certifire

CERTIFICATE OF APPROVAL
No CF 5319

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

PYROGUARD UK LIMITED

International House, Millfield Lane, Haydock,
WA11 9GA, United Kingdom

Tel: 01942 710720 Fax: 01942 710730

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	TECHNICAL SCHEDULE
Pyroguard "Firesafe" T Range of Integrity Control Fire Resisting Glass	TS 25 Fire Resistant Glass, Glazing Systems and Materials

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

Paul Duggan
Certification Manager

Issued: 21st May 2015
Revised: 4th November 2025
Valid to: 27th May 2030

warringtonfire certifire CERTIFICATION

certifire UKAS PRODUCT CERTIFICATION 0087

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This certification is provided to the client for its 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 Certificate of Approval must be read in conjunction with CERTIFIRE Technical Schedule TS25, Fire Resistant Glass, Glazing Systems and Materials.

Pyroguard "Firesafe" T Integrity only (E) Fire Resisting Glass

This Certificate of Approval relates to the fire resistance of Pyroguard UK Ltd, Pyroguard "Firesafe" T monolithic, laminated products and double and triple Insulating Glass Units (IGUs) when used in the following applications, as defined in BS 476: Part 22: 1987 subject to the undermentioned conditions.

This product is approved on the basis of:

a) Initial type testing
b) A design appraisal against TS25
c) Product surveillance under BS EN ISO 9001: 2008
d) Audit testing
e) Inspection and surveillance of factory production control

Definition of Pyroguard terms:
VI – Double Glazed Unit "Vitrage Isolant"
TVI – Triple Glazed Unit "Triple Vitrage Isolant"
VF – Laminated "Vitrage Feuillete"
RV – Double Sided "Recto Verso"
SWS – Structural Wall System

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Pyroguard T Integrity only (E) Fire Resisting Glass

Glass Specification	Application	Integrity	Page No.
Pyroguard T-E30/6/8/10/12/19	Multiple pane softwood framed screens	30	7
Pyroguard T-E30/8/10/12/19	Hardwood framed screens	30	8-9
Pyroguard T-EW30/6 or Pyroguard T-EW30/6 VI RV (IGU) †#*	Hardwood framed screens	30	10-11
Pyroguard T-EW30/6 †#	Single pane steel framed screens	30	12
Pyroguard T-E30/10/12/19	Single pane steel framed screens	30	13
Pyroguard T-E30/6/8/10/12/19	Multiple paned steel framed screens	30	14
Pyroguard T-E30/8/10/12/19	Multiple paned steel framed screens	30	15
Pyroguard T-E30/10/12/19	Multiple paned steel framed screens	30	16
Pyroguard T-EW30/6 VI (IGU) †#*	Multiple paned steel framed screens	30	17
Pyroguard T-EW30/6 or Pyroguard T-EW30/6 VI RV (IGU) †#*	Multiple paned steel framed screens	30	18
Pyroguard T-EW30/6 VI RV (IGU) †#*	Multiple paned steel framed screens	30	19
Pyroguard T-E30/6 VI (IGU) *	Multiple paned steel framed screens	30	20
Pyroguard T-E30/6 VI RV (IGU) *	Multiple paned steel framed screens	30	21
Pyroguard T-E30/6/8/10/12/19, with option of sandblasted glass on fire side and non – fire side	Multiple paned steel framed screens	30	22
Pyroguard T-E30/6/8/10/12/19, with option of printed glass on fire side or non – fire side, print cover of up to 50% of area allowed	Multiple paned steel framed screens	30	23
Pyroguard T-E30/6/8/10/12/19 VF RV, with option of printed glass on fire side or non – fire side, print cover of up to 50% of area allowed	Multiple paned steel framed screens	30	24

† **Note 1:** Not approved for manufacture at site CTM69121-6
# **Note 2:** Not approved for manufacture at site CTM69121-3
***Note 3:** The fire resistant pane of the IGU construction can be used as a single glazed pane in any previously fire tested or CERTIFIRE approved system. In this case the product code will change.

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Pyroguard T Integrity only (E) Fire Resisting Glass (continued)

Glass Specification	Application	Integrity	Page No.
Pyroguard T- E30/6/8/10/12/19	Timber based doorsets	30	25-31
Pyroguard T- E30/19	Timber based doorsets	30	32-33
Pyroguard T-EW60/6 RV (66.2) †#	Timber based doorsets	60	34
Pyroguard T-EW60/6 VI VF RV (IGU) †#	Timber based doorsets	60	35
Pyroguard T-EW60/6 †#	Single pane steel framed screens	60	36
Pyroguard T-EW60/6 TVI (TGU) †#	Multiple paned steel framed screens	60	37
Pyroguard T-EW60/6 VI (IGU) †#	Multiple paned steel framed screens	60	38
Pyroguard T-EW60/6 VF RV (66.2) †#	Multiple paned steel framed screens	60	39
Pyroguard T-EW60/6 VF RV (66.2) †#	Multiple paned steel framed screens	60	40
Pyroguard T-E 30/6/8/10/12/19	Steel framed doorsets	30	41
Pyroguard T-E 30/8/10/12/19	Steel framed doorsets	30	42-43
Pyroguard T-E30/8, T-E60/8, T-E90/8 and T-E120/8	Steel doorsets	30, 60, 90 & 120	44
Pyroguard T-E 30/10/12/19	Multiple paned steel framed screens	30	45
Pyroguard T-EW30/6 VF RV †#	Multiple paned steel framed screens	30	46

† **Note 1:** Not approved for manufacture at site CTM69121-6
# **Note 2:** Not approved for manufacture at site CTM69121-3
***Note 3:** The fire resistant pane of the IGU construction can be used as a single glazed pane in any previously fire tested or CERTIFIRE approved system. In this case the product code will change.

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Pyroguard T Integrity only (E) Fire Resisting Glass (continued)

General Requirements

- The building substructures to which the glazed screen and doorset assemblies are fixed will have been the subject of a previous fire test and found to be capable of providing the required level of fire performance to effectively support the assemblies without detrimental effect for the required periods of fire performance.
- Where the glass is installed in a timber or steel framed screen, the orientation of the screen shall be no more than ±10° from the vertical.
- There may be a restriction to the direction of exposure for the glass, particularly with T-EW glasses. In this case the fire resistant coating must be orientated to the fire risk. (Refer to drawings for each product and frame type. Orientation may, also, be restricted by the requirements of a non-symmetrical framing system.)

Options

i. Insulated glazing units (IGU): Spacer width for IGU's with single airspace can be in the range 6mm to18 mm. Aluminium or steel spacer bars can be used in 30-minute fire applications but only steel spacer bars for 60-minute fire applications. The IGU primary edge sealant can be Polysulfide, Silicone, Polyurethane or Hot Melt.
Spacer widths for triple IGUs should be in the range 12-14mm for either air space width.
Where IGUs are approved the Pyroguard T fire glass pane will be glazed on the non-fire risk side unless otherwise shown in the product drawing or by supporting test or assessment evidence.
The non-fire resistant glass counter panes used in IGU construction can be float, patterned, Georgian polished wired, toughened, and screen printed (coverage of up to 50% of glass area allowed), coated, sandblasted, acid etched but not laminated glasses unless stated.

ii. Glazing: All Pyroguard T-E glasses may be substituted with thicker equivalent versions. In the case of timber applications the minimum bead dimensions must be maintained, and the frame sections increased to accommodate this. In the case of steel applications, the bead width may be reduced.
Pyroguard T-EW30/6 and Pyroguard T-EW60/6 has a pyrolytic coating which unless otherwise stated must be facing the inside of an IGU or the inside of a laminate and facing the fire risk in order to perform as described.

iii. Shapes: Triangular shapes constructed with Pyroguard T-EW30/6 VF and EW30/6 V1 with 2 x 45° corner angles or one corner truncated at 135° angle are approved but Pyroguard UK Limited should be consulted prior to specifying these products.

iv. Manifestation films may be applied to both the fire and non-fire risk side of the glass surface.

v. Beads: For Timber framed glazing systems if the timber beads are square shaped, these may be modified (provided there is supporting test or assessment evidence for required shape).

vi. Glazing Tape: Where foam tape or ceramic fibre is specified as a glazing tape, Interdens Intumescent Tape [Mann McGowan] can be used as an alternative.

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Pyroguard T Integrity only (E) Fire Resisting Glass (continued)

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

- The doorset, including door frame and associated building hardware, should have achieved at least 30 or 60 minutes (whichever is applicable) integrity when tested, or subsequently assessed by one of the laboratories approved by CERTIFIRE as acceptable for this purpose, to BS 476: Part 22: 1987.
- 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.
- 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 for 30 minutes performance and 54 mm for 60 minutes performance.
- When an alternative CERTIFIRE approved glazing system is used, the system shall have been shown to be capable of including Pyroguard T/E 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 Pyroguard T/E glass shown when used in conjunction with the systems in the appropriate timber doorset sections below. The aspect ratio of the glass may be unlimited within these aperture dimensions.

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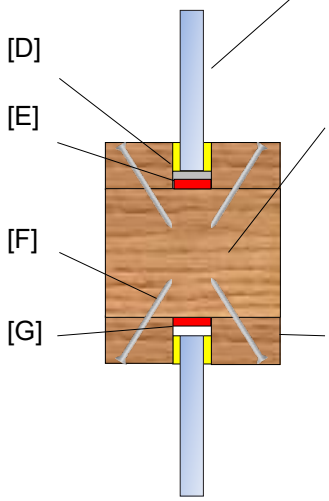
Pyroguard T-E30/6/8/10/12/19 glass in Softwood framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:



[A] Pyroguard T-E30/6; ≥6mm thick toughened fire glass

[B] Softwood partition: ≥94 mm x ≥44 mm, ≥536 kg/m^3 timber profiles

[C] Softwood bead: ≥42 mm x ≥23 mm, ≥536 kg/m^3

[D] Glazing tape: Kerafix 2000 ceramic tape 15x3 mm

[E] Setting blocks: 40mm x 6mm x 12mm, hardwood or non-flammable

[F] Fixings: 4 x 50 mm steel screws at 200 mm centre angled at 45°, spacing 70 mm from corners

[G] Liner: 'Flexpress 100' 2 mm x 10 mm [KUHN]

Glazing and frame details as described in report: Warringtonfire WR432705/R Issue 2

This Certificate of Approval relates to the sizes of glass, shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Table of Maximum Permitted Dimensions

Maximum Width	Maximum Height	Maximum Area
1557mm wide @ 1374mm high	1557mm high @ 1374mm wide	2.14m^2

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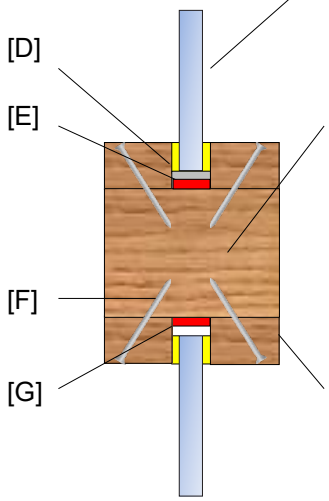
Pyroguard T-E30/8/10/12/19 glass in Hardwood framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:



[A] Pyroguard T-E30/8; ≥8mm thick toughened fire glass glass symmetrical glazed

[B] Hardwood partition: ≥86 mm (w) x ≥40 mm (h), ≥500 kg/m^3 timber profiles

[C] Hardwood bead: ≥42 mm x ≥23 mm, ≥500kg/m^3

[D] Glazing tape: 10mm x 2mm intumescent 'Intumex' (Odice) (or equivalent i.e. 'Interdens') or 'Flexpress' (Rolf Kuhn) or 20mm x 5mm 'Superwool' (Odice)

[E] Setting blocks: 80mm x 8mm x 10mm 'Superlux', hardwood or non-flammable

[F] Fixings: 4 x 40 mm steel screws at 170 mm centre angled at 15°, spacing 160 mm and 70 mm from corners.

