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## CERTIFICATE OF APPROVAL

### No CF 5338

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

## FIRE GLASS UK LIMITED

**Unit 25 Spartan Industrial Estate, Brickhouse Lane, West  
 Bromwich, B70 0DH  
 Tel: 0121 521 2166**

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

**'Firesafe' Laminated  
 Fire Resisting Glass**

### TECHNICAL SCHEDULE

**TS 25 Fire Resistant  
 Glass, Glazing Systems  
 and Materials**

Signed and sealed for and on behalf of CERTIFIRE



Sir Ken Knight  
 Chairman – Impartiality Committee  
 Page 1 of 21

Issued: 25<sup>th</sup> June 2015  
 Valid to: 14<sup>th</sup> February 2018



## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

### Firesafe Fire Resisting Glass

This Certificate of Approval relates to the fire resistance of 'Firesafe' laminated glass products when used in the following applications, as defined in BS 476: Part 22: 1987 subject to the undermentioned conditions.

Glass Specification	Application	Fire Resistance Performance (mins)		Page No.
		Integrity	Insulation	
Firesafe 30-15, 30-16 O, 30-19, 30-20 O	Timber framed screens	30	30	4-5
	Steel framed screens	30	30	6
Firesafe 30-15, 30-16 O	Timber based doorsets	30	30	7-9
	Timber based doorsets	60	30	10
Firesafe 30-15, 30-16 O, 30-19, 30-20 O	Steel based doorsets	30	30	11
	Timber framed screens	60	30	12
Firesafe 30-30 ISO VSG	IGUs in timber framed screens	30	30	13
	IGUs in steel framed screens	30	30	14
Firesafe 60-23, 60-24 O, 60-27, 60-28 O	Timber framed screens	60	60	15-16
Firesafe 60-23, 60-24 O	Timber based doorsets	60	60	17
Firesafe 60-23, 60-24 O, 60-27, 60-28 O	Steel framed screens	60	60	18
Firesafe 60-44 ISO VSG	IGUs in timber framed screens	60	60	19
	IGUs in steel framed screens	60	60	20
Firesafe 60-23, 60-24 O, 60-27, 60-28 O in laminated glazed units	Horizontal steel framed screens	60	60	21

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: 2008
- d) Audit testing
- e) Inspection and surveillance of factory production control

## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

### Firesafe Fire Resisting Glass

The glass is approved in the following nominal thicknesses:

Glass Specification	Application	Fire Resistance Performance (mins)	
		Integrity	Insulation
Firesafe 30-15	15 mm thick (internal)	30*	30
Firesafe 30-16 O	16 mm thick (internal)	30*	30
Firesafe 30-19	19 mm thick (external)	30*	30
Firesafe 30-20 O	20 mm thick (external)	30*	30
Firesafe 30-30 ISO VSG	30 mm thick	30*	30
Firesafe 60-23	23 mm thick (internal)	60	60
Firesafe 60-24 O	24 mm thick (internal)	60	60
Firesafe 60-27	27 mm thick (external)	60	60
Firesafe 60-28 O	28 mm thick (external)	60	60
Firesafe 60-44 ISO VSG	44 mm thick	60	60

\* may be used to provide 60 minutes integrity depending upon element of construction, as detailed later in this approval.

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.

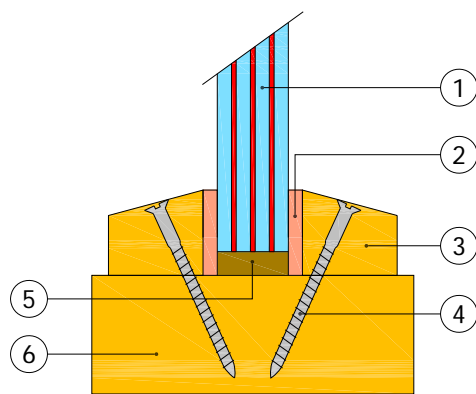
The edge cover to each pane shall be no less than 15 mm minimum.

## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass in timber framed screens for periods of 30 minutes integrity and insulation**

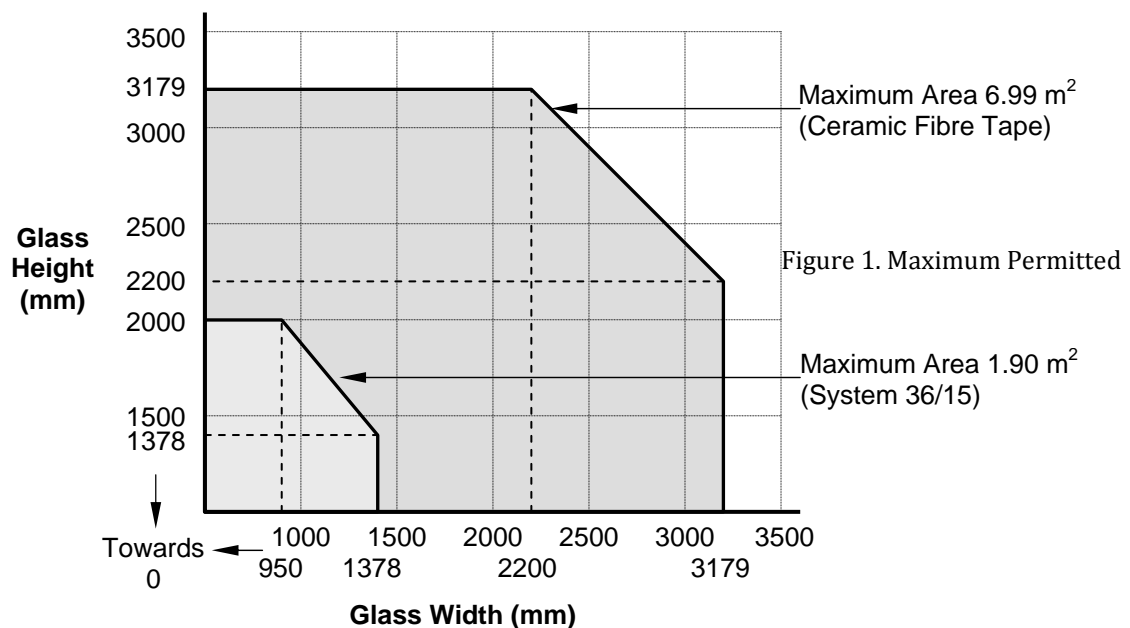
For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- 1 Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass
- 2 20 mm by 6 mm ceramic fibre based glazing tape or Lorient System 36/15
- 3 20 mm high by 23 mm wide square or chamfered (up to 10°) hardwood glazing beads, minimum density 640 kg/m<sup>3</sup>. (17 mm high for System 36/15)
- 4 40 mm long steel screws at 400 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 68 mm by 40 mm (minimum) hardwood framing sections, minimum density 640 kg/m<sup>3</sup>

