
CERTIFICATE OF APPROVAL

No CF 862

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:

CERTIFIED PRODUCT
PYRANOVA® S3

TECHNICAL SCHEDULE
TS 25 Fire Resistant Glass,
Glazing Systems and Materials
Fire Resisting Glass

**Signed and sealed for and on behalf of Exova (UK) Limited trading as
Warrington Certification**



Paul Duggan
Certification Manager



Issued: 8th May 2012
Reissued: 22nd March 2018
Valid to: 21st March 2023

Page 1 of 44



CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® S3.0.7/S3.1.10/S3.1.14/S3.0/3.1 Fire Resisting Glass

This Certificate of Approval relates to the fire resistance of SCHOTT UK Limited 'PYRANOVA® S3.0.7/S3.0/3.1' laminated glass products when used in the following applications, as defined in BS EN 1364-1: 1999 subject to the undermentioned conditions.

Glass Specification	Application	Fire Resistance Performance (mins)		Page No.
		Integrity	Insulation	
PYRANOVA® S3.0.7	Timber based door leaves	30	0	6
PYRANOVA® S3.0.7	Timber framed fixed lights	30	0	7
PYRANOVA® S3.0.7	Steel based door leaves	30	0	8
PYRANOVA® S3.0.7	Steel framed fixed lights	30	0	9
PYRANOVA® S3.1.10 and S3.1.14	Timber based door leaves (inc. IGU's)	30	0	10
PYRANOVA® S3.1.10 and S3.1.14	Timber framed screens(inc. IGU's)	30	0	11
PYRANOVA® S3.1.10 and S3.1.14	Steel based door leaves (inc. IGU's)	30	0	12
PYRANOVA® S3.1.10 and S3.1.14	Steel framed screens(inc. IGU's)	30	0	13
PYRANOVA® S3.1.10 and S3.1.14	Aluminium door leaves & screens (inc.IGU's)	30	0	14
PYRANOVA® 30 S3.0/3.1	Timber based door leaves	30	30	15
PYRANOVA® 30 S3.0/3.1	Timber framed screens	30	30	16
PYRANOVA® 30 S3.0/3.1	Steel based door leaves (inc. IGU's)	30	30	17
PYRANOVA® 30 S3.0/3.1	Steel framed screens	30	30	18
PYRANOVA® 30-S3.0/3.1	IGU's in timber framed screens	30	30	19
PYRANOVA® 30 S3.0/3.1	IGU's in steel framed screens	30	30	20
PYRANOVA® 30 S3.0/3.1	Butt-Jointed in timber screens	30	30	21
PYRANOVA® 30 S3.0/3.1	Butt-Jointed in steel screens	30	30	22
PYRANOVA® 30 S3.0/3.1	Timber based door leaves (inc. IGU's)	60	30	23
PYRANOVA® 30 S3.0/3.1	Timber framed screens (inc. IGU's)	60	30	24
PYRANOVA® 30 S3.0/3.1	Steel based door leaves (inc. IGU's)	60	30	25
PYRANOVA® 30 S3.0/3.1	Steel framed screens (inc. IGU's)	60	30	26
PYRANOVA® 60 S3.0/3.1	Timber based door leaves	60	60	27
PYRANOVA® 60 S3.0/3.1	Timber framed screens	60	60	29
PYRANOVA® 30 S3.0/3.1	Steel based door leaves	60	60	30
PYRANOVA® 60 S3.0/3.1	Steel framed screens	60	60	31
PYRANOVA® 60-S3.0/3.1	Double IGU's in timber framed screens	60	60	32
PYRANOVA® 60-S3.0/3.1	Triple IGU's in timber framed screens	60	60	33
PYRANOVA® 60 S3.0/3.1	IGU's in steel framed screens	60	60	34
PYRANOVA® 60 S3.0/3.1	Butt-Jointed in timber screens	60	60	35
PYRANOVA® 60 S3.0/3.1	Butt-Jointed in steel screens	60	60	37
PYRANOVA® 60 S3.0/3.1	Horizontal Steel framed loadbearing floor	60	60	38
PYRANOVA® 90 S3.0/3.1	Steel framed screens (inc. IGU's)	90	90	39
PYRANOVA® 90 S3.0/3.1	Steel based door leaves	90	90	40
PYRANOVA® 90 S3.0/3.1	Timber framed screens (inc. IGU's)	90	90	41
PYRANOVA® 90 S3.0/3.1	Butt-Jointed in timber screens	90	90	42
PYRANOVA® 120 S3.0/3.1	Steel framed screens	120	120	43
PYRANOVA® 120 S3.0/3.1	Horizontal Steel framed loadbearing floor	120	120	44

CERTIFICATE No CF 862

SCHOTT UK LIMITED

This product is approved on the basis of:

- a) Initial type testing
- b) A design appraisal against TS25
- c) Certification of quality management system to BS EN ISO 9001: 2008
- d) Inspection and surveillance of factory production control
- e) Audit Testing in accordance with TS25

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. Orientation may, however, be restricted by the requirements of a non-symmetrical framing system or certain insulating glass unit specifications. The edge cover to each pane shall be no less than 12 mm minimum in all systems that utilise frames.

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® S3.0.7/S3.1.10/S3.1.14/S3.0/3.1 Fire Resisting Glass

The glass is approved in the following nominal thicknesses:

Glass Specification	Application	Fire Resistance Performance (mins)	
		Integrity	Insulation
PYRANOVA® S3.0.7	7 mm thick (internal)	30	0
PYRANOVA® S3.1.10	10 mm thick (external)	30	0
PYRANOVA® S3.1.14	14 mm thick (external)	30	0
PYRANOVA® 30 S3.0	15 mm thick (internal)	60	30
PYRANOVA® 30 S3.1	18 mm thick (external)	60	30
PYRANOVA® 60 S3.0	23 mm thick (internal)	60	60
PYRANOVA® 60 S3.1	27 mm thick (external)	60	60
PYRANOVA® 90 S3.0	37 mm thick (internal)	90	90
PYRANOVA® 90 S3.1	40 mm thick (external)	90	90
PYRANOVA® 120 S3.0	52 mm thick (internal)	120	120
PYRANOVA® 120 S3.1	56 mm thick (external)	120	120

Maximum Cut Size of PYRANOVA®

The range of PYRANOVA® glasses is currently available up to a maximum size of 2900 mm by 1900 mm. Please consult our UK stockists for details of the maximum cut sizes available. The maximum available size will also vary depending on fire rating and therefore these dimensions should be used for guidance only. Please check with the SCHOTT Technical Department.

Silk Screening and Sand-Blasting

The PYRANOVA® glass may be provided with silk screen printing with any colour from the 'RAL' range to either face within both single and insulating glass unit systems. The printing may account for any area of the glass.

Similarly, sand-blasting may be included to either face of the glass. The sand-blasting may account for any area of the glass.

Additionally, sheets of plain, patterned, textured or coloured glass may be laminated to the base product. A silk sheet material may be included within the extra laminate/interlayer.

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® S3.0.7/S3.1.10/S3.1.14/S3.0/3.1 Fire Resisting Glass

Alternatively, patterned, textured or coloured glass may be substituted for one of the 3 mm annealed float elements in the base product.

Timber Glazing Bars

All systems may include decorative self adhesive plant on timber beads to simulate transoms/mullions. There is no restriction in size/shape of the plant on timber beads.

Self Adhesive Films

Self adhesive films/foils may be applied to either glass surface.

Laminated PYRANOVA®

Additional glass from 6 to 19 mm thickness may be laminated to any thickness of PYRANOVA® glass using interlayers and resins from 0.38mm to 3 mm thickness.

PYRANOVA®, when laminated as described above, may be used in any timber or steel framed assemblies covered by this certificate but subject to a maximum pane size of 6.0 m².

Other Glass Combinations

PYRANOVA® glass products detailed in this Certificate are also suitable for use either in combination with or laminated to SmartGlass and/or X Ray glass and may be used as one or more panes of a fire tested Insulating Glass Unit construction.

The OKALUX range of IGU's may be upgraded to fire rated IGU's with the addition of PYRANOVA® S3.0/3.1 replacing one of the inner or outer panes of the OKALUX IGU.

Thinner versions of PYRANOVA® may be substituted with thicker versions to attain the same, or greater, level of fire performance but not reduced in thickness. For example, 15 mm thick PYRANOVA® may be substituted with 23 mm thick PYRANOVA®.

Butt Jointed Systems

The PYRANOVA® glass panes used in butt jointed systems may be substituted with thicker panes without compromising either the fire resistance performance, the maximum permitted glass dimensions or the butt joint specifications.

Hidden Frame Installation Option

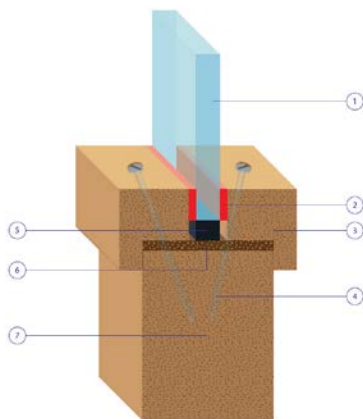
Steel angles of minimum dimension 25 x 25 x 3mm thick may be used to support PYRANOVA 30 as perimeter glazing provided the sections are fire protected by an insulated board/protective covering to prevent insulation failure

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® S3.0.7 Glass in timber door leaves for periods of 30 minutes integrity

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



- 1 PYRANOVA® S3.0.7 - 7mm glass
- 2 Lorient System 36/6 channel
- 3 Hardwood glazing beads 20 mm high by 22 mm wide (minimum) including 9 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 640 kg/m³
- 4 45 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 12 x 6mm packer at base
- 6 Minimum 6 mm thick hardwood aperture liner (not required on door leaves with a softwood / hardwood timber core of density > 550 kg/m³)
- 7 FD30 door leaf

- The doorset, including door frame and associated building hardware, should have achieved at least 30 minutes integrity (and up to 30 minutes 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 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 minimum overall leaf thickness, 44 mm.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRANOVA® 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. This Certificate of Approval relates to the sizes of PYRANOVA® glass shown in Table 1, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

This Certificate of Approval relates to the sizes of PYRANOVA® S3.0.7 glass shown in Table 1 below, when used in conjunction with the system detailed within the preceding figures:

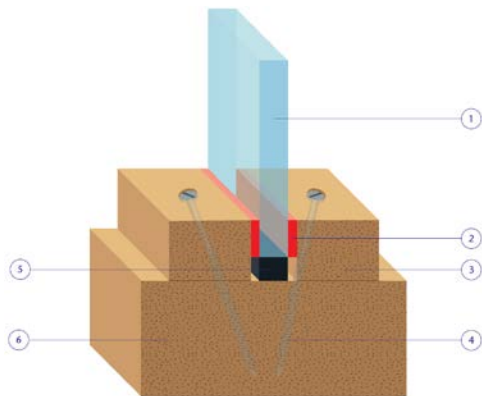
Table 1

Maximum Height	Maximum Width	Maximum Area
1875mm high (at 500mm wide)	625mm wide (at 1500mm high)	0.94m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® S3.0.7 Glass in timber framed fixed lights for periods of 30 minutes integrity