[G] Liner: A 10 x 2.5mm INTUMEX LSK swelling seal was fitted at the top and bottom of the rebate of the glazing.

Glazing and frame details as described in report: Efectis test report No 12-V-577

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested hardwood framed screen utilising the following basic specification:

- **Pyroguard T-E30/8 glass**
- Glazing and frame details as described in **Efectis test report No 12-V-577.**

The hardwood framed screen shall have appropriate test or assessment evidence for the inclusions of glass of the proposed dimensions.

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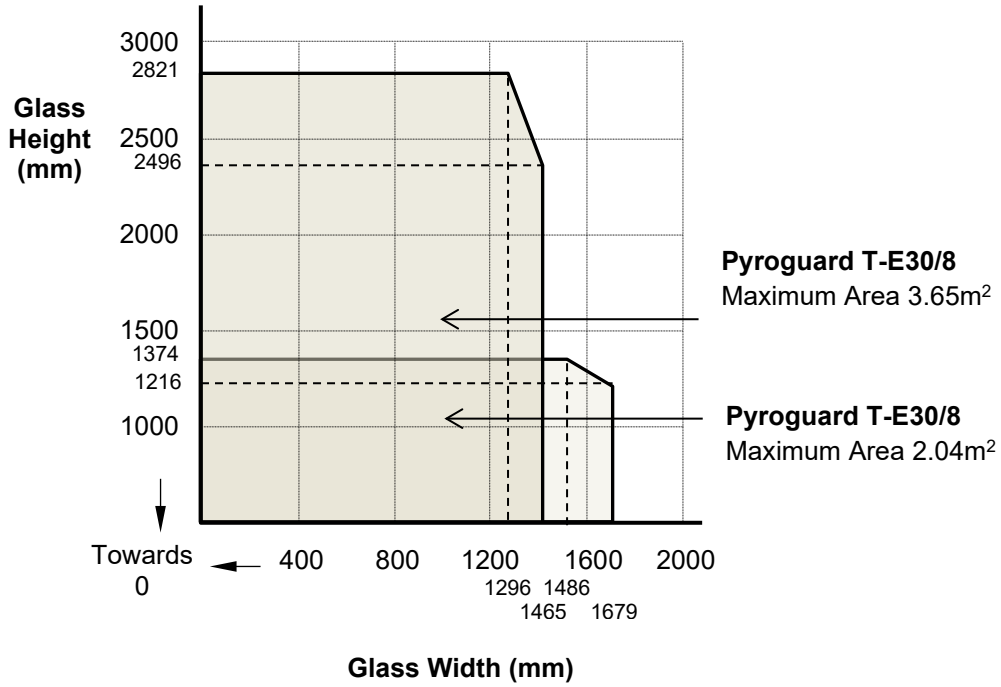
Pyroguard T-E30/8/10/12/19 glass in Hardwood framed screens for periods of 30 minutes integrity (continued)

This Certificate of Approval relates to the sizes of glass shown in Figure 1 below, when used in conjunction with the above system.

The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 1. Maximum Permitted Glass Dimensions



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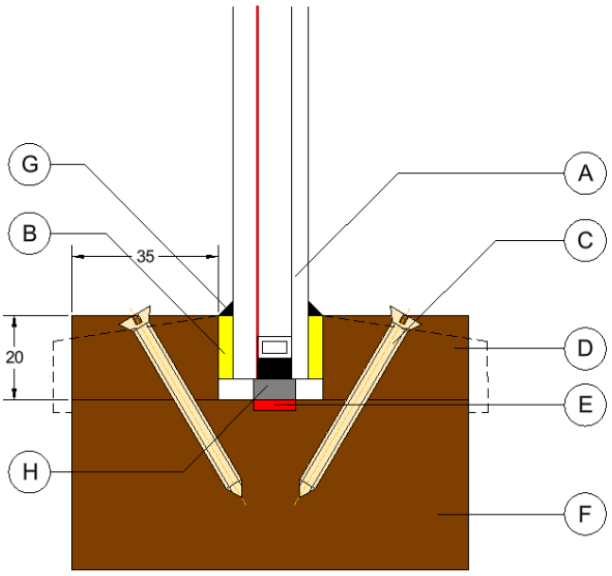
Pyroguard T-EW30/6 or Pyroguard T-E30/6 VI RV (an IGU with steel or aluminium spacer – 6 to 18mm wide Pyroguard T-EW30/6 glass, with option of truncated corner at 135°) in Hardwood framed screens for periods of 30 minutes integrity

For this application the following conditions shall apply:



Ⓐ Glazing: Pyroguard T-EW30/6 VI (Thickness Varies)
Counterpane options vary (recommendations in test report)

Ⓑ Glazing tape :
Kerafix 2000 15 mm x 3 mm [KUHN]
or
Pyrostrip CF 15 mm x 3 mm [Mann McGowan]

Ⓒ Fixing: Ø4 x 50 mm screws. 70mm from corners, maximum 160mm centres and 45° from the face of the glass.

Ⓓ Bead: Hardwood glazing beads, ≥630 kg/m³. ≥30 mm wide x ≥20 mm deep.

Alternative bead may be approved based on TS25 rules. Square beads may be converted to chamfered while maintaining at least the overall tested bead dimensions and approved fixing method

Ⓔ Liner:
Intumex, 10 mm x 3 mm [Odice]
or
Interdens, 10 mm x 2 mm [Mann McGowan]

Ⓕ Frame: Hardwood, ≥630 kg/m³. ≥95 mm wide x ≥40 mm deep.

Ⓖ Capping: Kerafix fire stopping silicone [KUHN]

Ⓗ Setting Block: Non combustible or hardwood setting blocks

Glazing details as described in test report: CTICM No. 02-V-136

Not approved for manufacture at sites CTM69121-3 & CTM69121-6

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PYROGUARD UK LIMITED

Pyroguard T-EW30/6 or Pyroguard T-E30/6 VI RV (an IGU with steel or aluminium spacer – 6 to 18mm wide, Pyroguard T-EW30/6/8/10 glass, with option of truncated corner at 135°) in Hardwood framed screens for periods of 30 minutes integrity (continued)

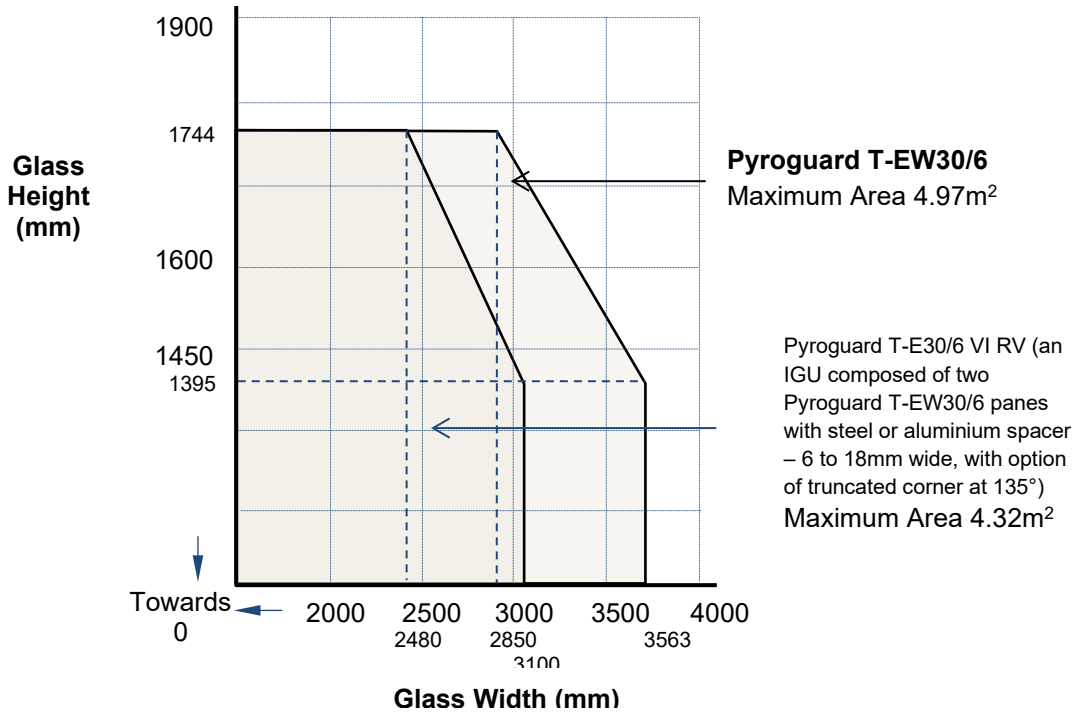
For this application the following conditions shall apply:
The glass shall be installed within a previously fire tested hardwood framed screen utilising the following basic specification:

- Pyroguard T-E30/6 or Pyroguard T-E30/6 VI RV (an IGU composed of two Pyroguard T-EW30/6 VI with a steel or aluminium spacer – 6 to 18mm wide, with option of truncated corner at 135°)
- Glazing and frame details as described in CTICM test report No 02-V-136 (ref 11-A-276)

The hardwood framed screen shall have appropriate test or assessment evidence for the inclusion of glass of the proposed dimensions.

