
CERTIFICATE OF APPROVAL

No CF 5337

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 Exova (UK) Limited trading as
Warrington Certification



Sir Ken Knight
Chairman
Impartiality Committee



Paul Duggan
Certification Manager



Issued: 23rd July 2015
Revised: 14th December 2016
Valid to: 6th January 2020

Page 1 of 12



CERTIFICATE No CF 5337 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 30-7	Timber framed screens	30	0	4
FIRESAFE 30-7 2B2	Timber framed screens	30	0	5
FIRESAFE 60-11	Timber framed screens	30	0	6
FIRESAFE 30-7	Timber based 44 mm thick doorsets	30	0	7
FIRESAFE 30-7	Timber based 75 mm thick doorsets	30	0	8
FIRESAFE 30-7 2B2	Timber based 44 mm thick doorsets	30	0	9
FIRESAFE 30-7 2B2	Timber based 75 mm thick doorsets	30	0	10
FIRESAFE 60-11	Timber based 44 mm thick doorsets	30	0	11
FIRESAFE 60-11	Timber based 75 mm thick doorsets	30	0	12
FIRESAFE 60-11	Timber based 54 mm thick doorsets	60	0	13

This product is approved on the basis of:

- a) Initial type testing
- b) A design appraisal against TS25
- c) Certification of quality management systems to ISO 9001:2008
- d) Audit testing
- e) Inspection and surveillance of Factory Production Control

CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE Fire Resisting Glass

The glass is approved in the following nominal thicknesses:

Glass Specification	Thickness	Fire Resistance Performance (mins)	
		Integrity	Insulation
FIRESAFE 30-7	7 mm thick	30	0
FIRESAFE 30-7 2B2	9 mm thick	30	0
FIRESAFE 60-11	11 mm thick	30	0

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.

Specific Considerations for Doorset Applications

Where scope is provided for glass to be used within timber doorsets, the following should be considered and any requirements complied with:

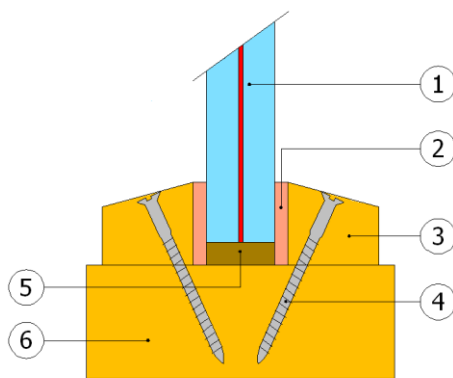
- The doorset, including door frame and associated building hardware, should have achieved at least the required performance when tested, or subsequently assessed by one of the laboratories approved by CERTIFIRE as acceptable for this purpose, to BS 476: Part 22: 1987 or BS EN 1634-1: 2000.
- The proposed doorset should also have included a glazed aperture or apertures of the intended size, shape, area and number.
- 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.
- The door leaves shall consist of timber faces coupled with timber or other cellulosic cores of the specified minimum overall leaf thickness
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including the relevant glass. The maximum permitted aperture dimensions shall be as detailed below or included within the relevant CERTIFIRE certificate for the glazing system, whichever is the lesser.
- Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate.

