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## CERTIFICATE OF APPROVAL

### No CF 291

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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

## SCHOTT UK LIMITED

Drummond Road, Stafford. ST16 3EL  
Tel: 01785 223166 Fax: 01785 223522

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

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#### CERTIFIED PRODUCT

**PYRAN S 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 - Management Council

Issued: 9<sup>th</sup> September 2002  
Reissued: 11<sup>th</sup> December 2012  
Valid to: 10<sup>th</sup> December 2017

Page 1 of 35



Only valid when authentic  
Seals in place CERTIFIRE



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## CERTIFICATE No CF 291

### SCHOTT UK LIMITED

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#### PYRAN S FIRE RESISTING GLASS

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

Application	Fire Resistance Performance Integrity - (mins)	Page No.
Timber Screens	30	4
Timber Screens	60	5
Double Glazed Units in Timber Screens	30 – 60	6 – 7
Timber Doorsets (inc. Double Glazed Units)	30	8 – 11
'Firestile' Doorsets	30	12 – 14
Timber Doorsets	60	15 - 16
Steel Screens	30 – 60 – 90 – 120	17
Steel Doorsets	30 – 60 – 90 – 120	18 - 20
Double Glazed Units in Steel Screens	30 – 60 – 90	21 – 23
Double Glazed Units (comprising Venetian blinds) in Steel Screens	30	24
Butt-Jointed Screens	30	25 – 27
Butt-Jointed Screens	60	28 – 29
Structural Glazing	30	30 – 32
Horizontal glazing	30	33
Smoke screens	30	34 - 35

This product is approved on the basis of:

- i) Initial type testing.
- ii) A design appraisal against TS25.
- iii) Certification of quality management system to ISO 9001: 2008.
- iv) Inspection and surveillance of factory production control.
- v) 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.

There is no restriction to the direction of exposure for the glass i.e. the glass is symmetrical. Orientation may, however, be restricted by the requirements of a non-symmetrical framing system or certain double glazed unit specifications.



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## CERTIFICATE No CF 291

### SCHOTT UK LIMITED

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#### **PYRAN S FIRE RESISTING GLASS**

The edge cover to each pane shall be 25 mm maximum and 10 mm minimum.

The glass is approved in a nominal thickness of 6, 8, 10, 12 and 15 mm. PYRAN S 15 mm is available subject to size and stock limitations.

Bevelled PYRAN is suitable for timber or steel frames and doors provided the outer thickness remains a minimum of 6 mm thick.

#### **Silk Screening and Sand-Blasting**

The PYRAN S glass (6, 8, 10, 12 or 15 mm thick) may be provided with silk screen printing with any colour from the 'RAL' range to either face within both single and double glazed systems. The printing may account for any area of the glass.

Similarly, sand-blasting may be included to either face of the (6, 8, 10, 12 or 15 mm thick) PYRAN S glass within both single and double glazed systems. The sand-blasting may account for any area of the glass.

#### **Laminated PYRAN S**

The PYRAN S glass (6, 8, 10, 12 or 15 mm thick) may be laminated to float glass having a minimum thickness of 3 mm and a maximum thickness of 12 mm using an interlayer with 0.38mm minimum thickness and 1.52 mm maximum thickness with the laminated glass unit orientated such that the PYRAN glass faces the side of the assembly to be fire protected (i.e PYRAN S to non-fire risk side). Where this side is not known, laminated glass shall not be used.

PYRAN S, when laminated as described above, may be used in any timber or steel framed assemblies for up to 60 minutes integrity as covered by this certificate but subject to a maximum pane size of 4.8 m<sup>2</sup>. Laminated PYRAN S shall not be used in any butt-joint system.

Additionally, a silk sheet material may be included within the laminate/interlayer.

#### **Anti-reflective PYRAN S AR**

The PYRAN S glass (8 and 10 mm thick) may incorporate an anti-reflective coating.

#### **Interlayers**

PYRAN S may be laminated with LC or SPD SmartGlass interlayer for applications up to 120 minutes and as a component within IGU's up to 90 minutes, subject to the conditions specified in this certificate relating to the use of laminated glass (with specific regard to exposure direction).

**The product development of PYRAN S is ongoing and we recommend that you check the SCHOTT website ([www.SCHOTT.com/uk](http://www.SCHOTT.com/uk)) for the latest version of the CERTIFIRE Certificate.**

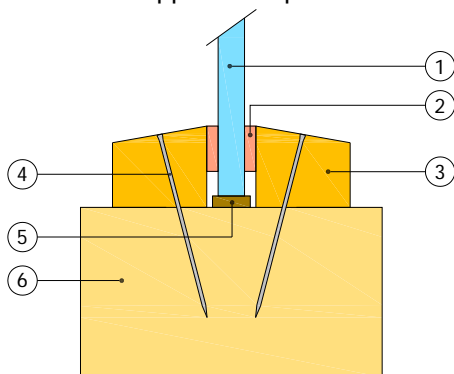
## CERTIFICATE No CF 291 SCHOTT UK LIMITED

### PYRAN S FIRE RESISTING GLASS

#### PYRAN S Glass in timber framed screens for periods of 30 minutes integrity

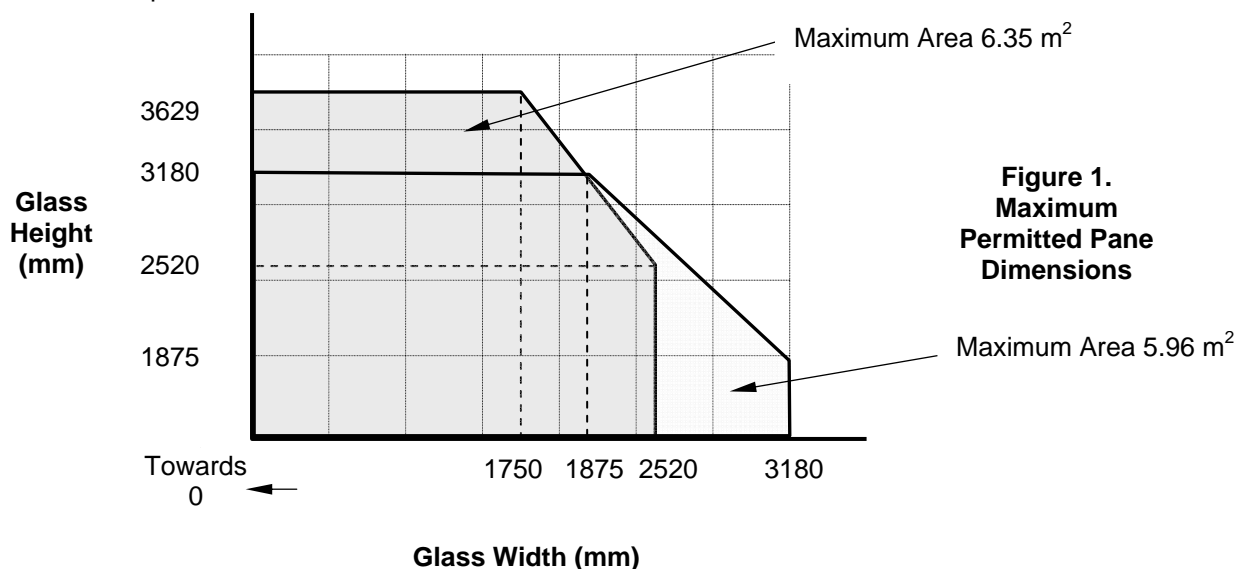
The glass shall be glazed utilising the following basic specification:

The screens shall be no greater than 4000 mm high unless suitable tie backs and/or fire protected structural supports are provided.



- 1 PYRAN S
- 2 12 mm by 3 mm Hodgson Sealants 'Firestrip 30' seal
- 3 25 mm wide by 21.5 mm high (with 10° chamfer minimum) hardwood glazing beads, minimum density 650 kg/m<sup>3</sup>
- 4 50 mm long steel pins or screws at 150 mm centres (30° to glass)
- 5 Setting blocks
- 6 80 mm by 45 mm (minimum) softwood or hardwood frame, minimum density 450 kg/m<sup>3</sup>

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



**PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.**

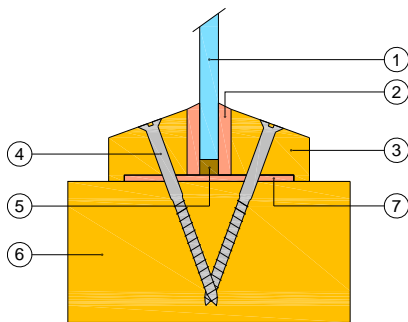
## CERTIFICATE No CF 291 SCHOTT UK LIMITED

### PYRAN S FIRE RESISTING GLASS

#### PYRAN S Glass in timber framed screens for periods of 60 minutes integrity

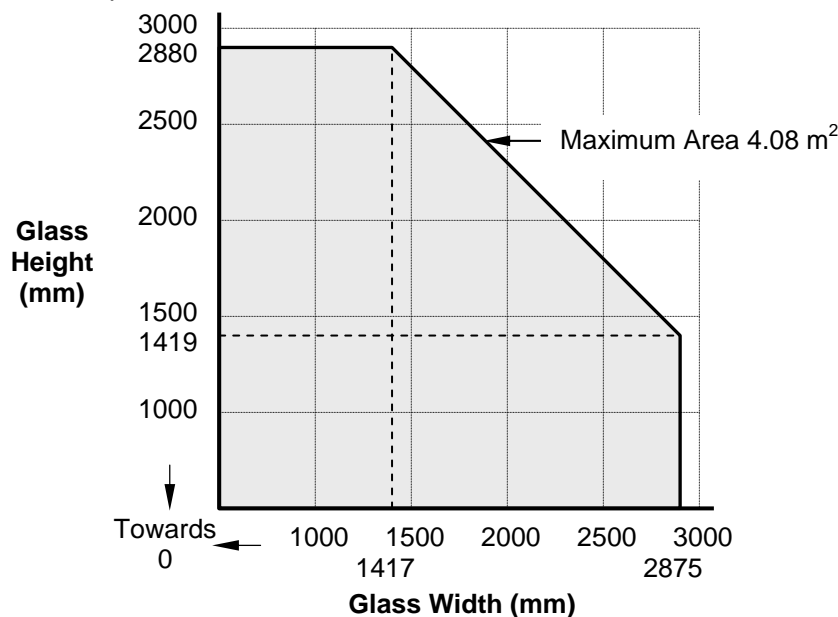
The glass shall be glazed utilising the following specification:

The screens shall be no greater than 4000 mm high unless suitable intermediate supports and/or fire protected structural supports are provided. Transoms and/or mullions are permitted.