This Certificate of Approval relates to the sizes of glass shown in Figure 2 below, when used in conjunction with the above system.
The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 2. Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

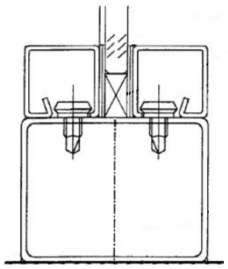
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW30/6 glass in (Forster Presto) single steel framed screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

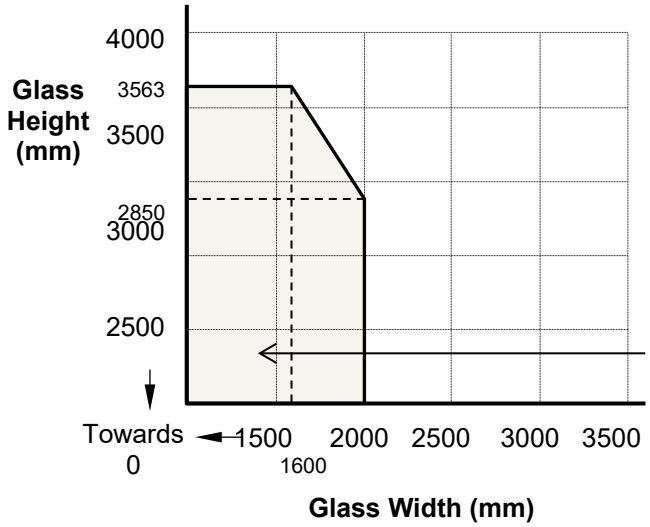
The glass shall be installed within a previously fire tested or CERTIFIRE approved single steel framed screen utilising the following basic specification:

- **Pyroguard T-EW30/6 glass**
- Glazing and frame details as described in **CTICM test report No 01-V-197**



The single steel framed screen shall have appropriate test or assessment evidence or be CERTIFIRE approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 3 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 3 . Maximum Permitted Glass



Pyroguard T-EW30/6 glass
Maximum Area 5.70m^2

Not approved for manufacture at sites CTM69121-3 & CTM69121-6

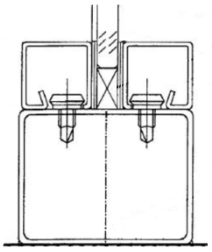
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/10/12/19 glass in (Forster Presto) single pane steel framed screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

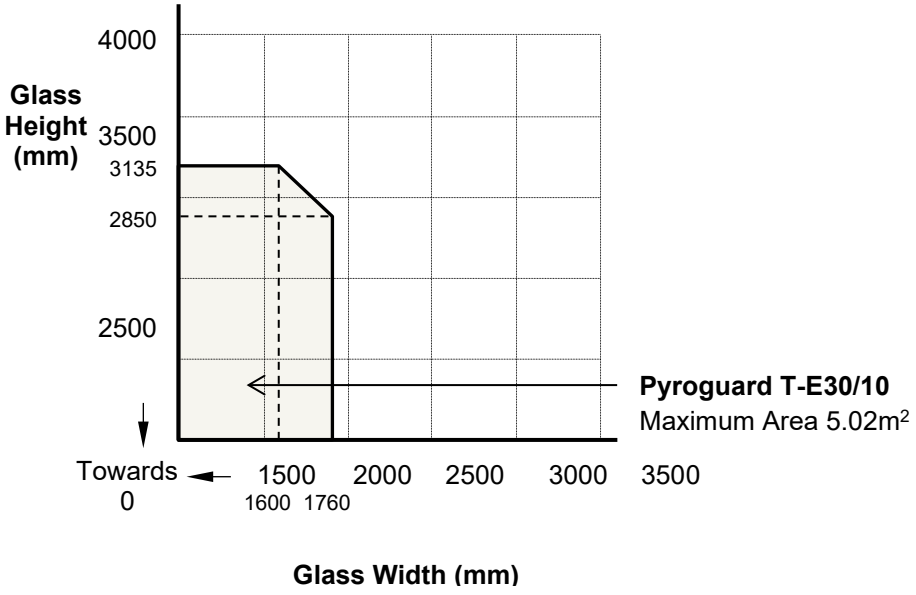
The glass shall be installed within a previously fire tested or CERTIFIRE approved single steel framed screen utilising the following basic specification:

- **Pyroguard T-E30/10/12/19 glass,**
- Glazing and frame details as described in **CTICM test report No 01-V-135**



The single steel framed screen shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass, shown in Figure 4 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 4 . Maximum Permitted Glass Dimensions



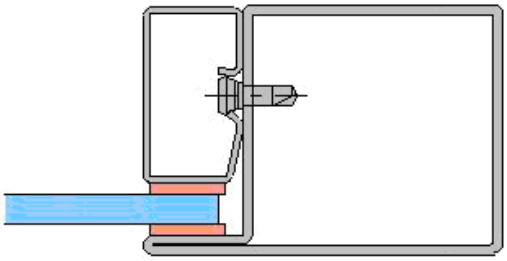
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass in (Wrightstyle 5050) multi-pane steel framed screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads, see example below. The glass shall be glazed into the screen with 15mm x 4mm Fiberfrax ceramic fibre gasket on both faces and set on non-combustible setting blocks to determine the correct edge cover of 6mm and edge clearance of 14mm (minimum per edge).

- **Pyroguard T-E30/6/8/10/12/19 glass,**
- Glazing and frame details as described in **Warringtonfire test report No 191990**



The multi-pane steel framed screen shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass**,** shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Table of Maximum Permitted Dimensions

Maximum Width	Maximum Height	Maximum Area
1800mm wide @ 2842mm high	3410mm high @ 1500mm wide	5.11m^2

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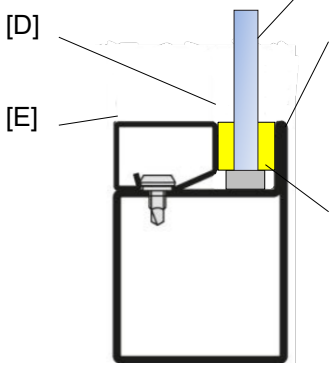
Pyroguard T-E30/8/10/12/19 glass in (Forster Presto 50) multi-pane steel framed screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved framing system (which is covered appropriately by test or assessment evidence) using pressure plate glazing, screw-fixed or clip-on retaining beads, see example below.



[A] Glass: **Pyroguard T-E30/8**; ≥8mm thick toughened fire glass, symmetrical glazed

[B] Steel partition: Forster Presto 50, Part# 32851 and 32852. 50 mm x 50 mm with 20 mm upstands.

[C] Setting blocks: 80mm x 8mm x 8mm non-combustible setting blocks. To suit 12 mm edge cover

[D] Glazing tape: Kerafix 2000 Ceramic Tape 5x20mm

[E] Steel bead: Forster Part# 901246 30x20 mm

Glazing details as described in report: Efectis EFR-21-0003752

The multi-pane steel framed screen shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass**,** shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Table of Maximum Permitted Dimensions

Maximum Width	Maximum Height	Maximum Area
1730mm wide @ 2804mm high	3505mm high @ 1384mm wide	4.85m^2

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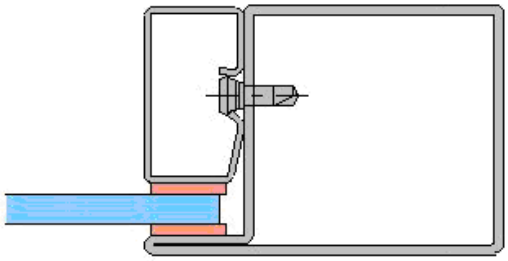
PYROGUARD UK LIMITED

Pyroguard T-E30/10/12/19 glass in single (Jansen Economy 50) multi-paned steel framed screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved single steel framed screen utilising the following basic specification:

- **Pyroguard T-E30/10/12/19 glass,**
- Glazing and frame details as described in **Efectis test report No EFR-17-G-003447 A**



The multi-paned steel framed screen shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass, shown in the table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Maximum Permitted Glass Dimensions

	Maximum Width	Maximum Height	Maximum Area
Portrait	1603mm wide (at 2804mm) high	3271mm high (at 1374mm wide)	4.49m^2
Landscape	3271mm wide (at 1389mm) high	1620mm high (at 2804mm wide)	4.54m^2

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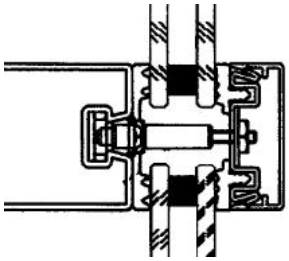
PYROGUARD UK LIMITED

Pyroguard T-EW30/6 VI in a multi-paned (Jansen VISS-TV) steel glazed curtain wall system for periods of 30 minutes integrity only

For this application the following conditions shall apply:

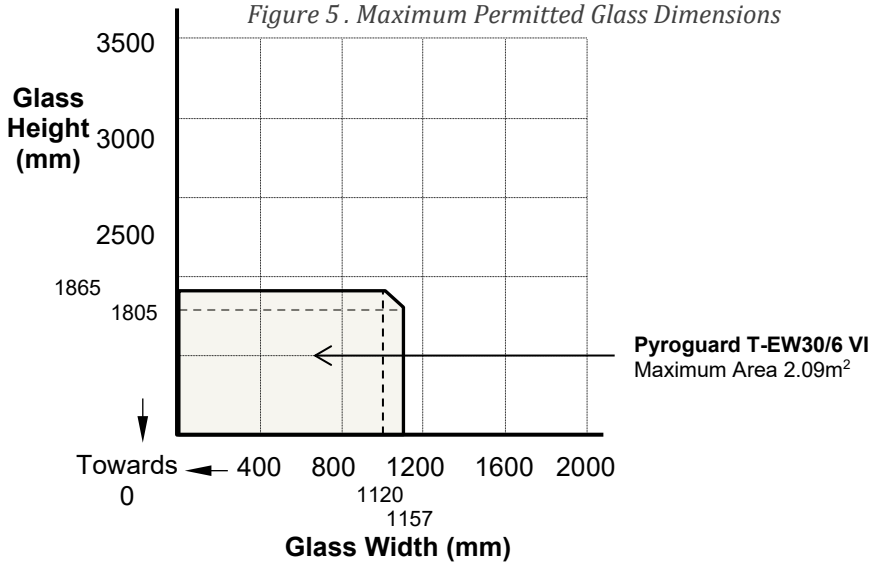
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screen utilising the following basic specification:

- **Pyroguard T-EW30/6 - steel spacer - Toughened 6mm glass**
- Glazing and frame details as described in **CTICM test report No 03-V-346 (ref 11-A-280)**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 5 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 5 . Maximum Permitted Glass Dimensions