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® S3.0.7 - 7mm glass
- 2 Lorient System 36/6 channel
- 3 Hardwood glazing beads 20 mm high by 22 mm wide (minimum) including 9 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 640 kg/m³
- 4 45 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 12 x 6mm packer at base
- 6 75 mm by 40 mm (minimum) softwood framing sections, minimum density 420 kg/m³

This Certificate of Approval relates to the sizes of PYRANOVA® S3.0.7 glass shown in Table 2 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions. **This system shall only be used for single fixed lights, i.e transoms and mullions are not permitted.**

Table 2

Maximum Height	Maximum Width	Maximum Area
1875mm high (at 500mm wide)	625mm wide (at 1500mm high)	0.94m ²

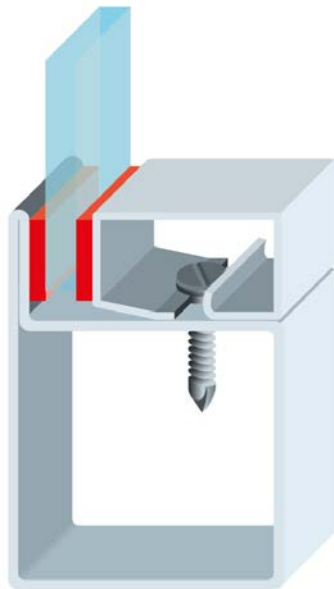
NOTE: APPROVAL IS GIVEN FOR SINGLE PANE FIXED LIGHTS ONLY

CERTIFICATE No CF 862
SCHOTT UK LIMITED

PYRANOVA® S3.0.7 Glass in steel doorsets for periods of 30 minutes integrity

The glass shall be glazed within a previously fire tested or a CERTIFIRE approved steel door system.

The door 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 PYRANOVA® S3.0.7 glass shown in Table 3 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions. **This system shall only be used for single panes, i.e transoms and mullions within the door are not permitted.**

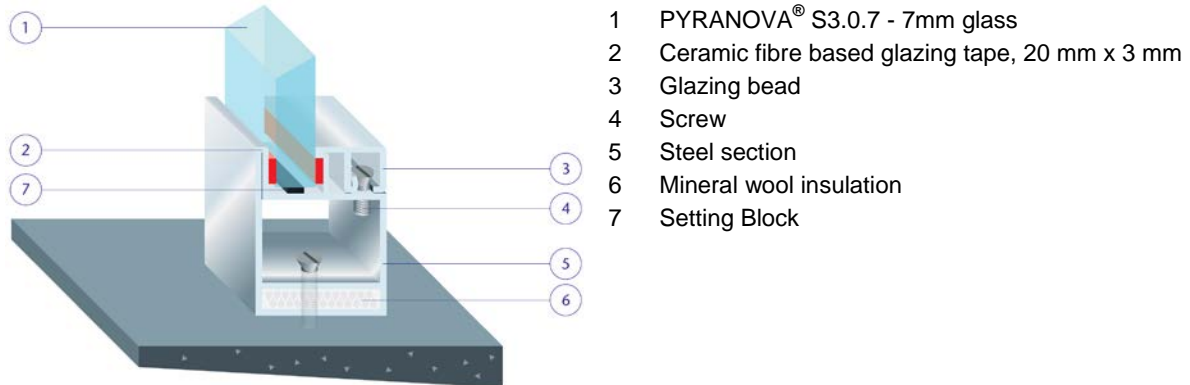
Table 3

Maximum Height	Maximum Width	Maximum Area
1875mm high (at 500mm wide)	625mm wide (at 1500mm high)	0.94m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® S3.0.7 Glass in steel framed fixed lights for periods of 30 minutes integrity

The glass shall be glazed within a previously fire tested (see example below) or a CERTIFIRE approved steel framing system.



The 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 PYRANOVA® S3.0.7 glass shown in Table 4 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions. **This system shall only be used for single fixed lights, i.e transoms and mullions are not permitted.**

Table 4

Maximum Height	Maximum Width	Maximum Area
1875mm high (at 500mm wide)	625mm wide (at 1500mm high)	0.94m ²

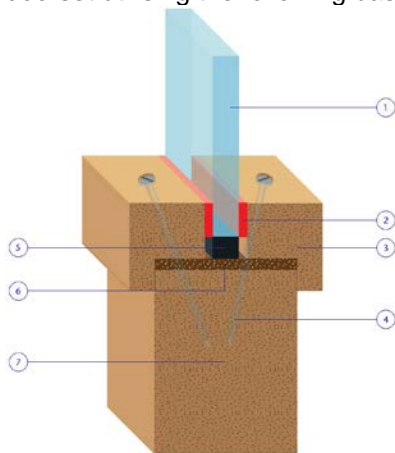
NOTE: APPROVAL IS GIVEN FOR SINGLE PANE FIXED LIGHTS ONLY

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® S3.1.10 and S3.1.14 (inc. Insulating Glazed Units) Glass in timber doorsets for periods of 30 minutes integrity

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



- 1 PYRANOVA® S3.1.10 and S3.1.14 – 10 & 14 mm glass
- 2 Lorient System 36/6 channel
- 3 Hardwood glazing beads 20 mm high by 22 mm wide (minimum) including 9 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 640 kg/m³
- 4 45 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 12 x 6mm packer at base
- 6 Minimum 6 mm thick hardwood aperture liner (not required on door leaves with a softwood / hardwood timber core of density > 550 kg/m³)
- 7 FD30 door leaf

- The doorset, including door frame and associated building hardware, should have achieved at least 30 minutes integrity (and up to 30 minutes 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 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 minimum overall leaf thickness, 44 mm.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRANOVA® 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. This Certificate of Approval relates to the sizes of PYRANOVA® glass shown in Table 1, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

This Certificate of Approval relates to the sizes of Pyranova S3.1.10 or S3.1.14 (including IGU options) shown in Tables 5 and 6 below, when used in conjunction with the above system.

Table 5 – Sizes of PYRANOVA® S3.1.10

Maximum Height	Maximum Width	Maximum Area
2925mm high (at 1240mm wide)	1550mm wide (at 2340mm high)	3.62m ²

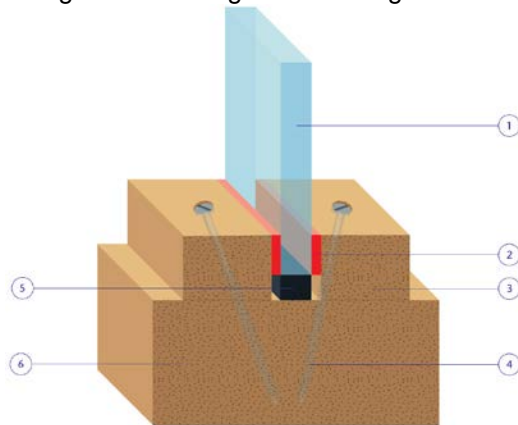
Table 6 – Sizes of PYRANOVA® S3.1.14

Maximum Height	Maximum Width	Maximum Area
3068mm high (at 1404mm wide)	1755mm wide (at 2455mm high)	4.30m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® S3.1.10 and S3.1.14 (inc. Insulating Glazed Units) Glass in timber framed screens for periods of 30 minutes integrity

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® S3.1.10 and S3.1.14 – 10 & 14 mm glass
- 2 Lorient System 36/6 channel
- 3 Hardwood glazing beads 20 mm high by 22 mm wide (minimum) including 9 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 640 kg/m³
- 4 45 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 12 x 6mm packer at base
- 6 75 mm by 40 mm (minimum) softwood framing sections, minimum density 420 kg/m³

With regards to IGU's, the glass shall be the following basic specification:

- PYRANOVA® S3.1.10 and S3.1.14 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

This Certificate of Approval relates to the sizes of Pyranova S3.1.10 or S3.1.14 (including IGU options) shown in Tables 7 and 8 below, when used in conjunction with the above system.

Table 7 – Sizes of PYRANOVA® S3.1.10

Maximum Height	Maximum Width	Maximum Area
2925mm high (at 1240mm wide)	1550mm wide (at 2340mm high)	3.62m ²

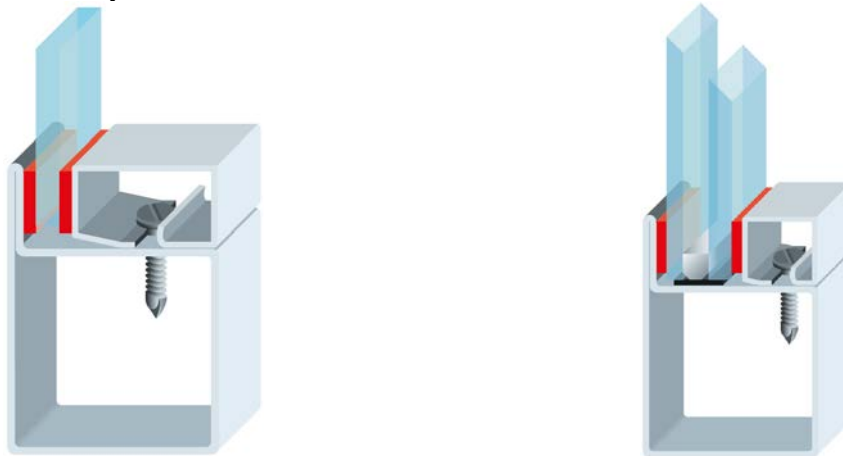
Table 8 – Sizes of PYRANOVA® S3.1.14

Maximum Height	Maximum Width	Maximum Area
3068mm high (at 1404mm wide)	1755mm wide (at 2455mm high)	4.30m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® S3.1.10 and S3.1.14 (inc. Insulating Glazed Units) Glass in steel doorsets for periods of 30 minutes integrity

The glass shall be glazed within a previously fire tested (see example below) or a CERTIFIRE approved steel door system.



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

With regards to IGU's, the glass shall be the following basic specification:

- PYRANOVA® S3.1.10 and S3.1.14 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

This Certificate of Approval relates to the sizes of Pyranova S3.1.10 or S3.1.14 (including IGU options) shown in Tables 9 and 10 below, when used in conjunction with the above system.

