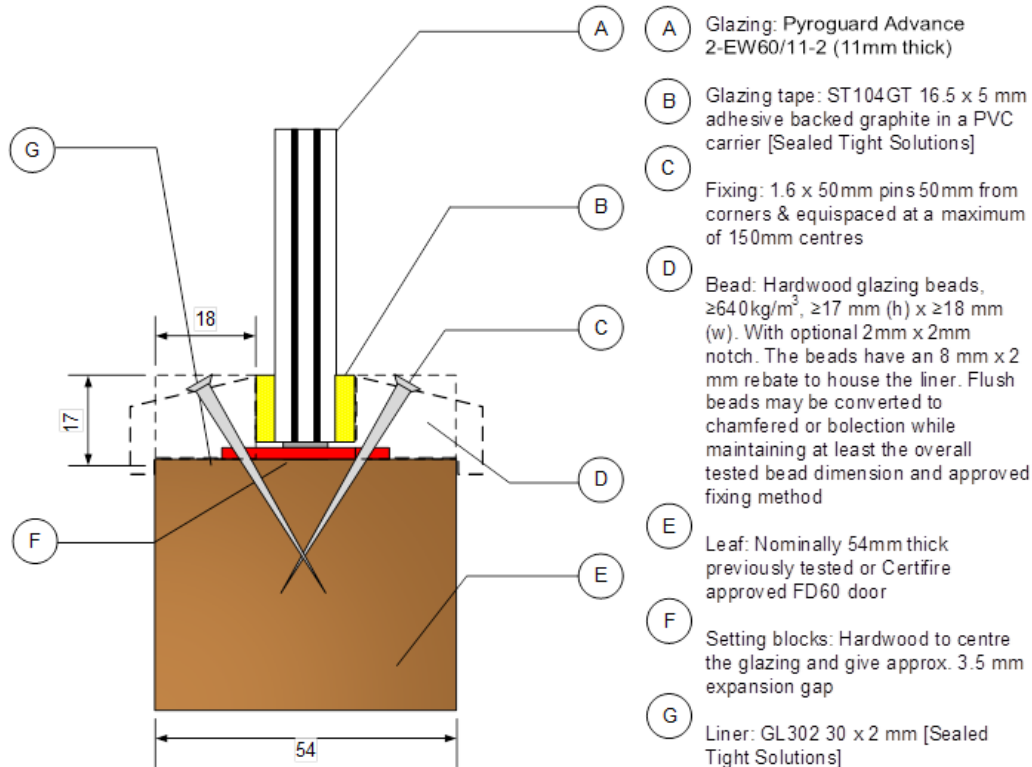
Paul Higgin

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



Glazing details as described in test report:
Efectis EFR-21-V-004712

This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
532mm wide @ 1600mm high	1653mm high @ 515mm wide	0.85m ²
345mm wide @ 1600mm high	1840mm high @ 515mm wide	0.55m ²

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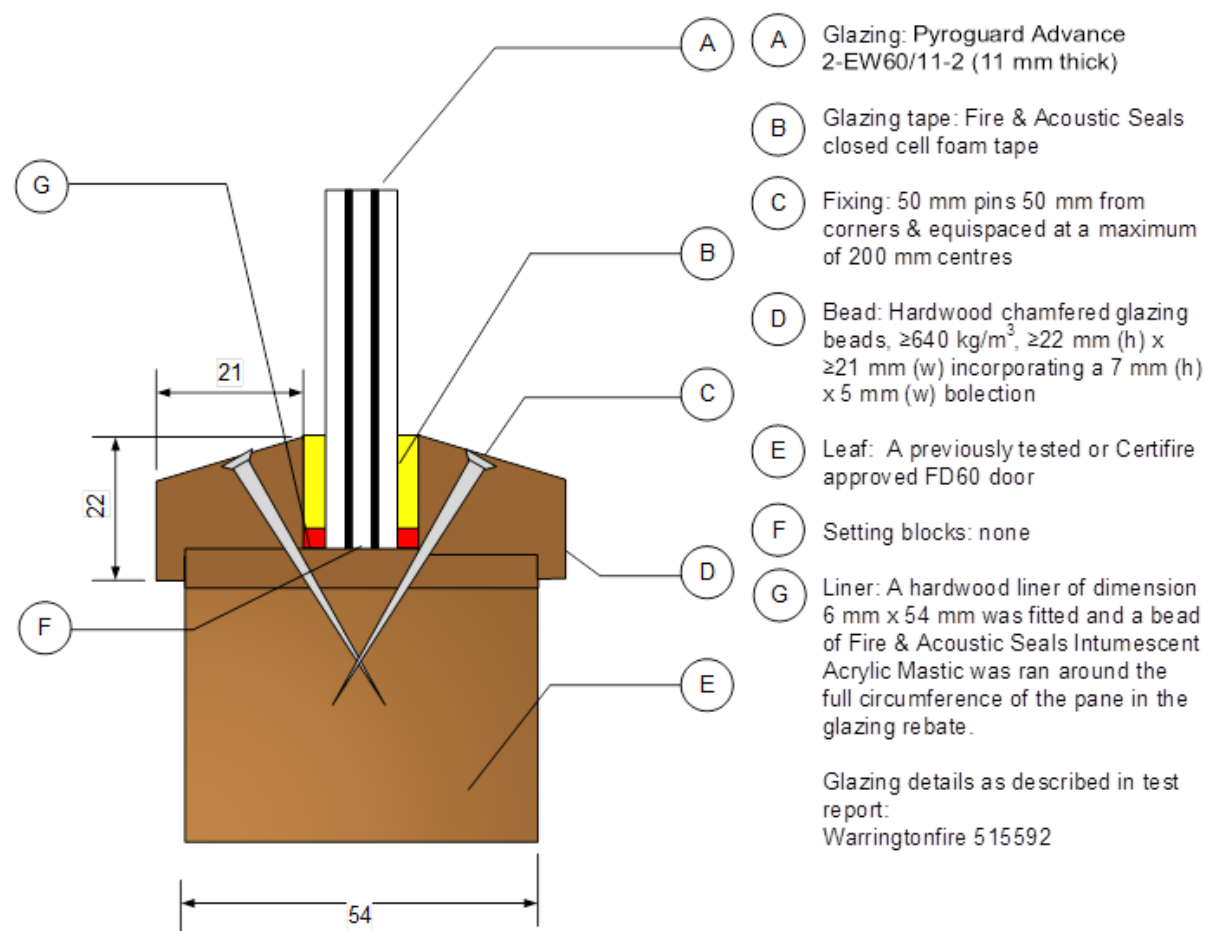
Paul Rogers

