

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

DIXON INTERNATIONAL GROUP LTD (sealmaster)

Brewery Road, Pampisford, Cambridge CB22 3HG Tel: 01223 832851

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
Sealmaster Intumescent Closed

Cell Foam Tape

TECHNICAL SCHEDULE
TS25 Fire Resistant Glass,
Glazing Systems and Materials

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

Paul Duggan

Certification Manager







SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE

This Certificate of Approval relates to the contribution to fire resistance of the Sealmaster Intumescent Closed Cell Foam Tape and when used in timber door leaves timber screens, for periods of 30 and 60 minutes integrity (and insulation where applicable), as defined in BS 476: Part 22: 1987 subject to the undermentioned conditions.

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

This product is approved on the basis of:

- Initial type testing
- A design appraisal against TS25
- Registration to ISO 9001: 2008
- Inspection and surveillance of factory production control.
- 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.

Glazed elements utilising Sealmaster Intumescent Closed Cell Foam Tape require the following essential elements;

- Sealmaster Intumescent Closed Cell Foam Tape
- Beading system
- Retaining method
- Aperture lining system (not required for all variants)
- Fire resistant timber doorset or timber glazed screen system

The systems are used at the perimeter of a pane of fire resisting glass to provide an effective seal between the glass and substrate within a door leaf or timber screen beading system.

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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE – Timber Door Systems – 30 Minutes

The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification (please refer to Table 1 for glass specific requirements):

- Glass (see Tables 1 for type and allowable dimensions and specific glass based variations to the specification given below)
- Sealmaster Intumescent Closed Cell Foam Tape
- Ø1.6 x 40mm / Ø2mm x 50 mm long steel gun fired pins or No. 8 x 40/50 mm long screws at 150 mm maximum centres and 50mm from corners (fixed at 45° to glass).
- 15 mm beads use 40 mm pins/screws,
- 20 mm beads use 50 mm pins/screws
- Bolection 5mm x 5mm minimum.
- Nominally 44 mm thick timber based FD30 door leaf*
- Glazing Bead from:

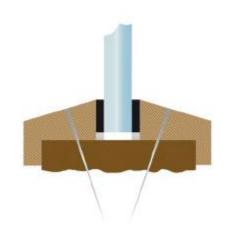
Softwood: min. density 510kg/m3, 20°

chamfer

Hardwood: min. density 620kg/m3, 20°

chamfer

MDF: min. density 700kg/m3, 15° chamfer



System may be used with and without non-combustible setting blocks. Care must be taken to ensure edge cover and expansion allowances for each specific glass are complied with. For Pyroclear modified toughened glass a minimum expansion gap of 5 mm should be provided. For Firesafe modified toughened glass expansion allowance should be 3 mm at the side edges and 4 mm at the top.

The Sealmaster Intumescent Closed Cell Foam Tape can be used on a wide range of uninsulated and insulated glasses. Refer to Table 1 – Approved Fire Resistant Glass Types for guidance on the field of application.

* The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. Only solid cored timber based or cellulosic (i.e. flaxboard/chipboard) cores are suitable for being glazed with this system and if desirable may include a timber/MDF liner. Note: Firesafe glass requires the use of a 6 mm thick hardwood aperture liner. Core incorporating voids or hollow tubes should not be glazed using this system unless a 6 mm hardwood aperture liner is fitted within the perimeter of the aperture.

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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE – Timber Door Systems – 30 Minutes

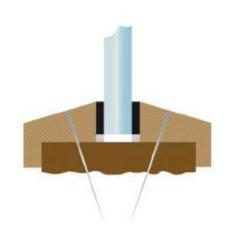
The glass shall be glazed within a previously fire tested or CERTIFIRE approved timber based doorset utilising the following basic specification (please refer to Table 2 for glass specific requirements):

- Glass (see Table 2 for type and allowable dimensions and specific glass based variations to the specification given below)
- Sealmaster Intumescent Closed Cell Foam Tape – 15x3mm, 15x4mm or 15x5 mm thick
- Ø1.6mm x 50 mm long gun fired steel pins at 150 mm maximum centres and 50mm from corners (fixed at 45° to glass).
- 20 mm x 20 mm square bead including 5mm x 5mm bolection (Bead may also be chamfered as shown in drawing)
- Nominally 44 mm thick timber based FD30 door leaf*
- Glazing Bead from:

Hardwood: min. density 620kg/m3, 20°

chamfer

MDF: min. density 700kg/m3, 15° chamfer



System may be used with and without non-combustible setting blocks. Care must be taken to ensure edge cover and expansion allowances for each specific glass are complied with.