Table 9 – Sizes of PYRANOVA® S3.1.10

Maximum Height	Maximum Width	Maximum Area
2925mm high (at 1240mm wide)	1550mm wide (at 2340mm high)	3.62m ²

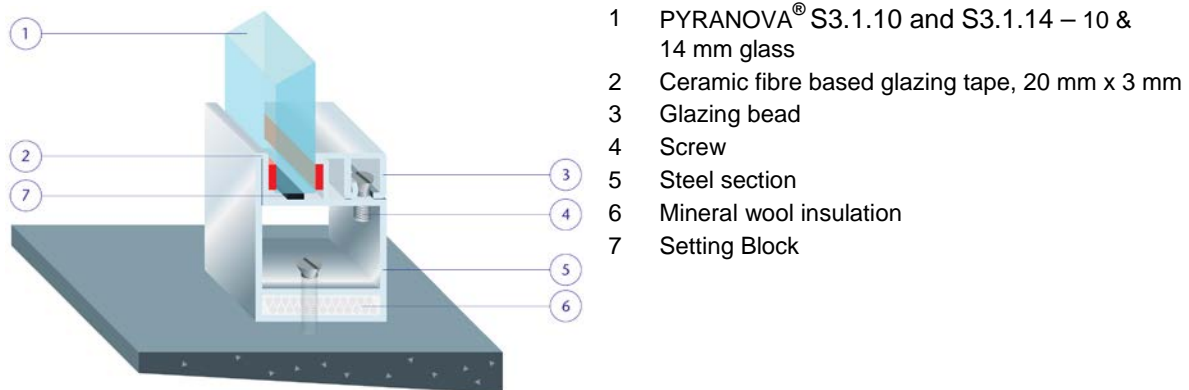
Table 10 – Sizes of PYRANOVA® S3.1.14

Maximum Height	Maximum Width	Maximum Area
3068mm high (at 1404mm wide)	1755mm wide (at 2455mm high)	4.30m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® S3.1.10 and S3.1.14 (inc. Insulating Glazed Units) Glass in steel framed screens for periods of 30 minutes integrity

The glass shall be glazed within a previously fire tested (see example below) or a CERTIFIRE approved steel framing system.



With regards to IGU's, the glass shall be the following basic specification:

- PYRANOVA® S3.1.10 and S3.1.14 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

The 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 Pyranova S3.1.10 or S3.1.14 (including IGU options) shown in Tables 11 and 12 below, when used in conjunction with the above system.

Table 11 – Sizes of PYRANOVA® S3.1.10

Maximum Height	Maximum Width	Maximum Area
2925mm high (at 1240mm wide)	1550mm wide (at 2340mm high)	3.62m ²

Table 12 – Sizes of PYRANOVA® S3.1.14

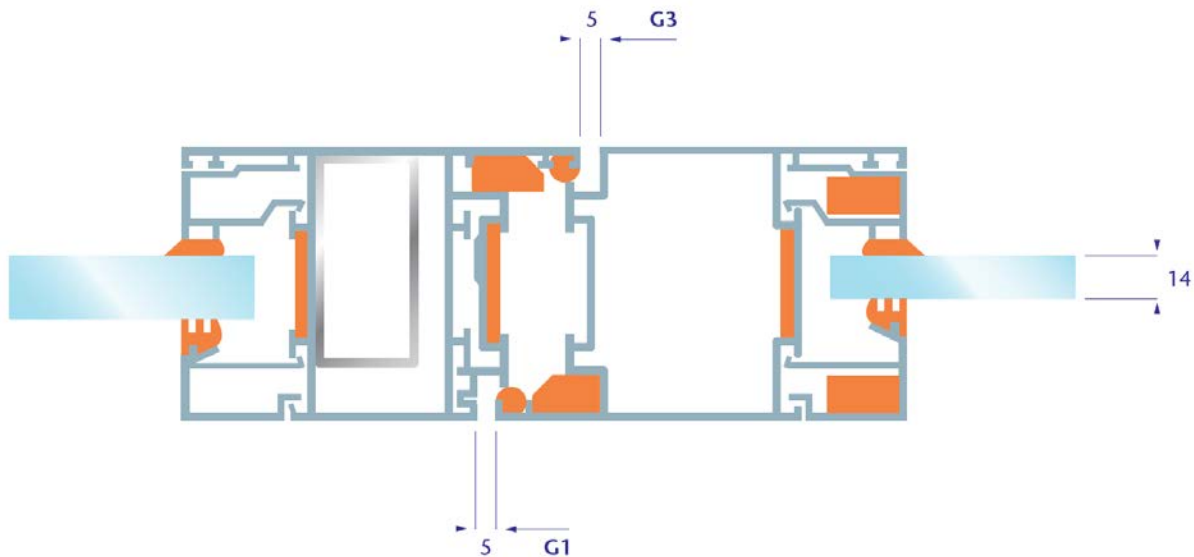
Maximum Height	Maximum Width	Maximum Area
3068mm high (at 1404mm wide)	1755mm wide (at 2455mm high)	4.30m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® S3.1.10 and S3.1.14 (inc. Insulating Glazed Units) Glass in 'Alukönigstahl® Schüco Jansen RHS®', framed screens and 'Schüco ADS 65 NI' single leaf doorsets for periods of 30 minutes integrity

The glass shall be glazed within a 'Alukönigstahl® Schüco Jansen RHS®', aluminium framed screen or a 'Schüco ADS 65 NI' single leaf doorset. Please consult the frame manufacturer for drawings of glazing system, typical details are given below:



This Certificate of Approval relates to the sizes of Pyranova S3.1.10 or S3.1.14 (including IGU options) shown in Tables 13 and 14 below, when used in conjunction with the above system.

Table 13 – Sizes of PYRANOVA® S3.1.10

Maximum Height	Maximum Width	Maximum Area
2925mm high (at 1240mm wide)	1550mm wide (at 2340mm high)	3.62m ²

Table 14 – Sizes of PYRANOVA® S3.1.14

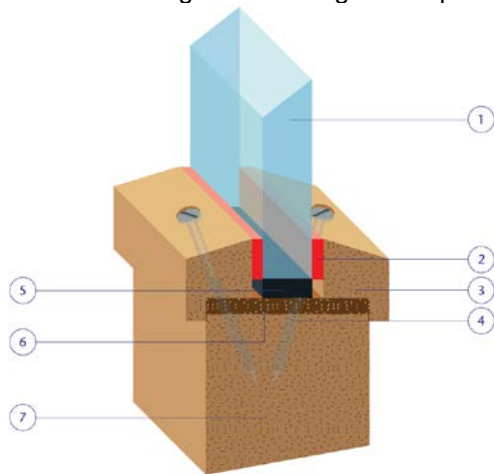
Maximum Height	Maximum Width	Maximum Area
3068mm high (at 1404mm wide)	1755mm wide (at 2455mm high)	4.30m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 Glass in timber door leaves for periods of 30 minutes integrity and 30 minutes insulation

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



- 1 PYRANOVA® 30 S3.0/S3.1 glass
- 2 Lorient Polyproducts System 36/15
- 3 Hardwood glazing beads 25 mm high by 20 mm wide (minimum) including 6 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 550 kg/m³
- 4 40 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 Palusol 2 mm thick by 44 mm wide intumescent liner
- 6 FD30 door leaf

- The doorset, including door frame and associated building hardware, should have achieved at least 30 minutes integrity (and up to 30 minutes 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 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 minimum overall leaf thickness, 44 mm.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRANOVA® 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. This Certificate of Approval relates to the sizes of PYRANOVA® glass shown in Table 1, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 15 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 15

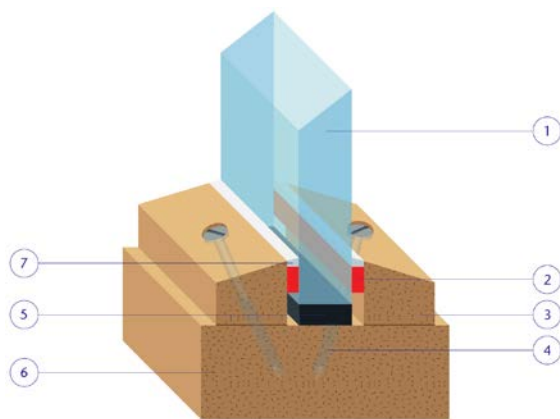
Maximum Height	Maximum Width	Maximum Area
2938mm high (at 1235mm wide)	1544mm wide (at 2351mm high)	3.62m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 Glass in timber framed screens for periods of 30 minutes integrity and 30 minutes insulation

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 30-S3.0/3.1 glass
- 2 8 mm wide by 3 mm thick closed cell foam tape
- 3 18 mm high by 22 mm wide square or chamfered hardwood glazing beads, minimum density 680 kg/m³
- 4 40 mm long steel screws at 400 mm centres or 50 mm long 16 swg. nails/pins at 200 mm centres (all fixings at 30° to glass)
- 5 Non-combustible setting blocks
- 6 68 mm by 20 mm (minimum) hardwood framing sections, minimum density 680 kg/m³
- 7 Neutral silicone capping

This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 16 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 16

Maximum Height	Maximum Width	Maximum Area
3097mm high (at 1868mm wide)	2000mm wide (at 2894mm high)	5.79m ²

CERTIFICATE No CF 862

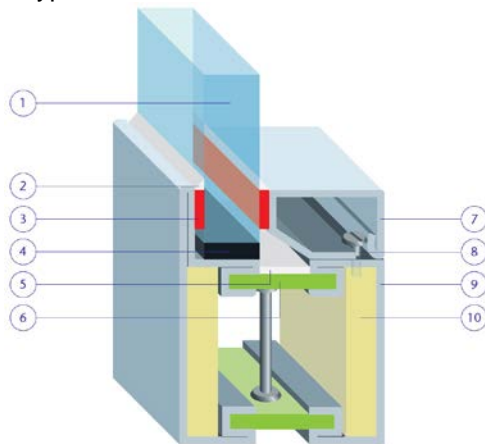
SCHOTT UK LIMITED

PYRANOVA® 30-S3.0/3.1 Glass (including IGU's) in steel door leaves for periods of 30 minutes integrity and insulation

The glass shall be glazed within a previously fire tested (see example below) or a CERTIFIRE approved steel profiled door leaf framing system.

Note: glass used in this application may be laminated, acid etched, tinted, patterned or screen printed subject to the conditions specified on Page 4 of this document.

A typical door section is shown below.



1. PYRANOVA® 30-S3.0/3.1 glass
2. Neutral silicone capping
3. Ceramic fibre based glazing tape, 20 mm x 5 mm
4. Setting block
5. Fire resistant laminate, 14 mm x 1.5 mm
6. Fibre reinforced strip, 31 mm x 5 mm
7. Glazing bead, 30 mm x 20 mm x 1.3 mm
8. Screw, 15 mm long
9. Steel section, 73 mm x 59 mm x 50 mm x 1.6 mm
10. Fire resistant ceramic filling

The steel profiled door framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions. If the proposed doorset is to be used in double-leaf configuration, the test or assessment evidence should be applicable to double-leaf configurations. Likewise, if the proposed doorset is to be used in the unlatched configuration, the available evidence should be applicable to unlatched doorsets. 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 PYRANOVA® 30 – S3.0/3.1 glass shown in Table 17 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 17

Maximum Height	Maximum Width	Maximum Area
3435mm high (at 1038mm wide)	1297mm wide (at 2748mm high)	3.56m ²
2900mm high (at 1288mm wide)	1610mm wide (at 2320mm high)	3.73m ²

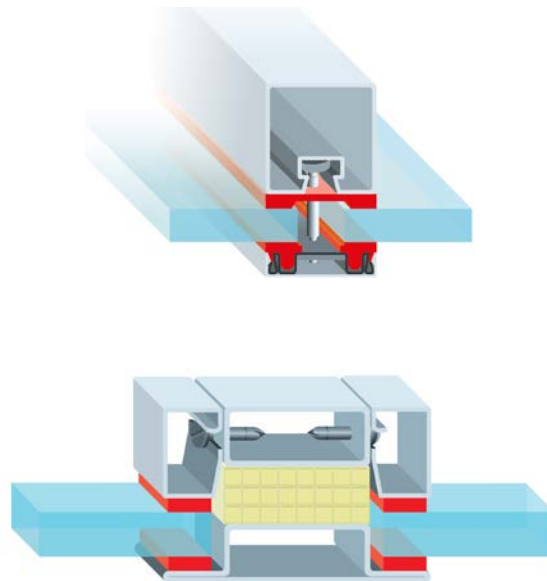
**CERTIFICATE No CF 862
SCHOTT UK LIMITED**

PYRANOVA® 30 S3.0/3.1 Glass in steel framed screens for periods of 30 minutes integrity and 30 minutes insulation

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

- PYRANOVA® 30 S3.0/3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 30 minutes insulation performance. Typical examples of framing systems are shown below.