- 1 PYRAN S
- 2 25 mm by 5 mm Sealmaster Fireglaze 2000 strip compressed to nominally 4 mm
- 3 25 mm wide by 27 mm high (with 30° chamfer minimum) hardwood glazing beads, minimum density 710 kg/m<sup>3</sup>
- 4 63mm long steel screws at 150mm centres (35° to glass)
- 5 Sealmaster Fireglaze compound nominally 6 mm wide by 5 mm thick
- 6 95 mm by 45 mm (minimum) hardwood frame, minimum density 640 kg/m<sup>3</sup>, (increase depth of frame by 2, 4 or 6 mm for 8,10 and 12 mm glass respectively)
- 7 54 mm wide by 2 mm thick Sealmaster 'GL60' intumescent liner

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



**Figure 2.  
Maximum Permitted  
Pane Dimensions**

**PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.**

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## CERTIFICATE No CF 291

### SCHOTT UK LIMITED

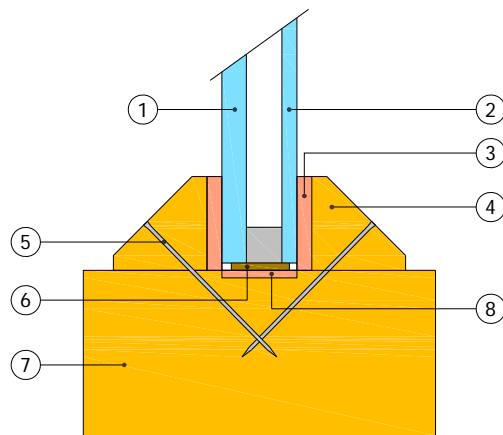
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#### PYRAN S FIRE RESISTING GLASS

#### PYRAN S Glass within Double Glazed Units in timber framed screens for periods of 30 and 60 minutes integrity

The glass shall be glazed utilising the following basic specification:

The screens shall not include transom members.



- 1 PYRAN S
- 2 Minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 3 25 mm by 4 mm Mann McGowan Pyrostrip 500 seal
- 4 25 mm wide by 25 mm high (with 45° chamfer minimum) hardwood glazing beads, minimum density 660 kg/m<sup>3</sup>
- 5 50 mm long steel pins or screws at 100 mm centres (45° to glass)
- 6 Setting blocks
- 7 94 mm by 44 mm (minimum) hardwood frame, minimum density 660 kg/m<sup>3</sup>
- 8 20 mm by 2 mm Pyrostrip 500 used at perimeter of unit (against edge of glass)

<sup>(1)</sup> Double glazed units comprising laminated glass should not be used where the fire risk side is unknown or where the fire risk is to the PYRAN S side of the assembly.

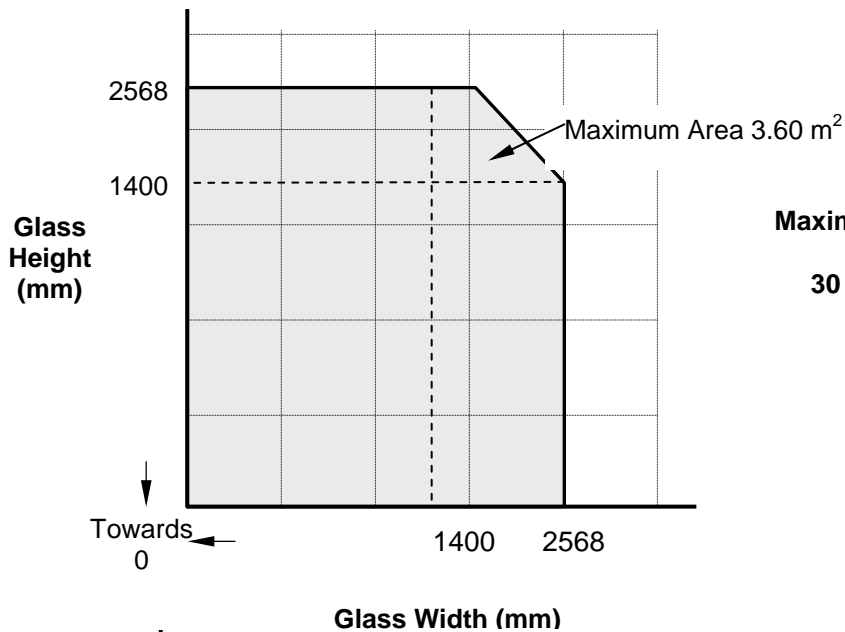
<sup>(2)</sup> 'Low E' coatings may only be utilised within units where the PYRAN S is to the non-fire side of the assembly. The 'Low E' coating shall be applied to 'Surface 3' of the assembly only, i.e the inner face of the secondary/non-PYRAN S pane.

Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figures 3 and 4 (see overleaf), when used in conjunction with above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

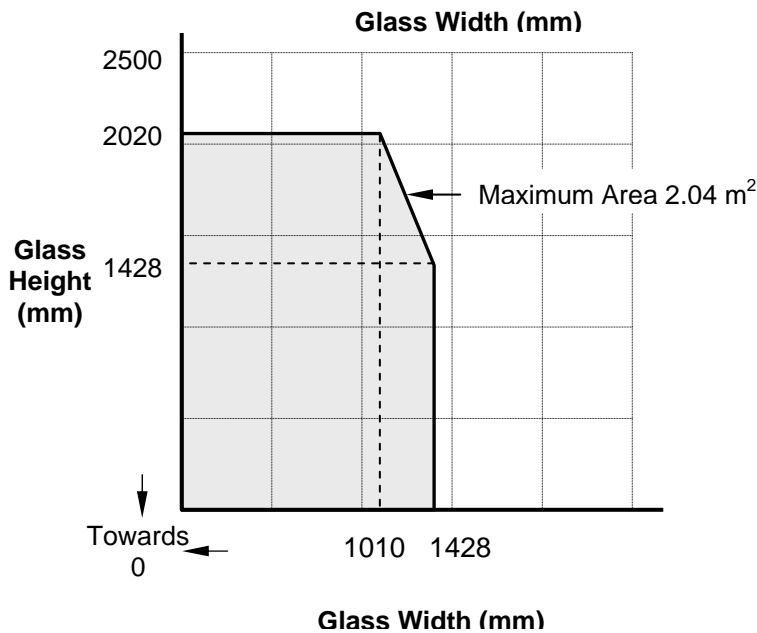
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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass within Double Glazed Units in timber framed screens for periods of 30 and 60 minutes integrity (continued)**



**Figure 3.**  
**Maximum Permitted Pane**  
**Dimensions**  
**30 minutes Integrity**



**Figure 4.**  
**Maximum Permitted Pane**  
**Dimensions**  
**60 minutes Integrity**

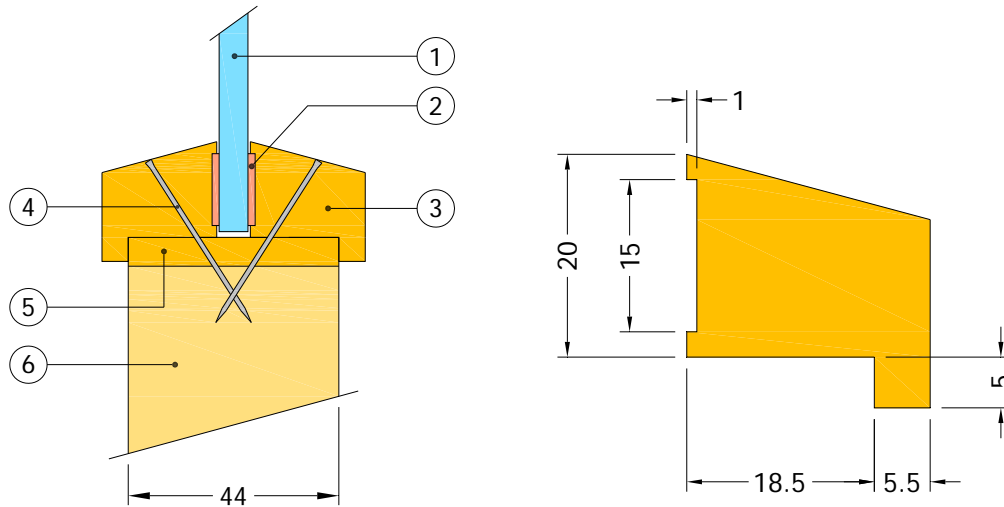
**PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.**

## CERTIFICATE No CF 291 SCHOTT UK LIMITED

### PYRAN S FIRE RESISTING GLASS

#### PYRAN S Glass, including IGU's, in timber door leaves for periods of 30 minutes integrity

The glass shall be glazed utilising the following basic specification:



- 1 6 mm PYRAN S (inc. IGU option<sup>1</sup> - minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass)
- 2 15 mm by 2 mm Pyrostrip 300
- 3 Hardwood glazing beads min. density 550 kg/m<sup>3</sup> (note: compliance with minimum bead size may necessitate thicker door leaf than typical 44 mm thick FD30 doors)
- 4 40 mm long steel pins or screws at 150 mm centres (30° to glass)
- 5 Minimum 6 mm thick hardwood aperture liner (not required on door leaves with a softwood / hardwood timber core of density > 550 kg/m<sup>3</sup>)
- 6 FD30 door leaf

<sup>(1)</sup> Double glazed units comprising laminated glass should not be used where the fire risk side is unknown or where the fire risk is to the PYRAN S side of the assembly.