The Sealmaster Intumescent Closed Cell Foam Tape can be used on a wide range of uninsulated and insulated glasses. Refer to Table 2 & 3 – Approved Fire Resistant Glass Types for guidance on the field of application.

* The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. Only solid cored timber based or cellulosic (i.e. flaxboard/chipboard) cores are suitable for being glazed with this system and if desirable may include a timber/MDF liner. Note: Firesafe glass requires the use of a 6 mm thick hardwood aperture liner. Core incorporating voids or hollow tubes should not be glazed using this system unless a 6 mm hardwood aperture liner is fitted within the perimeter of the aperture.

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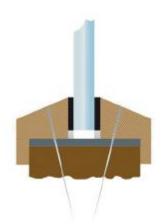
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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE – Timber Door Systems – 60 Minutes

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

- Glass (see Table 4 for type and allowable dimensions)
- Sealmaster Intumescent Closed Cell Foam Tape – 15x3mm, 15x4mm or 15x5 mm thick
- Liner*
- Bead fixings*
- Nominally 54 mm thick timber based FD60 door leaf[#]
- Glazing Beads*
- Bolection 5mm x 5mm minimum



System may be used with and without non-combustible setting blocks. Care must be taken to ensure edge cover and expansion allowances for each specific glass are complied with.

The Sealmaster Intumescent Closed Cell Foam Tape can be used on a wide range of uninsulated and insulated glasses. Refer to Table 4 – Approved Fire Resistant Glass Types for guidance on the field of application.

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^{*} For liner, bead and bead fixing specification see Table 4.

[#] The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. Only solid cored timber based or cellulosic cores are suitable for being glazed with this system. Core incorporating voids or hollow tubes should not be glazed using this system unless a 6 mm hardwood aperture liner is fitted within the perimeter of the aperture.



SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE – Timber Door Systems

General Requirements – Timber Doorset Applications

There is no restriction to the direction of exposure for the glazing methods i.e. the systems are symmetrical.

Any number of panes may be included in the door leaves covered below providing the door leaf is capable of supporting this principle.

The Sealmaster Intumescent Closed Cell Foam Tape may be fitted in the manner described in this Certificate of Approval; to previously tested door leaves provided that the particular aspects of the door assembly are maintained. These are described below but are not exhaustive:

- 1. The doorset, including door frame and associated building hardware, should have achieved at least 30 or 60 minutes integrity when tested or subsequently assessed by one of the laboratories or approved by CERTIFIRE as acceptable for this purpose to BS 476: Part 22: 1987 or BS EN 1634-1: 2000.
- 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. For installation within solid core doors (comprising chipboard, flaxboard or timber cores), no aperture liner is required although may be used if desirable. Core incorporating voids or hollow tubes should not be glazed using this system unless a 6 mm hardwood aperture liner is fitted within the perimeter of the aperture.

In this way the proposed use of the Sealmaster Intumescent Closed Cell Foam Tape with glazed apertures as provided within the scope of this Certificate is not expected to affect the performance of the leaf.

Production

This approval relates to on going production. Product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application when appropriate.

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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE in timber based doorsets for periods of 30 minutes integrity

This Certificate of Approval relates to the sizes of various glass types as shown in Table 1 below, when used in conjunction with the above system. Maximum pane dimensions are also subject to the limitations given.

Glass	Bead Height / Tape Dimension (mm)	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)
Pyroguard UK Ltd Pyrostem	15 / 10x3	2288	889	1.63
Fire Glass UK Ltd. Firesafe	15 / 15x3	1556 [#]	375 [#]	0.47#
Pilkington UK Ltd Pyroshield 2	15 / 10x3	2288	889	1.63
Schott UK Ltd Pyran S – 6, 8, 10 & 12 mm	15 / 10x3	2288	889	1.63
Pyroguard UK Ltd 7 mm Pyroguard	45/40.0	1680	610	0.85
EW30 IMPACT	15 / 10x3	1846*	760*	1.31*
Pilkington UK Ltd Pyroclear 6 mm	15 / 15x3	2040	594	1.01
Pilkington UK Ltd Pyrodur Plus 30-104 (7 mm)	15 / 10x3	2288	889	1.63
Pilkington UK Ltd Pyrodur 30-201 (10 mm)	15 / 10x3	2288	889	1.63

Table 1. Maximum Permitted Glass Dimensions

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^{*}hardwood beads only (min. density 620 kg/m³)

[#]a 6 mm thick hardwood aperture liner (min. density 620 kg/m³) is required for Firseafe glass. Beads to be fixed with 60 mm x 16 gauge gun fired pins (100 mm centres and 50 mm from corners. Expansion allowance to be 3 mm to sides and 4 mm to head. Setting blocks are not required.