This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 18 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 18

Maximum Height	Maximum Width	Maximum Area
3585mm high (at 1488mm wide)	1860mm wide (at 3000mm high)	5.5m ²

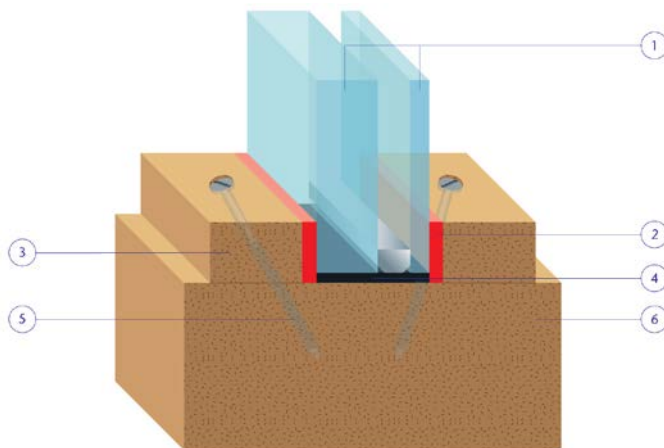


CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 Insulating Glass Units in timber framed screens for periods of 30 minutes integrity and 30 minutes insulation

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

- PYRANOVA® 30 S3.0/3.1 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- Insulating Glass units may be installed with PYRANOVA® to either face.



- 1 PYRANOVA® 30 S3.0/3.1 IGU
- 2 20 mm wide by 4 mm thick ceramic fibre based glazing tape
- 3 20 mm high by 30 mm wide square hardwood glazing beads, minimum density 600 kg/m³
- 4 Non-combustible setting blocks
- 5 70 mm long steel screws at 200 mm centres (30° to glass)
- 6 100 mm by 40 mm (minimum) hardwood framing sections, minimum density 600 kg/m³

- Additionally 80 mm long 16 swg. nails/pins at 150 mm centres may be used provided the maximum panes size does not exceed 1300 x 1850 mm

This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 19 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 19

Maximum Height	Maximum Width	Maximum Area
3097mm high (at 1868mm wide)	2000mm wide (at 2894mm high)	5.79m ²

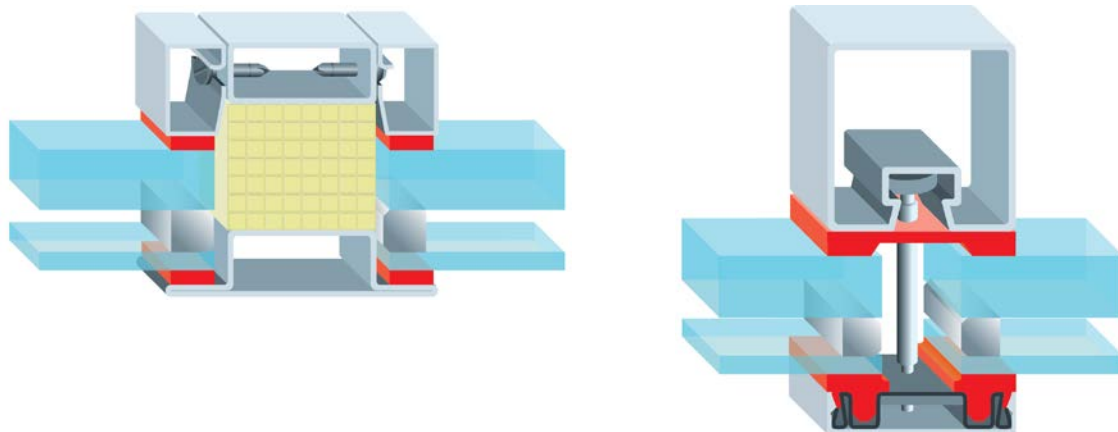
CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 Glass within Insulated Glass Units in insulated steel framed screens for periods of 30 minutes integrity and 30 minutes insulation

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

- PYRANOVA® 30 S3.0/3.1 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

The insulated metallic (steel or aluminium) framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 30 minutes insulation performance. Examples of framing systems are shown below:



This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 20 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

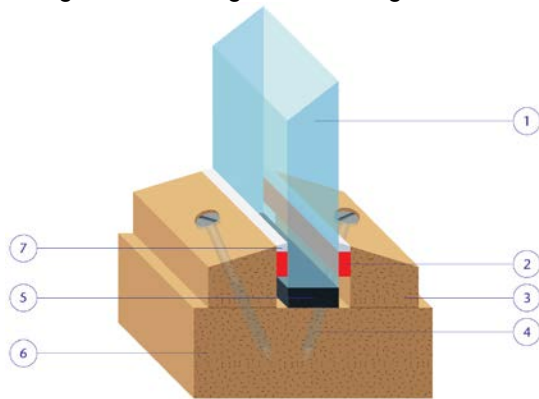
Table 20

Maximum Height	Maximum Width	Maximum Area
3585mm high (at 1488mm wide)	1860mm wide (at 2868mm high)	5.33m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

Butt-Jointed PYRANOVA® 30-S3.0/3.1 Glass in timber framed screens for periods of 30 minutes integrity and insulation

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 30-S3.0/3.1 glass
- 2 8 mm wide by 3 mm thick closed cell foam tape
- 3 28 mm high by 20 mm wide square or up to 10° chamfered hardwood glazing beads, minimum density 550 kg/m³
- 4 60 mm long steel screws at 300 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 70 mm by 40 mm (minimum) hardwood framing sections, minimum density 550 kg/m³
- 7 Neutral silicone capping

The system may include vertical butt joints. In order to ensure the correct specification is utilised for such specialist glazing, further information should be sought from the manufacturer.



Nominal 5mm wide joint

This Certificate of Approval relates to the sizes of PYRANOVA® 30-S3.0/3.1 glass shown in Table 21 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 21

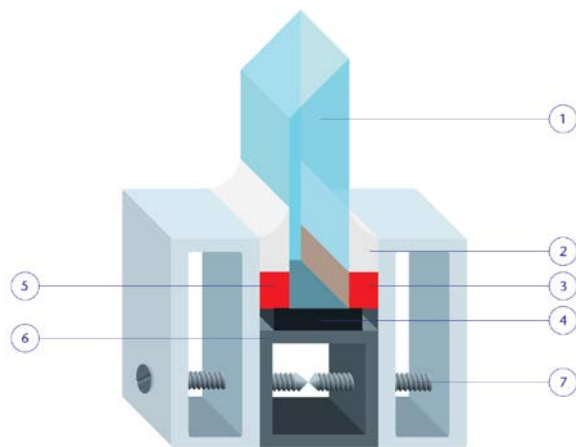
Glass Type	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 30-S3.0	2750mm high (at 1100mm wide)	1100mm wide (at 2750mm high)	3.02m ²
PYRANOVA® 30-S3.1	3000mm high (at 1100mm wide)	1400mm wide (at 2357mm high)	3.3m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

Butt-Jointed PYRANOVA® 30- S3.0/3.1 Glass in Steel framed screens for periods of 30 minutes integrity and insulation

The glass shall be glazed utilising the following basic specification, using a tested, insulated framing system:



- 1 PYRANOVA® 30-S3.0/3.1 glass
- 2 Neutral silicone capping
- 3 15 mm wide by 3-6 mm thick ceramic fibre based glazing tape
- 4 Non-combustible setting blocks
- 5 50 mm by 20 mm hollow steel box section
- 6 22 mm by 25mm insulated box section
- 7 40 mm long steel screws at 320 mm centres



Nominal 5mm wide joint

The system may include vertical butt joints. In order to ensure the correct specification is utilised for such specialist glazing, further information should be sought from the manufacturer.

This Certificate of Approval relates to the sizes of PYRANOVA® 30-S3.0/3.1 glass shown in Table 22 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 22

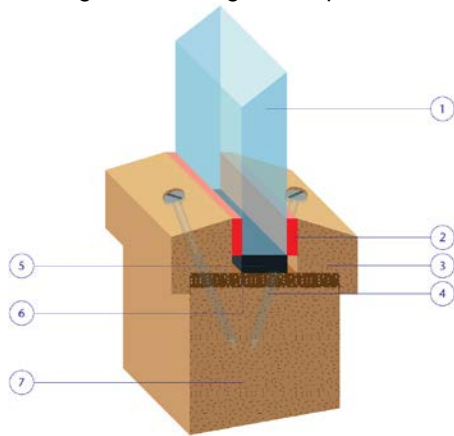
Glass Type	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 30-S3.0	2750mm high (at 1100mm wide)	1100mm wide (at 2750mm high)	3.02m ²
PYRANOVA® 30-S3.1	3000mm high (at 1100mm wide)	1400mm wide (at 2357mm high)	3.3m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 (inc. Insulating Glazed Units) Glass in timber door leaves for periods of 60 minutes integrity and 30 minutes insulation

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



- 1 PYRANOVA® 30 S3.0/S3.1 glass
- 2 Lorient Polyproducts Rigid Fig 1
- 3 Hardwood glazing beads 25 mm high by 20 mm wide (minimum) including 6 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 550 kg/m³
- 4 40 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 Non-combustible setting blocks
- 6 Palusol 2 mm thick by 54 mm wide intumescent liner
- 7 FD60 door leaf (54 mm thick)

- The doorset, including door frame and associated building hardware, should have achieved at least 60 minutes integrity (and 30 minutes 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 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 minimum overall leaf thickness, 54 mm.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRANOVA® 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. This Certificate of Approval relates to the sizes of PYRANOVA® glass shown in Table 4, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 23 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

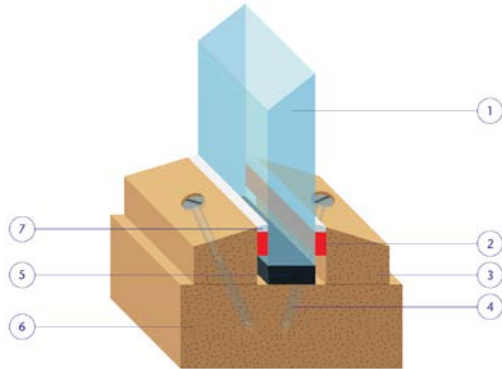
Table 23

Maximum Height	Maximum Width	Maximum Area
1830mm high (at 500mm wide)	610mm wide (at 1500mm high)	0.92m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 (inc. Insulating Glazed Units) Glass in timber framed screens for periods of 60 minutes integrity and 30 minutes insulation