This Certificate of Approval relates to the sizes of Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass shown in Figure 1 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

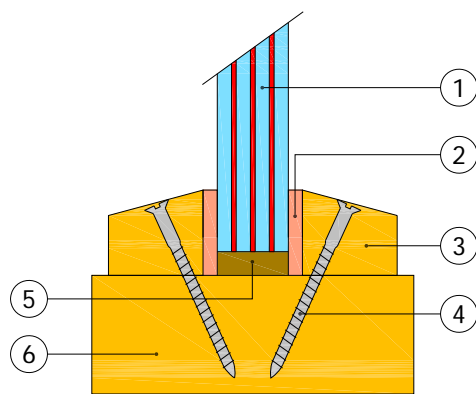


## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass in single pane softwood framed screens for periods of 30 minutes integrity**

For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- 1 Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass
- 2 20 mm by 6 mm CGI 'K tape', ceramic fibre based glazing tape
- 3 20 mm high by 23 mm wide square or chamfered (up to 30°) hardwood glazing beads, minimum density 640 kg/m<sup>3</sup>. (17 mm high for System 36/15)
- 4 50 mm long M4 steel screws at 200 mm centres (30° to glass)
- 5 Hardwood or Non-combustible setting blocks
- 6 92 mm by 45 mm (minimum) softwood framing sections, minimum density 450 kg/m<sup>3</sup>

This Certificate of Approval relates to the sizes of Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' shown in Figure 2 below, when used in conjunction with the above system. The maximum permitted overall screen dimensions are 2506 mm wide and 2706 mm high.

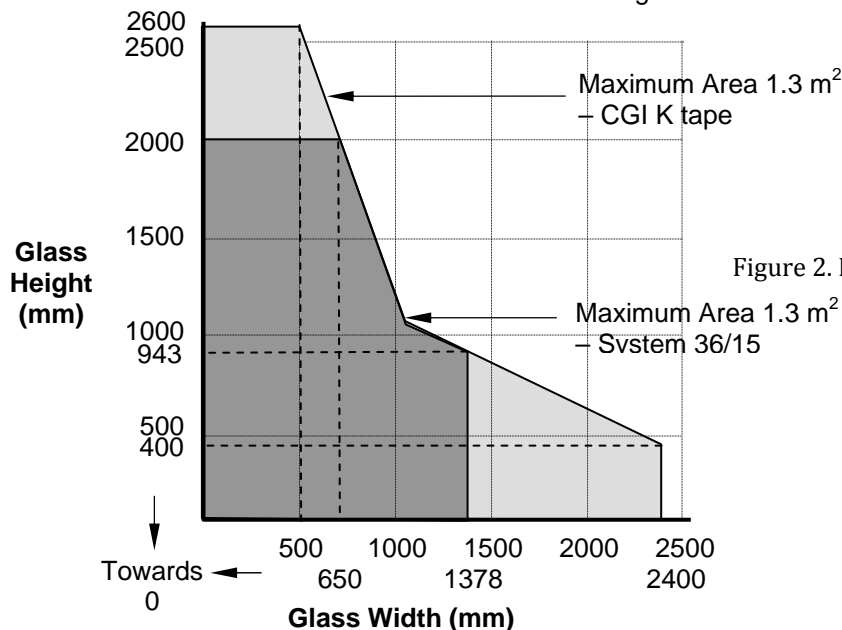


Figure 2. Maximum Permitted

## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' 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 glazed within a previously fire tested or CERTIFIRE approved insulated steel framing system utilising the following basic specification:

- Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass
- 20 mm by 6 mm ceramic fibre based glazing tape
- The edge cover to each pane shall be no less than 15 mm minimum

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass shown in Figure 3 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

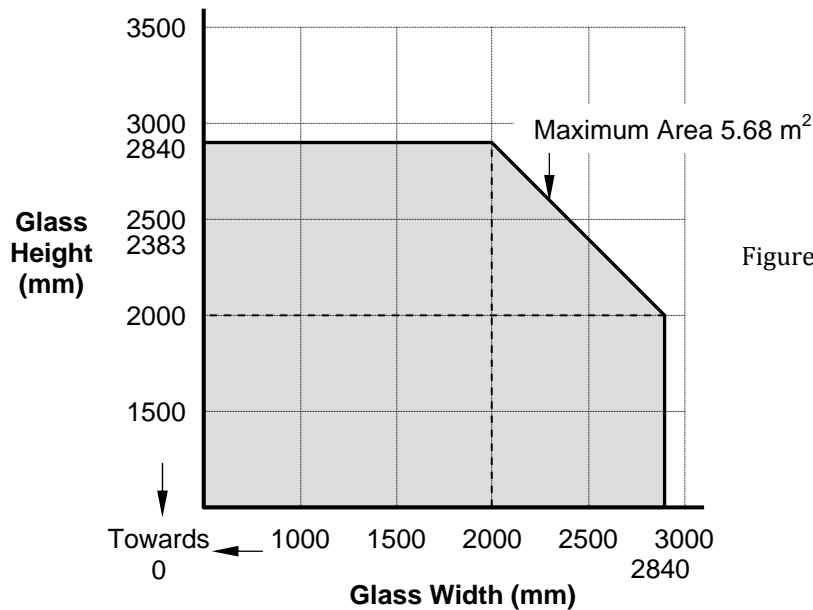


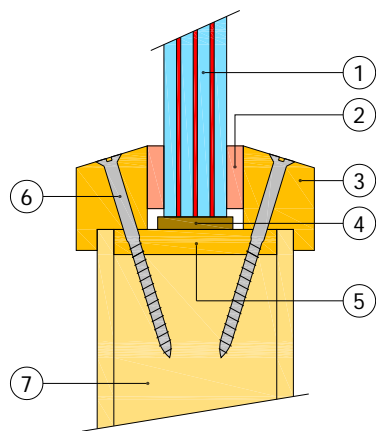
Figure 3. Maximum Permitted

## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15' and '30-16 O', glass in timber based doorsets 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 timber based doorset utilising the following basic specification:



- 1 Firesafe '30-15', or '30-16 O' glass
- 2 Glazing seal (see below)
- 3 Hardwood glazing beads (or as specified on Pages 8 & 9, see below)
- 4 Non-combustible/hardwood setting blocks
- 5 Liner (see below)
- 6 Fixings (see below)
- 7 Nominally 44 mm thick FD30 door leaf (or thicker if required to accommodate glazing beads)

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 Firesafe '30-15', or '30-16 O' 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.