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Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Width	Maximum Height	Maximum Area
788mm wide @ 1290mm high	1419mm high @ 716mm wide	1.02m ²

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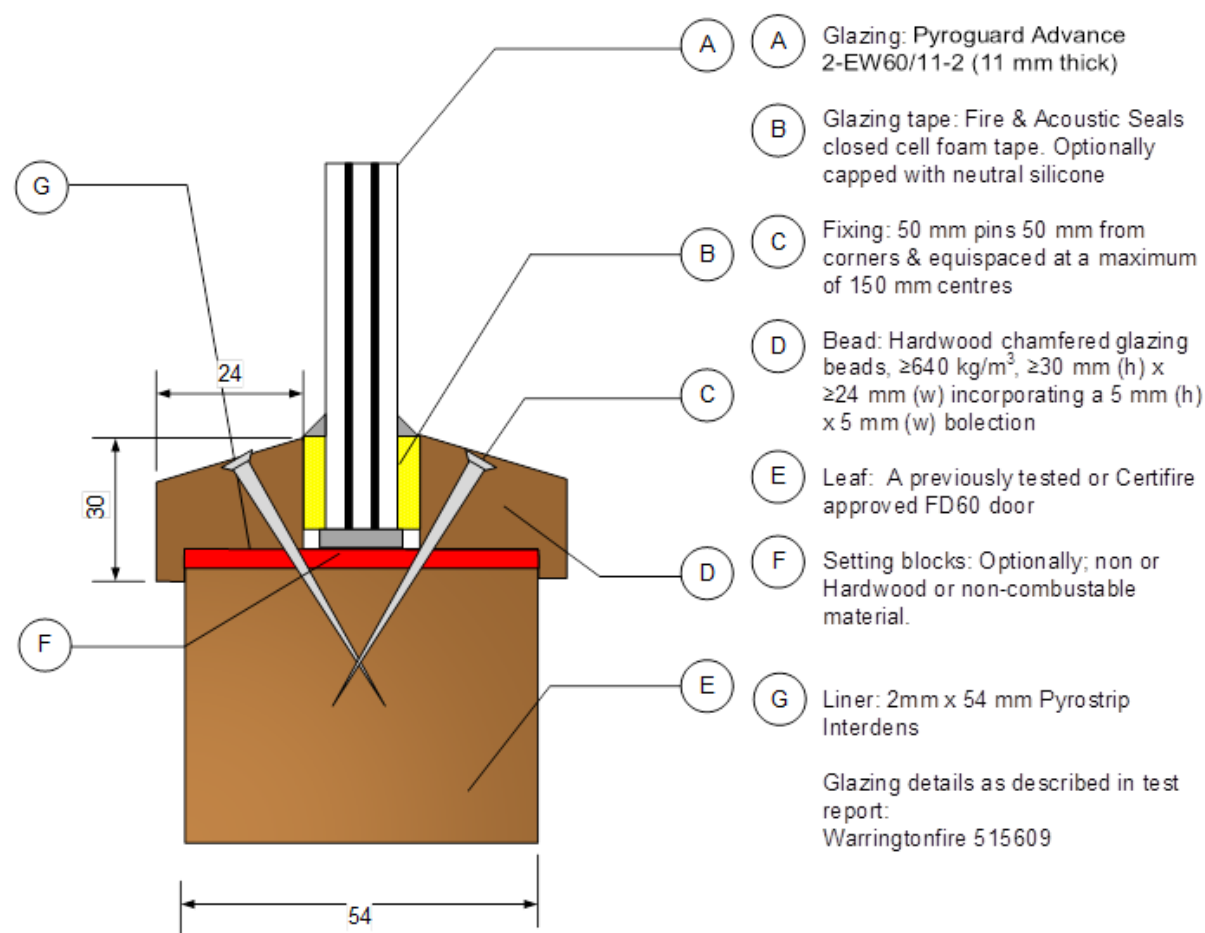
Paul Rigg

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Width	Maximum Height	Maximum Area
637mm wide @ 1200mm high	1500mm high @ 510mm wide	0.77m ²