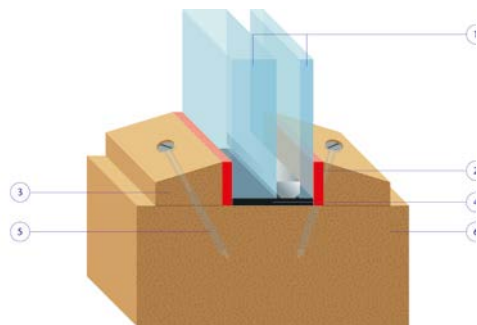
The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 30-S3.0/3.1 glass
- 2 8 mm wide by 3 mm thick closed cell foam tape
- 3 18 mm high by 22 mm wide square or chamfered hardwood glazing beads, minimum density 680 kg/m³
- 4 40 mm long steel screws at 400 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 68 mm by 20 mm (minimum) hardwood framing sections, minimum density 680 kg/m³
- 7 Neutral silicone capping

- Additionally 80 mm long 16 swg. nails/pins at 150 mm centres may be used provided the maximum panes size does not exceed 1300 x 1850 mm

With regards to IGU's, the glass shall be the following basic specification:



- PYRANOVA® 30 S3.0 and S3.1 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 24 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 24

Maximum Height	Maximum Width	Maximum Area
1830mm high (at 500mm wide)	610mm wide (at 1500mm high)	0.92m ²

CERTIFICATE No CF 862

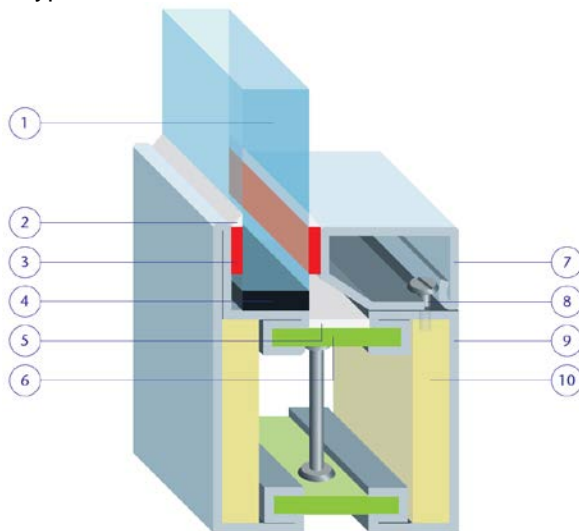
SCHOTT UK LIMITED

PYRANOVA® 30-S3.0/3.1 (inc. Insulating Glazed Units) Glass in steel door leaves for periods of 60 minutes integrity and 30 minutes insulation

The glass shall be glazed within a previously fire tested (see example below) or a CERTIFIRE approved steel profiled door leaf framing system.

Note: glass used in this application may be laminated, acid etched, tinted, patterned or screen printed subject to the conditions specified on Page 4 of this document.

A typical door section is shown below.



1. PYRANOVA® 30-S3.0/3.1 glass
2. Neutral silicone capping
3. Ceramic fibre based glazing tape, 20 mm x 5 mm
4. Setting block
5. Fire resistant laminate, 14 mm x 1.5 mm
6. Fibre reinforced strip, 31 mm x 5 mm
7. Glazing bead, 30 mm x 20 mm x 1.3 mm
8. Screw, 15 mm long
9. Steel section, 73 mm x 59 mm x 50 mm x 1.6 mm
10. Fire resistant ceramic filling

The steel profiled door framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions. If the proposed doorset is to be used in double-leaf configuration, the test or assessment evidence should be applicable to double-leaf configurations. Likewise, if the proposed doorset is to be used in the unlatched configuration, the available evidence should be applicable to unlatched doorsets. 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 PYRANOVA® 30 – S3.0/3.1 glass shown in Table 25 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 25

Maximum Height	Maximum Width	Maximum Area
1830mm high (at 500mm wide)	610mm wide (at 1500mm high)	0.92m ²

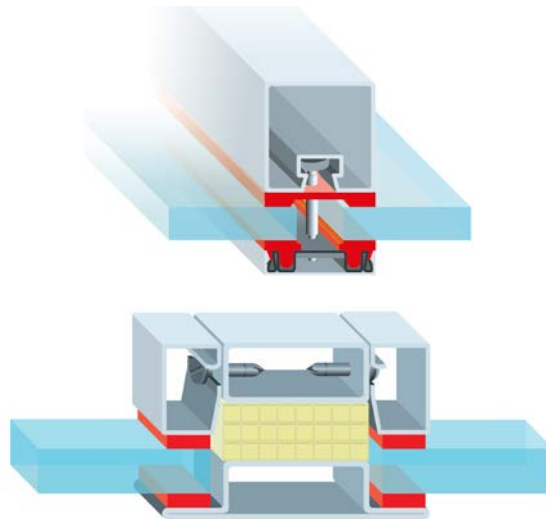
CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 30 S3.0/3.1 (inc. Insulating Glazed Units) Glass in steel framed screens for periods of 60 minutes integrity and 30 minutes insulation

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

- PYRANOVA® 30 S3.0/3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- IGU's may incorporate aluminium spacers and a second pane of minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- Insulating Glass units may be installed with PYRANOVA® to either face.

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 30 minutes insulation performance. Typical examples of framing systems are shown below.



This Certificate of Approval relates to the sizes of PYRANOVA® 30 S3.0/3.1 glass shown in Table 26 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 26

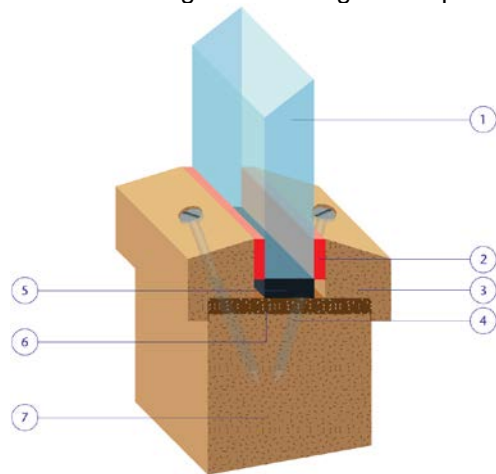
Maximum Height	Maximum Width	Maximum Area
1830mm high (at 500mm wide)	610mm wide (at 1500mm high)	0.92m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Glass in timber door leaves for periods of 60 minutes integrity and 60 minutes insulation

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



- 1 PYRANOVA® 60 S3.0/S3.1 glass
- 2 Lorient Polyproducts Rigid Fig 1
- 3 Hardwood glazing beads 25 mm high by 20 mm wide (minimum) including 6 mm high by 6 mm wide bolection, either square or up to 15° chamfer, minimum density 550 kg/m³
- 4 40 mm long steel screws at 150 mm centres (30 - 45° to glass)
- 5 Non-combustible setting blocks
- 6 Palusol 2 mm thick by 54 mm wide intumescent liner
- 7 FD60 door leaf (54 mm thick)

- The doorset, including door frame and associated building hardware, should have achieved at least 60 minutes integrity (and 60 minutes 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 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 minimum overall leaf thickness, 54 mm.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRANOVA® 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. This Certificate of Approval relates to the sizes of PYRANOVA® glass shown in Table 4, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

This Certificate of Approval relates to the sizes of PYRANOVA® 60 S3.0/3.1 glass shown in Table 27 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 27

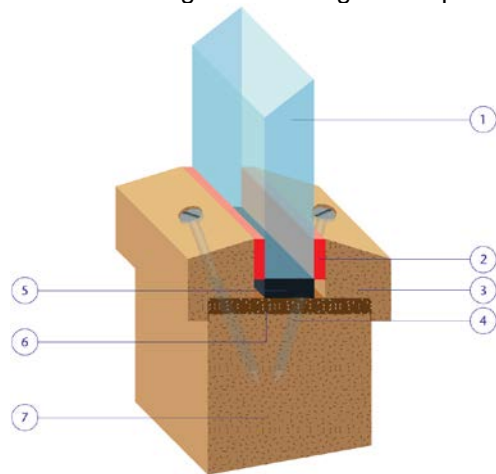
Maximum Height	Maximum Width	Maximum Area
1944 mm high	758 mm wide	1.26m ²

CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Glass in timber door leaves for periods of 60 minutes integrity and 60 minutes insulation

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



- 1 PYRANOVA® 60 S3.0/S3.1 glass
- 2 Sealmaster Intumescent Foam Glazing Tape, 20 mm x 5 mm thick (uncompressed)
- 3 Hardwood glazing beads 31 mm high by 19.5 mm wide (minimum) including 6 mm high by 6 mm wide bolection, either square or up to 30° chamfer, minimum density 650 kg/m³
- 4 No.8 x 3" mm long steel screws at 150 mm centres (30° to glass)
- 5 Non-combustible setting blocks
- 6 Sealmaster Fireglaze Tape, 54 mm x 2.5 mm thick
- 7 FD60 door leaf (54 mm thick)

- The doorset, including door frame and associated building hardware, should have achieved at least 60 minutes integrity (and 60 minutes 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 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 minimum overall leaf thickness, 54 mm.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including PYRANOVA® 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. This Certificate of Approval relates to the sizes of PYRANOVA® glass shown in Table 4, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

This Certificate of Approval relates to the sizes of PYRANOVA® 60 S3.0/3.1 glass shown in Table 28 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

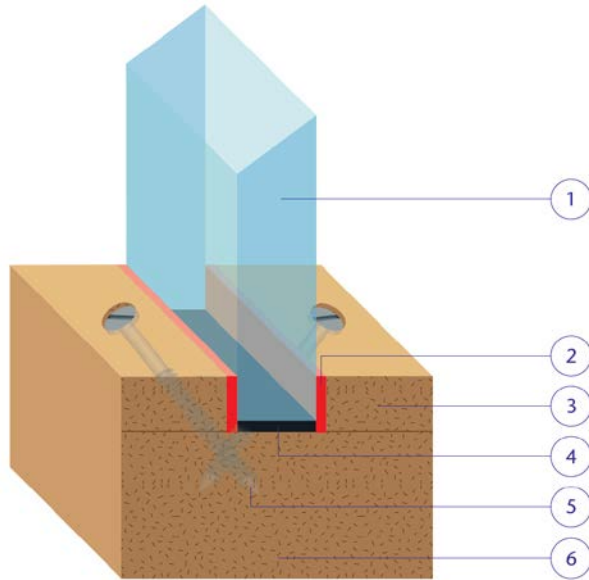
Table 28

Maximum Height	Maximum Width	Maximum Area
1944 mm high	758 mm wide	1.26m ²

CERTIFICATE No CF 862
SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Glass in timber framed screens for periods of 60 minutes integrity and 60 minutes insulation