Glazing System	Maximum Pane dimension – height (mm)	Maximum Pane dimension – width (mm)	Maximum Pane Area (m <sup>2</sup> )
Hodgsons Sealants Firestrip 30 <sup>(1)</sup>	875	758	0.57
Lorient Flexible Figure 1 glazing system <sup>(2)</sup>	1236	750	0.72
Lorient Flexible Figure 1 glazing system <sup>(3)</sup>	1353	800	0.95
Lorient System 36/15 <sup>(4)</sup>	1800	600	1.08
Pyroplex 8193 glazing system <sup>(5)</sup>	600	600	0.36
Pyroplex 30049 glazing system <sup>(6)</sup>	750	750	0.56
Pyroplex 30054 glazing system <sup>(7)</sup>	750	750	0.56
Pyroplex 8492 glazing system <sup>(8)</sup>	403	626	0.25
Sealmaster Therm-A-Strip 10 mm x 2 mm <sup>(9)</sup>	2125	800	0.64
Sealmaster G30 glazing gasket between beads and glass <sup>(9)</sup>	2125	610	0.64



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## CERTIFICATE No CF 5338

### FIRE GLASS UK LIMITED

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**Firesafe '30-15' and '30-16 O' glass in timber based doorsets for periods of 30 minutes integrity and insulation (continued)**

- 1) The glazing beads shall be of Sapele, or equivalent or higher density ( $610 \text{ kg/m}^3$ ), sections, 22mm wide by 21mm high, chamfered by approximately  $13^\circ$  and fixed using 1.5 mm 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 of minimum density  $550 \text{ kg/m}^3$ , sections, 22mm wide by 15 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately  $15^\circ$  and fixed using 1.5 mm 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 a LX4402 intumescent liner shall be used to line apertures cut within flaxboard substrates.
- 3) The glazing beads shall be of minimum density  $650 \text{ kg/m}^3$  hardwood or  $750 \text{ kg/m}^3$  MDF, sections, 25mm wide by 20 mm high with a 10 mm by 6 mm bolection return, chamfered by approximately  $30^\circ$  and fixed using 40mm long steel screws at a maximum of 150mm centres and angled at  $45^\circ$ . A secondary 38 mm x 6 mm thick hardwood liner (min. density  $650 \text{ kg/m}^3$ ) shall be used to line apertures cut within all substrates.
- 4) The glazing beads shall be of minimum density  $550 \text{ kg/m}^3$ , sections, 18.5 mm wide by 15 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately  $15^\circ$  and fixed using 1.5 mm diameter, 45mm long steel screws at a maximum of 200mm centres and angled to pass under the face of the glass. A secondary hardwood liner (integral or separate) or a LX4402 intumescent liner shall be used to line apertures cut within flaxboard substrates.
- 5) The glazing beads shall be of minimum density  $630 \text{ kg/m}^3$ , sections, 20mm wide by 14.5 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately  $20^\circ$  and fixed using, 50 mm long steel screws at a maximum of 150mm centres and angled at  $30-45^\circ$ . A secondary 6 mm thick hardwood liner (min. density  $630 \text{ kg/m}^3$ ) shall be used to line apertures cut within all substrates.
- 6) The glazing beads shall be of minimum density  $630 \text{ kg/m}^3$ , sections, 20mm wide by 14.5 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately  $20^\circ$  and fixed using, 36 mm long steel screws at a maximum of 150mm centres and angled at  $30-45^\circ$ . A secondary 6 mm thick hardwood liner (min. density  $630 \text{ kg/m}^3$ ) shall be used to line apertures cut within all substrates.
- 7) The glazing beads shall be of minimum density  $630 \text{ kg/m}^3$ , sections, 20mm wide by 14.5 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately  $20^\circ$  and fixed using, 50 mm long steel screws at a maximum of 150mm centres and angled at  $30-45^\circ$ . A secondary 6 mm thick hardwood liner (min. density  $630 \text{ kg/m}^3$ ) shall be used to line apertures cut within all substrates.





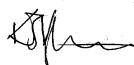

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**CERTIFICATE No CF 5338**  
**FIRE GLASS UK LIMITED**

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**Firesafe '30-15' and '30-16 O' glass in timber based doorsets for periods of 30 minutes integrity and insulation (continued)**

- 1) The glazing beads shall be of minimum density 630 kg/m<sup>3</sup>, sections, 20 mm wide by 14.5 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately 20° and fixed using, 45 mm long steel screws at a maximum of 150mm centres and angled at 30-45°.
- 2) The glazing beads shall be hardwood of minimum density 500 kg/m<sup>3</sup>, sections, 25 mm wide by 23 mm high with a 5 mm by 5 mm bolection return, chamfered by approximately 15° and fixed using, 38 mm long steel pins or screws at a maximum of 150mm vertical and 100 mm horizontal centres and angled at 15°. A secondary 6 mm thick hardwood liner (min. density 500 kg/m<sup>3</sup>) shall be used to line apertures cut within all substrates.

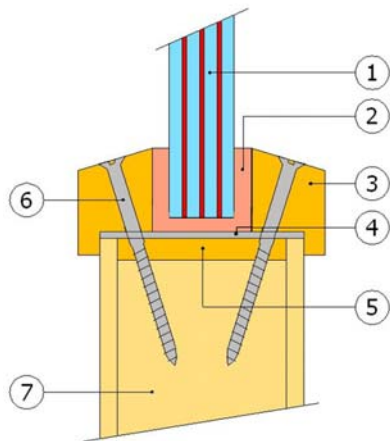


## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15' and '30-16 O', glass in timber based doorsets for periods of 60 minutes integrity and 30 minutes insulation**