Not approved for manufacture at site CTM69121-6

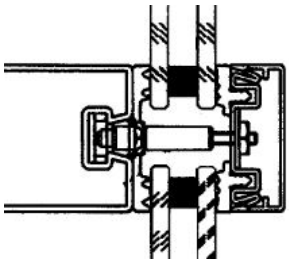
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW30/6 or Pyroguard T-E30/6 VI RV (an IGU composed of two Pyroguard T-EW30/6 panes with steel or aluminium spacer of dimensions 6 to 18mm wide) in a multi - paned (Jansen VISS-TV) steel glazed curtain walling system for periods of 30 minutes integrity only

For this application the following conditions shall apply:

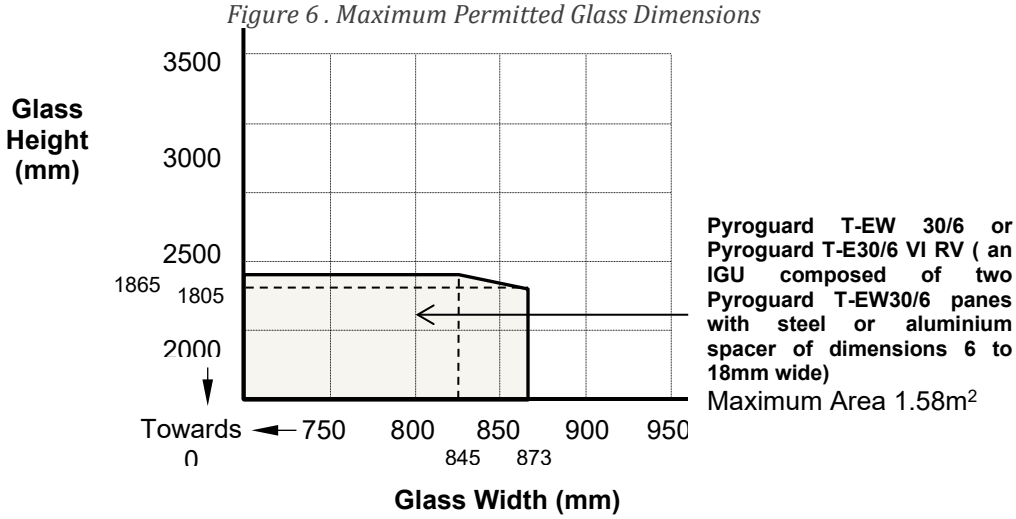
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- **Pyroguard T EW30/6 – steel or aluminium spacer - Pyroguard T-EW30/6 glass**
- Glazing and frame details as described in **CTICM test report No 03-V-346 (ref11-A-280)**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 6 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 6 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

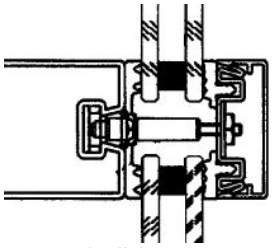
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW 30/6 VI (an IGU composed of Pyroguard T-EW30/6 pane with steel or aluminium spacer of dimensions 6 to 18mm wide and a counterpane of choice) in a multi - paned (Jansen VISS-TV) steel glazed curtain walling system for periods of 30 minutes integrity only

For this application the following conditions shall apply:

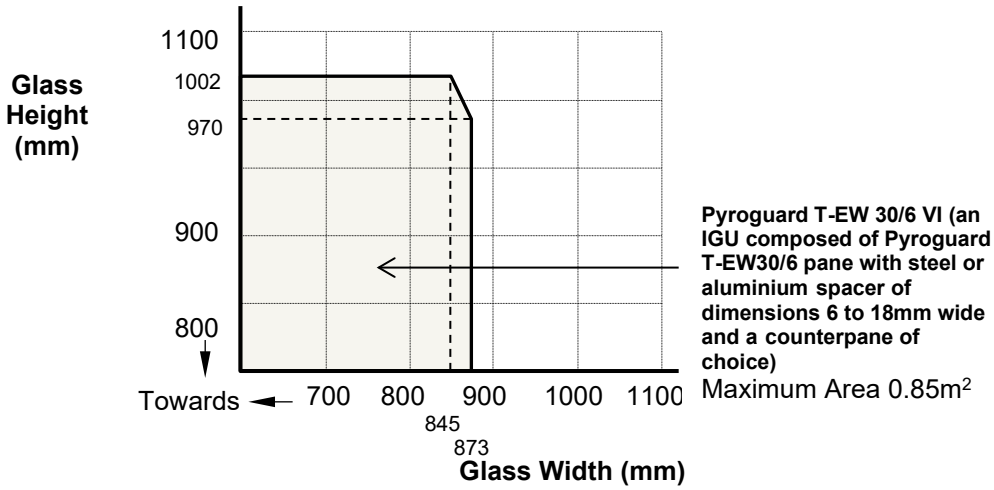
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- **Pyroguard T-EW 30/6 VI (an IGU composed of Pyroguard T-EW30/6 pane with steel or aluminium spacer of dimensions 6 to 18mm wide and a counterpane of choice)**
- Glazing and frame details as described in **CTICM test report No 03-V-346 (ref 11-A-280)**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 7 below, when used in conjunction with the above system.
The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 7 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

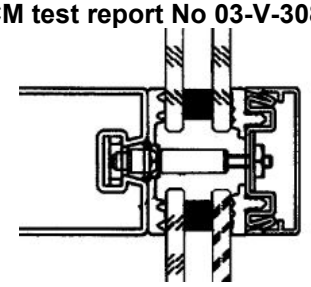
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 VI (an IGU composed of Pyroguard T-E30 with steel or aluminium space of dimensions 6mm to 18mm and counterpane of choice) in a multi-paned (Jansen VISS-TV) steel glazed curtain wall system for periods of 30 minutes integrity only

For this application the following conditions shall apply:

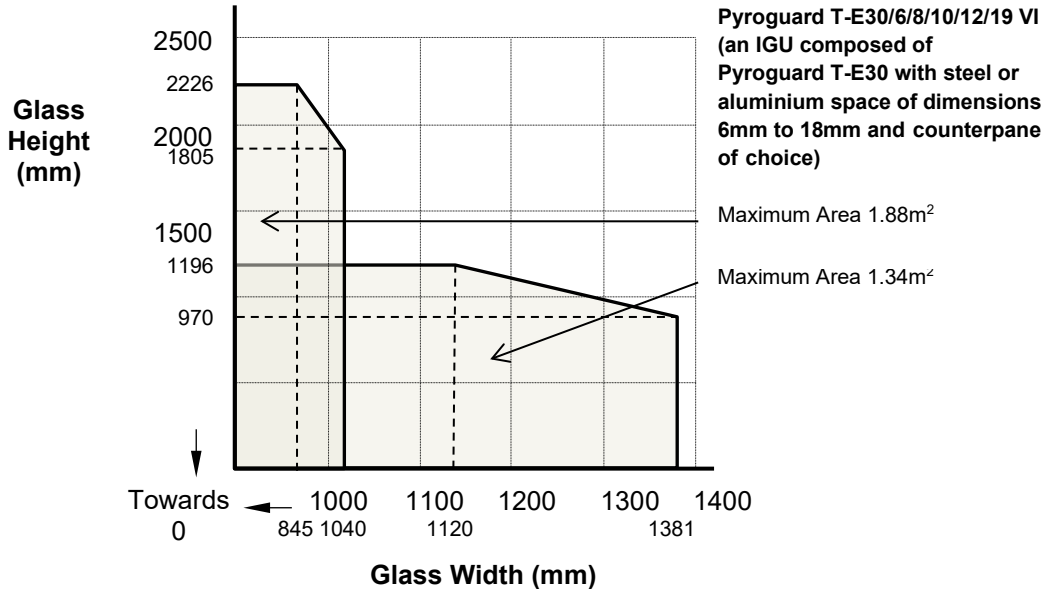
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- **Pyroguard T-E30/6/8/10/12/19 VI (an IGU composed of Pyroguard T-E30 with steel or aluminium space of dimensions 6mm to 18mm and counterpane of choice)**
- Glazing and frame details as described in **CTICM test report No 03-V-308 (ref 11-A-279)**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 8 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 8. Maximum Permitted Glass Dimensions



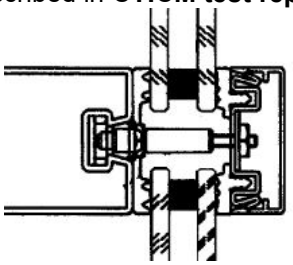
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 VI RV (an IGU composed of Pyroguard T-E30 with steel or aluminium space of dimensions 6mm to 18mm and counterpane Pyroguard T-E30/6) in a multi-paned (Jansen VISS-TV) steel glazed curtain wall system for periods of 30 minutes integrity only

For this application the following conditions shall apply:

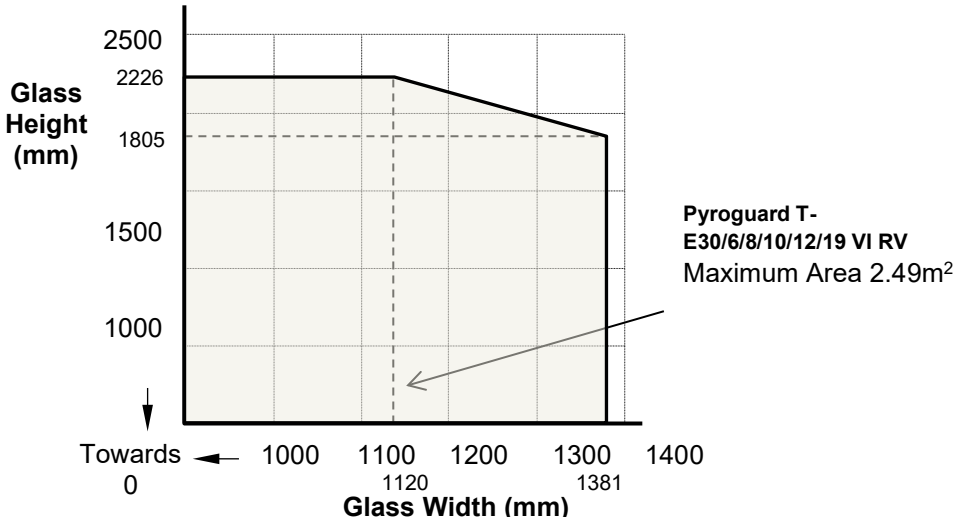
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- **Pyroguard T-E30/6/8/10/12/19 VI RV (an IGU composed of Pyroguard T-E30 with steel or aluminium space of dimensions 6mm to 18mm and counterpane Pyroguard T-E30/6)**
- Glazing and frame details as described in **CTICM test report No 03-V-308 (ref 11-A-279)**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 9 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 9 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