Glass	Bead Height / Tape Dimension (mm)	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)	
AGC UK Ltd Pyrobelite 7		2300*	890*	2.05	
& Pyrobelite 10	15 / 10x3	1400 1032		1.44	
Fire Glass UK Ltd Firesafe 30-7		2288	889	1.63	
Fire Glass UK Ltd Firesafe 30-9 2B2	15 / 10x3	1632	800	1.31	
Fire Glass UK Ltd Firesafe 60-11		1632	800	1.31	
Promat UK Ltd	15 / 10x3	2300*	890*	2.05	
Pyrosec 7/30	157 1083	1400	1032	1.44	

Table 1 (continued). Maximum Permitted Glass Dimensions

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^{*}hardwood beads only (min. density 620 kg/m³)



SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE in timber based doorsets for periods of 30 minutes integrity

This Certificate of Approval relates to the sizes of various glass types as shown in Table 2 below, when used in conjunction with the above system. Maximum pane dimensions are also subject to the limitations given.

Glass	Bead Height (mm)	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)	
Pyroguard UK Ltd Pyrostem	15	1829	709	1.30	
Pilkington UK Ltd Pyroshield 2	15	1829	709	1.30	
Schott UK Ltd Pyran S – 6, 8, 10 & 12 mm	15	1829	709	1.30	
Pyroguard UK Ltd 7 mm Pyroguard EW30 IMPACT	15	1829	709	1.30	
Pilkington UK Ltd Pyrodur Plus 30-104 (7 mm)	15	1829	709	1.30	
Pilkington UK Ltd Pyrodur 30-201 (10 mm)	15	1829	709	1.30	
AGC UK Ltd Pyrobelite 7 & Pyrobelite 10	15	1829	709	1.30	
Fire Glass UK Ltd Firesafe 30-7	15	1829	709	1.30	
Promat UK Ltd Pyrosec 7/30	15	1829	709	1.30	

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Table 2. Maximum Permitted Glass Dimensions

SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE in timber based doorsets for periods of 30 minutes integrity and 30 minutes insulation

This Certificate of Approval relates to the sizes of various glass types as shown in Table 3 below, when used in conjunction with the above system. Maximum pane dimensions are also subject to the limitations given.

Glass	Bead Height (mm)	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)
Pyroguard UK Ltd Pyroguard El30 INT (15mm) and El30 EXT (19mm)	20	1800*	600*	1.08*
Fire Glass UK Ltd Firesafe 30/15, 30/16O, 30-19 and 30-20O	20	1800*	600*	1.08*
Pilkington UK Ltd 15 mm Pyrostop 30/10	20	1800*	600*	1.08*
AGC UK Ltd Pyrobel 16	20	1800*	600*	1.08*
Promat UK Ltd Pyrosec 16	20	1800*	600*	1.08*
Schott UK Ltd 15 mm Pyranova 30- S3.0	20	1800*	600*	1.08*

Table 3. Maximum Permitted Glass Dimensions

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^{*}hardwood beads only (min. density 620 kg/m³)



SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE in timber based doorsets for periods of 60 minutes integrity (and where applicable 30 or 60 minutes insulation)

This Certificate of Approval relates to the sizes of various glass types as shown in Table 4 below, when used in conjunction with the above system. Maximum pane dimensions are also subject to the limitations given.