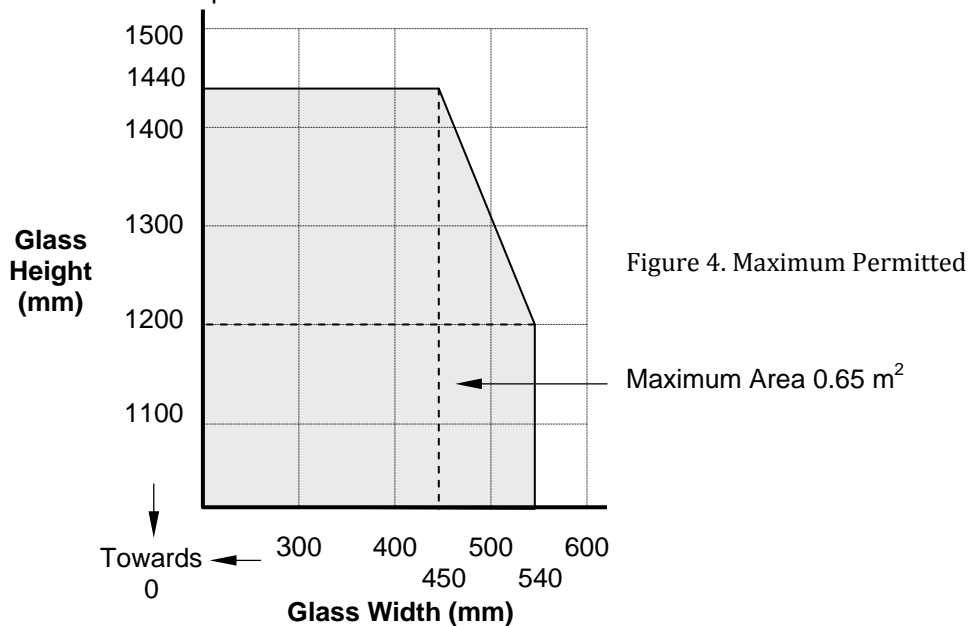
For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested (with test evidence for the inclusion of apertures of the proposed dimensions) or CERTIFIRE approved timber based doorset utilising the following basic specification:



- 1 Firesafe '30-15', or '30-16 O' glass
- 2 Lorient System 36/15 glazing seal
- 3 Hardwood glazing beads 33 mm high by 21 mm wide including 13 mm high by 5 mm wide bolection return. Min. density 650 kg/m<sup>3</sup>
- 4 Palusol liner (full width)
- 5 Hardwood liner 10 mm thick
- 6 8 x 50 mm screws at 45° and minimum 150 mm centres. Maximum distance from corners 50 mm.
- 7 Nominally 54 mm thick FD60 door leaf

This Certificate of Approval relates to the sizes of Firesafe '30-15', or '30-16 O' glass shown in Figure 4 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass in steel based doorsets for periods of 30 minutes integrity and insulation**

For this application the following conditions shall apply:

1. The doorset, including door frame and associated building hardware, should have achieved at least 30 minutes integrity and insulation when tested, or subsequently assessed by one of the laboratories approved by CERTIFIRE as acceptable for this purpose, to BS 476: Part 22: 1987.
2. If the proposed doorset is to be used in double-leaf configuration, the test or assessment evidence should be applicable to double-leaf configurations.
3. Likewise, if the proposed doorset is to be used in the unlatched configuration, the available evidence should be applicable to unlatched doorsets.
4. The proposed doorset should also have included a glazed aperture or apertures of the intended size, shape, area and number.
5. When used to glaze CERTIFIRE approved doorsets which have smaller apertures than allowed in this certificate, the aperture sizes specified in the doorset certificate shall take precedence.

This Certificate of Approval relates to the sizes of Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass shown in Figure 5 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

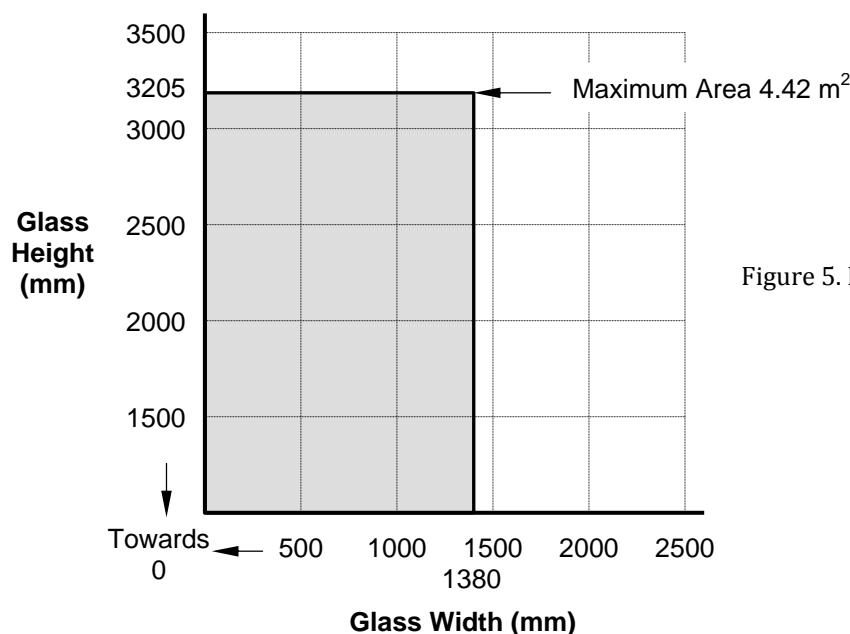


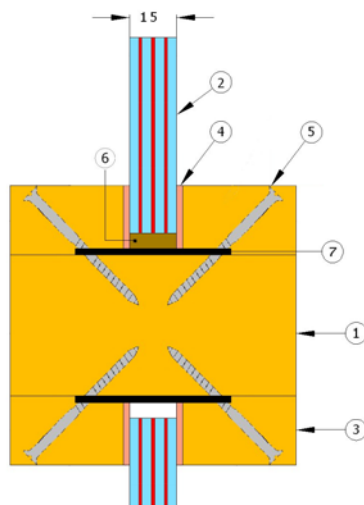
Figure 5. Maximum Permitted

## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass in timber framed screens for periods of 60 minutes integrity and 30 minutes insulation**