**CERTIFICATE No CF 5337
FIRE GLASS UK LIMITED**

FIRESAFE 30-7 glass in timber framed screens for periods of 30 minutes integrity

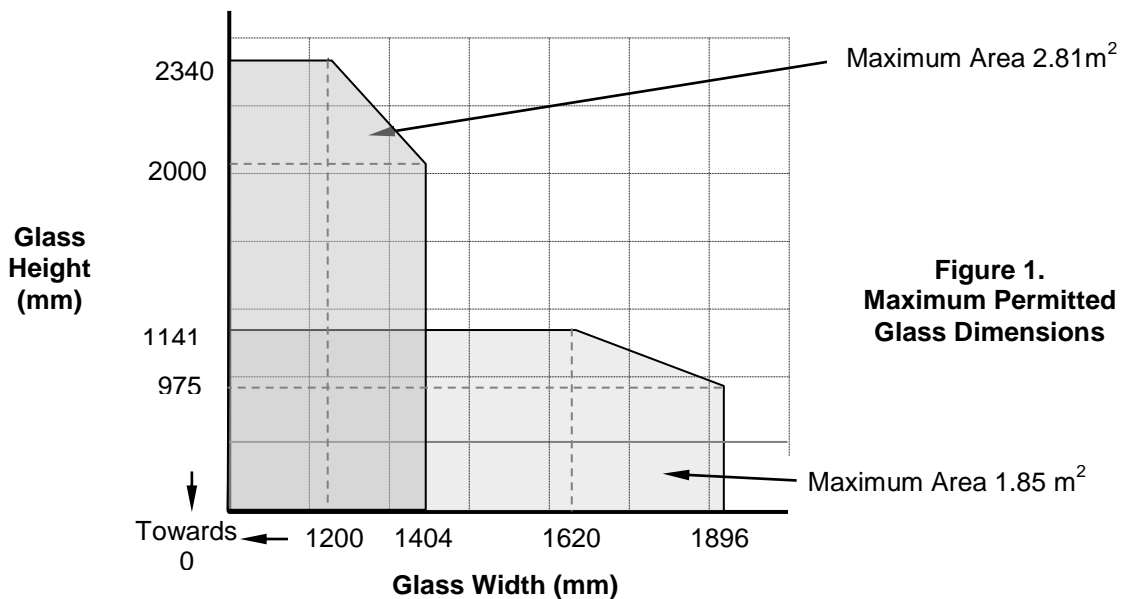
For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- 1 FIRESAFE 30-7 glass
- 2 20 mm by 4 mm ceramic fibre based tape
- 3 Minimum 20 mm high by 30 mm wide square or chamfered softwood glazing beads, flush or bolection glazed, minimum density 420 kg/m³ or FORMline MDF E1 square or chamfered glazing beads, minimum density 600 kg/m³
- 4 60 mm long steel screws or pins at 450 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 75 mm by 40 mm softwood framing sections, minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of FIRESAFE 30-7 glass shown in Figure 1 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these aperture dimensions.

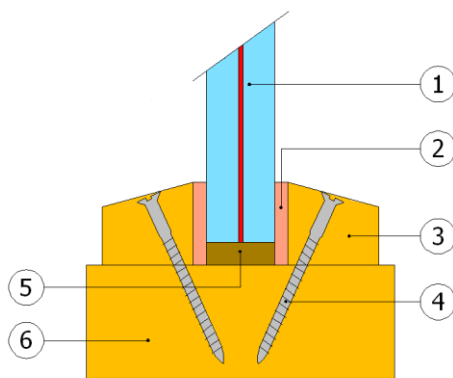


CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 30-7 2B2 glass in timber 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 30-7 2B2 glass (9 mm)
- 2 20 mm by 3 mm ceramic fibre based tape
- 3 Minimum 20 mm high by 30 mm wide square or chamfered softwood glazing beads, flush or bolection glazed, minimum density 420 kg/m³ or FORMline MDF E1 square or chamfered glazing beads, minimum density 600 kg/m³
- 4 60 mm long steel screws or pins at 450 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 75 mm by 40 mm softwood framing sections, minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of FIRESAFE 30-7 2B2 glass shown in Figure 2 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these aperture dimensions.