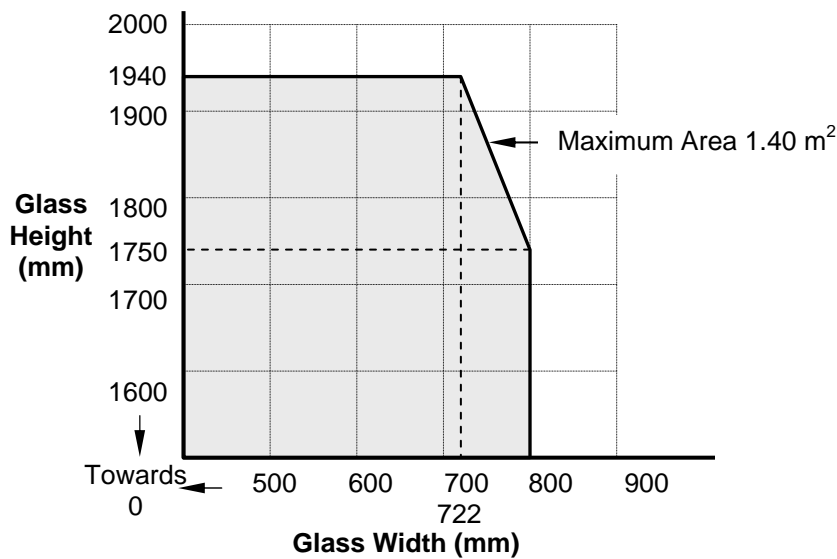


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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass, including IGU's, in timber door leaves for periods of 30 minutes integrity (continued)**

This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figure 5, when used in conjunction with the system detailed within the preceding figures:



**Figure 5.**  
**Maximum Permitted**  
**Pane Dimensions**

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## CERTIFICATE No CF 291

### SCHOTT UK LIMITED

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#### PYRAN S FIRE RESISTING GLASS

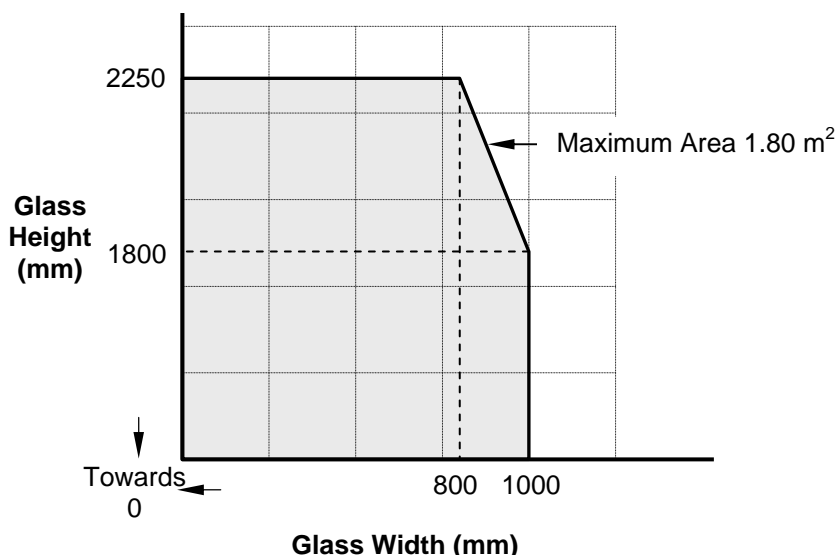
**PYRAN S Glass, including IGU's, in timber door leaves for periods of 30 minutes integrity (continued)**

#### **Alternative Glazing System (for single glazed units only) – Lorient Flexible Figure 1**

When an alternative glazing system is utilised, namely Lorient Figure 1, vision panels of increased dimensions may be approved. The glazing system should follow the following specification (to be read in conjunction with diagram on page 8):

- 1 6 mm PYRAN S
- 2 Lorient Polyproducts Ltd – Flexible Figure 1
- 3 Hardwood glazing beads min. density 650 kg/m<sup>3</sup>, 22 mm by 22 mm
- 4 60 mm long steel pins or screws at 150 mm centres (30° to glass)
- 5 Minimum 6 mm thick hardwood aperture liner (not required on door leaves with a softwood / hardwood timber core of density > 450 kg/m<sup>3</sup>)
- 6 FD30 door leaf

This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figure 5a, when used in conjunction with the system detailed within the preceding figures:



**Figure 5a.  
Maximum Permitted  
Pane Dimensions**

The sizes given in Figure 5a above are based on test evidence using lamincore blanks from Moralt Tischlerplatten GmbH & Co KG.



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#### **PYRAN S FIRE RESISTING GLASS**

#### **PYRAN S Glass in timber door leaves for periods of 30 minutes integrity (continued)**

For this application, in addition to any relevant requirements for timber framed screens above, the following conditions shall apply:

1. The doorset, including door frame and associated building hardware, should have achieved at least 30 minutes integrity 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.
6. The door leaves shall consist of timber faces coupled with timber or other cellulosic cores of minimum overall leaf thickness, 44 mm.
7. When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRAN S 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.
8. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figure 5 and 5a above, when used in conjunction with above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

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## CERTIFICATE No CF 291

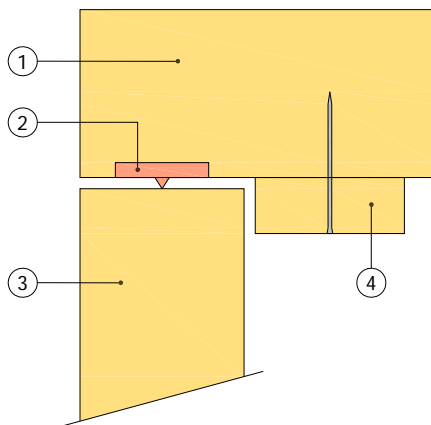
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#### PYRAN S FIRE RESISTING GLASS

**PYRAN S Glass, including IGU's, in 'Firestile' timber doorsets for periods of 30 minutes integrity**

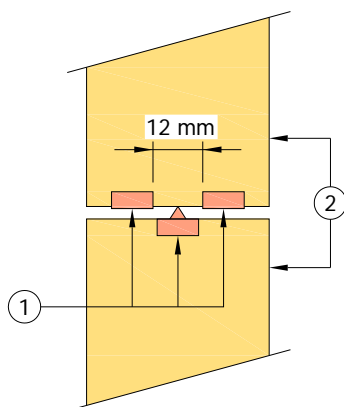
All seals to be produced by Mann McGowan Fabrications Limited.

The doorsets may be single-acting, single or double-leaf and are to be as detailed within the figures below:



**Door Leaf to Frame Detail**

- 1 95 mm by 45 mm timber door frame minimum density 550 kg/m<sup>3</sup> (15 mm deep stop) (note: compliance with minimum timber size may necessitate thicker door leaf)
- 2 Pyrostrip 500 Flexifin intumescent seal, 25 mm by 4 mm within head and 15 mm by 4 mm within jambs
- 3 Minimum 85 mm by 45 mm timber stiles and rails (bottom rail 200 mm minimum). (note: compliance with minimum timber size may necessitate thicker door leaf)
- 4 Door stop, 12 mm deep, minimum density 550 kg/m<sup>3</sup> (pinned, screwed or rebated from solid)



**Meeting Stile Detail**

- 1 Pyrostrip 500 Flexifin intumescent seal 10 mm by 4 mm
- 2 Minimum 85 mm by 45 mm timber stiles and rails (bottom rail 200 mm minimum). Minimum density 550 kg/m<sup>3</sup>

The door leaves may be provided with a mid-rail (or a number of intermediate rails) of minimum dimensions 85 mm by 45 mm and of minimum density 550 kg/m<sup>3</sup>.

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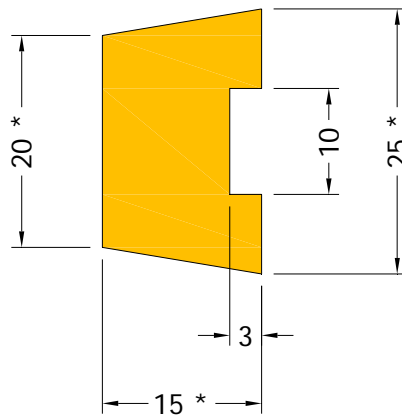
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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass, including IGU's, in 'Firestile' timber doorsets for periods of 30 minutes integrity (continued)**

Decorative glazing beads as detailed below may be applied to the surface of the glass. Such beads are to be chamfered at each end and shall not be mechanically fixed to the perimeter beading.



\* These dimensions may be reduced.

**Note: Decorative beads may be utilised for 60 minute glazing applications**

A single 10 mm wide by 3 mm thick Pyrostrip 100P intumescent seal is to be included within the groove to the back of the bead. Beads are to be secured using double sided tape constructed from a polyester backing with a modified acrylic adhesive.

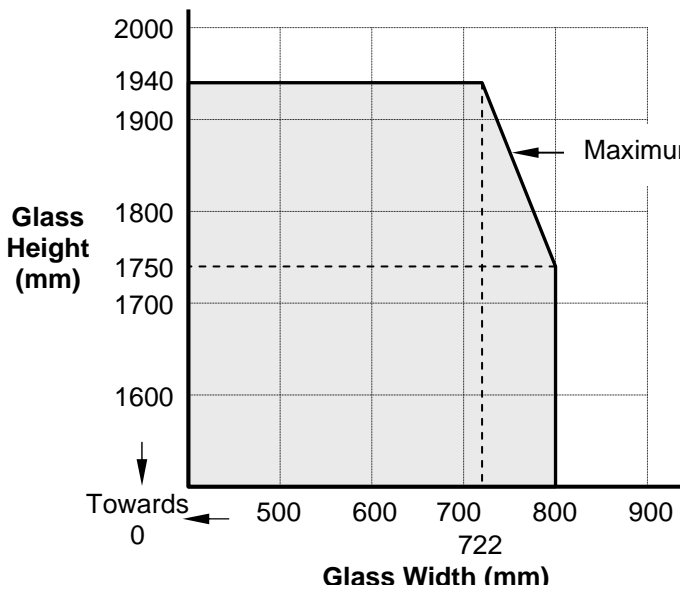
Doors may include a lock/latchset of maximum forend width 25 mm, such that they shall be bypassed via a minimum of 4 mm intumescent either side.