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 60 S3.0/3.1 glass
- 2 20 mm wide by 4 mm thick ceramic fibre or closed cell foam based glazing tape
- 3 20 mm high by 35 mm wide square hardwood glazing beads, minimum density 735 kg/m³
- 4 Non-combustible setting blocks
- 5 50 mm long steel screws at 400 mm centres (30-40° to glass)
- 6 100 mm by 40 mm (minimum) hardwood framing sections, minimum density 735 kg/m³

This Certificate of Approval relates to the sizes of PYRANOVA® 60 S3.0/3.1 glass shown in Table 29 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 29

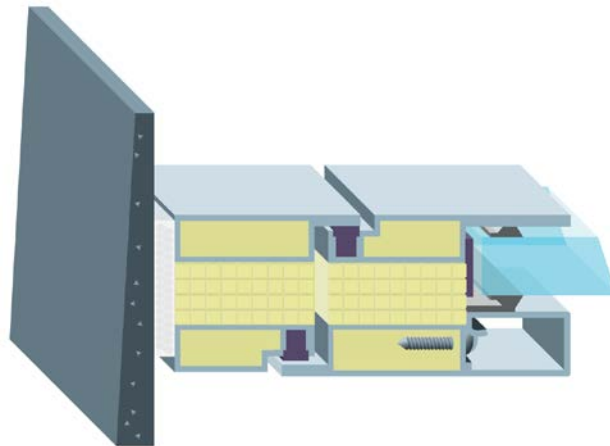
Maximum Height	Maximum Width	Maximum Area
2760mm high	1637mm wide	4.51m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 60-S3.0/3.1 Glass in steel door leaves for periods of 60 minutes integrity and 60 minutes insulation

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

- PYRANOVA® 60 S3.0/3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape



This Certificate of Approval relates to the sizes of PYRANOVA® 60-S3.0/3.1 glass shown in Table 30 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 30

Maximum Height	Maximum Width	Maximum Area
3435mm high (at 1038mm wide)	1297mm wide (at 2748mm high)	3.56m ²
2900mm high (at 1288mm wide)	1610mm wide (at 2320mm high)	3.73m ²

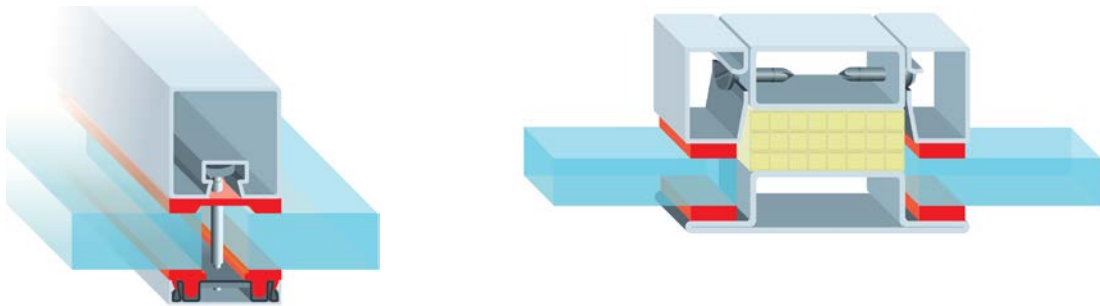
CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Glass in steel framed screens for periods of 60 minutes integrity and 60 minutes insulation

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

- PYRANOVA® 60 S3.0/3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 60 minutes insulation performance. Examples of framing systems are shown below.



This Certificate of Approval relates to the sizes of PYRANOVA® 60 S3.0/3.1 glass shown in Table 31 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 31

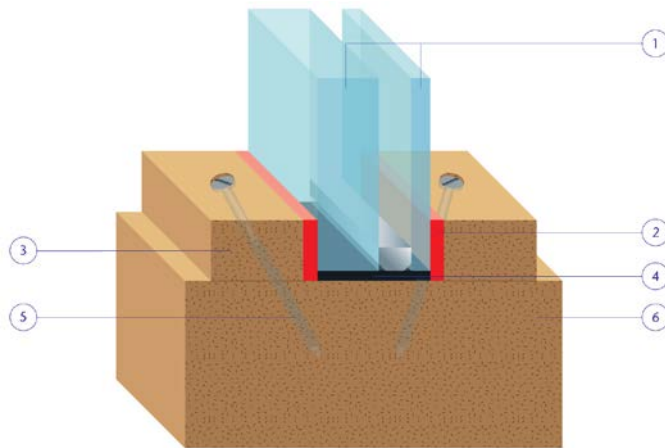
Maximum Height	Maximum Width	Maximum Area
3155mm high (at 1488mm wide)	1637mm wide (at 2868mm high)	4.69m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Insulating Double Glazed Units in timber framed screens for periods of 60 minutes integrity and 60 minutes insulation

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

- PYRANOVA® 60 S3.0/3.1 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- Insulating Glass units may be installed with PYRANOVA® to either face.



- 1 PYRANOVA® 60 S3.0/3.1 IGU
- 2 20 mm wide by 4 mm thick ceramic fibre based glazing tape
- 3 20 mm high by 30 mm wide square hardwood glazing beads, minimum density 600 kg/m³
- 4 Non-combustible setting blocks
- 5 70 mm long steel screws at 200 mm centres (30° to glass)
- 6 100 mm by 40 mm (minimum) hardwood framing sections, minimum density 600 kg/m³

This Certificate of Approval relates to the sizes of PYRANOVA® 60-S3.0/3.1 glass shown in Table 32 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 32

Maximum Height	Maximum Width	Maximum Area
2496mm high (at 1410mm wide)	1692mm wide (at 2080mm high)	3.52m ²

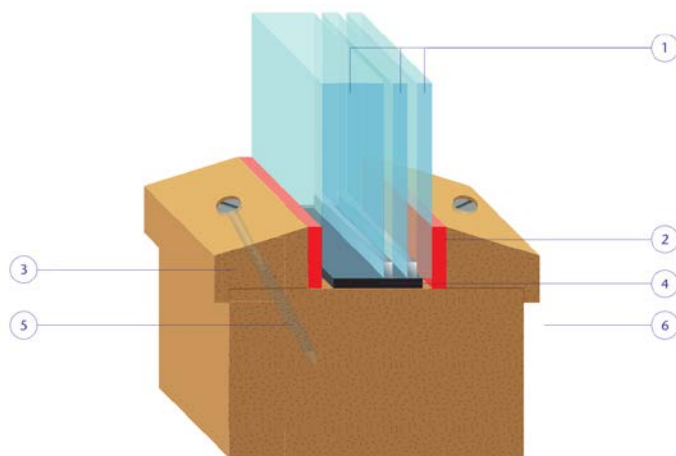
CERTIFICATE No CF 862

SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Insulating Triple Glazed Units in timber framed screens for periods of 60 minutes integrity and 60 minutes insulation

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

- PYRANOVA® 60 S3.0/3.1 glass – aluminium spacer – 5mm toughened glass – aluminium spacer - minimum 6 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- Insulating Glass units may be installed with PYRANOVA® to either face.



- 1 PYRANOVA® 60 S3.0/3.1 TGU
- 2 40 mm wide by 2 mm thick Kerafix FXL 200 glazing tape lining the perimeter, glazed using ZK651 Stimex H 9x3mm glazing tape
- 3 18 mm high by 18 mm wide square or chamfered hardwood glazing beads, minimum density 430 kg/m³
- 4 Non-combustible setting blocks
- 5 3mm x 45 mm long steel screws at 400 mm centres (30° to glass)
- 6 90 mm by 40 mm (minimum) hardwood framing sections, minimum density 430 kg/m³

This Certificate of Approval relates to the sizes of PYRANOVA® 60-S3.0/3.1 TGU glass shown in Table 33 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 33

Maximum Height	Maximum Width	Maximum Area
2955mm high (at 1472mm wide)	1569mm wide (at 2772mm high)	4.35m ²
1130mm high (at 2360mm wide)	2516mm wide (at 1060mm high)	2.67m ²

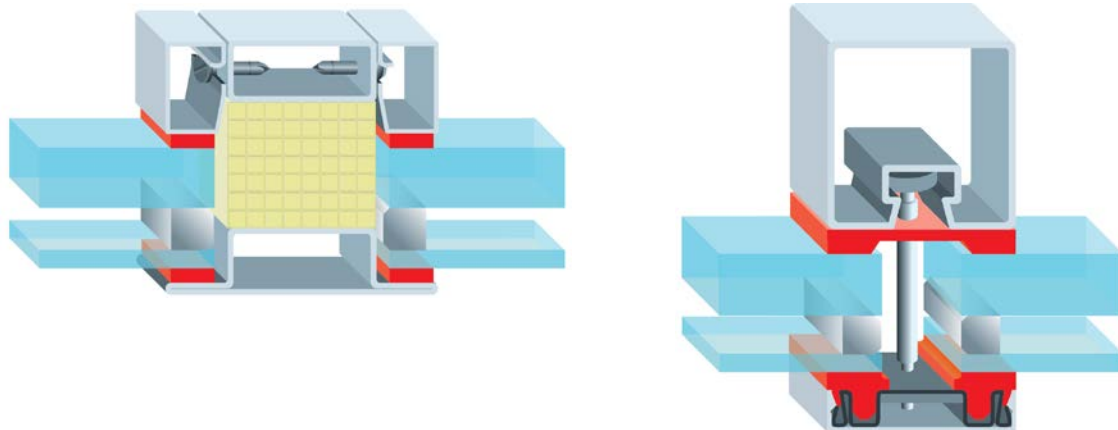
CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 60 S3.0/3.1 Glass within Insulating Glass Units in steel framed screens for periods of 60 minutes integrity and 60 minutes insulation

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

- PYRANOVA® 60 S3.0/3.1 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 60 minutes insulation performance. Examples of framing systems are shown below:



This Certificate of Approval relates to the sizes of PYRANOVA® 60 S3.0/3.1 glass shown in Table 34 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

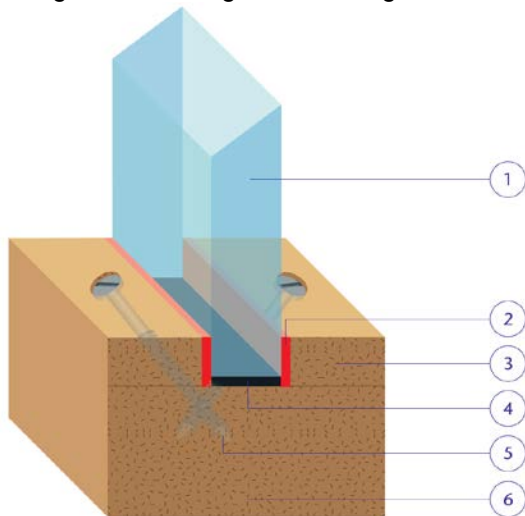
Table 34

Maximum Height	Maximum Width	Maximum Area
2496mm high (at 1410mm wide)	1692mm wide (at 2080mm high)	3.52m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