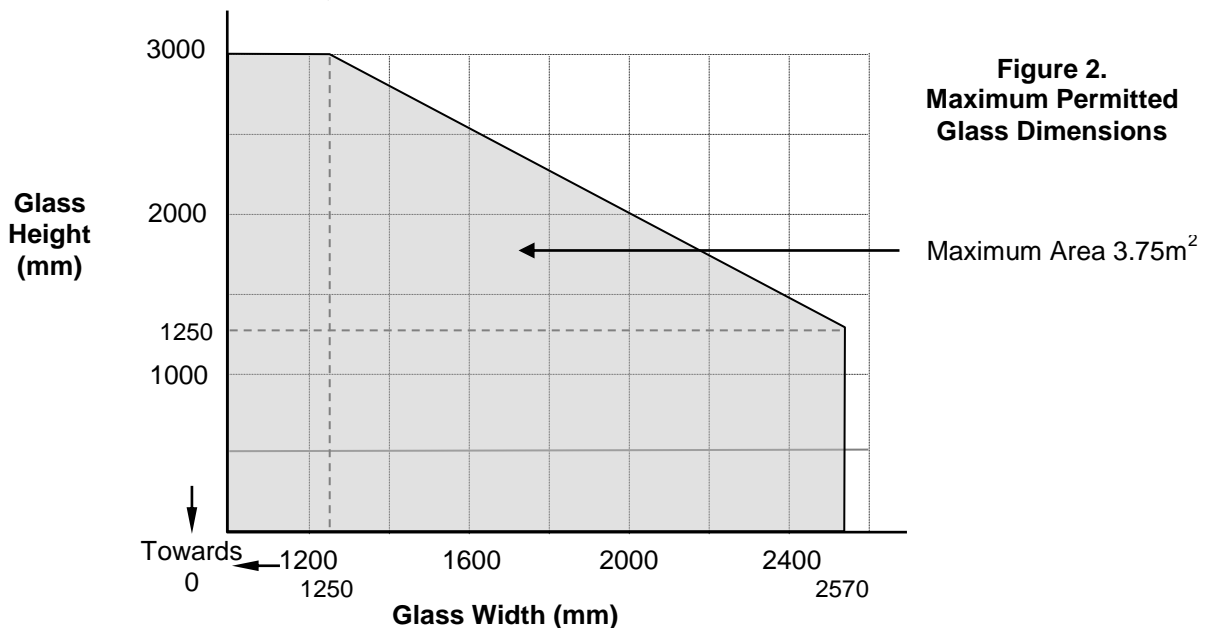


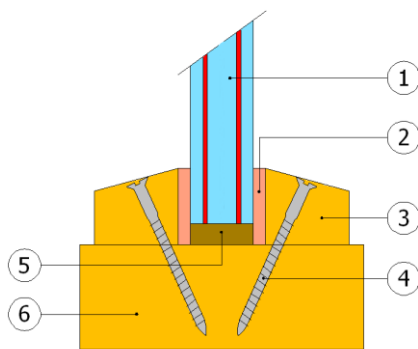
Figure 2.
Maximum Permitted
Glass Dimensions

CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 60-11 glass in timber framed screens for periods of 30 minutes integrity

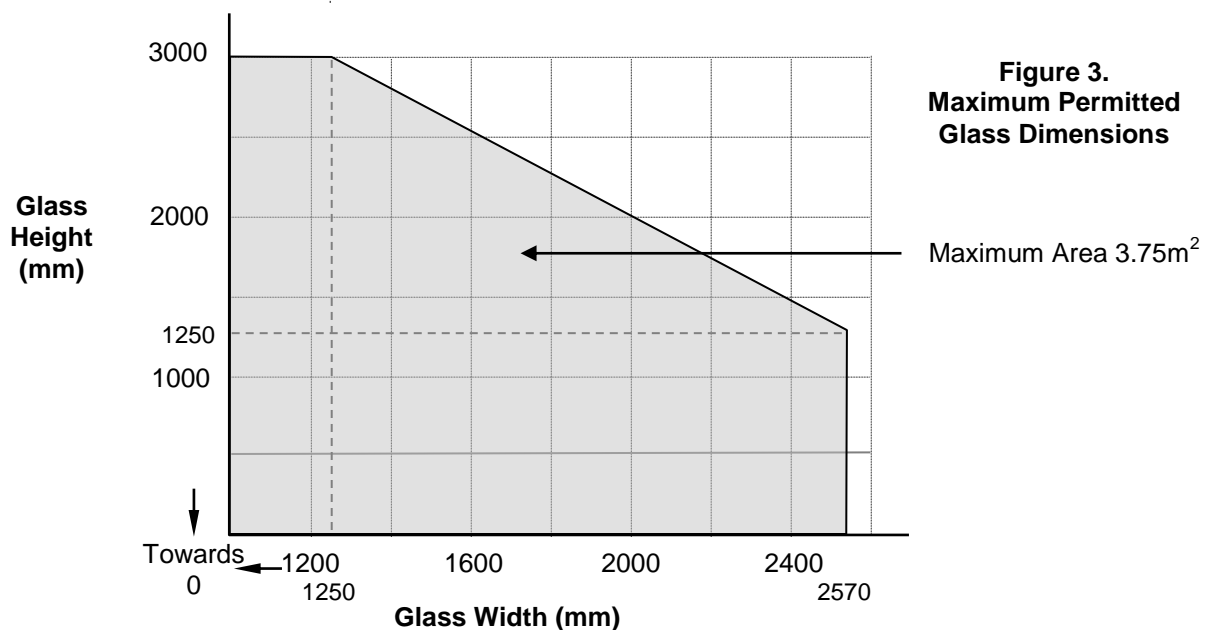
For this application the following conditions shall apply:

The glass shall be glazed utilising the following basic specification:



- 1 FIRESAFE 60-11 glass
- 2 20 mm by 4 mm ceramic fibre based tape
- 3 Minimum 20 mm high by 30 mm wide square or chamfered softwood glazing beads, flush or bolection glazed, minimum density 420 kg/m³ or FORMline MDF E1 square or chamfered glazing beads, minimum density 600 kg/m³
- 4 60 mm long steel screws or pins at 450 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 75 mm by 40 mm softwood framing sections, minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of FIRESAFE 60-11 glass shown in Figure 3 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these aperture dimensions.