Glass	Performance Integrity/Insulati on	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)
Pyroguard UK Ltd. Pyroguard EW60 11mm (see note 4)	60/0	1952	414	0.68
Fire Glass UK Ltd 11 mm Firesafe (see Note 2)	60/0	2074	805	1.47
Pilkington UK Ltd Pyrodur EW60-10 (10mm) & EW60-20 (13mm) (see Note 3)	60/0	2106	818	1.50
AGC UK Ltd Pyrobelite 12 (see Note 3)	60/30	2106	818	1.50
Promat UK Ltd Pyrosec 12 (see Note 3)	60/30	2106	818	1.50
Schott UK Ltd 23 mm Pyranova 60-S3.0 (see Note 1)	60/60	1945	758	1.26

Table 4. Maximum Permitted Glass Dimensions

Note 1: Glazing system comprises 31 mm high by 19.5 mm wide hardwood beads (including 6x6 mm bolection), 15x3 mm, 15x4 mm or 15x5 mm Sealmaster Intumescent Closed Cell Foam Tape, 54 x2.5 m Sealmaster Fireglaze liner and 75 mm screws at 150 mm centres angled at 30° to glass

Note 2: Glazing system comprises 22 mm high by 22.5 mm wide MDF/softwood/hardwood beads (including 7x5 mm bolection), 15x3 mm, 15x4 mm or 15x5 mm Sealmaster Intumescent Closed Cell Foam Tape, 54x2 mm Sealmaster GL60 liner and 50 mm gun fired pins or screws at 150 mm centres angled at 45° to glass

Note 3: Glazing system comprises 25 mm high by 23 mm wide MDF/softwood/hardwood beads (including 5x5 mm bolection), 15x3 mm, 15x4 mm or 15x5 mm Sealmaster Intumescent Closed Cell Foam Tape, 54x2 mm Sealmaster GL60 liner and 50 mm gun fired pins or screws at 150 mm centres angled at 45° to glass

Note 4: Glazing system comprises 30mm high by 22.5 mm wide hardwood beads (including 5x5 mm bolection) at 640kg/m³ density, 15x3 mm, 15x4 mm or 15x5 mm Sealmaster Intumescent Closed Cell Foam Tape, 54x2 mm Intumescent Seals Therm-A-Sol liner and 68 mm screws at 150 mm centres angled at 35° to glass

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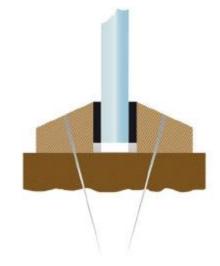
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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE – Timber Screens – 30 Minutes

The glass shall be glazed utilising the following basic specification:

- Glass (see Table 5 & 6 for type and allowable dimensions)
- Sealmaster Intumescent Closed Cell Foam Tape- 15x3mm, 15x4mm or 15x5mm uncompressed
- Fixings at 150 mm centres, 50 mm from corners
- Softwood/Hardwood framing members*
- Glazing Bead* with a 20° chamfer from: Softwood: min. density 510kg/m3 Hardwood: min. density 510kg/m3



: System may be used with and without noncombustible setting blocks

*For dimensions of frame, beads and fixing details see Table 5 & 6

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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE in timber screens for periods of 30 minutes integrity only

This Certificate of Approval relates to the sizes of various glass types as shown in Table 5 below, when used in conjunction with the above system. Maximum pane dimensions are also subject to the limitations given.

Glass	Frame Section Size/Bead Size (hxw)/Timber type	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)
Pilkington UK Ltd Pyroshield 2	Frame: 80x40mm, hardwood or softwood Beads:15x20mm, hardwood or softwood	2617	1421	3.28
Pyroguard UK Ltd Pyrostem	Frame: 80x40mm, hardwood or softwood Beads:15x20mm, hardwood or softwood	2617	1421	3.28
Schott UK Ltd Pyran S 6 mm Pyran S 8 mm Pyran S 10 mm Pyran S 12 mm	Frame: 80x40mm, hardwood or softwood Beads:15x20mm, hardwood or softwood	2660	1435	3.27
Pyroguard UK Ltd 7 mm Pyroguard	Frame: 80x40mm, hardwood or softwood	2500	1070	2.68
EW30 IMPACT	Beads:15x20mm, hardwood	1008	2500	2.52
Pyroguard UK Ltd 11 mm Pyroguard EW30 Maxi	Frame: 92x45mm, hardwood or softwood Beads:15x38.5mm, hardwood	3051	1500	3.45
Pyroguard UK Ltd	Frame: 90x50mm, hardwood	2750	1200	3.30
Pyroguard T EW30 13-1	yroguard T EW30 Beads:20x40mm, hardwood (must be fixed	1335	1570	2.06
Pilkington UK Ltd Pyroclear 6 mm	Frame: 80x40mm, hardwood or softwood Beads:15x20mm, hardwood or softwood	2660	1435	3.27
Pilkington UK Ltd Pyrodur Plus 30-104	Frame: 80x40mm, hardwood or softwood Beads:20x20mm, hardwood or softwood	2439	1128	2.20
Pilkington UK Ltd Pyrodur 30-201	Frame: 80x40mm, hardwood or softwood Beads:20x30mm, hardwood or softwood	2300	1500	3.45
1 yioddi 30-201	(must be fixed with 50mm screws)	2660	1200	3.27