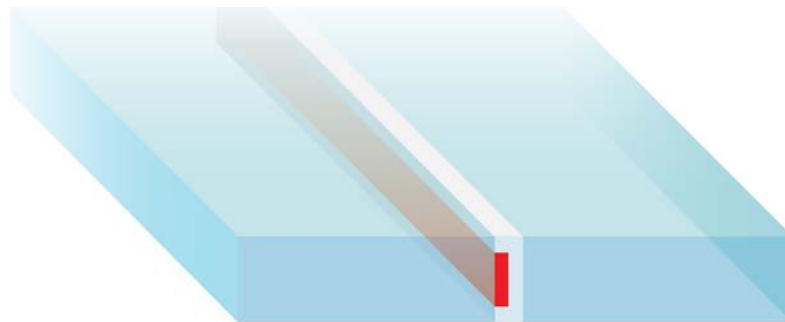
Butt-Jointed PYRANOVA® 60-S3.0/3.1 Glass in timber framed screens for periods of 60 minutes integrity and insulation

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 60 S3.0/3.1 glass
- 2 20 mm wide by 4 mm thick ceramic fibre or closed cell foam based glazing tape
- 3 20 mm high by 35 mm wide square hardwood glazing beads, minimum density 650 kg/m³
- 4 Non-combustible setting blocks
- 5 50 mm long steel screws at 400 mm centres (30-40° to glass)
- 6 100 mm by 40 mm (minimum) hardwood framing sections, minimum density 650 kg/m³
- 7 Kerafix FR silicone
- 8 Stainless steel corner profile

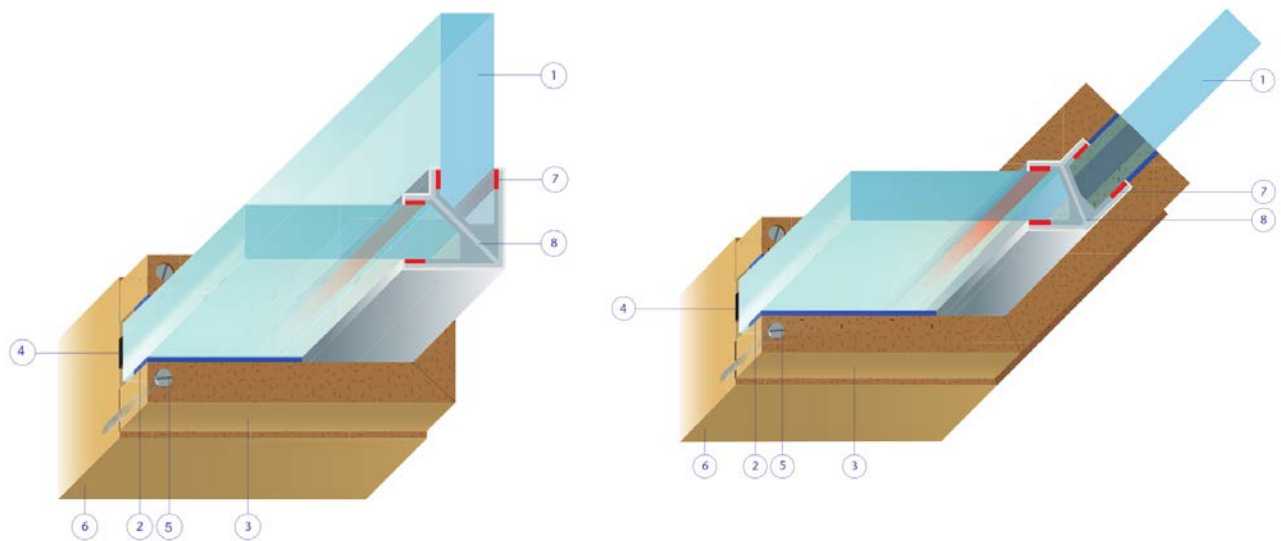
The system may include vertical butt joints, including facets and/or corners, as detailed below. In order to ensure the correct specification is utilised for such specialist glazing, further information should be sought from the manufacturer.



Nominal 5mm wide

CERTIFICATE No CF 862 SCHOTT UK LIMITED

Butt-Jointed PYRANOVA® 60-S3.0/3.1 Glass in timber framed screens for periods of 60 minutes integrity and insulation



90 degree and 135 degree corner options

This Certificate of Approval relates to the sizes of PYRANOVA® 60-S3.0/3.1 glass shown in Figure 35 & 36 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions. The maximum permitted pane dimensions depend on the butt-joint specification.

Table 35: 180° butt joint

Glass Type	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 60-S3.0	2781mm high (at 1000mm wide)	1030mm wide (at 2700mm high)	2.78m ²
PYRANOVA® 60-S3.1	2970mm high (at 1000mm wide)	1400mm wide (at 2121mm high)	2.97m ²

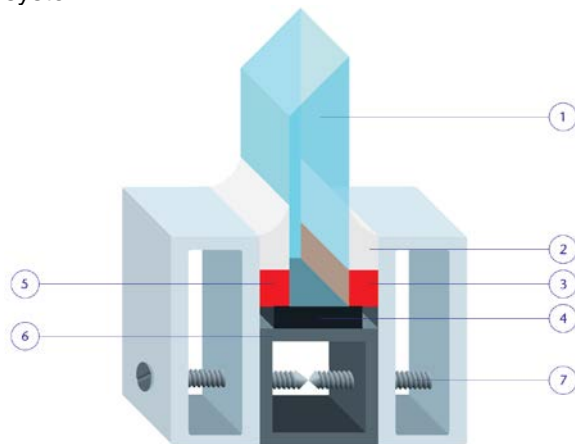
Table 36: 90-180° and 135-180° butt joint (with stainless steel 90° and 135° corner profiles)

Glass Type	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 60-S3.0 & 3.1	3306mm high (at 1150mm wide)	1334mm wide (at 2850mm high)	3.8m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

Butt-Jointed PYRANOVA® 60-S3.0/3.1 Glass in steel framed screens for periods of 60 minutes integrity and insulation

The glass shall be glazed utilising the following basic specification, using a tested, insulated framing system:



- 1 PYRANOVA® 60-S3.0/3.1 glass
- 2 Neutral silicone capping
- 3 15 mm wide by 3-6 mm thick ceramic fibre based glazing tape
- 4 Non-combustible setting blocks
- 5 50 mm by 20 mm hollow box section
- 6 26 mm by 25 mm insulated box section
- 7 50 mm long steel screws at 320 mm centres

The system may include vertical butt joints. In order to ensure the correct specification is utilised for such specialist glazing, further information should be sought from the manufacturer.



Nominal 5mm wide joint

This Certificate of Approval relates to the sizes of PYRANOVA® 60-S3.0/3.1 glass shown in Table 37 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

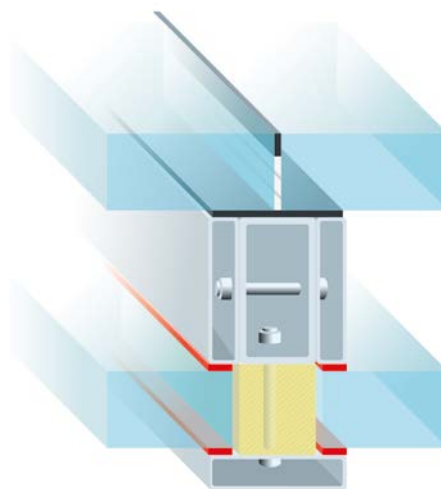
Table 37

Glass Type	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 60-S3.0	2781mm high (at 1000mm wide)	1030mm wide (at 2700mm high)	2.78m ²
PYRANOVA® 60-S3.1	2970mm high (at 1000mm wide)	1400mm wide (at 2121mm high)	2.97m ²

**CERTIFICATE No CF 862
SCHOTT UK LIMITED**

PYRANOVA® 60 S3.0 and S3.1 Glass in horizontally orientated steel framed screens for periods of 60 minutes integrity and insulation for loadbearing applications

The glass shall be glazed within a steel framing system as indicated below:



Note: Schott UK Limited should be consulted with regards the use of loadbearing floor applications

The loadbearing floors are subject to the following design limitations:

- Maximum span of floor: 2960 mm
- Maximum run: unlimited
- Maximum Load: 5Kn/m²
- May incorporate intermediate transoms to form multiple aperture, subject to maximum glass sizes given below

This Certificate of Approval relates to the sizes of PYRANOVA® 60 S3.0 and S3.1 glass shown in Table 38 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 38

Maximum Length	Maximum Width	Maximum Area
2126	1496	2.81m ²

CERTIFICATE No CF 862

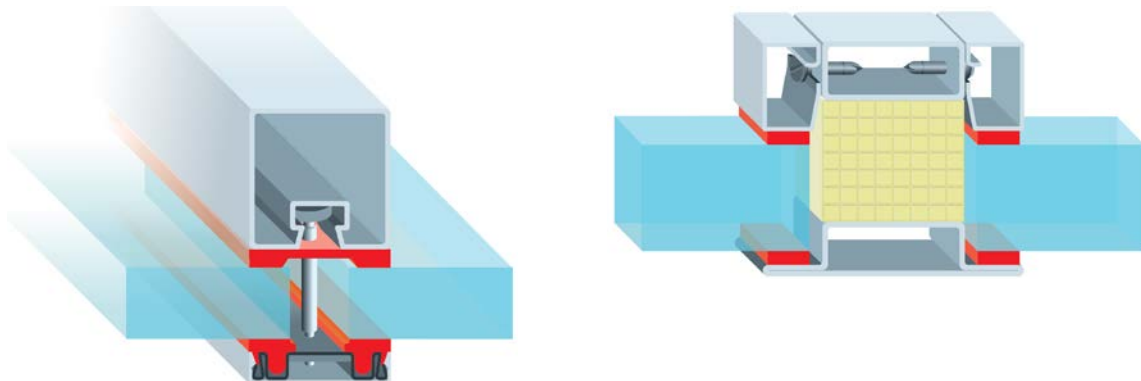
SCHOTT UK LIMITED

PYRANOVA® 90 S3.0 and S3.1 Glass (including IGU's) in steel framed screens for periods of 90 minutes integrity and 90 minutes insulation

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

- PYRANOVA® 90 S3.0 and S3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- IGU's may incorporate aluminium spacers and a second pane of minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- Insulating Glass units may be installed with PYRANOVA® to either face.

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 90 minutes insulation performance. Examples of framing systems are shown below.