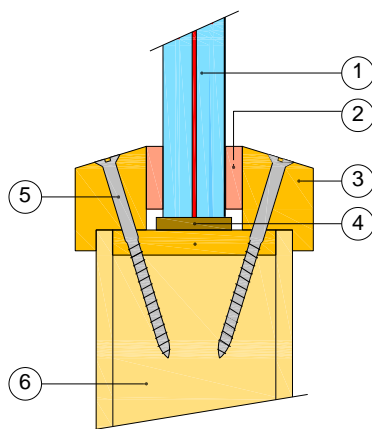
**Figure 3.
Maximum Permitted
Glass Dimensions**

CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 30-7 glass in 44 mm thick timber based doorsets for periods of 30 minutes integrity

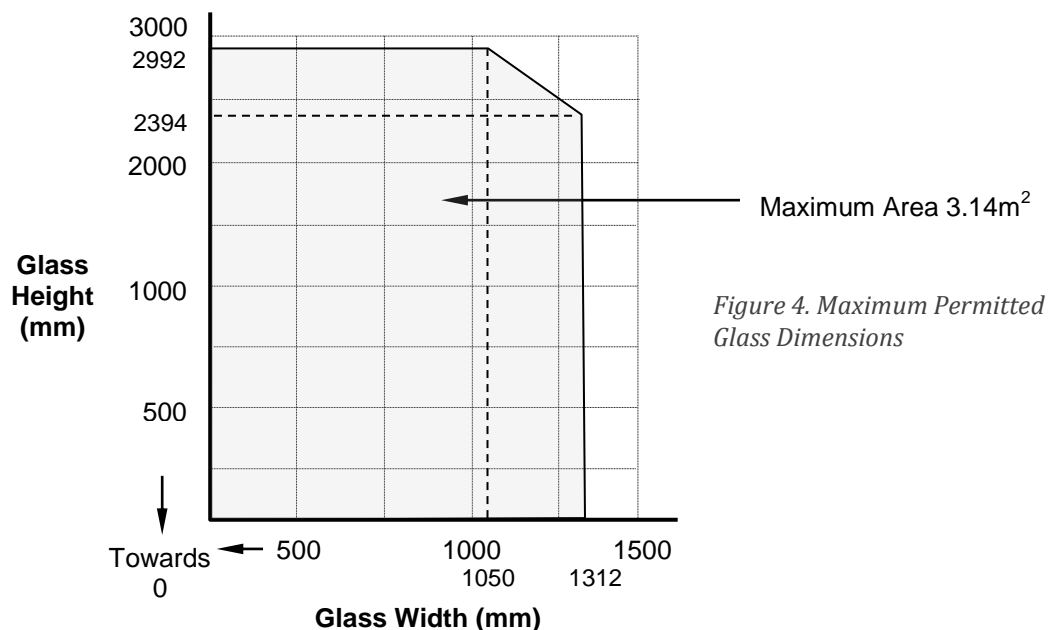
For this application the following conditions shall apply:

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



- 1 FIRESAFE 30-7 glass
- 2 20 mm by 4 mm Kerafix Flexlit intumescent strip
- 3 Minimum 20 mm high by 30 mm wide square or chamfered hardwood or softwood glazing beads, flush or bolection glazed, minimum density 420 kg/m³ or FORMline MDF E1 glazing beads, minimum density 600 kg/m³
- 4 Setting blocks 5 mm thick by 7 mm wide by 80 mm long.
- 5 60 mm long steel screws or pins 127 mm at 215 mm centres (30° to glass)
- 6 Any 44 mm thick softwood FD30 door leaf minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of FIRESAFE 30-7 glass shown in Figure 4 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.

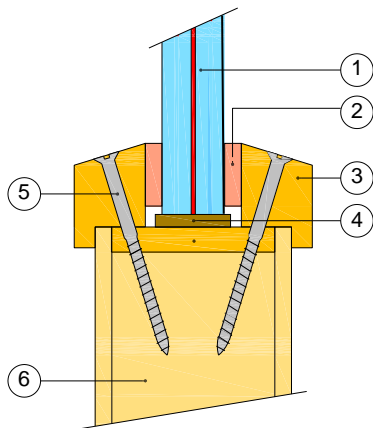


CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 30-7 glass in 75 mm thick timber based doorsets for periods of 30 minutes integrity