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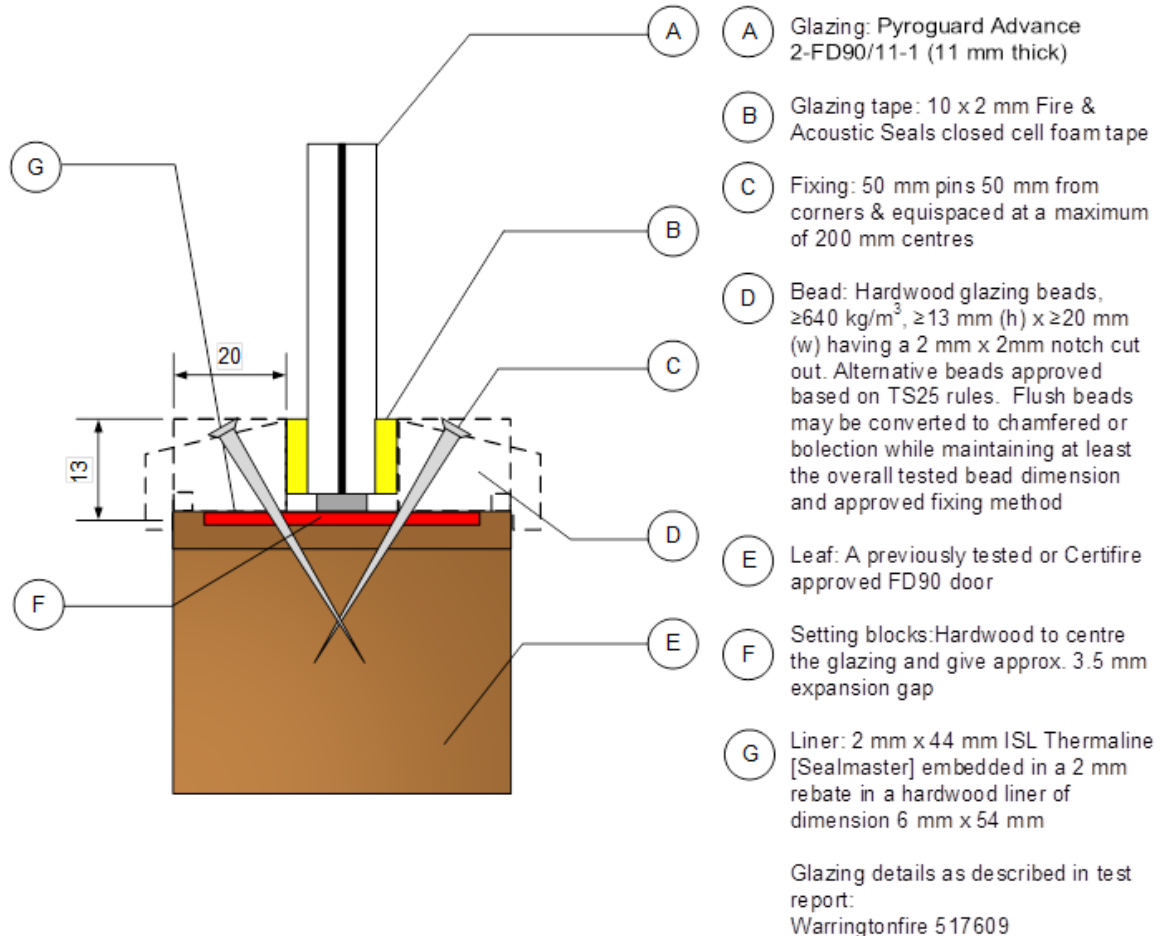
Paul Dwyer

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-FD90/11-1 glass in timber based doorsets for periods of 90 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-FD60/11-1 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
716mm wide @ 1290mm high	1290mm high @ 716mm wide	0.92m ²

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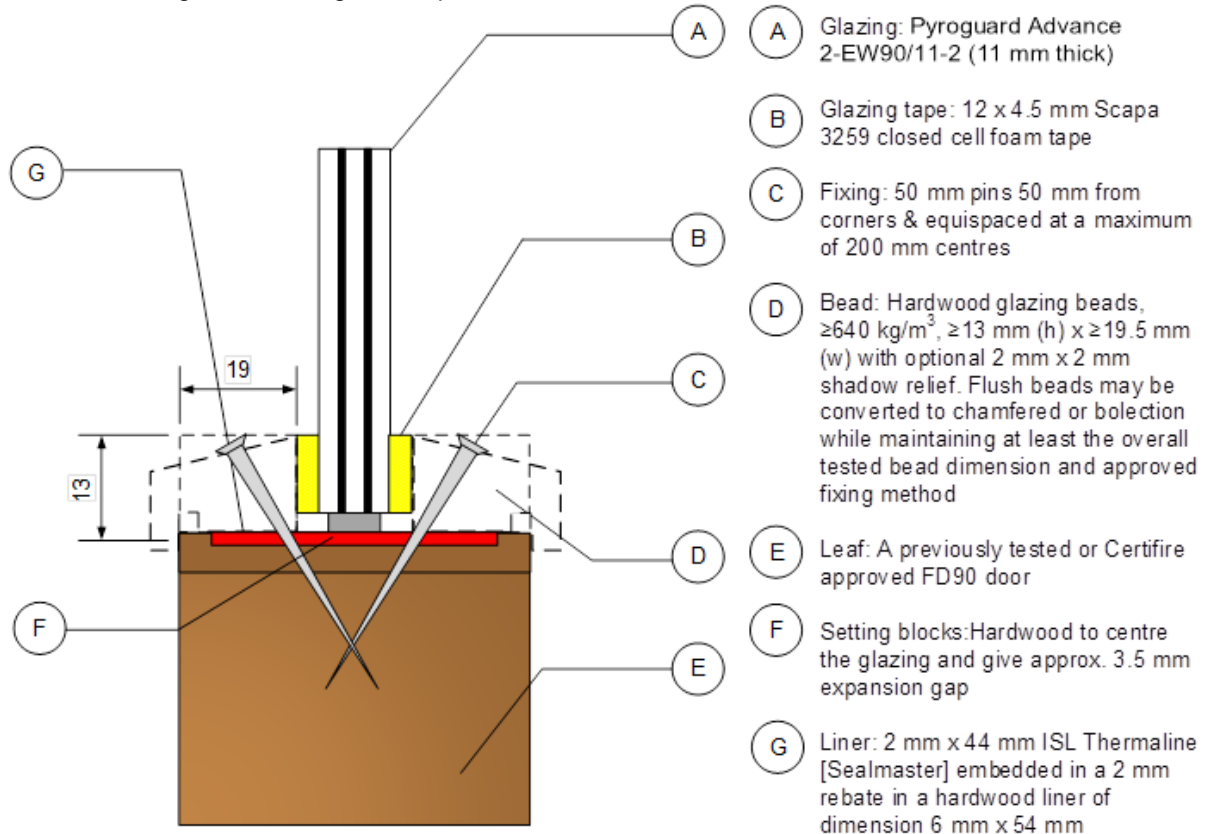
Paul Hogg

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Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW90/11-2 glass in timber based doorsets for periods of 90 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specifications:



Glazing details as described in test report:
Warringtonfire 512028

This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW90/11-2 glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
719mm wide @ 1290mm high	1290mm high @ 719mm wide	0.92m ²