This Certificate of Approval relates to the sizes of PYRANOVA® 90 S3.0 and S3.1 glass shown in Table 39 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 39

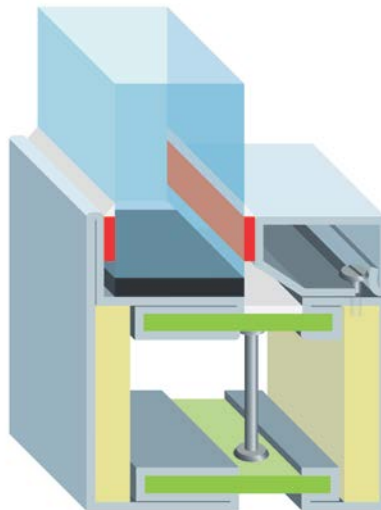
Maximum Height	Maximum Width	Maximum Area	
3183mm high (at 1488mm wide)	1652mm wide (at 2868mm high)	4.74m ²	Single or IGU glass
1178mm high (at 1614mm wide)	1953mm wide (at 974mm high)	1.90m ²	Single or IGU glass
3687mm high (at 1313mm wide)	1641mm wide (at 2958mm high)	4.85m ²	Single glass only
1500mm high (at 2803mm wide)	3504mm wide (at 1200mm high)	4.2m ²	Single glass only

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 90-S3.0 and /3.1 Glass in steel door leaves for periods of 90 minutes integrity and 90 minutes insulation

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

- PYRANOVA® 90 S3.0/3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape



This Certificate of Approval relates to the sizes of PYRANOVA® 60-S3.0/3.1 glass shown in Table 40 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

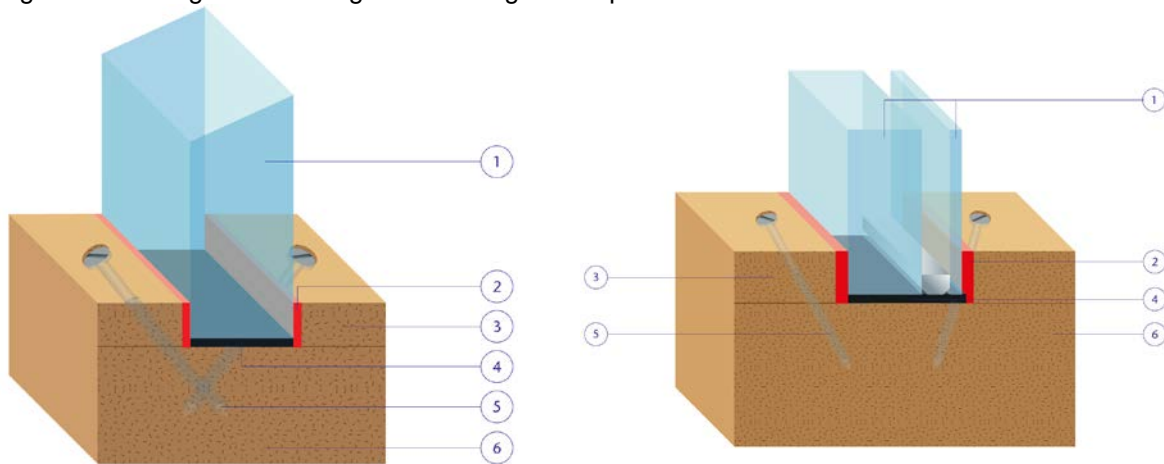
Table 40

Maximum Height	Maximum Width	Maximum Area
3605mm high (at 1304mm wide)	1630mm wide (at 2884mm high)	4.7m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 90 S3.0 and S3.1 Glass (including IGU's) in timber framed screens for periods of 90 minutes integrity and 90 minutes insulation

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 90 S3.0 or S3.1 glass (including IGU's)
- 2 20 mm wide by 4 mm thick ceramic fibre or closed cell foam based glazing tape
- 3 18 mm high by 37 mm wide square hardwood glazing beads, minimum density 480 kg/m³
- 4 Non-combustible setting blocks
- 5 50 mm long steel screws at 400 mm centres (30-40° to glass)
- 6 130 mm by 40 mm (minimum) hardwood framing sections, minimum density 480 kg/m³

With regards to IGU's, the glass shall be the following basic specification:

- PYRANOVA® 90 S3.0 and S3.1 glass – aluminium spacer – minimum 4 mm thick glass of any type including toughened, laminated, annealed or Low E glass
- 15 mm by 6 mm ceramic fibre based glazing tape
- Insulating Glass units may be installed with PYRANOVA® to either face.

This Certificate of Approval relates to the sizes of PYRANOVA® 90 S3.0 and S3.1 glass shown in Table 41 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

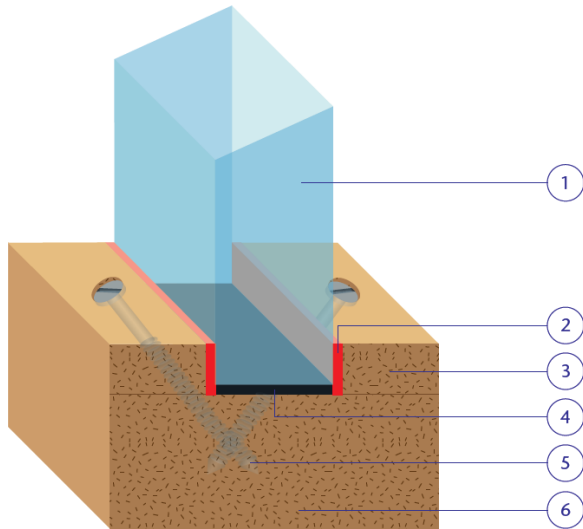
Table 41

Glass	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 90	3030mm high (at 1174mm wide)	1420mm wide (at 2504mm high)	3.56m ²
IGU PYRANOVA® 90 (portrait orientation)	1760mm high (at 1274mm wide)	1541mm wide (at 1454mm high)	2.24m ²
IGU PYRANOVA® 90 (landscape orientation)	1178mm high (at 1614mm wide)	1953mm wide (at 974mm high)	1.90m ²

CERTIFICATE No CF 862 SCHOTT UK LIMITED

Butt-Jointed PYRANOVA® 90 S3.0/3.1 Glass in timber framed screens for periods of 90 minutes integrity and insulation

The glass shall be glazed utilising the following basic specification:



- 1 PYRANOVA® 90 S3.0/3.1 glass
- 2 9 mm wide by 3 mm thick closed cell foam tape by WURTH
Glass bedded on Intumescent Mastic - WURTH Fire Protection Mastic
Capped with silicone mastic – ‘OTTOseal’
- 3 23 mm high by 43.5 mm wide square timber glazing beads, minimum density 420 kg/m³
Note: glazing beads to top edge of frame comprise non-combustible gypsum based board, 18 mm deep by 33mm wide (minimum density 1100kg/m³), clad in timber to form overall size 23 mm by 43.5 mm
- 4 Non-combustible setting blocks
- 5 50 mm long steel screws at 400 mm centres (30-40° or perpendicular to glass)
- 6 130 mm by 40 mm (minimum) timber framing sections, minimum density 420 kg/m³

The system may include vertical butt joints. In order to ensure the correct specification is utilised for such specialist glazing, further information should be sought from the manufacturer.



Nominal 6 mm wide joint

This Certificate of Approval relates to the sizes of PYRANOVA® 30-S3.0/3.1 glass shown in Table 42 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 42

Glass Type	Maximum Height	Maximum Width	Maximum Area
PYRANOVA® 90	3240mm high (at 1150mm wide)	1380mm wide (at 2700mm high)	3.73m ²

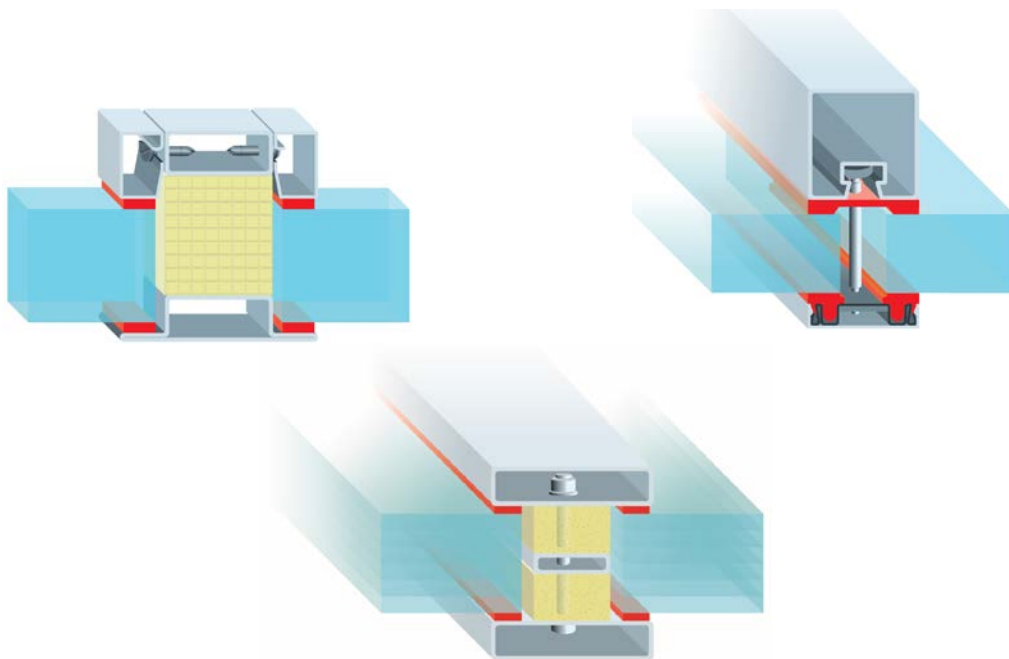
CERTIFICATE No CF 862 SCHOTT UK LIMITED

PYRANOVA® 120 S3.0 and S3.1 Glass in steel framed screens for periods of 120 minutes integrity and 120 minutes insulation

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

- PYRANOVA® 120a S3.0 or S3.1 glass
- 15 mm by 6 mm ceramic fibre based glazing tape

The insulated steel framing system shall have test evidence or be CERTIFIRE approved for the inclusion of apertures of the proposed dimensions for 120 minutes insulation performance.



This Certificate of Approval relates to the sizes of PYRANOVA® 120a S3.0 and S3.1 glass shown in Table 43 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

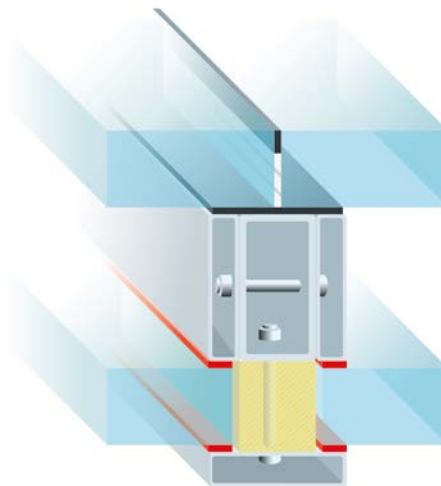
Table 43

Maximum Height	Maximum Width	Maximum Area
2468mm high (at 1420mm wide)	1448mm wide (at 2420mm high)	3.52m ²
2610	1050	2.74m ²

**CERTIFICATE No CF 862
SCHOTT UK LIMITED**

PYRANOVA® 90 S3.0 and S3.1 Glass in horizontally orientated steel framed screens for periods of 120 minutes integrity and insulation for loadbearing applications

The glass shall be glazed within a steel framing system as indicated below:



Note: Schott UK Limited should be consulted with regards the use of loadbearing floor applications

The loadbearing floors are subject to the following design limitations:

- Maximum span of floor: 2000 mm
- Maximum run: unlimited
- Maximum Load: 4Kn/m²
- May incorporate intermediate transoms to form multiple aperture, subject to maximum glass sizes given below

This Certificate of Approval relates to the sizes of PYRANOVA® 90 S3.0 and S3.1 glass shown in Table 44 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Table 44

Maximum Length	Maximum Width	Maximum Area
1446	682	0.95m ²