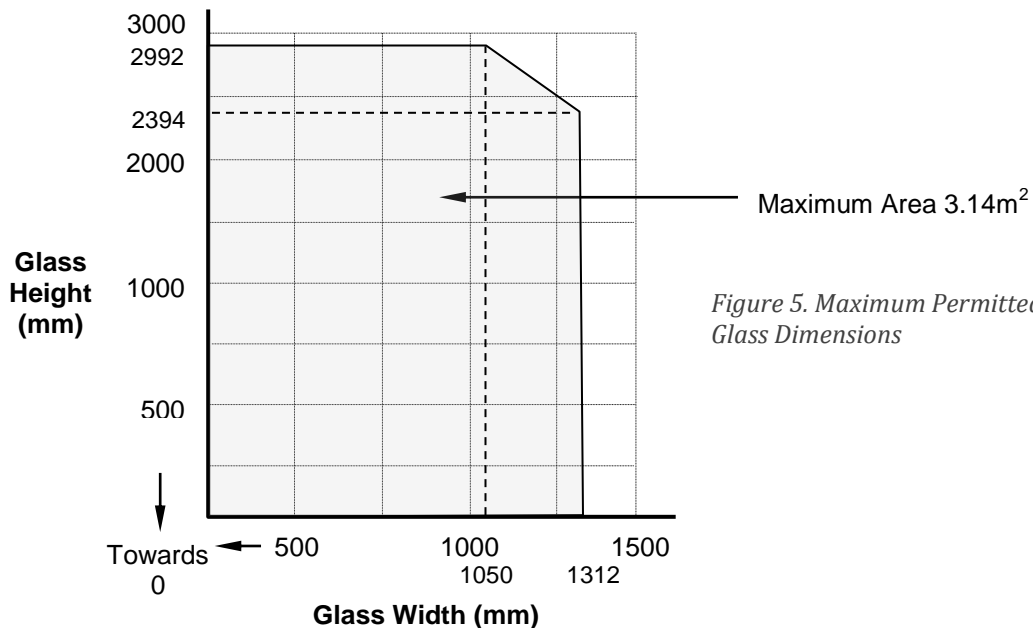
For this application the following conditions shall apply:

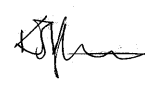

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification:



- 1 FIRESAFE 30-7 glass
- 2 20 mm by 4 mm Kerafix Flexlit intumescent strip
- 3 Minimum 20 mm high by 30 mm wide square or chamfered hardwood or softwood glazing beads, flush or bolection glazed, minimum density 420 kg/m³ or FORMline MDF E1 glazing beads, minimum density 600 kg/m³
- 4 Setting blocks 5 mm thick by 7 mm wide by 80 mm long.
- 5 60 mm long steel screws or pins 127 mm at 215 mm centres (30° to glass)
- 6 Any 75 mm thick softwood FD30 door leaf minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of FIRESAFE 30-7 glass shown in Figure 5 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.



Page 8 of 13 Signed  
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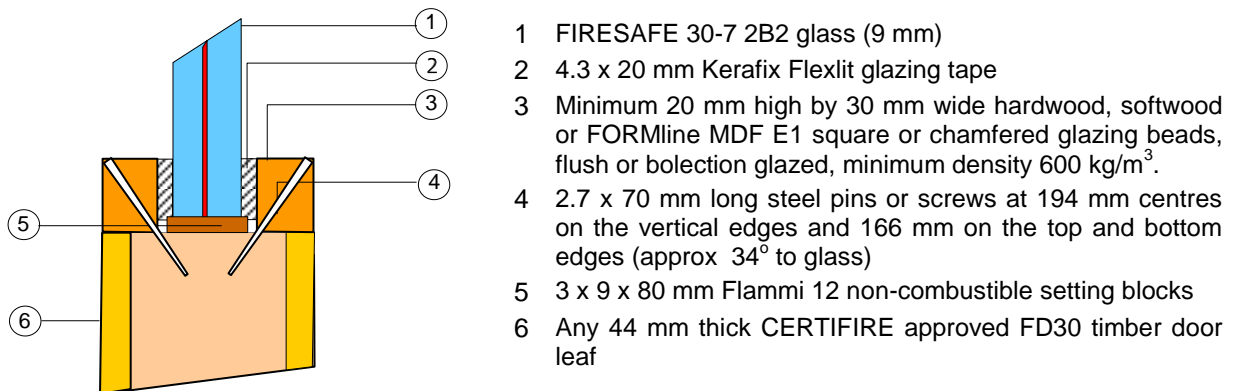
Issued: 23rd July 2015
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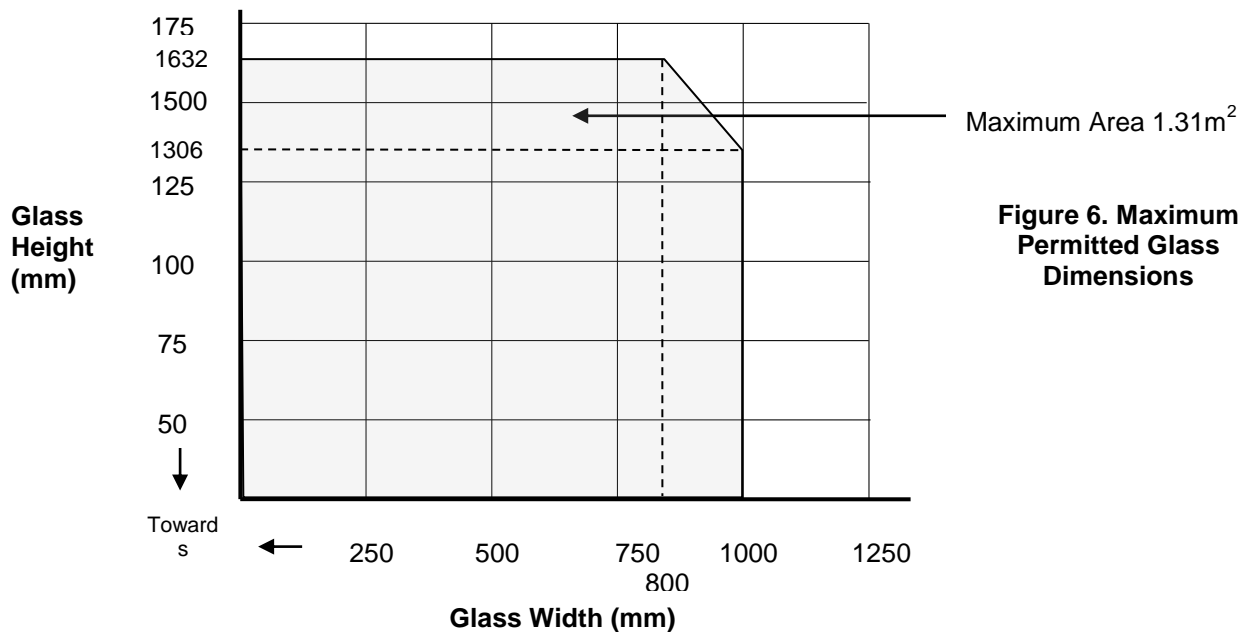
FIRESAFE 30-7 2B2 glass in 44 mm timber based doorsets for periods of 30 minutes integrity