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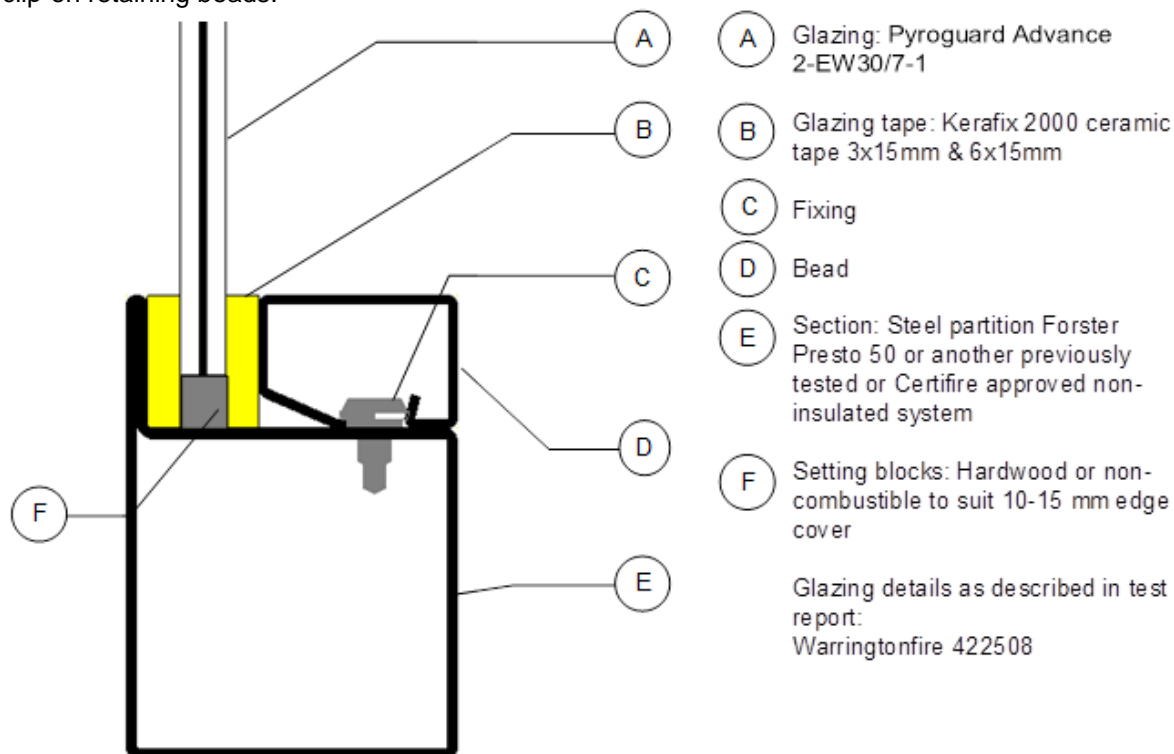
Paul Rigg

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EW30/7-1 glass in steel framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads.



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 glass shown in the table below, when used in conjunction with the above system. The maximum permitted overall screen dimensions are 3000mm high by unlimited width. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Pane Dimensions

Maximum Width	Maximum Height	Maximum Area
1137mm wide @ 2750mm high	3437mm high @ 910mm wide	3.12m ²
2400mm wide @ 900mm high	1125mm high @ 1920mm wide	2.16m ²
1162mm wide @ 935mm high	1168mm high @ 930mm wide	1.08m ²

Note: Maximum glass stock size is currently limited to 1580mm by 2780mm.

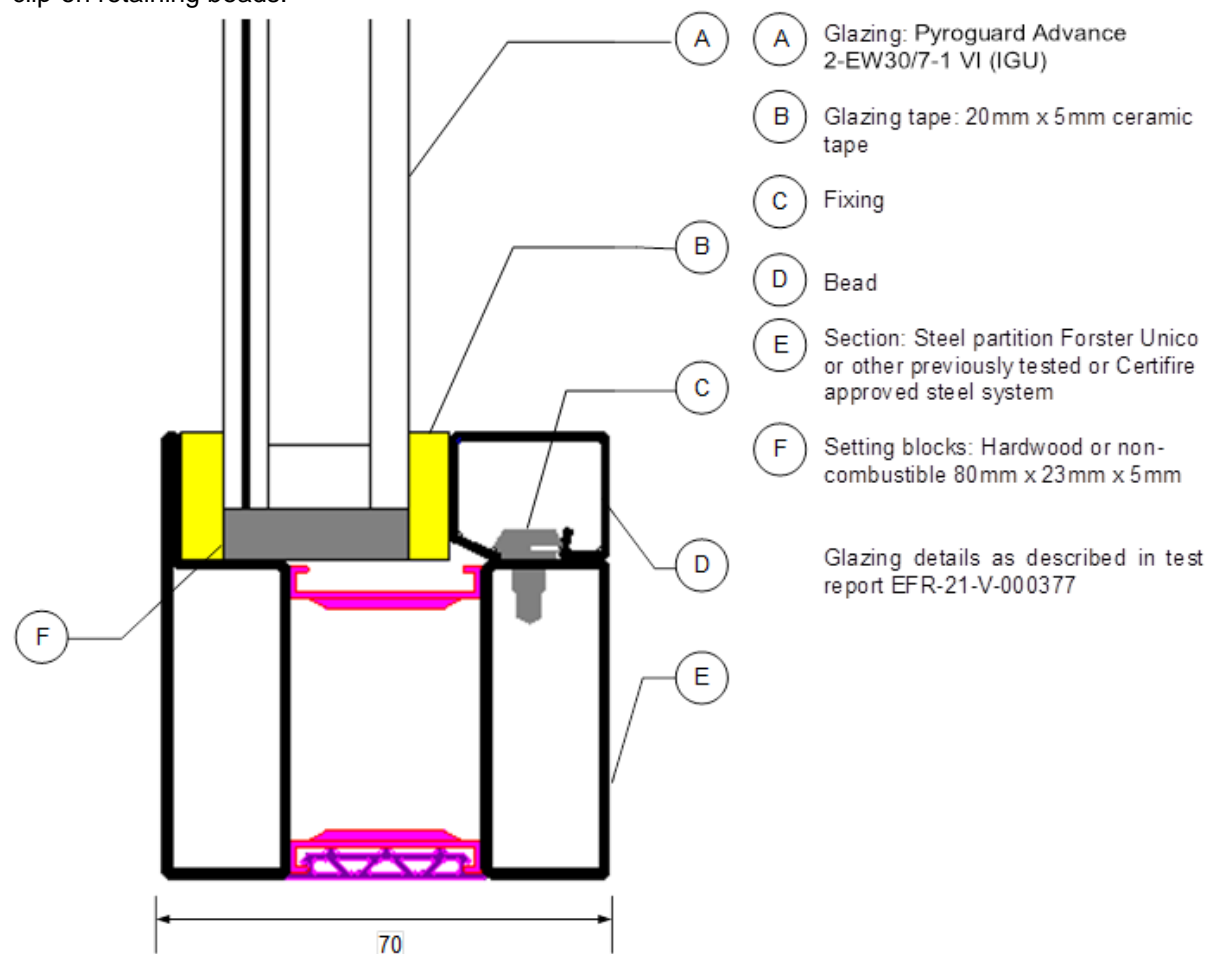
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Issued: 9th October 2021
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Valid to: 8th October 2026