**CERTIFICATE No CF 291**  
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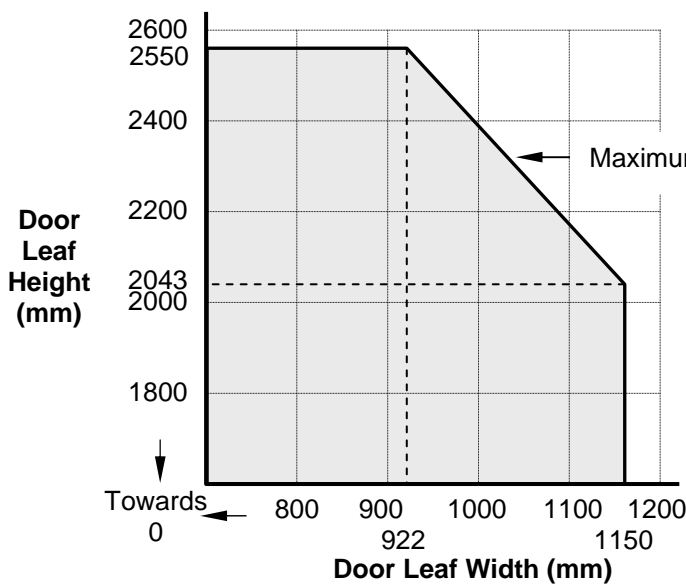
**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass in 'Firestile' timber doorsets for periods of 30 minutes integrity (continued)**

This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figure 6 below, when used in conjunction with the glazing system detailed previously:



**Figure 6.**  
**Maximum Permitted**  
**Pane Dimensions**



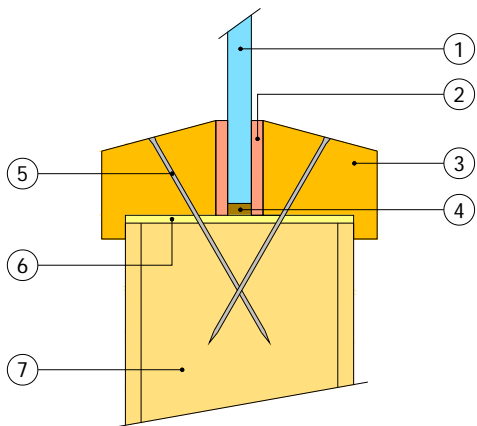
**Figure 7.**  
**Maximum Permitted**  
**Door Leaf Dimensions**

**CERTIFICATE No CF 291**  
**SCHOTT UK LIMITED**

**PYRAN S FIRE RESISTING GLASS**

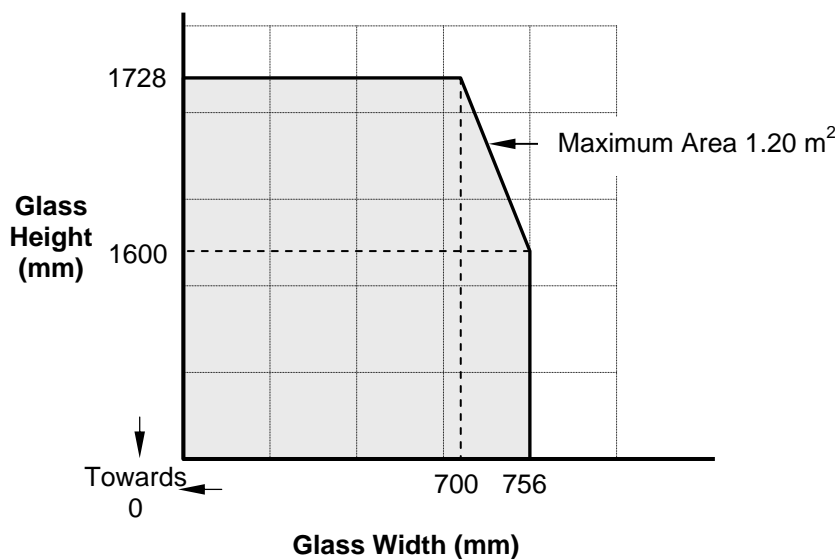
**PYRAN S Glass in timber door leaves for periods of 60 minutes integrity**

The glass shall be glazed utilising the following basic specification:



- 1 6 mm thick PYRAN S glass
- 2 25 mm wide by 3 mm thick Pyroglaze 60 glazing seal
- 3 25 mm high by 29 mm wide with 20° chamfer (plus a 4 mm high by 4 mm wide bolection) hardwood glazing beads, minimum density 640 kg/m<sup>3</sup>
- 4 Non-combustible / hardwood setting blocks
- 5 60 mm long steel pins or screws at 80 mm centres (40° to glass)
- 6 54 mm wide by 2 mm thick Pyrostrip 100 ECSA liner aperture liner
- 7 Nominally 54 mm thick FD60 door leaf

This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figure 8, when used in conjunction with the system detailed within the preceding figures:



**Figure 8.**  
**Maximum Permitted**  
**Pane Dimensions**



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## CERTIFICATE No CF 291 SCHOTT UK LIMITED

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### **PYRAN S FIRE RESISTING GLASS**

#### **PYRAN S Glass in timber door leaves for periods of 60 minutes integrity (continued)**

For this application, in addition to any relevant requirements for timber framed screens above, the following conditions shall apply:

1. The doorset, including door frame and associated building hardware, should have achieved at least 60 minutes integrity 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.
6. The door leaves shall consist of timber faces coupled with timber or other cellulosic cores of minimum overall leaf thickness, 54 mm.
7. When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRAN S 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.
8. Other CERTIFIRE approved glazing seals may be acceptable subject to the limitations within the relevant certificate. This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figure 8 above, when used in conjunction with above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

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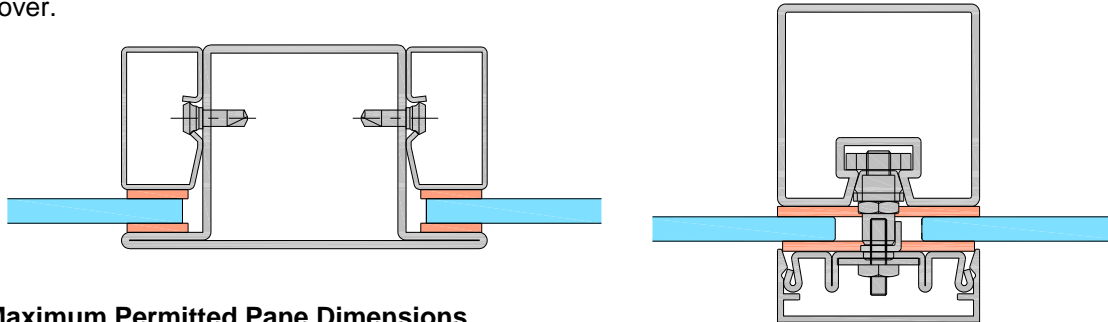
## CERTIFICATE No CF 291 SCHOTT UK LIMITED

### PYRAN S FIRE RESISTING GLASS

#### PYRAN S Glass in steel framed screens for periods of 30, 60, 90 and 120 minutes integrity

The screens shall be no greater than 4000 mm high unless suitable tie backs and/or fire protected structural supports are provided.

The glass shall be installed into a previously tested framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads, see examples below. The glass shall be glazed into the screen with ceramic fibre gasket on both faces and set on setting blocks which comprise calcium silicate material to determine the correct edge cover.



#### Maximum Permitted Pane Dimensions

This Certificate of Approval relates to the sizes of PYRAN S glass shown in the Table below, when used in conjunction with above systems:

Glass	Thickness (mm)	Fire Resistance (mins)	Maximum Height (mm)	Maximum Width (mm)	Maximum Area (m <sup>2</sup> )
PYRAN S	6, 8	30	3180	3180	5.96
PYRAN S	8	30	4500	2250	8.10
PYRAN S	10, 12	30	3438	3438	6.26
PYRAN S	10, 12	30	4500	2250	8.10
PYRAN S	6, 8, 10, 12	60	2875	2875	4.08
PYRAN S	6, 8, 10, 12	60	3250	1766	3.12
PYRAN S	6, 8, 10, 12	90	2875	2576	4.03
PYRAN S	6, 8, 10, 12	120	2520	1878	3.53

**Note: maximum area will in some cases limit maximum linear dimensions in height or width**

*PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.*

**CERTIFICATE No CF 291**  
**SCHOTT UK LIMITED**

**PYRAN S FIRE RESISTING GLASS**

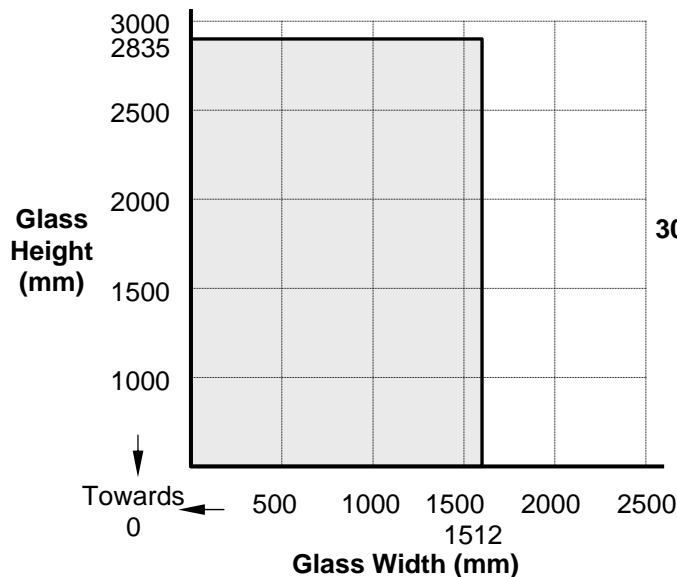
**PYRAN S Glass in steel door leaves for periods of 30, 60, 90 and 120 minutes integrity**

For this application, in addition to any relevant requirements for steel framed screens given previously, the following conditions shall apply:

1. The doorset, including door frame and associated building hardware, should have achieved at least 30, 60, 90 or 120 minutes integrity (as relevant) 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.