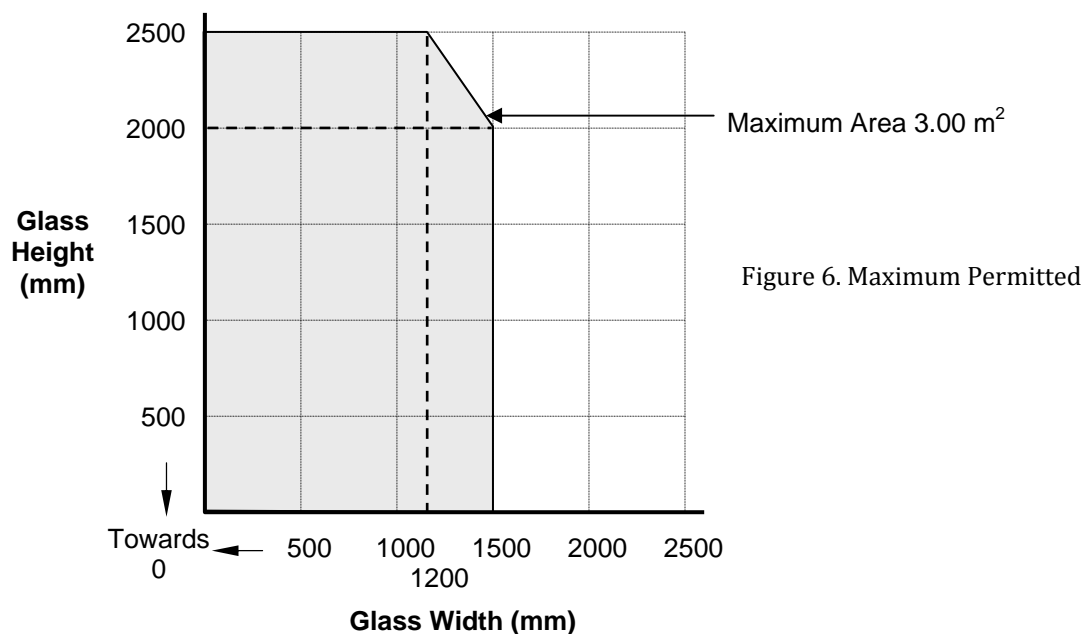
For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- 1 92 mm by 45 mm (minimum) hardwood framing sections, minimum density 580 kg/m<sup>3</sup>
- 2 Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass
- 3 22 mm high by 36.5 mm wide square or chamfered (up to 10°) hardwood glazing beads, minimum density 580 kg/m<sup>3</sup>
- 4 20 mm by 3 mm ceramic fibre based glazing tape
- 5 50 mm long steel screws at 200 mm centres (45° to glass)
- 6 Hardwood or non-combustible setting blocks
- 7 Sealmaster GL60 Liner (50 x 2 mm)

This Certificate of Approval relates to the sizes of Firesafe '30-15', '30-16 O', '30-19' and '30-20 O' glass shown in Figure 6 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

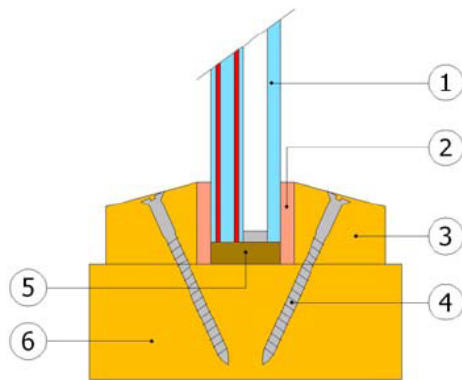


## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-30 ISO VSG', Insulated Glazed Units in timber framed screens for periods of 30 minutes integrity and insulation**

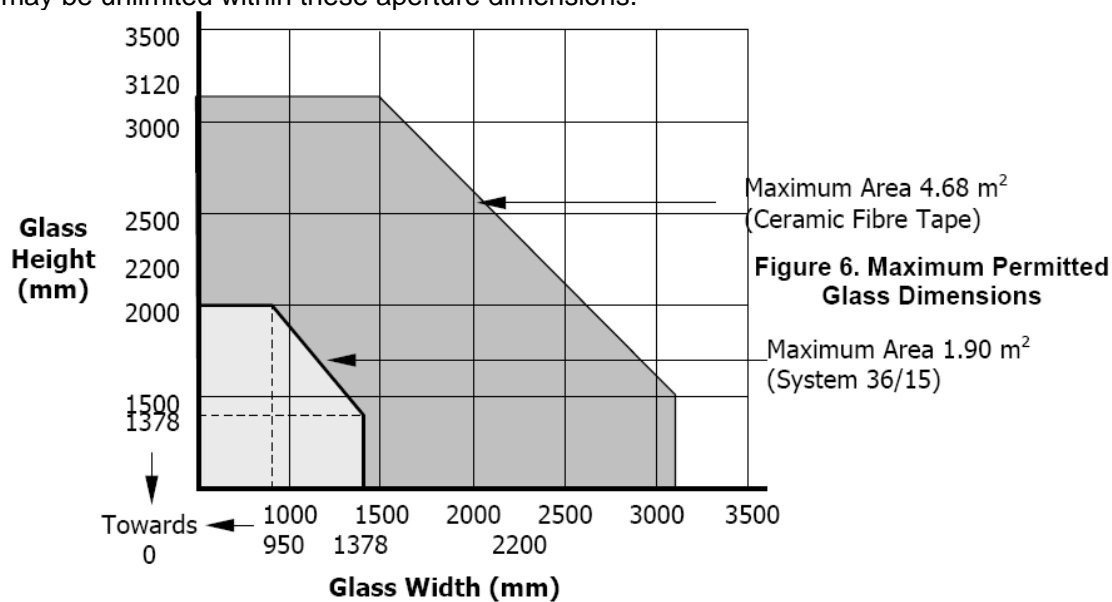
For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- ① Fireswiss Foam '30-30 ISO VSG' IGU, comprising Fireswiss Foam '30-15' an 8 mm air gap and non-fire rated glass up to 7 mm thick
- ② 20 mm by 6 mm ceramic fibre based glazing tape (eg. CGI 'K' tape) or Lorient System 36/15
- ③ 20 mm high by 23 mm wide square or chamfered (up to 10°) hardwood glazing beads, minimum density 640 kg/m<sup>3</sup>. (17 mm high for System 36/15)
- ④ 40 mm long steel screws at 400 mm centres (30° to glass)
- ⑤ Non-combustible setting blocks
- ⑥ 83 mm by 40 mm (minimum) hardwood framing sections, minimum density 640 kg/m<sup>3</sup>

This Certificate of Approval relates to the sizes of Firesafe '30-30 ISO VSG' IGU shown in Figure 7 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '30-30 ISO VSG', Insulated Glazed Units in steel framed screens for periods of 30 minutes integrity and insulation**