Pyroguard Advance 2-EW30/7-1 VI IGU glass in steel framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads.



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 VI glass shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Pane Dimensions

Orientation of the IGU	Maximum Width	Maximum Height	Maximum Area
Pyroguard on either side	1250mm wide @ 2750mm high	3437mm high @ 1000mm wide	3.43m ²
Pyroguard to Fire Risk	3125mm wide @ 430mm high	537mm high @ 2500mm wide	1.34m ²

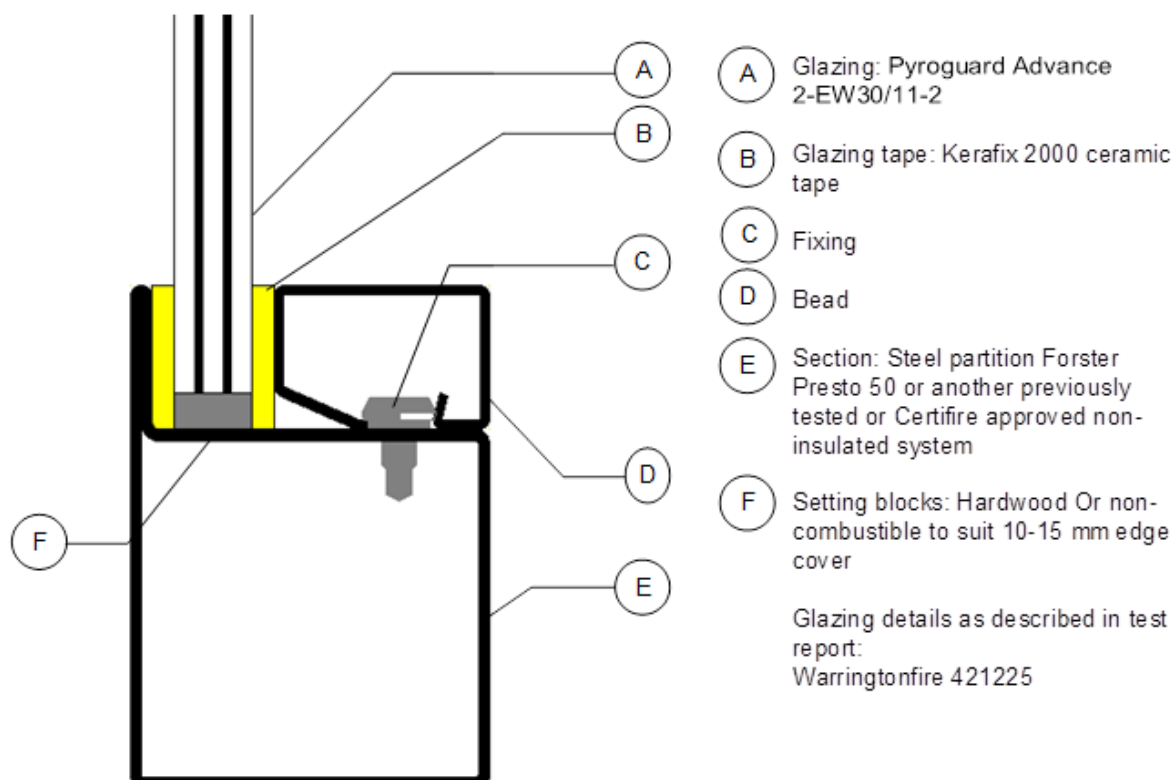
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Pyroguard Advance 2-EW30/11-2 glass in steel framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads.



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/11-2 glass shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Pane Dimensions

Maximum Width	Maximum Height	Maximum Area
1007mm wide @ 2705mm high	3381mm high @ 806mm wide	2.72m ²
1681mm wide @ 1090mm high	1362mm high @ 1345mm wide	1.83m ²
2558mm wide @ 610mm high	762mm high @ 2047mm wide	1.56m ²

Note: Maximum glass stock size is currently limited to 1580mm by 2780mm.