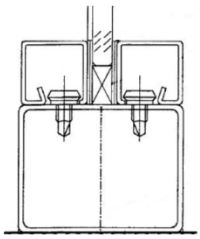
Pyroguard T-E30/6/8/10/12/19 glass in a steel multi-paned steel glazed screen for periods of 30 minutes integrity only

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

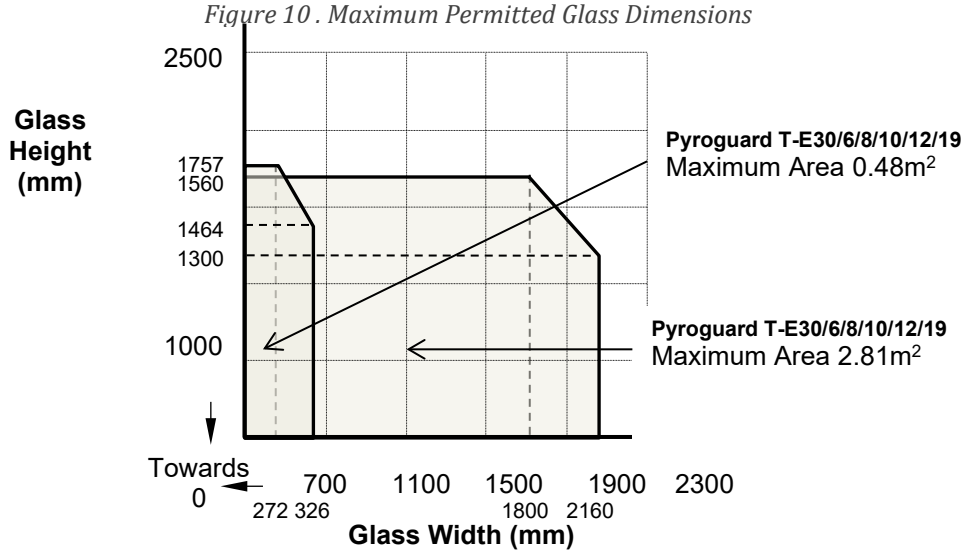
- **Pyroguard T-E30/6/8/10/12/19 glass**
- Glazing and frame details as described in **CTICM test report No 02-V-444 (ref 11-A-277)**

It is additionally approved that this glass may be sandblasted on one or both sides at the sizes below..



The multi-paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 10 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 10 . Maximum Permitted Glass Dimensions



CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

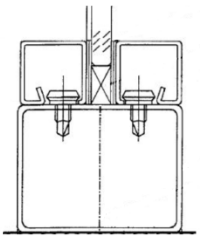
Pyroguard T-E30/6/8/10/12/19 glass with option of printed surface cover of up to 50% of area, to fire or non - fire side glazed in a steel multi-paned steel glazed screen for periods of 30 minutes integrity only

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

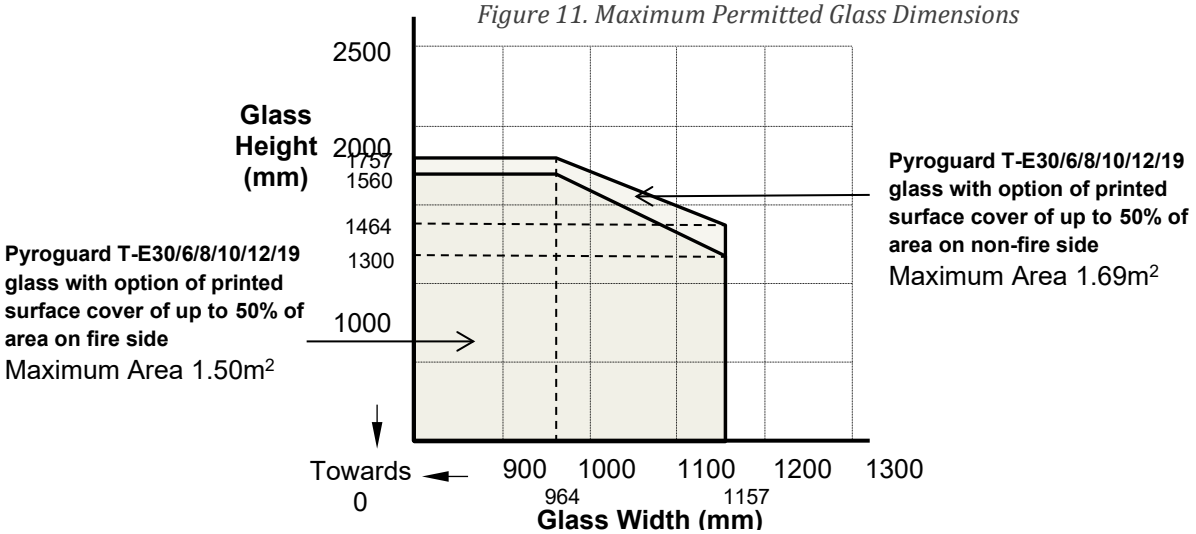
- **Pyroguard T-E30/6/8/10/12/19 glass with option of printed surface cover of up to 50% of area on fire or non-fire side**
- Glazing and frame details as described in **CTICM test report No 02-V-444 (ref 11-A-277)**

It is additionally approved that this glass may be printed on the fire or non-fire side up to 50% of the glass area.



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 11 below, when used in conjunction with the above system.
The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 11. Maximum Permitted Glass Dimensions



CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

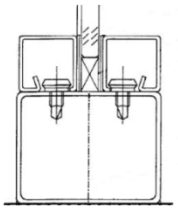
Pyroguard T-E30/6/8/10/12/19 VF RV as part of a laminated pane, i.e.66.2, in a multi-paned steel glazed screen for periods of 30 minutes integrity only

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

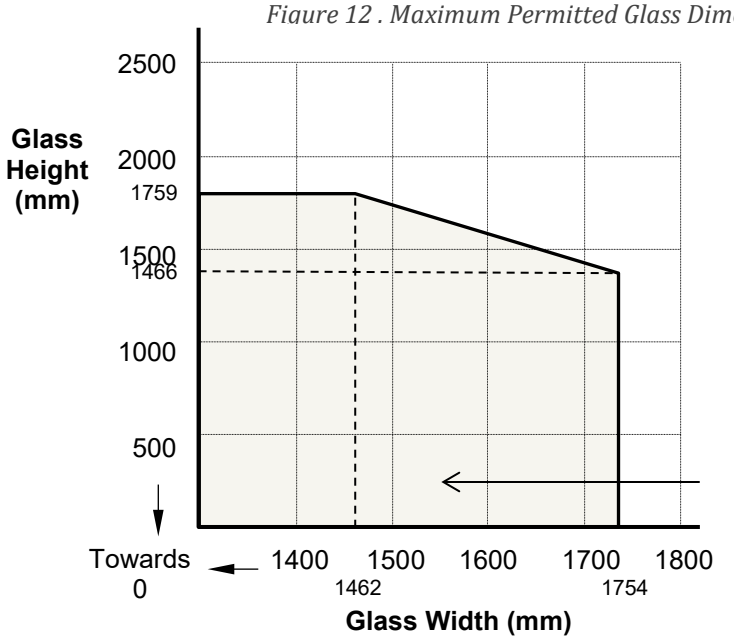
- **Pyroguard T-E30/6/8/10/12/19 VF RV i.e. 66.2**
- Glazing and frame details as described in **CTICM test report No 02-V-444 (ref 11-A-277)**

It is additionally approved that this glass may be printed on the fire or non-fire side up to 50% of the glass area.



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes glass shown in Figure 12 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 12 . Maximum Permitted Glass Dimensions



Pyroguard T-E30/6 VF RV 66.2 with option of printed surface cover of up to 50% of area on fire or non-fire side
Maximum Area 2.57m^2

Not approved for manufacture at sites CTM69121-3 & CTM69121-6

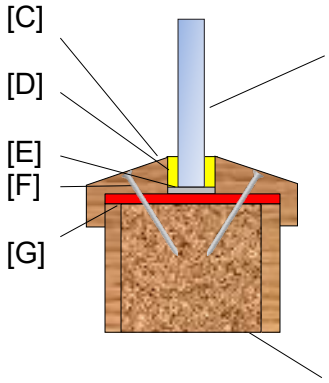
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

Glazing and doorset details as described in test report **Warringtonfire WF313952**.

The glass shall be glazed utilising the following basic specification:



[A] **Pyroguard T-E30/6**
[B] Door: 44mm Certifire Approved FD30 timber door set
[C] Beads: 25mm high by 22mm wide (including a 6x10mm bolection return), medium density fibreboard glazing beads, minimum density 720kg/m^3, or hardwood glazing beads minimum density 640kg/m^3.
[D] Glazing tape: 15mm by 3mm ceramic fibre based glazing tape
[E] Setting blocks: Non-combustible setting blocks 5mm high x 35mm wide
[F] Fixings: 50mm long Ø2mm steel pins at 150mm centres and 70mm from corners (35° to glass)
[G] Liner: 6mm thick hardwood liner (min. density 640kg/m^3)

The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. See “General Requirements” for timber doorsets, above.

This Certificate of Approval relates to the sizes of Pyroguard T-E30/6/8/10/12/19 Fire Resistant Glass shown in the table below, when used in conjunction with the above system.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
740mm wide @ 1600mm high	1973mm high @ 600mm wide	1.18m^2

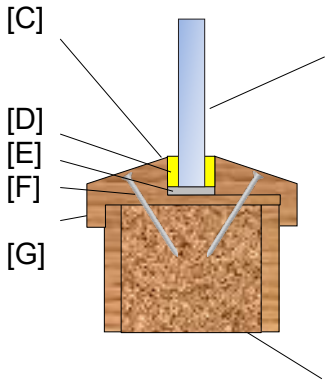
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

Glazing and doorset details as described in test report **Warringtonfire WF313952**.

The glass shall be glazed utilising the following basic specification:



[A] **Pyroguard T-E30/6**
[B] Door: 44mm Certifire Approved FD30 timber door set
[C] Beads: 25mm high by 22mm wide (including a 6x10mm bolection return), medium density fibreboard glazing beads, minimum density 720kg/m^3, or hardwood glazing beads minimum density 640kg/m^3.
[D] Glazing tape: 15mm by 3mm ceramic fibre based glazing tape
[E] Setting blocks: Non-combustible setting blocks 5mm high x 35mm
[F] Fixings: 50mm long Ø2mm steel pins at 150mm centres and 70mm from corners (35° to glass)
[G] Liner: Integrated to bead design; a 6mm thick hardwood liner (min. density 640kg/m^3)

The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. See "General Requirements" for timber doorsets above.

This Certificate of Approval relates to the sizes of Pyroguard T-E30/6/8/10/12/19 Fire Resistant Glass shown in the table below, when used in conjunction with the above, system.