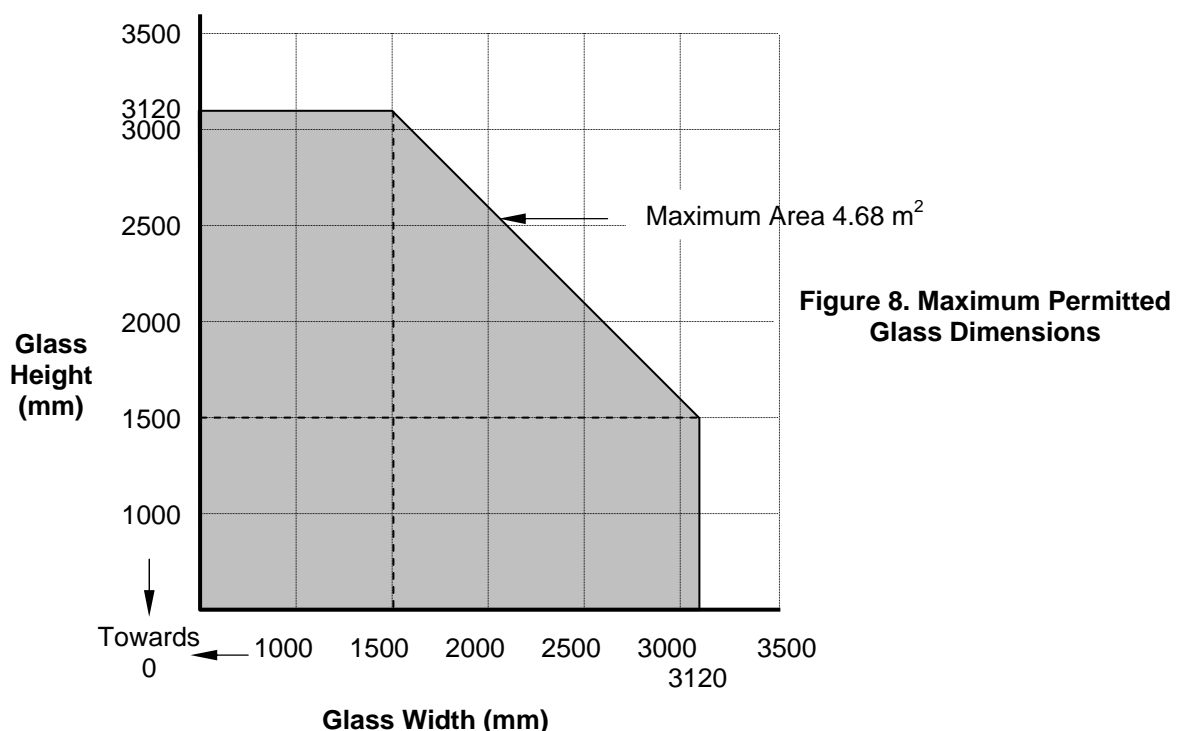
For this application the following conditions shall apply:

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

- Firesafe '30-30 ISO VSG' IGU, comprising Firesafe '30-15' an 8 mm air gap and 7 mm laminated float glass
- The edge cover to each pane shall be no less than 15 mm minimum

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Firesafe '30-30 ISO VSG' IGU shown in Figure 8 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

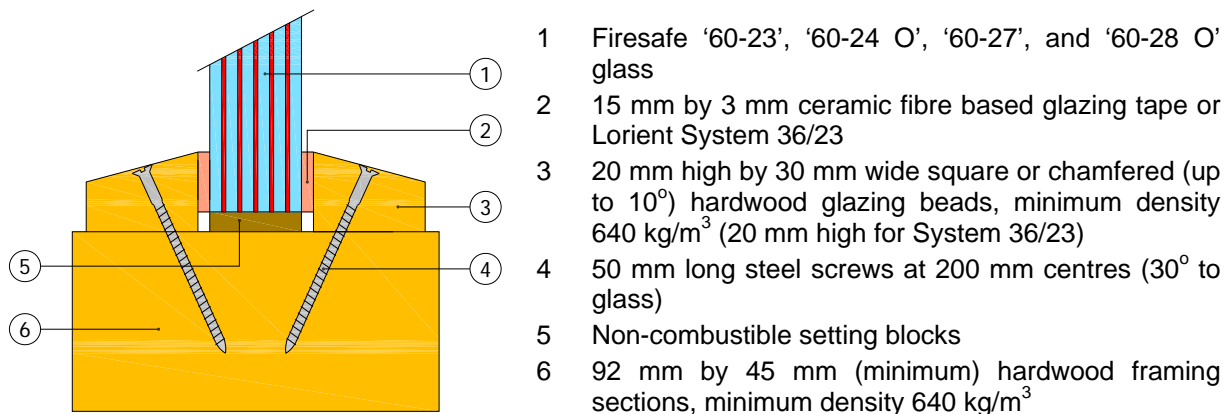


## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

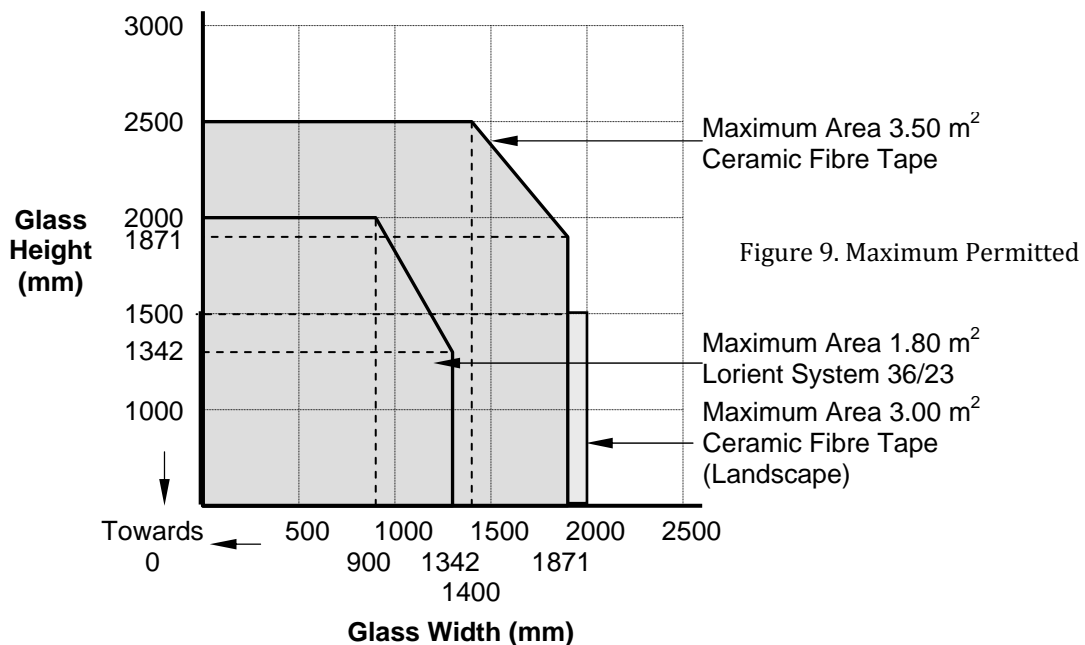
**Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' glass in timber framed screens for periods of 60 minutes integrity and insulation**