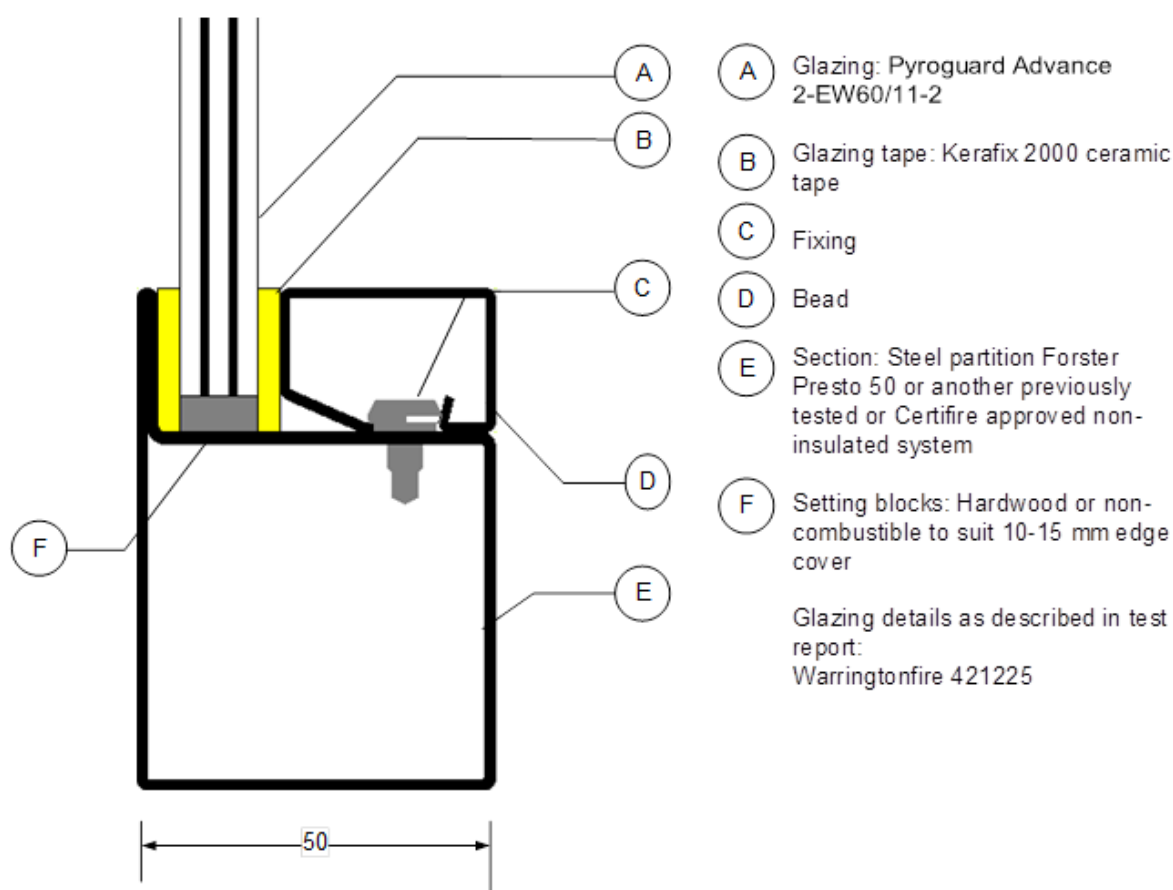
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E/056

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Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 glass in steel framed screens for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads.



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW60/11-2 glass shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Pane Dimensions

Maximum Width	Maximum Height	Maximum Area
927mm wide @ 2705mm high	3110mm high @ 806mm wide	2.50m ²
2354mm wide @ 610mm high	701mm high @ 2047mm wide	1.43m ²

Note: Maximum glass stock size is currently limited to 1580mm by 2780mm.

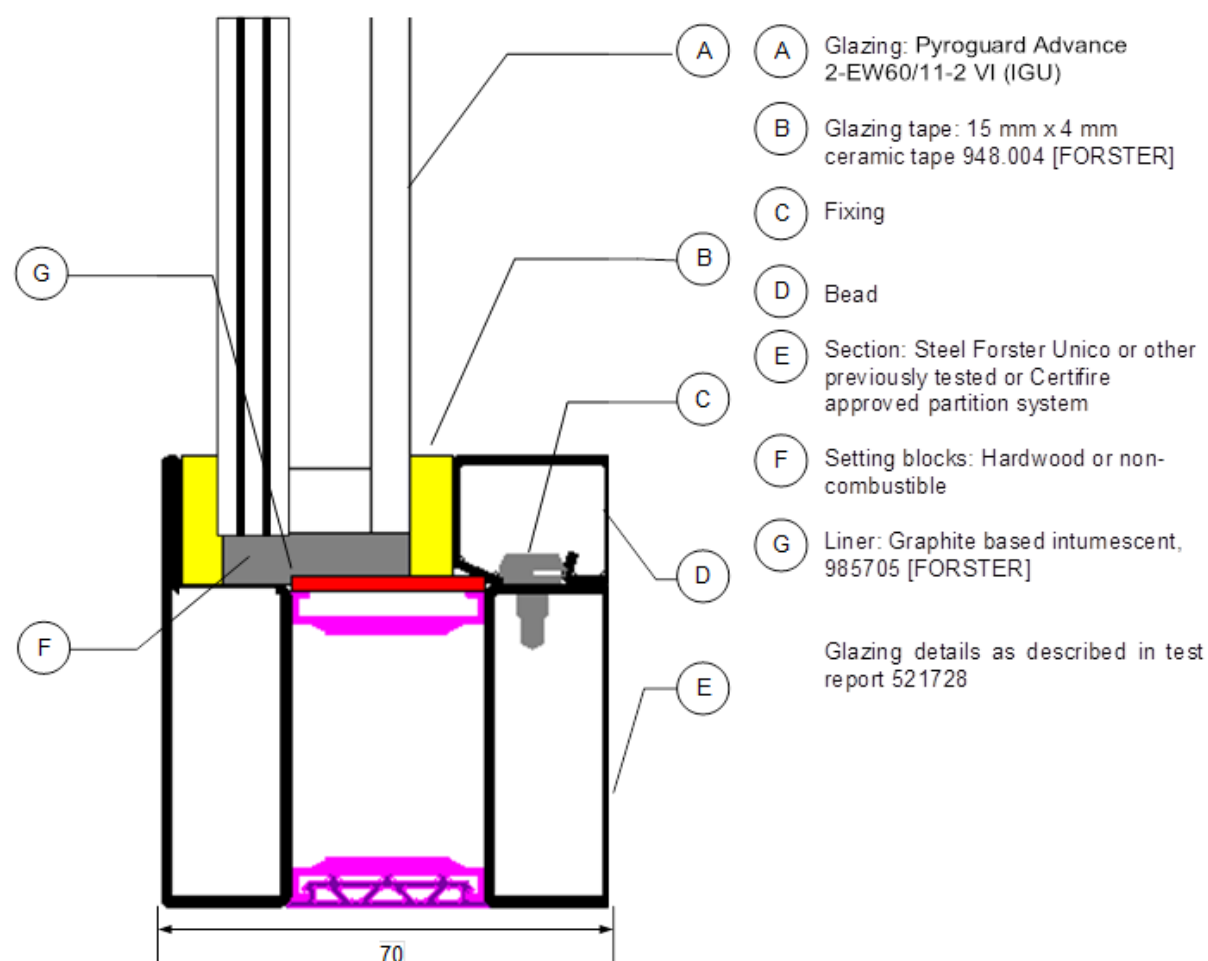
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Issued: 9th October 2021
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Valid to: 8th October 2026

Pyroguard Advance 2-EW60/11-2 VI [IGU] glass in steel framed screens for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads.