Maximum Permitted Glass Dimensions

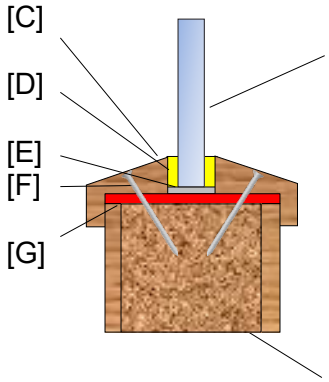
Maximum Width	Maximum Height	Maximum Area
740mm wide @ 1600mm high	1973mm high @ 600mm wide	1.18m^2

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

Glazing and doorset details as described in test report **Warringtonfire WF506977**.



[A] **Pyroguard T-E30/6**
[B] Door: 44mm Certifire Approved FD30 timber door set

[C] Beads: 21.5mm high by 24.5mm wide (including a 6x10mm bolection return and a 15° chamfer), medium density fibreboard glazing cassette, minimum density 720kg/m^3.

[D] Glazing tape: 15mm by 5mm Sealmaster Intumescent Foam Tape (Black)

[E] Setting blocks: Edge clearance to leaf aperture 3mm per side, no setting blocks

[F] Fixings: 40mm long 18 gauge steel pins at 100mm centres, 20mm and 50mm from corners (35^o to glass)

[G] Liner: 6mm thick hardwood liner (min. density 640kg/m^3)

The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. See “General Requirements” for timber doorsets, above.

This Certificate of Approval relates to the sizes of Pyroguard T-E30/6/8/10/12/19 Fire Resistant Glass shown in the table below, when used in conjunction with the above, system.

Maximum Permitted Glass Dimensions

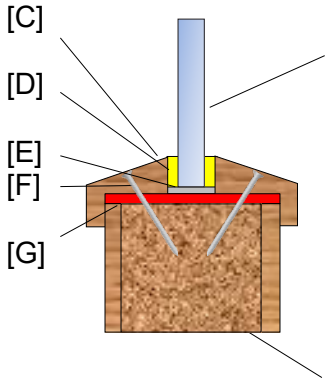
Maximum Width	Maximum Height	Maximum Area
180mm wide @ 694mm high	867mm high @ 144mm wide	0.12m^2

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

Glazing and doorset details as described in **Cambridge Fire Research test report CFR2104011**.



[A] **Pyroguard T-E30/6**
[B] Door: 44mm Certifire Approved FD30 timber door set
[C] Beads: 21mm high by 24mm wide (including a 6x9.5mm bolection return and a 15° chamfer), medium density fibreboard glazing cassette, minimum density 720kg/m^3.
[D] Glazing tape: 15mm by 5mm Sealmaster GTR Intumescent Foam Tape (Black)
[E] Setting blocks: Edge clearance to leaf aperture 3mm per side, no setting blocks
[F] Fixings: 50mm long 18 gauge steel pins at 116 to 152mm centres, (35° to glass)
[G] Liner: 6mm thick hardwood liner (min. density 640kg/m^3)

The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. See “General Requirements” for timber doorsets, above.

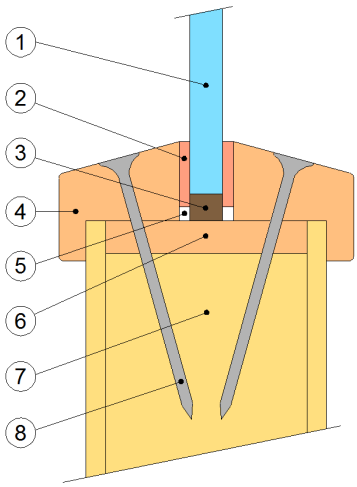
This Certificate of Approval relates to the sizes of Pyroguard T-E30/6/8/10/12/19 Fire Resistant Glass shown in the table below, when used in conjunction with the above, system.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
163mm wide @ 1404mm high	1591mm high @ 144mm wide	0.23m^2

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity



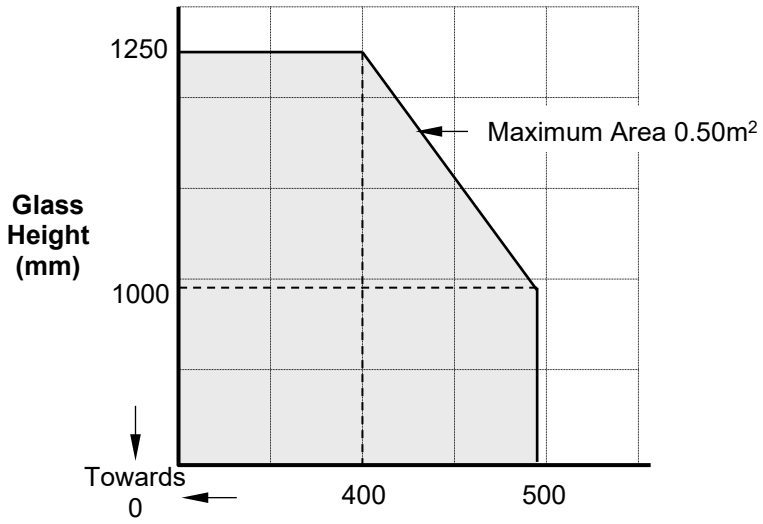
1. **Pyroguard T-E30/6** glass
2. Closed cell foam glazing tape: 'FIRE + ACOUSTIC 78130', 12mm by 2mm
3. Max 5mm hardwood setting blocks
4. 22mm high by 22mm wide MDF beads including a 5mm by 7mm bolection, chamfered to 15°
5. Acrylic intumescent mastic to void, both sides
6. 6mm thick MDF liner to aperture (minimum density 550kg/m^3)
7. Nominal 44mm thick FD30 door leaf
8. 50mm x 2mm diameter steel pins at maximum of 90mm centres, angles by 30°

Edge cover to be 8mm with minimum 2.5mm clearance at vertical edges and top edge.

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. See "General Requirements" for timber doorsets, above.

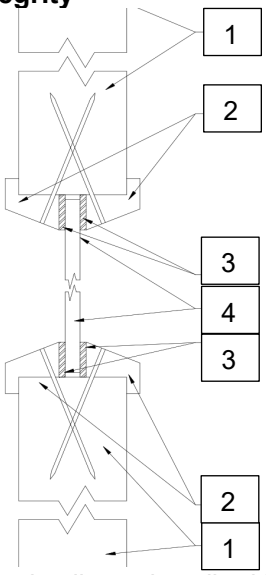
This Certificate of Approval relates to the sizes of Pyroguard T-E30/6 glass shown in Figure 13, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Figure 13. Maximum Permitted Glass Dimensions



CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity



1. Nominal 44mm thick FD30 door leaf with a 44mm thick hardwood liner (620kg/m^3) framing the perimeter of the aperture
2. MDF beads with mitred corners 22mm high by 21mm wide including a 7mm high x 6mm wide bolection, chamfer angle of 22°. Fixed using 60mmx16swg gun fired steel pins, 50mm form corners and 100mm centres at 30° to glass.
3. Sealmaster Intumescent Closed Cell Foam Tape, 15mm x 3mm uncompressed.
4. **Pyroguard T-E30/6** Glass, (no setting block required)*

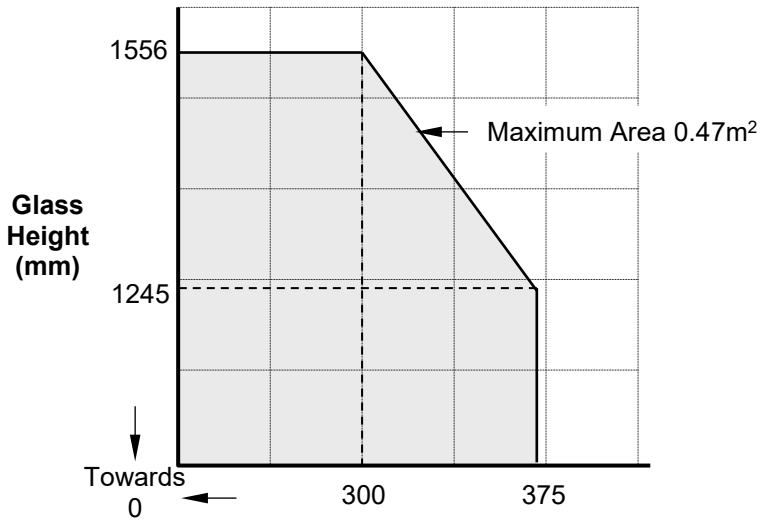
*Edge cover to be 11mm at head, 12mm at vertical edges and 15mm at bottom giving glass expansion allowance of 3mm each side and 4mm at top edge

Glazing and doorset details as described in test report **CFR 1906261**.

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. See “General Requirements” for timber doorsets, above.

This Certificate of Approval relates to the sizes of Pyroguard T-E30/6 glass shown in Figure 14, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

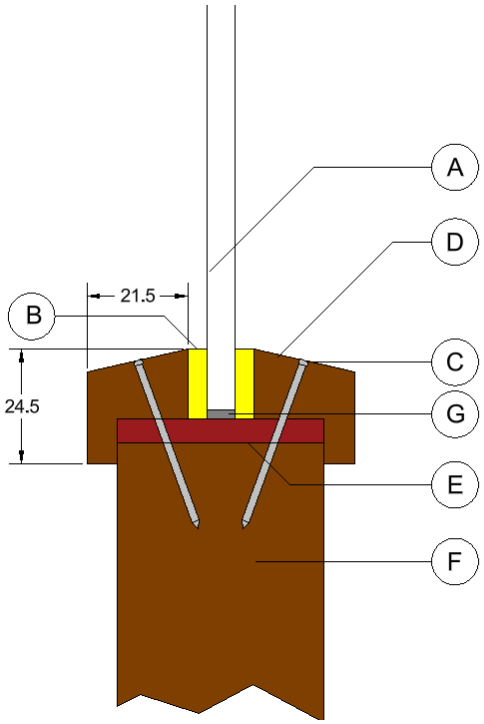
Figure 14. Maximum Permitted Glass Dimensions



CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass (6mm toughened) in timber based doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:



Ⓐ Glazing: Pyroguard Firesafe T-E30/6 (6mm thick)

Ⓑ Glazing tape : Intumescent Foam Tape [Sealmaster] 15 mm x 5 mm, compressed to 4 mm

Ⓒ Fixing: 16g x 50 mm pins. 50mm from corners, maximum 100mm centres and 35° from the face of the glass.

Ⓓ Bead: Hardwood glazing beads, ≥580 kg/m³. ≥21.5 mm wide x ≥24.5 mm deep including a 6.5 x 9.5 mm bolection and 15° chamfer.