For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



This Certificate of Approval relates to the sizes of Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' glass shown in Figure 9 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



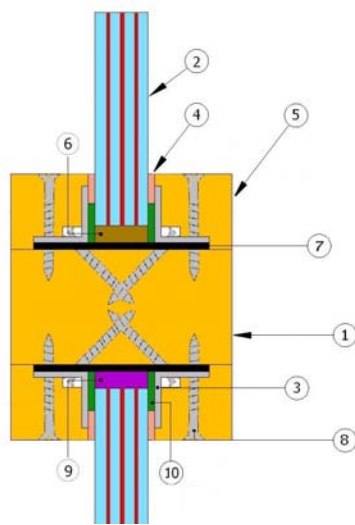


## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' glass in timber framed screens for periods of 60 minutes integrity and insulation**

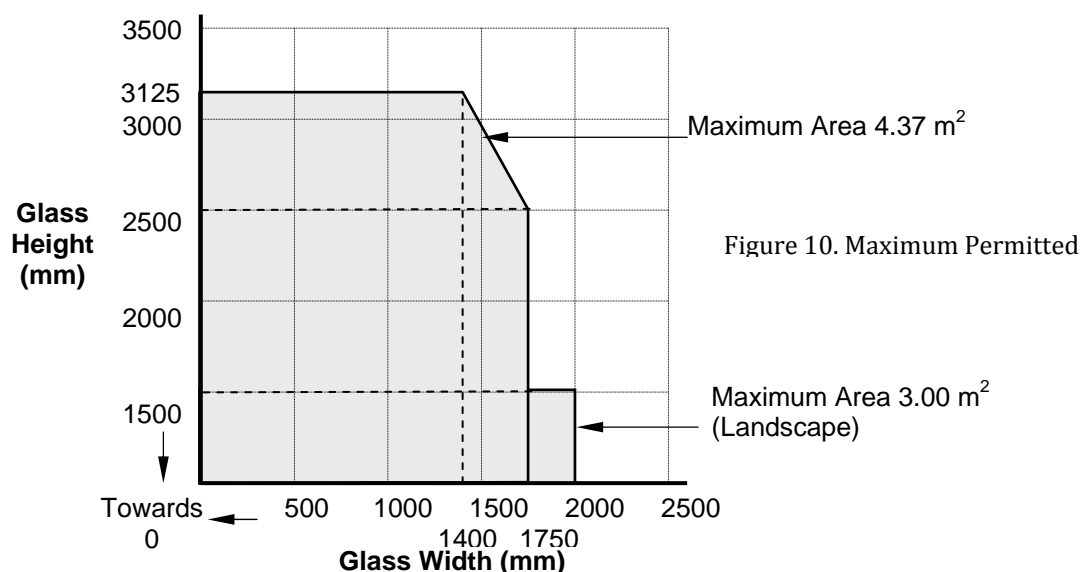
For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- 1 100 mm by 50 mm (minimum) hardwood framing sections, minimum density 580 kg/m<sup>3</sup>
- 2 Firesafe '60-23', '60-24 O', '60-27', and '60-28 O'
- 3 Mild steel glazing angle 20 x 20 x 2 mm
- 4 10 mm by 3 mm ceramic fibre based glazing tape
- 5 26 mm high by 26 mm wide square or chamfered (up to 10°) hardwood glazing beads, minimum density 580 kg/m<sup>3</sup>
- 6 Non-combustible setting blocks
- 7 Sealmaster GL60 Liner 90 x 2 mm
- 8 50 mm long steel screws at 200 mm centres (45° and parallel to glass)
- 9 Sealmaster intumescent glazing compound
- 10 Unifrax CXL715 adhesive

This Certificate of Approval relates to the sizes of Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' glass shown in Figure 10 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

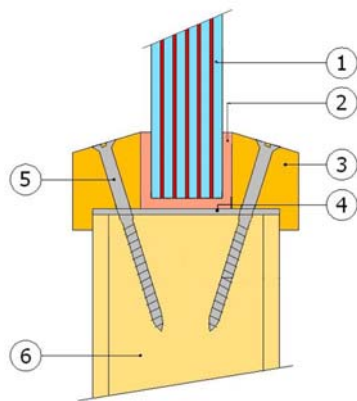


## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '60-23' and '60-24 O', glass in timber based doorsets for periods of 60 minutes integrity and insulation**

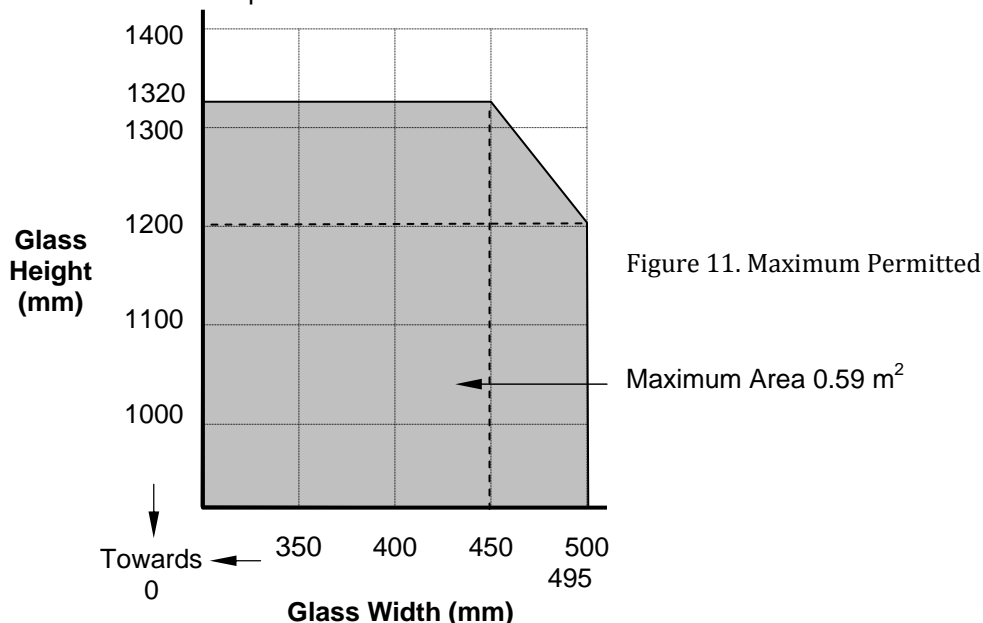
For this application the following conditions shall apply:

The glass shall be glazed within a previously fire tested doorsets, as specified below (with test evidence for the inclusion of apertures of the proposed dimensions) utilising the following basic specification:



- 1 Firesafe '60-23' and '60-24 O' glass
- 2 Lorient System 36/23 glazing seal
- 3 Hardwood glazing beads 25 mm high by 17 mm wide including 5 mm high by 5 mm wide bolection return. Min. density 650 kg/m<sup>3</sup>
- 4 2 mm thick mono ammonium phosphate liner (M.A.P.), full width
- 5 8 x 45 mm screws at 45° and minimum 200 mm centres. Maximum distance from corners 50 mm.
- 6 Minimum 54 mm thick FD60 door leaf incorporating a flaxboard core and 10 mm thick Anti-Flam Chipboard faces.