**Maximum Permitted Pane Dimensions**

This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figures 9 to 11 below, when used in conjunction with above systems:

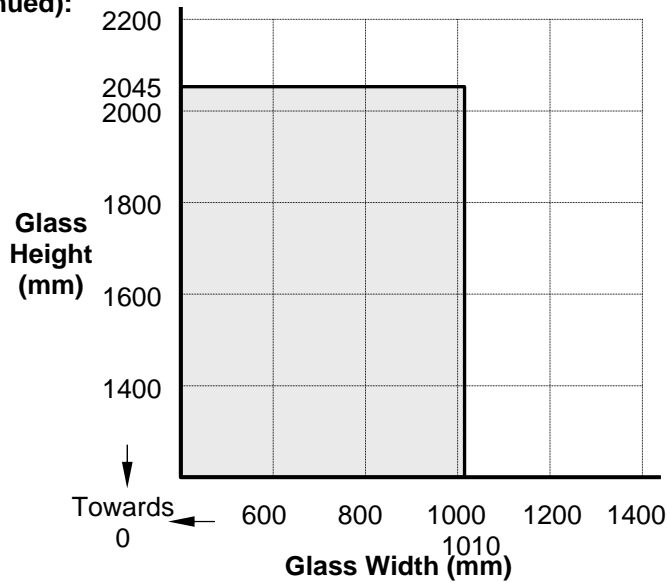


**Figure 9.**  
**30 mins Integrity – 6, 8, 10, 12 & 15 mm**  
**(single glazed)**

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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass in steel door leaves for periods of 30, 60, 90 and 120 minutes integrity (continued):**

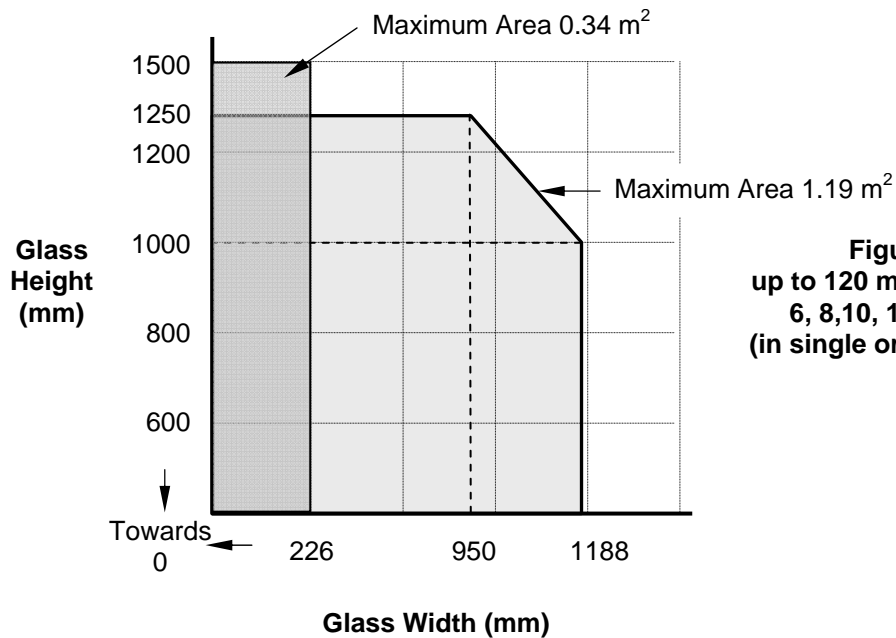


**Figure 10.**  
**60 mins Integrity – 6, 8,10,**  
**12 & 15 mm**  
**(single glazed)**

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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass in steel door leaves for periods of 30, 60, 90 and 120 minutes integrity (continued):**



**Figure 11.**  
**up to 120 mins Integrity –**  
**6, 8, 10, 12 & 15 mm**  
**(in single or IGU variants)**

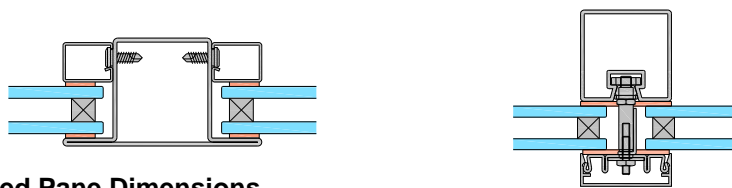
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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass within Double Glazed Units in steel framed screens for periods of 30, 60 and 90 minutes integrity**

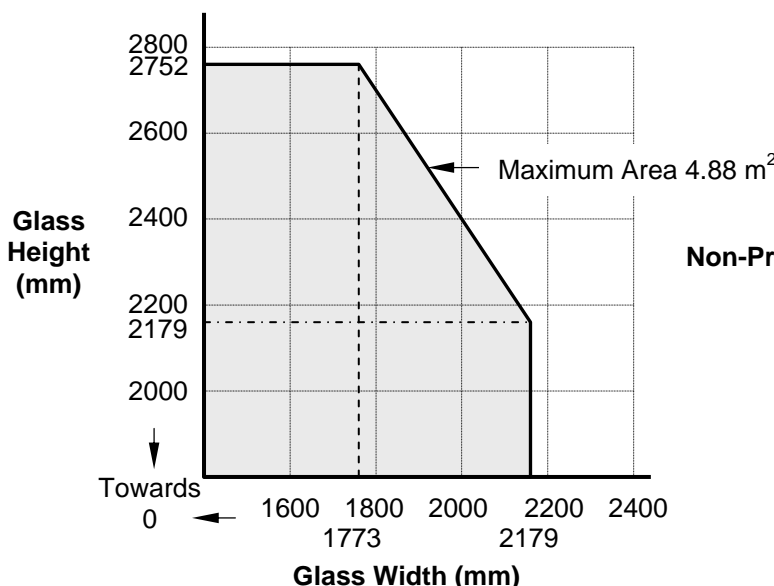
The screens shall be no greater than 4000 mm high unless suitable tie backs and/or fire protected structural supports are provided.

The glass shall be installed into a previously tested framing system (which is covered appropriately by test or assessment evidence) using screw-fixed or clip-on retaining beads. Pressure glazed systems will allow larger pane sizes than non-pressure glazed screens. See Figures 13 and 15 for the largest sizes. Systems that are able to provide positive pressure to the glass edge via mechanical restraint for the duration of the fire test are considered "pressure glazed". The glass shall be glazed into the screen with ceramic fibre gasket on both faces and set on setting blocks, which comprise calcium silicate material to determine the correct edge cover. Examples of framing systems are shown below.



**Maximum Permitted Pane Dimensions**

This Certificate of Approval relates to the sizes of PYRAN S glass shown in Figures 12 to 15, when used in conjunction with above systems:



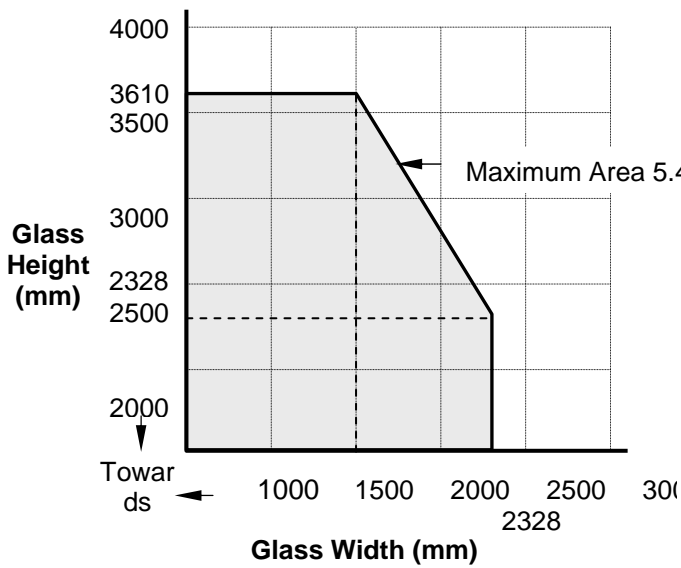
**Figure 12.**  
**Non-Pressure Glazed Steel Frames**  
**30 minutes Integrity**

**PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.**

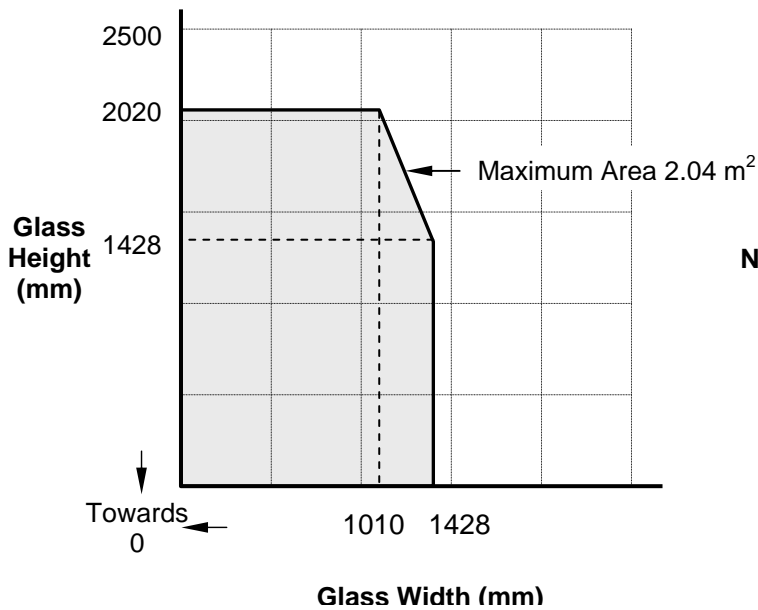
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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass within Double Glazed Units in steel framed screens for periods of 30, 60 and 90 minutes integrity**



**Figure 13.**  
**Pressure Glazed Steel Frames**  
**30 minutes Integrity**



**Figure 14.**  
**Non-Pressure Glazed Steel Frames**  
**60 minutes Integrity**

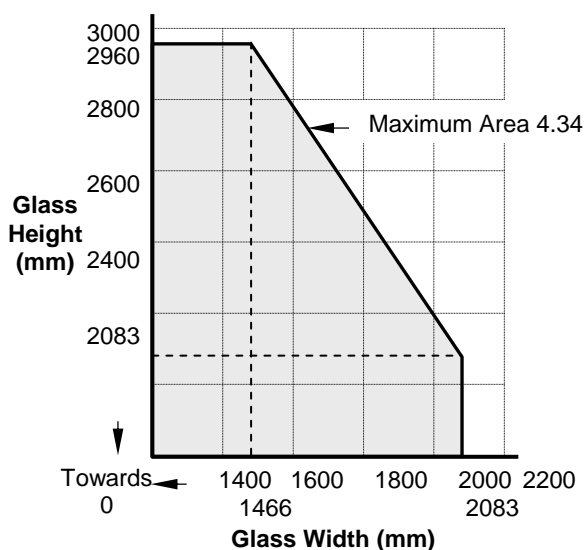
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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass within Double Glazed Units in steel framed screens for periods of 30, 60 and 90 minutes integrity**



**Figure 15.**  
**Pressure Glazed Steel Frames**  
**60 & 90 minutes Integrity**

- (1) Double glazed units comprising laminated glass should not be used where the fire risk side is unknown or where the fire risk is to the PYRAN S side of the assembly.
- (2) 'Low E' coatings may only be utilised within units where the PYRAN S is to the non-fire side of the assembly. The 'Low E' coating shall be applied to 'Surface 3' of the assembly only, i.e the inner face of the secondary/non-PYRAN S pane.

***PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.***

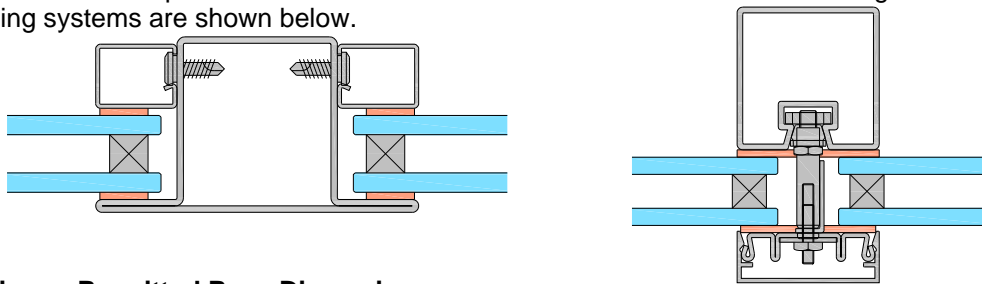
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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S Glass within Double Glazed Units comprising venetian blinds in steel framed screens for periods of 30 minutes integrity**

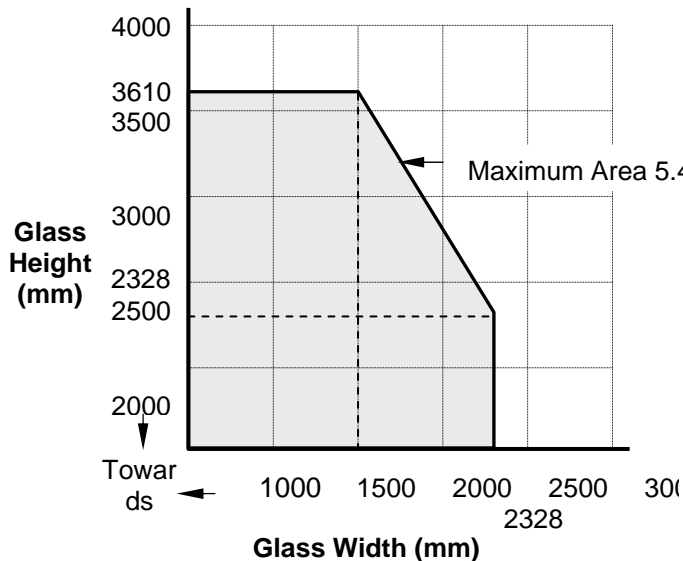
The screens shall be no greater than 4000 mm high unless suitable intermediate supports and/or fire protected structural supports are provided.

The double glazed units shall comprise two panes of 6, 8, 10, 12 or 15 mm thick PYRAN S glass and include a centrally located venetian blind. Alternatively, one pane of PYRAN S may be used providing it faces the non-fire risk side. They shall be installed into a previously tested framing system (which is covered appropriately by test or assessment evidence) using screw-fixed or clip-on retaining beads. The glass shall be glazed into the screen with ceramic fibre gasket on both faces and set on setting blocks which comprise calcium silicate material to determine the correct edge cover. Examples of framing systems are shown below.



**Maximum Permitted Pane Dimensions**

This Certificate of Approval relates to the sizes of PYRAN S double glazed units shown in Figure 16, when used in conjunction with above systems:



**Figure 16.**  
**Maximum Permitted**  
**Pane Dimensions**

**PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.**



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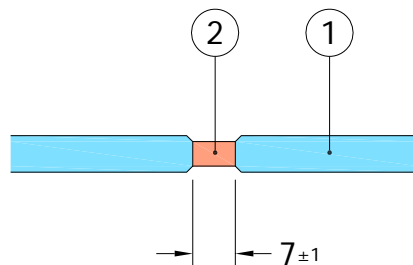
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**PYRAN S FIRE RESISTING GLASS**

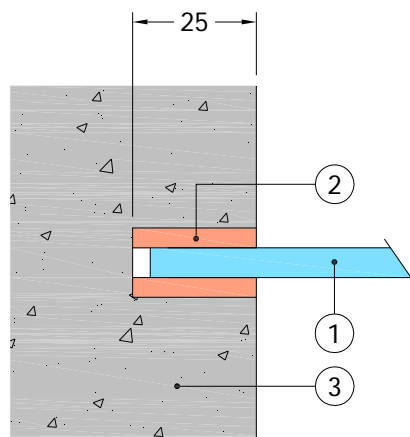
**PYRAN S within Butt-Jointed Assemblies for periods of 30 minutes integrity**

The perimeter of the system is to comprise a framing assembly of steel, concrete, stone or timber as previously detailed within this data sheet, see page 4 (timber frames) and page 17 (steel frames). Fireglaze Compound is produced and supplied by Sealmaster Limited.



- 1 PYRAN S
- 2 Fireglaze compound

**Butt-Joint Glazing Details**



- 1 PYRAN S
- 2 Fireglaze compound
- 3 Supporting concrete/stone wall

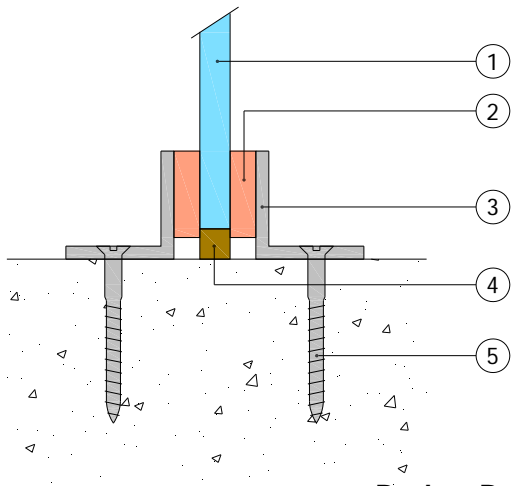
**Alternative Perimeter Detail**

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**PYRAN S FIRE RESISTING GLASS**

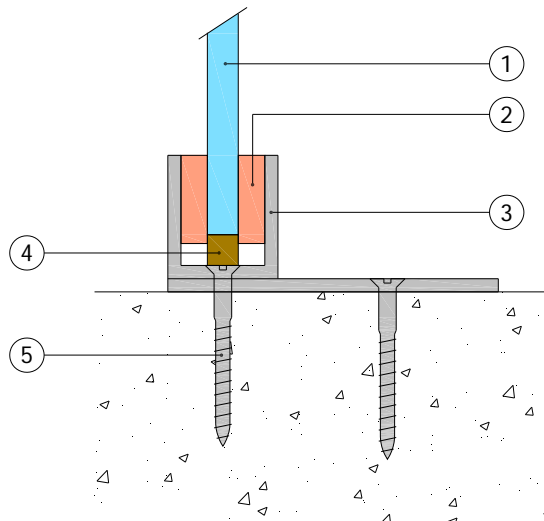
**PYRAN S within Butt-Jointed Assemblies (Alternative Installation details) for periods of 30 minutes integrity**

6, 8, 10, 12 and 15 mm thick PYRAN S may be used within butt-jointed assemblies up to maximum pane dimensions as detailed within Figure 17 and within the following installation specifications.



- 1 PYRAN S
- 2 20 mm by 6 mm ceramic fibre tape
- 3 25 mm by 25 mm by 3 mm thick mild steel angle
- 4 Non-combustible packer / setting block
- 5 Minimum 50 mm long steel screws fixings at 250 mm centres

**Back to Back Steel Angle Detail**



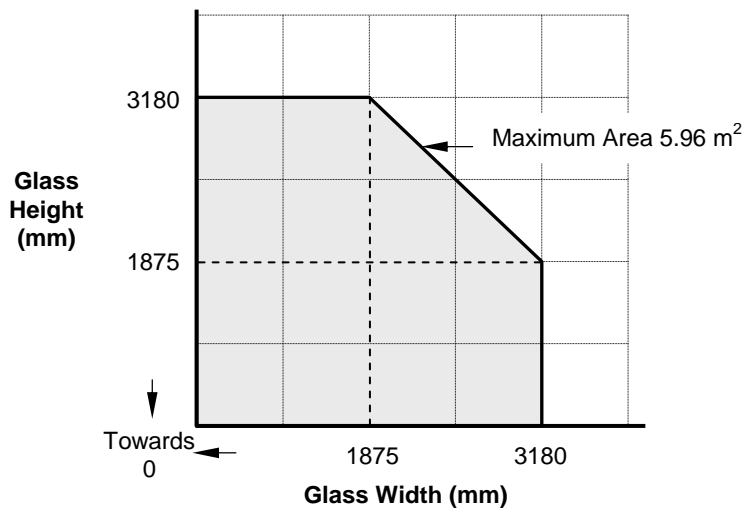
- 1 PYRAN S
- 2 20 mm by 6 mm ceramic fibre tape
- 3 Mild steel angle forming 30 mm deep glazing pocket
- 4 Non-combustible packer / setting block
- 5 Minimum 50 mm long steel screws fixings at 250 mm centres

**Channel Detail**

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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S within Butt-Jointed Assemblies for periods of 30 minutes integrity**



**Figure 17.**  
**Maximum Permitted**  
**Pane Dimensions**

When installed in butt jointed form the recommended height and thickness for PYRAN S glass will vary depending on loads applied eg wind load, barrier load, etc. Please check with the SCHOTT Technical Department for the correct specification.