Glass Type	Maximum Width	Maximum Height	Maximum Area
Laminated Glass Counterpane	921mm wide @ 2734mm high	3089mm high @ 815mm wide	2.52m ²
Non-laminated Glass Counterpane	1147mm wide @ 2734mm high	3089mm high @ 1015mm wide	3.14m ²

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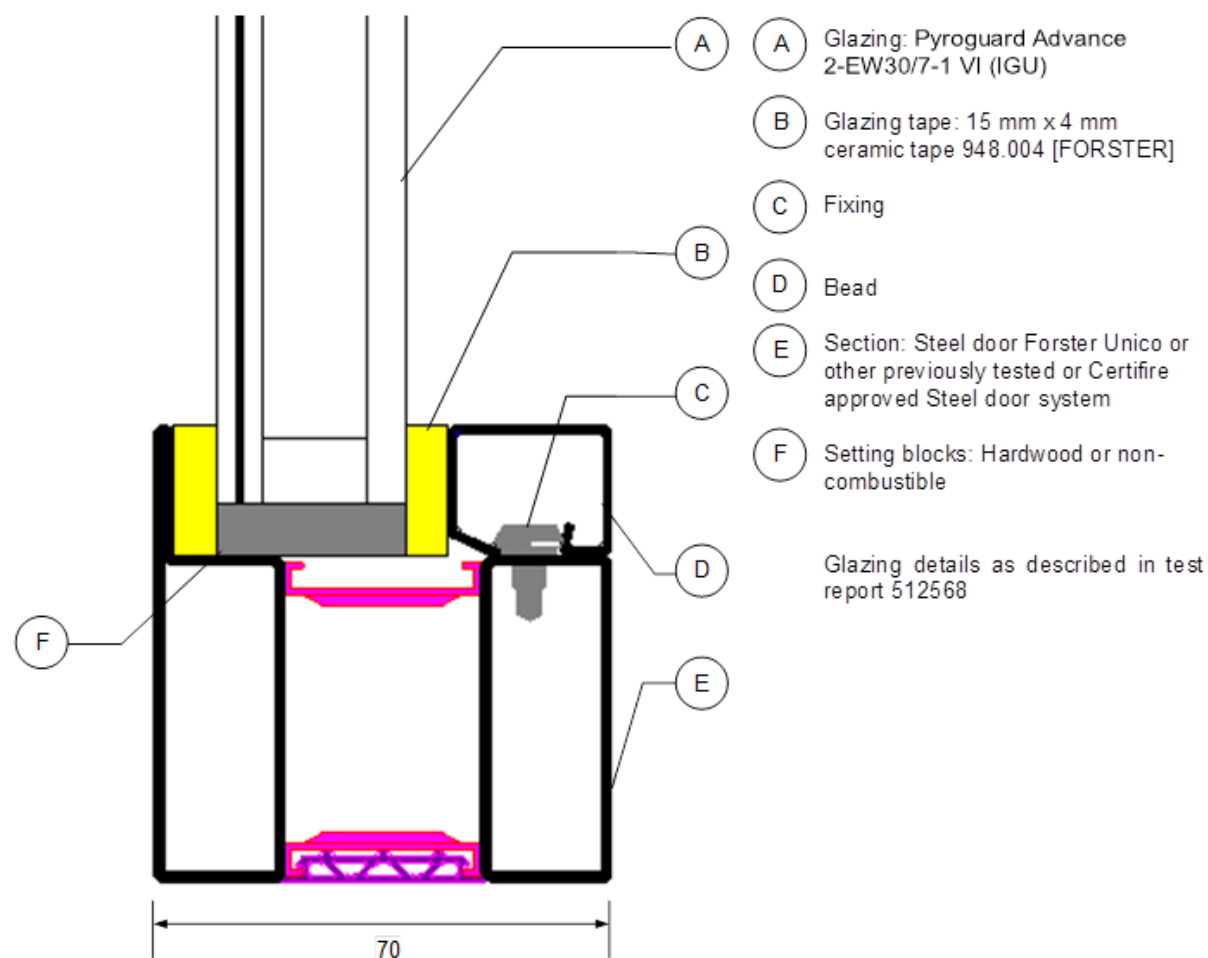
Paul Hogg

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Valid to: 8th October 2026

Pyroguard Advance 2-EW30/7-1 VI [IGU] glass in steel based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved steel based doorset utilising the following basic specifications:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/7-1 VI [IGU] glass shown in Table below, when used in conjunction with the glazing system detailed previously.

The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Width	Maximum Height	Maximum Area
1211mm wide @ 2500mm high	3125mm high @ 969mm wide	3.03m ²