Ⓔ Liner: 44 mm x 6 mm Hardwood liner

Ⓕ Leaf: Nominally 44mm thick door or Certifire approved FD30 door

Ⓖ Setting Block: Non combustible or hardwood setting blocks

Glazing details as described in test report: Warringtonfire WF 549040

The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. See “General Requirements” for timber doorsets, above.

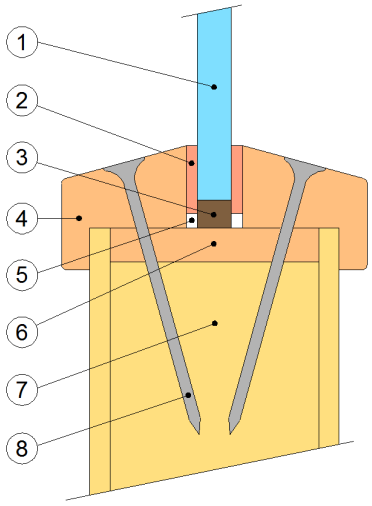
This Certificate of Approval relates to the sizes of Pyroguard T-E30/6/8/10/12/19 Fire Resistant Glass shown in the table below, when used in conjunction with the above, system.

Maximum Permitted Glass Dimensions

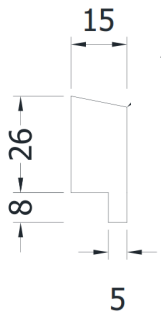
Maximum Width	Maximum Height	Maximum Area
600mm wide @ 1290mm high	1290mm high @ 600mm wide	0.774m^2

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

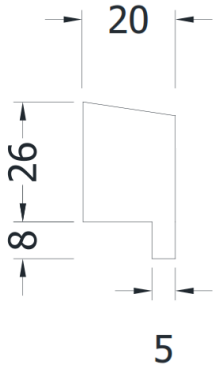
Pyroguard T-E30/19 glass (19mm toughened) in timber based doorsets for periods of 30 minutes integrity



1. **Pyroguard T-E30/19** glass
2. Closed cell foam glazing tape by Acoustic Seals Limited, 15mm by 3 mm
3. 20mm x 19mm x 3mm hardwood setting blocks, loosely fitted underneath base of glass
4. Hardwood beads (510kg/m^3), chamfered to 20° (see below for bead dimensions)
5. Firepro Acoustic acrylic intumescent mastic to void, both sides
6. 6mm thick hardwood liner to aperture (minimum density 510kg/m^3)
7. Nominal 44mm or 54mm thick FD30 door leaf
8. 45mm x 3.7mm diameter brass screws at maximum of 120mm centres, angled by 20°



Bead dimensions for 44mm thick leaf



Bead dimensions for 54mm thick leaf

Edge cover to be 18mm with minimum 10mm clearance at vertical edges and top edge.

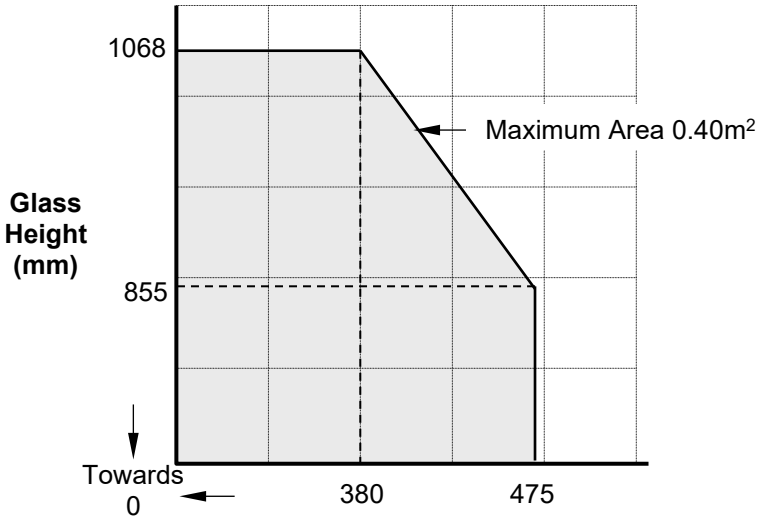
The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. Only solid cored timber based or cellulosic cores are suitable for being glazed with this system. See “General Requirements” for timber doorsets, above.

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/19 glass (19mm toughened) in timber based doorsets for periods of 30 minutes integrity

This Certificate of Approval relates to the sizes of **Pyroguard T-E30/19** glass shown in Figure 15, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these aperture dimensions.

Figure 15. Maximum Permitted Glass Dimensions

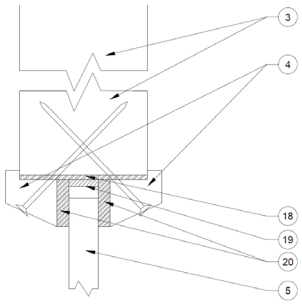


CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 VF RV as laminated 66.2 pane in timber based doorsets for periods of 60 minutes integrity

For this application the following conditions shall apply:

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



3 Nominally 54mm thick FD60 door leaf

4 Hardwood (640kg/m^3) glazing beads, 28.5mm by 22.3mm including 8.5mm x 5.7mm bolection, chamfered at 25°

Beads fixed with No.8 x 2.5" steel countersunk screws set at 150mm centres and at 45° to the glass

5 **Pyroguard T-EW60/6 VF RV** (66.2)

Non-combustible/hardwood setting blocks 10mm (h) x 25mm (w) x 13mm (d)

18 Therm-A-Sol intumescent liner, 52mm x 2mm

19 Sealmaster FireGlaze tape, 13mm x 2.5mm

20 ISL 60 Plus 20mm x 5mm glazing tape

- Glazing and doorset details as described in **CFR1808152**

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

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
398mm wide (at 1602mm) high	1815mm high (at 351mm wide)	0.63m^2

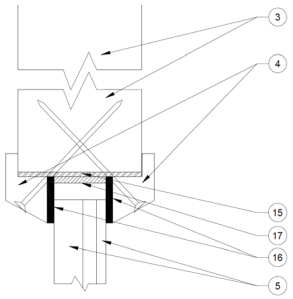
Not approved for manufacture at sites CTM69121-3 & CTM69121-6

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 VI VF RV (an IGU composed of a fire resistant 66.2 laminate and counter pane of choice) in timber based doorsets for periods of 60 minutes integrity only

For this application the following conditions shall apply:

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



3 Nominally 54mm thick FD60 door leaf

4 Hardwood (640kg/m^3) glazing beads, 29.5mm by 18.7mm including 10mm x 5.5mm bolection, chamfered at 20°

Beads fixed with No.8 x 2.5" steel countersunk screws set at 150mm centres and at 30° to the glass

5 **Pyroguard T-EW60/6 VI VF RV** with 6mm steel spacer and 4mm toughened glass

Non-combustible/hardwood setting blocks 10mm (h) x 25mm (w) x 13mm (d)

15 Therm-A-Sol intumescent liner, 54mm x 2mm

16 ISL 60 Plus 20mm x 5mm glazing seal

17 Sealmaster FireGlaze tape, 23mm x 2.5mm

- Glazing and doorset details as described in **CFR1810311**

The doorset shall be CERTIFIRE approved or have test evidence for the inclusion of apertures of the proposed dimensions. The Pyroguard T-EW60/6 VI VF RV may be glazed in either direction with respect to the fire risk. See "General Requirements" for timber doorsets, above.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
374mm wide (at 1583mm) high	1794mm high (at 330mm wide)	0.59m^2

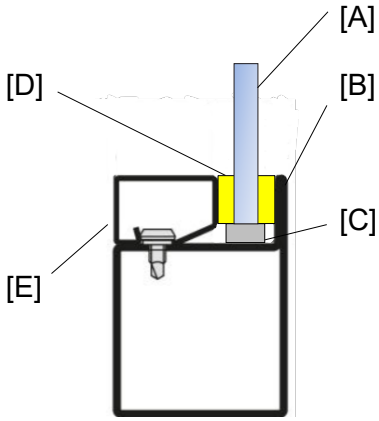
Not approved for manufacture at sites CTM69121-3 & CTM69121-6

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 glass in (Forster Presto) single steel framed screen for periods of 60 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved single steel framed screen utilising the following basic specification:



[A] Glass: **Pyroguard T-EW60/6**
*one side fire performance -pyrolytic coating facing fire risk side

[B] Steel partition: 40 mm x 50 mm with 20 mm upstands.

[C] Setting blocks:
Non-flammable or ceramic 6x9x80mm giving 11mm edge cover

[D] Glazing tape:
Ceramic Tape 20x5

[E] Steel bead:
25x20 mm

Glazing details as described in report: **CTICM 2000-CVB-1532**

The single steel framed screen shall have appropriate test or assessment evidence or be CERTIFIRE approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1166mm wide (at 1400mm) high	1633mm high (at 1000mm wide)	1.63m^2

Not approved for manufacture at sites CTM69121-3 & CTM69121-6

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 TVI (a triple glazed unit composed of Pyroguard T-EW60/6 - 14mm steel spacer- counterpane of choice - 12mm steel spacer - counterpane of choice including laminated option) in a multiple paned (Forster Unico) Glazed Screen) for periods of 60 minutes integrity only

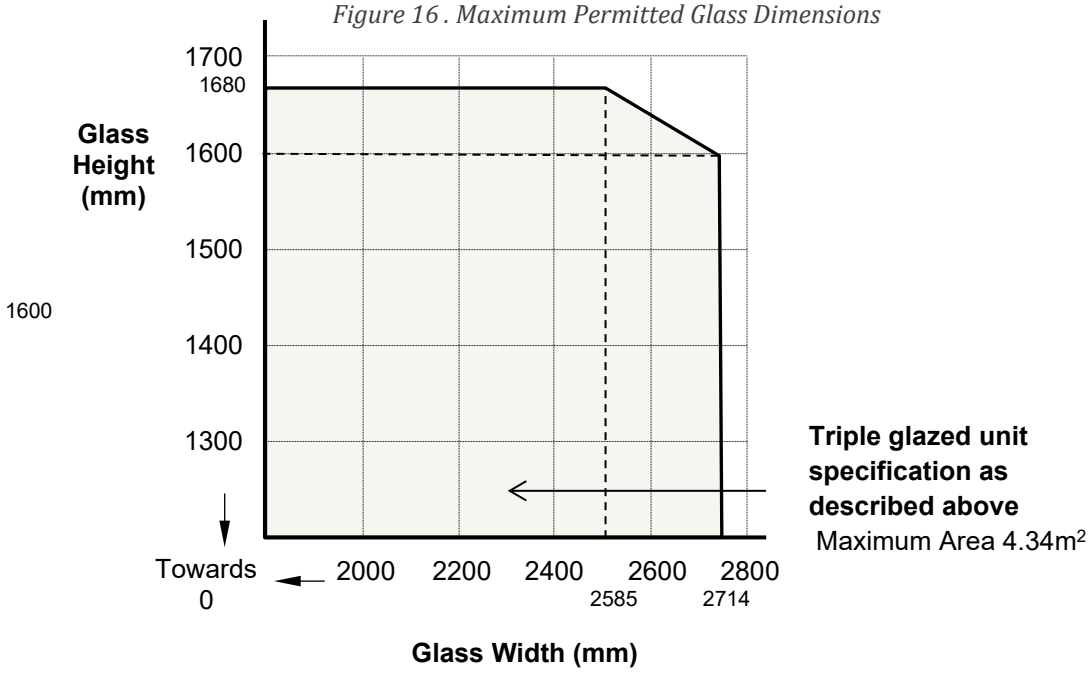
For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- IGU specification as described above
- Glazing and frame details as described in **Efectis 13-V-582**