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 FIRESAFE 30-7 2B2 glass shown in Figure 6 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.

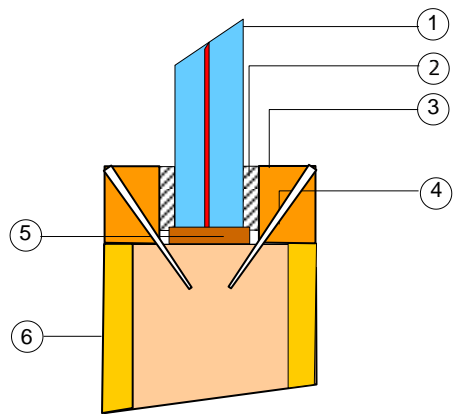


CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 30-7 2B2 glass in 75 mm timber based doorsets for periods of 30 minutes integrity

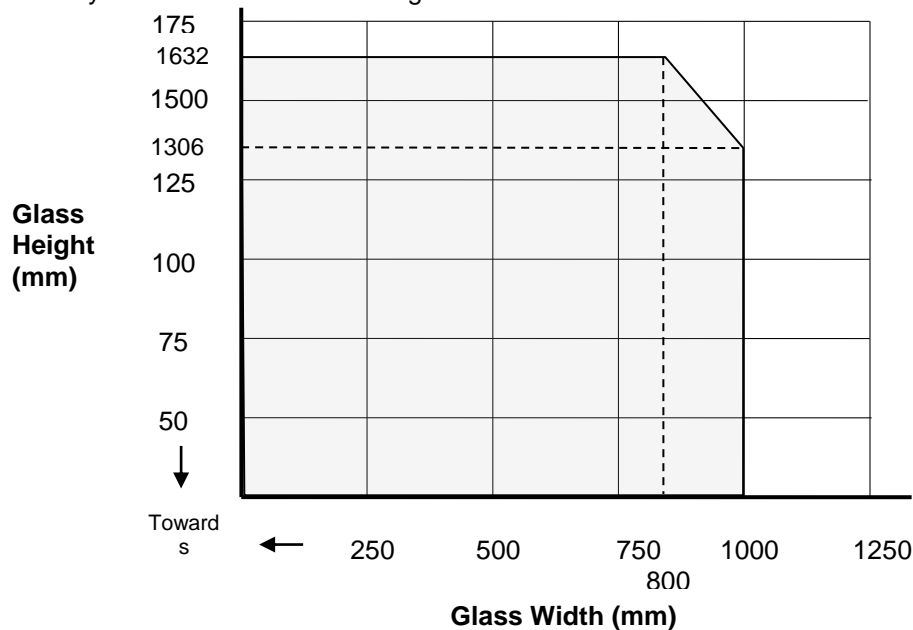
For this application the following conditions shall apply:

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



- 1 FIRESAFE 30-7 2B2 glass (9 mm)
- 2 4.3 x 20 mm Kerafix Flexlit glazing tape
- 3 Minimum 20 mm high by 30 mm wide hardwood, softwood or FORMline MDF E1 square or chamfered glazing beads, flush or bolection glazed, minimum density 600 kg/m³.
- 4 2.7 x 70 mm long steel pins or screws at 194 mm centres on the vertical edges and 166 mm on the top and bottom edges (approx 34° to glass)
- 5 3 x 9 x 80 mm Flammi 12 non-combustible setting blocks
- 6 Any 75 mm thick CERTIFIRE approved FD30 timber door leaf

This Certificate of Approval relates to the sizes of FIRESAFE 30-7 2B2 glass shown in Figure 7 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.



Maximum Area 1.31m²

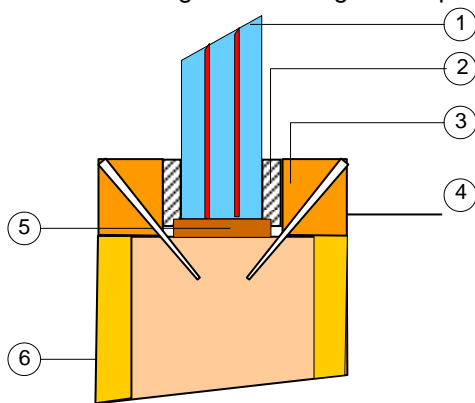
Figure 7. Maximum Permitted Glass Dimensions

CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 60-11 glass in 44 mm timber based doorsets for periods of 30 minutes integrity

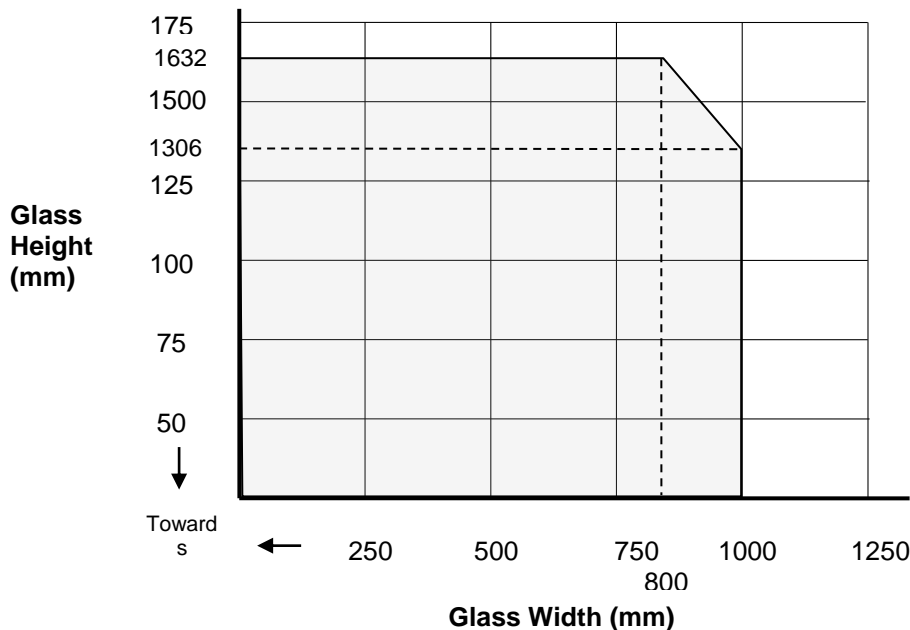
For this application the following conditions shall apply:

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



- 1 FIRESAFE 60-11 glass
- 2 4.3 x 20 mm Kerafix Flexlit tape
- 3 Minimum 22 mm high by 13 mm wide hardwood, softwood or FORMline MDF E1 square or chamfered glazing beads, flush or bolection glazed, minimum density 600 kg/m³.
- 4 2.7 x 70 mm long steel pins or screws at 194 mm centres on the vertical edges and 166 mm on the top and bottom edges (approx 34° to glass)
- 5 3 x 9 x 80 mm Flammi 12 non-combustible setting blocks
- 6 Any 44 mm thick CERTIFIRE approved FD30 timber door leaf

This Certificate of Approval relates to the sizes of FIRESAFE 60-11 glass shown in Figure 8 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.