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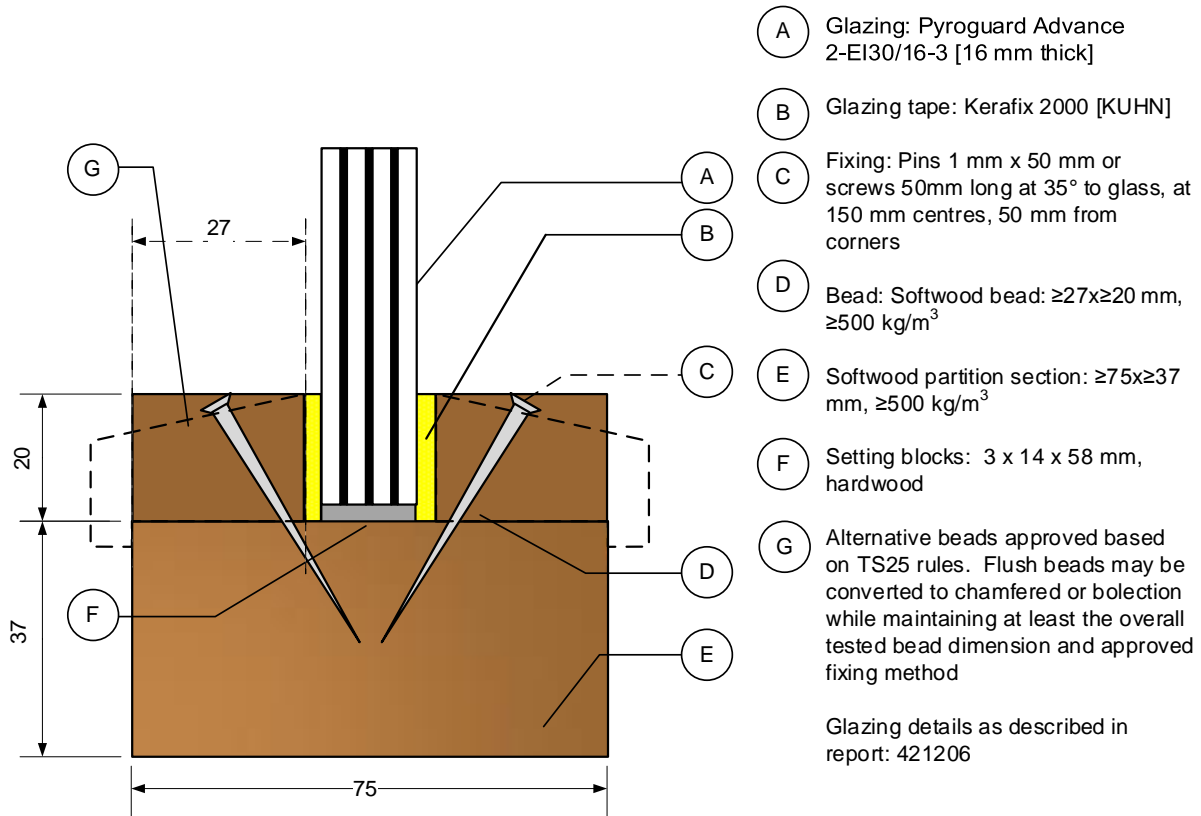
Paul Rogers

Issued: 9th October 2021
Revised: 1st March 2023
Valid to: 8th October 2026

Pyroguard Advance 2-EI30/16-3 glass in timber framed screens for periods of 30 minutes integrity and insulation

For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested or CERTIFIRE approved framing system utilising the following basic specification:



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EI30/16-3 glass shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1375mm wide @ 2505mm high	3131mm high @ 1100mm wide	3.44m ²
2063mm wide @ 901mm high	1051mm high @ 1769mm wide	1.86m ²

Note: Maximum glass stock size is currently limited to 1580mm by 2780mm.

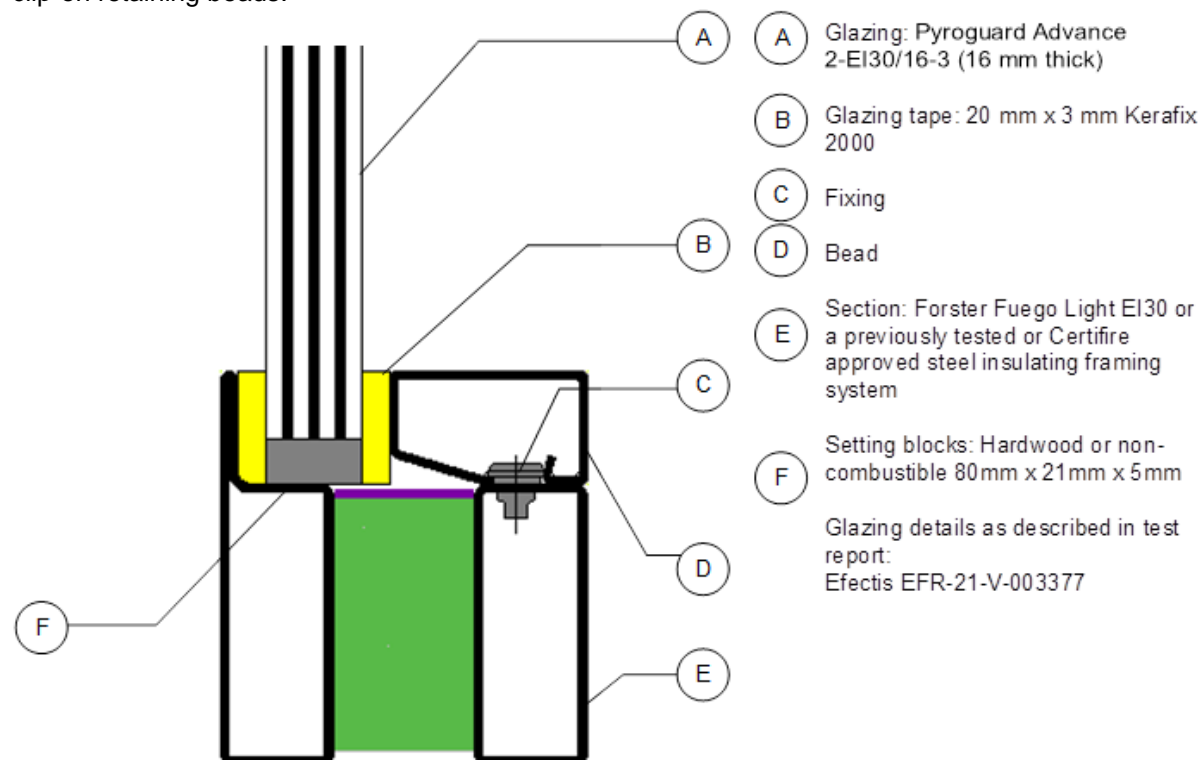
Signed Page 44 of 45
E/056

Issued: 9th October 2021
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Pyroguard Advance 2-EI30/16-3 glass in steel framed screens for periods of 30 minutes integrity and insulation

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads.



This Certificate of Approval relates to the sizes of Pyroguard Advance 2-EW30/16-3 glass shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Maximum Permitted Pane Dimensions

Maximum Width	Maximum Height	Maximum Area
1200mm wide	2750mm high	3.30m ²
2500mm wide	430mm high	1.07m ²

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Paul Hogg

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