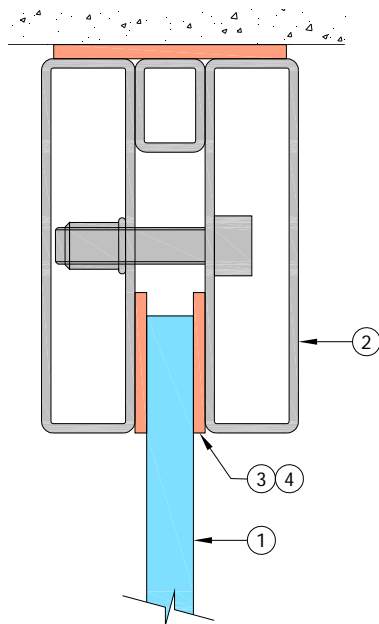
***PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.***

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**PYRAN S FIRE RESISTING GLASS**

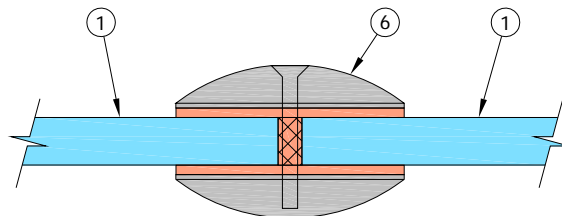
**PYRAN S within Butt-Jointed Assemblies for periods of 60 minutes integrity**

The perimeter of the system is to comprise a previously tested framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads (figure below is an example only). The glass shall be glazed into the screen with ceramic fibre gasket on both faces and set on setting blocks which comprise calcium silicate material to determine the correct edge cover.

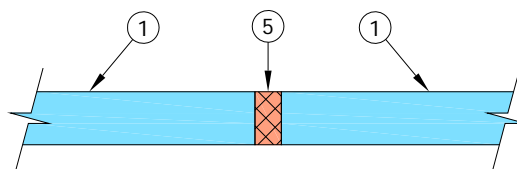


**Perimeter Detail**

- 1 10/12/15 mm thick PYRAN S
- 2 Steel frame
- 3 Kerafix Flexlit tape, 30 mm wide by 5 mm thick (head only)
- 4 Ceramic fibre based glazing tape (vertical and bottom edges) 20 mm wide by 5 mm thick
- 5 Gluske Kerafix Putty (thickness of glass x 5 mm wide)
- 6 Stainless steel E60 butt-joint 'button'



**Butt-Joint Glazing Details (at button joint position)**



**Butt-Joint Glazing Details**

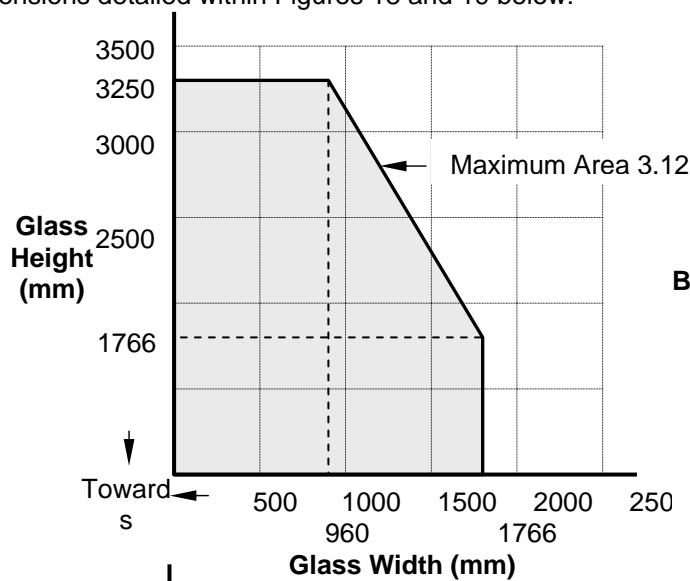
**CERTIFICATE No CF 291**  
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**PYRAN S FIRE RESISTING GLASS**

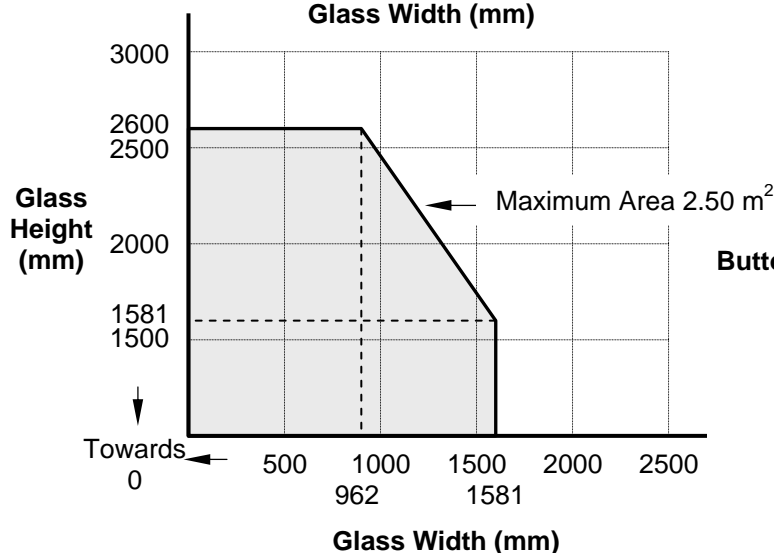
**PYRAN S within Butt-Jointed Assemblies for periods of 60 minutes integrity (continued)**

**Maximum Permitted Pane Dimensions**

10, 12 and 15 mm thick PYRAN S may be used within butt-jointed assemblies up to the maximum dimensions detailed within Figures 18 and 19 below:



**Figure 18.**  
**Buttons at maximum 650 mm centres**



**Figure 19.**  
**Buttons at maximum 812.5 mm centres**

***PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.***

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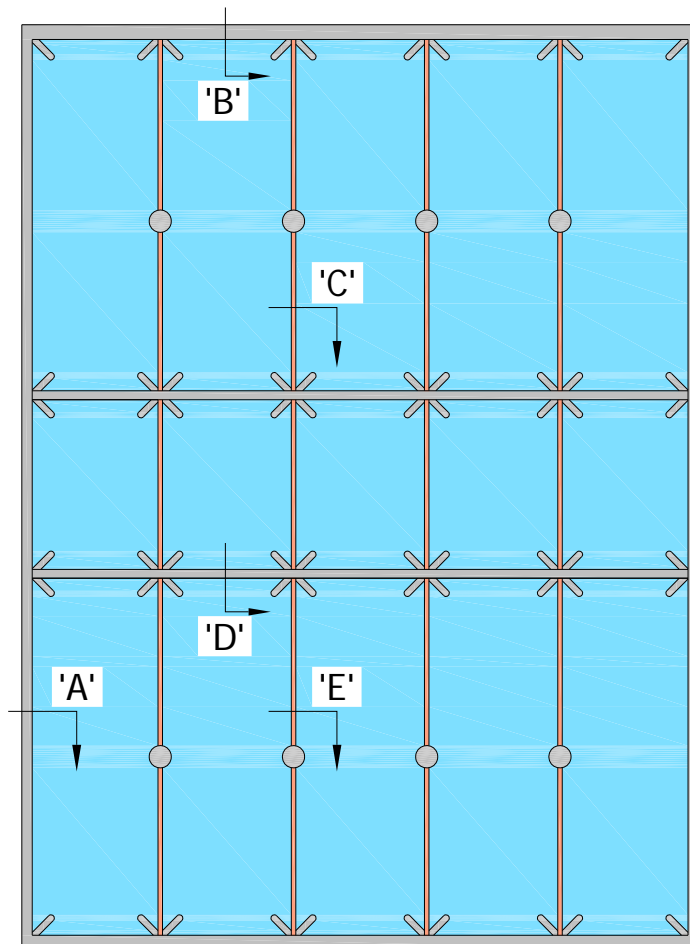
**PYRAN S FIRE RESISTING GLASS**

**PYRAN S within 'Structural Glazing' system for periods of 30 minutes integrity**

The glazing system comprises steel "T" profiles (60 x 90 x 8mm) with mounting plates top and bottom, fixed via M10 x 35 mm long bolts, to the supporting construction. Steel angles or channels, 2 mm thick, are utilised at the perimeter of the assembly to form glazing pockets, 35 mm deep x 14 mm wide at sides and base, 50 mm deep x 14 mm wide at the head, into which the PYRAN S is located. Each glass pane is fixed to the support structure via M12 point support fixings\*.

\* Four point fixings for panes < 2.45 m<sup>2</sup> height: width ratio not to exceed 1.11:1

\* Six point fixings for panes > 2.45 m<sup>2</sup>

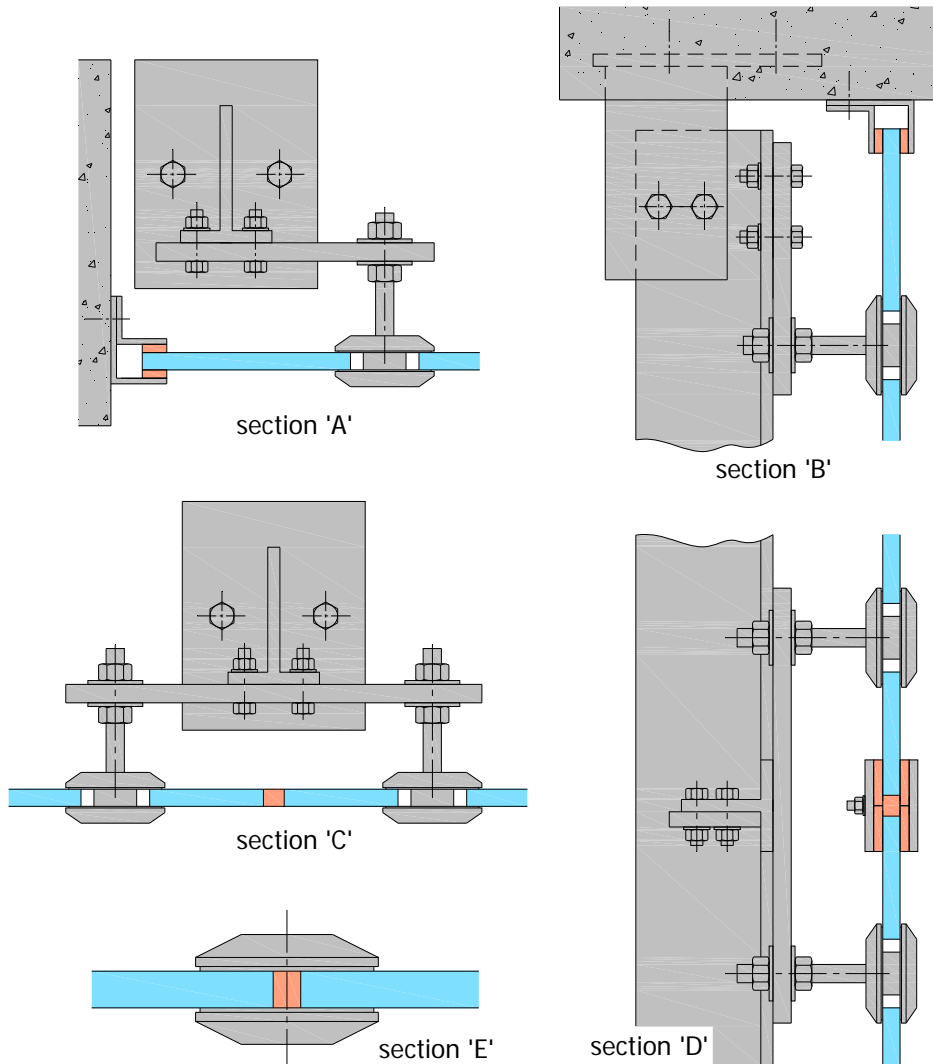


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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S within 'Structural Glazing' system for periods of 30 minutes integrity (continued)**

Horizontal and vertical glass-to-glass joint widths are nominally 6 mm. Steel strips nominally 30 mm wide x 2 mm thick are to be used on all horizontal joints. Joint stabilisers, 38 mm in diameter, are to be employed to all vertical joints at no greater than 946 mm centres.