Table 5. Maximum Permitted Glass Dimensions

Note: Bead fixing to be 50 mm gun fired pins or screws fixed at an angle of 45° unless otherwise stated in the table above

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Glass	Frame Section Size/Bead Size (hxw)/Timber type	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)
AGC UK Ltd	Frame: 80x40mm, hardwood or softwood	2660	1375	3.27
Pyrobelite 7	Beads:23x25mm, hardwood or softwood	1758	1758	3.09
AGC UK Ltd Pyrobelite 10	Frame: 80x40mm, hardwood or softwood Beads:27x25mm, hardwood or softwood	2660	1375	3.27
Promat UK Ltd	Frame: 80x40mm, hardwood or softwood	2660	1375	3.27
Pyrosec 7/30	Beads:23x25mm, hardwood or softwood	1758	1758	3.09
Fire Glass UK Ltd	Frame: 80x40mm, hardwood or softwood Beads:20x30mm, hardwood or softwood	2340	1200	2.81
Firesafe 30-7		2000	1404	2.81
Fire Glass UK Ltd	Frame: 80x40mm, hardwood or softwood Beads:20x30mm, hardwood or softwood	2660	1250	3.27
Firesafe 30-9 2B2 Firesafe 60-11		2000	2000	3.27

Table 5 (continued). Maximum Permitted Glass Dimensions

Note: Bead fixing to be 50 mm gun fired pins or screws fixed at an angle of 45° unless

otherwise stated in the table above

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SEALMASTER INTUMESCENT CLOSED CELL FOAM TAPE in timber screens for periods of 30 minutes integrity and 30 minutes insulation

This Certificate of Approval relates to the sizes of various glass types as shown in Table 6 below, when used in conjunction with the above system. Maximum pane dimensions are also subject to the limitations given.

Glass	Frame Section Size/Bead hxw/Timber Bead Type/Fixings	Maximum Glass Height (mm)	Maximum Glass Width (mm)	Maximum Glass Area (m²)
Pyroguard UK Ltd Pyroguard El30 INT (15mm) and El30 EXT (19mm)	Frame: 80x40mm, hardwood Beads:20x23mm, hardwood (must be fixed with 50mm screws)	2812	1517	3.45
Pyroguard UK Ltd Pyroguard T 18-2 El30 Pyroguard T 18-1	Frame: 80x40mm, hardwood Beads:20x33mm, hardwood (must be fixed with 50mm screws)	2495	1495	3.27
Pilkington UK Ltd Pyrostop 30-10 Pyrostop 30-20	Frame: 95x45mm, softwood or hardwood Beads:15x25mm, softwood or hardwood	2660	1750	3.27
AGC UK Ltd	Frame: 80x46mm, hardwood	2660	1435	3.27
Pyrobel 16	Beads:27x15mm, hardwood	1900	1920	3.27
Fire Glass UK Ltd Firesafe 30/15, 30/16O, 30-19 and 30-20O	Frame: 80x40mm, hardwood Beads:27x15mm, hardwood (must be fixed with 50mm screws)	2660	1435	3.27
Promat UK Ltd	Frame: 80x46mm, softwood or hardwood	2660	1435	3.27
16 mm Pyrosec	Beads:21x23mm, hardwood	1900	1920	3.27
Schott UK Ltd 11 mm Pyranova 15 – S2.0	Frame: 80x45mm, hardwood Beads:27x15mm, hardwood	2210	1128	2.49
Schott UK Ltd 15 mm Pyranova 30- S3.0	Frame: 80x40mm, hardwood Beads:18x22mm, hardwood (must be fixed with 50mm screws)	2660	1435	3.27

Table 6. Maximum Permitted Glass Dimensions

Note: Bead fixing to be 50 mm gun fired pins or screws fixed at an angle of 45° unless otherwise stated in the table above

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