Maximum Area 1.31m²

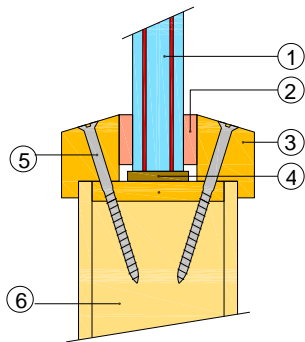
Figure 8. Maximum Permitted Glass Dimensions

CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 60-11 glass in 75 mm thick timber based doorsets for periods of 30 minutes integrity

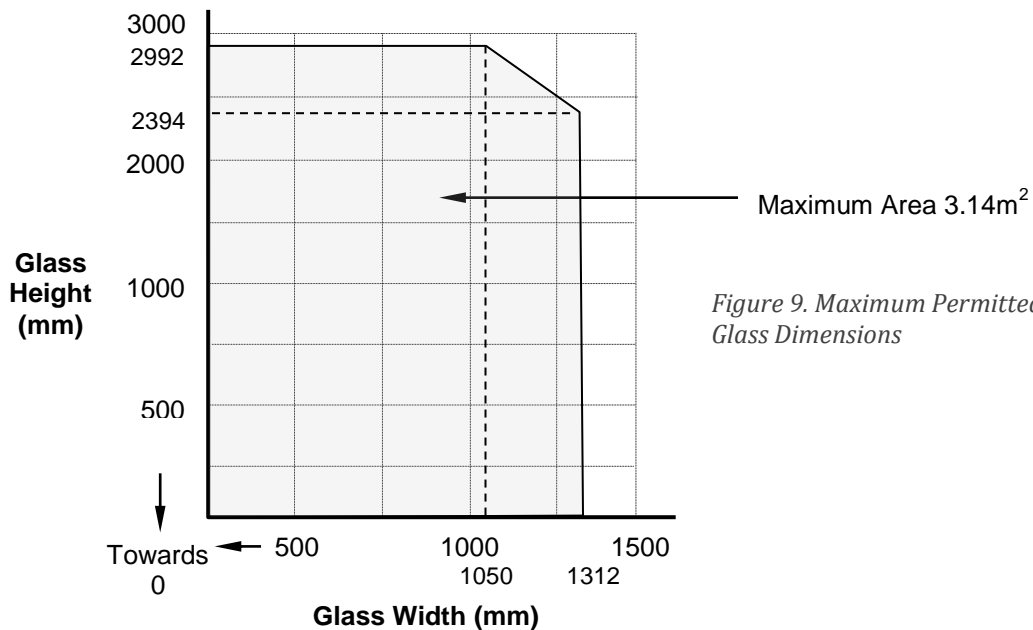
For this application the following conditions shall apply:

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



- 1 FIRESAFE 60-11 glass
- 2 20 mm by 3 mm Kerafix Flexit intumescent strip
- 3 Minimum 20 mm high by 30 mm wide square or chamfered hardwood or softwood glazing beads, flush or bolection glazed, minimum density 420 kg/m³ or FORMline MDF E1 glazing beads, minimum density 600 kg/m³
- 4 Setting blocks 5 mm thick by 10 mm wide by 80 mm long.
- 5 60 mm long steel screws or pins at 215 mm centres (30° to glass)
- 6 Any 75 mm thick softwood FD30 door leaf minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of FIRESAFE 60-11 glass shown in Figure 9 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.

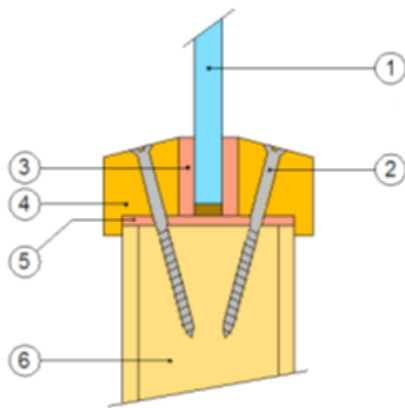


CERTIFICATE No CF 5337 FIRE GLASS UK LIMITED

FIRESAFE 60-11 glass in 54 mm thick 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:



- 1 FIRESAFE 60-11 glass
- 2 50 mm long steel screws or pins, 2mm diameter, at 150 mm centres (45° to glass)
- 3 Sealmaster Intumescent Foam Glazing Tape, 15 mm by 5 mm (uncompressed)
- 4 Foil wrapped MDF beads, 22.5 mm high by 22mm deep including a 7.5 mm bolection, minimum density of 700kg/m³
- 5 Sealmaster GL60 intumescent liner, 54mm by 2 mm thick
- 6 54 mm thick FD60 timber based door leaf

This Certificate of Approval relates to the sizes of FIRESAFE 60-11 glass shown in Figure 10 below, when used in conjunction with the above system. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. The aspect ratio of the glass may be unlimited within these glass dimensions.