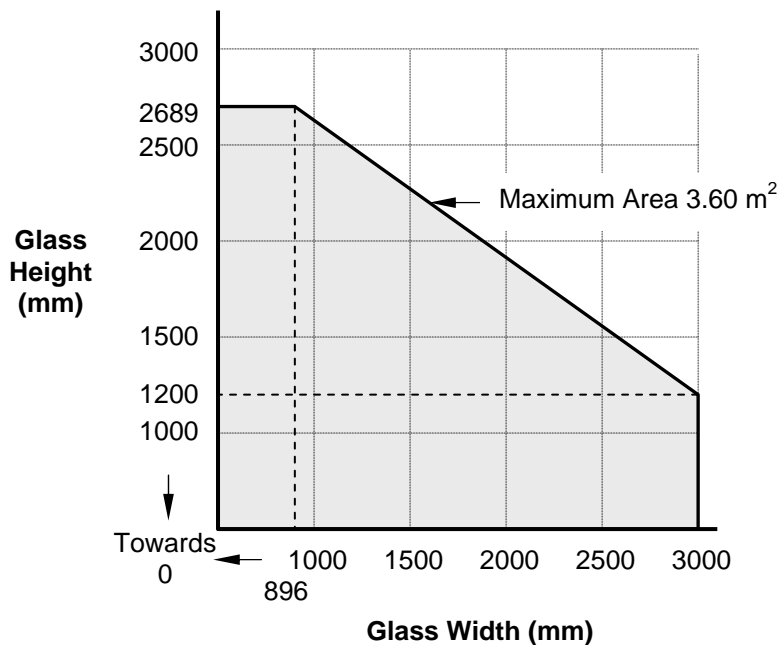


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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S within 'Structural Glazing' system for periods of 30 minutes integrity**

Only 8, 10, 12 & 15 mm thick PYRAN S may be used in conjunction with the above detailed assemblies at the maximum dimensions detailed within Figure 20 below. Any number of panes may be used vertically or horizontally. However, tie-backs to the main structure are required every 4000 mm high. Width of assembly is unlimited.



**Figure 20.**  
**Maximum Permitted**  
**Pane Dimensions**  
**(8, 10, 12 & 15 mm thick)**

***PYRAN S glass at thicknesses of 6, 8, 10, 12 and 15 mm is currently available up to a standard size of 3000 mm by 1600 mm. Larger sizes of 8, 10, 12 and 15 mm PYRAN S are available on application to SCHOTT UK Ltd.***

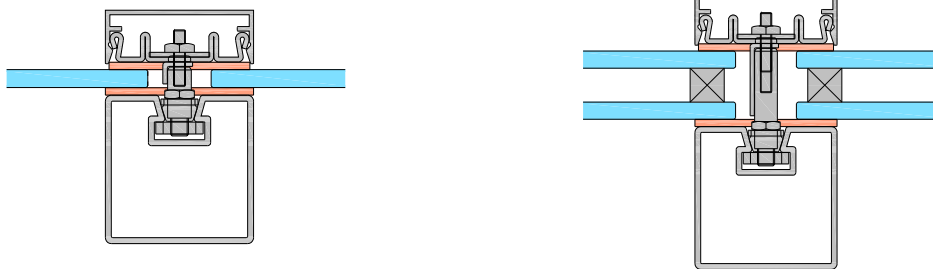


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**PYRAN S FIRE RESISTING GLASS**

**PYRAN S, including double glazed units, horizontally orientated (or inclined) steel framed screens for periods of 30 minutes integrity (for non-loadbearing applications only)**

The glass shall be glazed within a Jansen VISS pressure glazed steel framing system. Glass may be single or double glazed. Double glazed units should comprise a 8 mm thick laminated float glass (exposed/underside), an 8 mm air gap and 6 mm PYRAN S glass on the unexposed/top face.



Pane dimensions for horizontal or inclined glazing (with an inclination angle of 0° - 90°) are as follows:

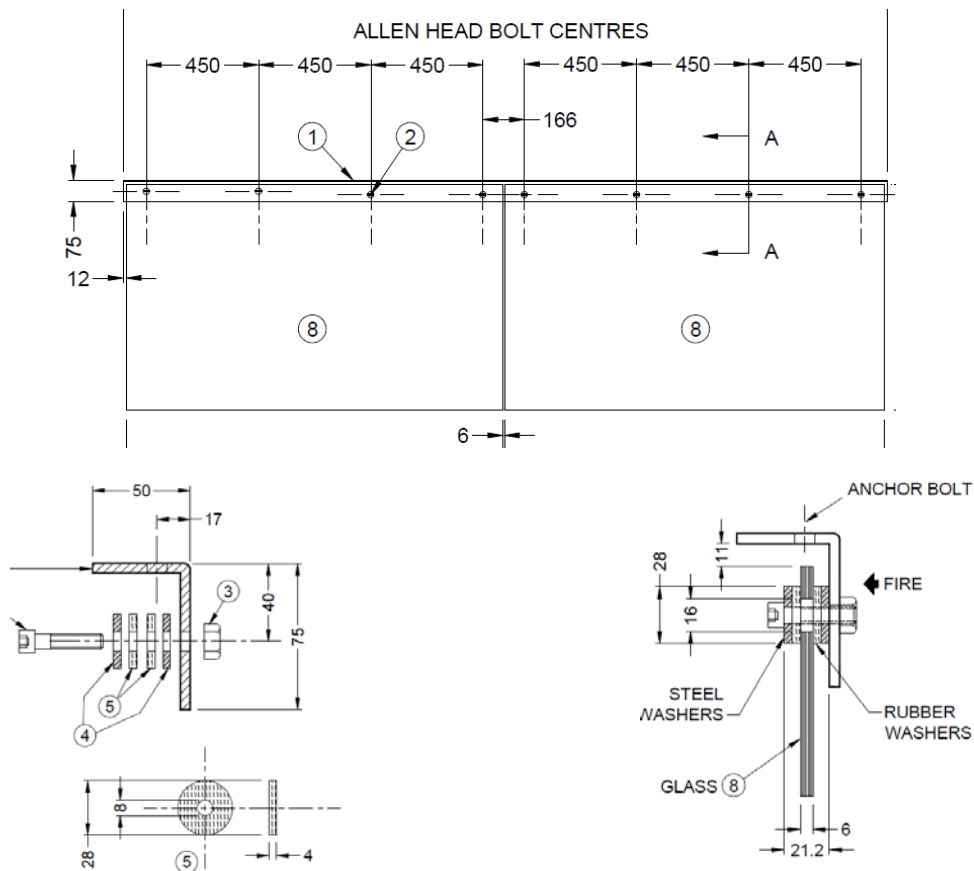
Glass	Thickness (mm)	Fire Resistance (mins)	Maximum Length (mm)	Maximum Width (mm)	Maximum Area (m <sup>2</sup> )
PYRAN S	6 mm (min.)	30	2750	1562	3.44

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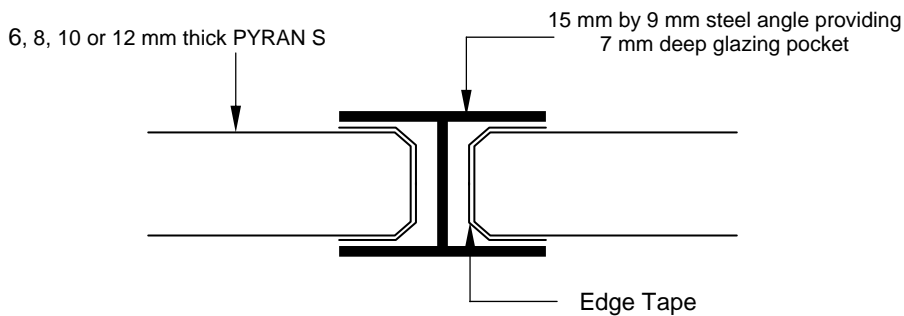
**PYRAN S FIRE RESISTING GLASS**

**PYRAN S for use in smoke screens to BS7346: Part 3: 1990 for a period of up to 60 minutes**

The glass shall be glazed utilising the following basic specification (see report WFRC No. C126363 for details and alternatives):



**Hanging Details**



**Glass Interface Detail**



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#### PYRAN S FIRE RESISTING GLASS

**PYRAN S for use in smoke screens to BS7346: Part 3: 1990 for a period of up to 60 minutes**

6, 8, 10, 12 and 15 mm thick PYRAN S may be used within smoke screen assemblies up to the maximum pane dimensions detailed within the table below:

Glass	Thickness (mm)	Performance to BS7346: Part 3: 1990 (mins)	Maximum Height (mm)	Maximum Width (mm)	Maximum Area (m <sup>2</sup> )
PYRAN S	6 mm (min.)	up to 60	1600	3000	3.2

- Smoke screens may be provided at unlimited lengths
- Supporting components and glass joint sections may be from mild or stainless steel