This Certificate of Approval relates to the sizes of Firesafe '60-23' and '60-24 O' glass shown in Figure 11 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' Glass in steel framed screens for periods of 60 minutes integrity and insulation**

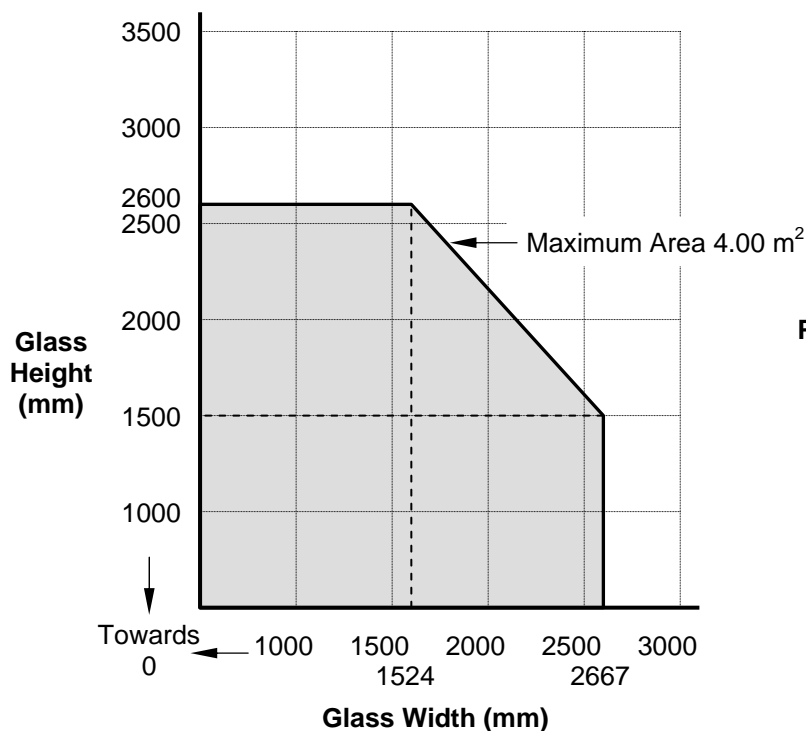
For this application the following conditions shall apply:

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

- Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' glass
- 20 mm by 6 mm ceramic fibre based glazing tape
- The edge cover to each pane shall be no less than 15 mm minimum

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' glass shown in Figure 12 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



**Figure 12. Maximum Permitted Glass Dimensions**



## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

### Firesafe '60-44 ISO VSG' IGUs in steel framed screens for periods of 60 minutes integrity and insulation

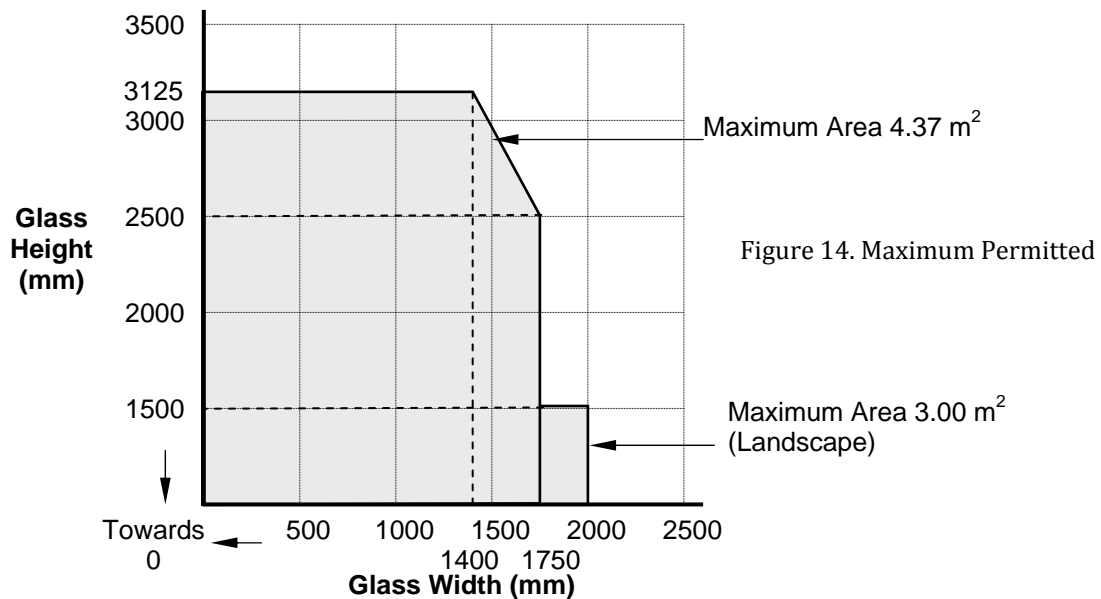
For this application the following conditions shall apply:

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

- Firesafe '60-44 ISO VSG' IGU, comprising Firesafe '60-23' an 12 mm air gap and 8.8 mm laminated/annealed or float glass
- The edge cover to each pane shall be no less than 15 mm minimum

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Firesafe '60-44 ISO VSG' IGU shown in Figure 14 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.



## CERTIFICATE No CF 5338 FIRE GLASS UK LIMITED

**Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' laminated glass units in single pane horizontal steel framed screens for periods of 60 minutes integrity and 30 or 60 minutes insulation**

For this application the following conditions shall apply:

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

- Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' laminated to 8 mm toughened glass with a 2mm cold pour resin, to form a glazed 33 mm thick glazed unit with the tempered/toughened glass on the upper/unexposed face
- 30 mm by 6 mm (2 x 15 by 6) ceramic fibre based glazing tape
- The edge cover to each pane shall be no less than 30 mm minimum

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions.

This Certificate of Approval relates to the sizes of Firesafe '60-23', '60-24 O', '60-27', and '60-28 O' laminated glazed units shown in Figure 15 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions. Approval is limited to single pane systems.