The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of triple glazed IGU shown in Figure 16 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

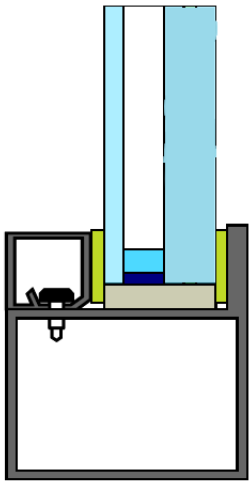
Figure 16 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 VI RV (an IGU composed of Pyroguard EW60/6 - 16mm steel spacer - Pyroguard T-EW60/6 or counterpane of choice to fire side) in a multiple paned (Forster Unico) Glazed Screen for periods of 60 minutes integrity only



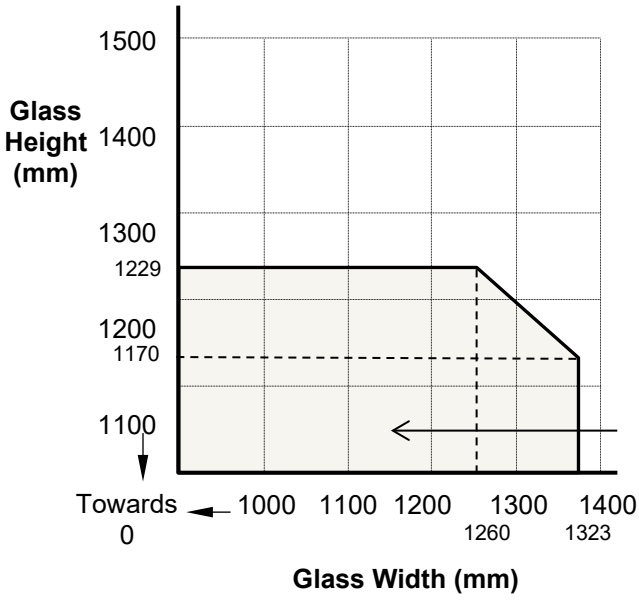
For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- IGU specification as described above
- Glazing and frame details as described in **Efectis 13-V-582**

The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 17 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 17. Maximum Permitted Glass Dimensions



IGU specification as described above
Maximum Area 1.55m^2

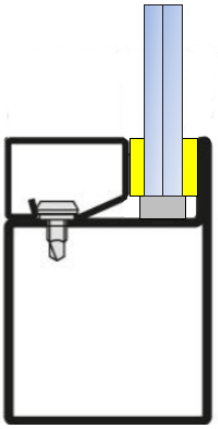
Not approved for manufacture at sites CTM69121-3 & CTM69121-6

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 VF RV 66.2 in a multiple glazed (Forster Presto) Glazed Screen for periods of 60 minutes integrity

For this application the following conditions shall apply:

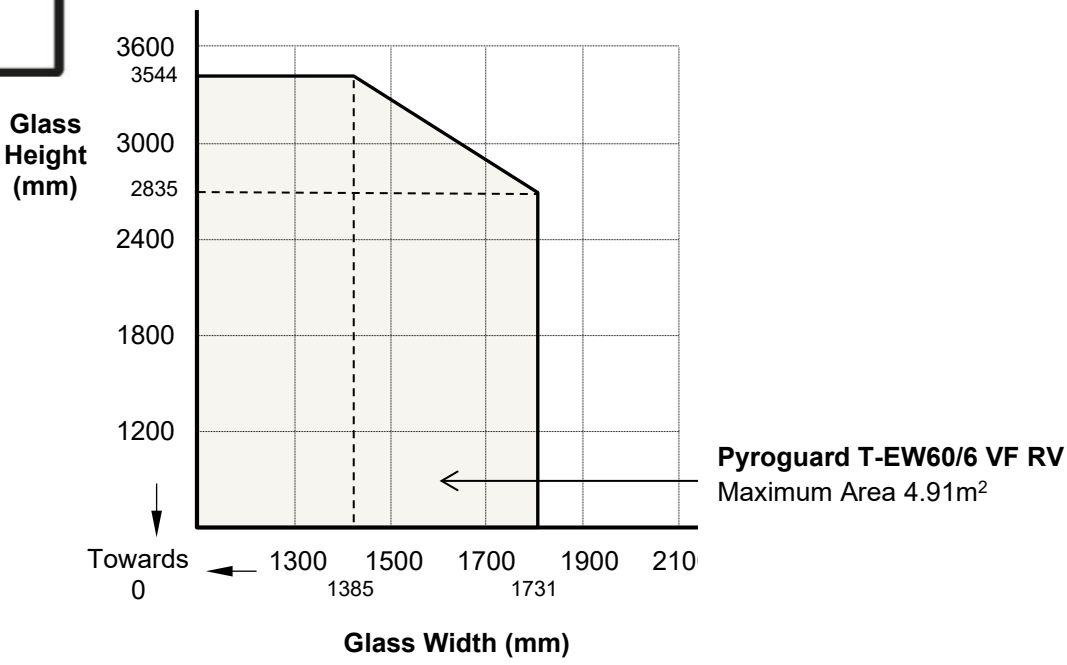
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:



- **Pyroguard T-EW60/6 VF RV**
- Glazing and frame details as described in **Efectis 09-V-209**

The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 18 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 18 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

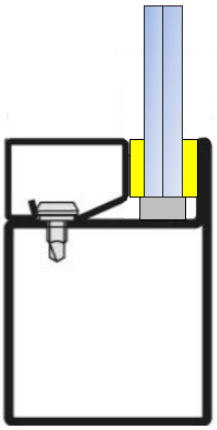
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW60/6 VF RV 66.2 glass in a multiple glazed (Forster Presto) Glazed Screen for periods of 60 minutes integrity

For this application the following conditions shall apply:

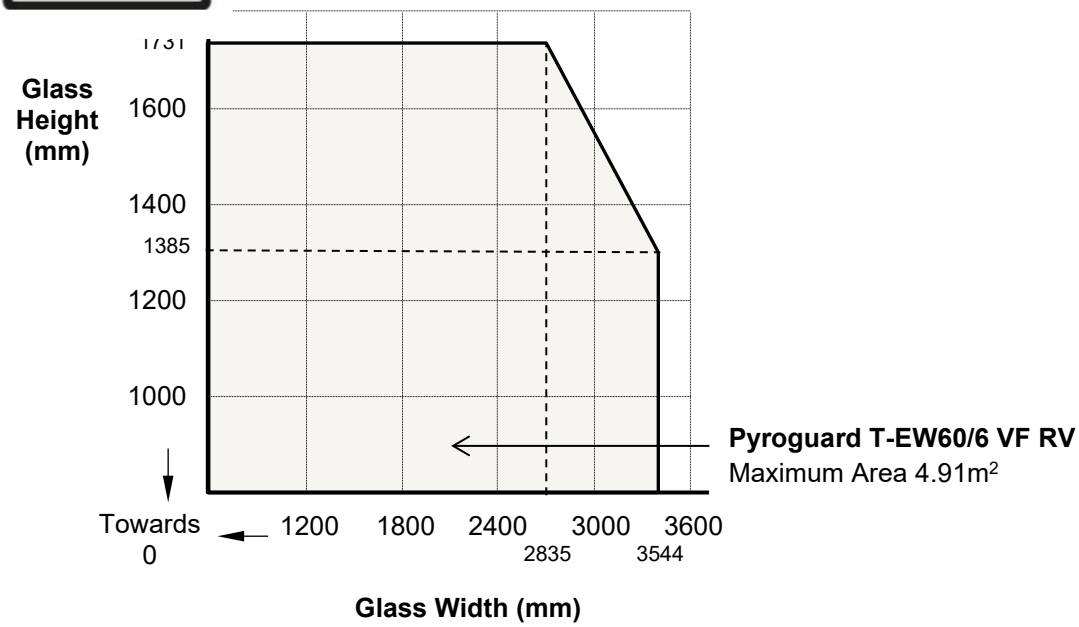
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- **Pyroguard T-EW60/6 VF RV.**
  - Glazing and frame details as described in **Efectis 09-V-310**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 19 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 19 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6

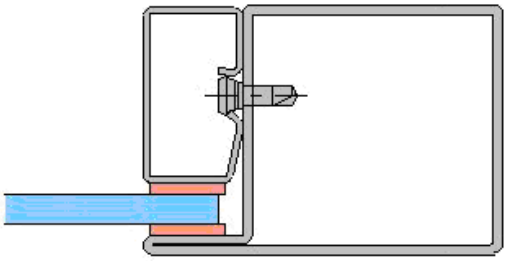
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/6/8/10/12/19 glass in (Wrightstyle 5050) steel framed doorsets for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed into a previously tested or CERTIFIRE approved steel doorset (which is covered appropriately by test or assessment evidence) using screw-fixed or clip-on retaining beads. The door shall be proven to be capable of including glazed apertures and the maximum vision panel size will be limited either by the door evidence/approval or by the dimension given in thee table below, whichever is smaller. The glass shall be glazed into the doorset with 15mm x 4mm Fiberfrax ceramic fibre gasket on both faces and set on non-combustible setting blocks to determine the correct edge cover of 6mm and edge clearance of 14mm (minimum per edge).

- **Pyroguard T-E30/6/8/10/12/19 glass,**
- Glazing and frame details as described in **Warringtonfire test report No 191990**



The steel framed doorsets shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass, shown in table below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Table of Maximum Permitted Glass Dimensions

Maximum Width	Maximum Height	Maximum Area
1051mm wide @ 2074mm high	2488mm high @ 876mm wide	2.18m^2

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/8/10/12/19 glass in (Forster Presto) steel framed doorsets (for periods of 30 minutes integrity)

For this application the following conditions shall apply:

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

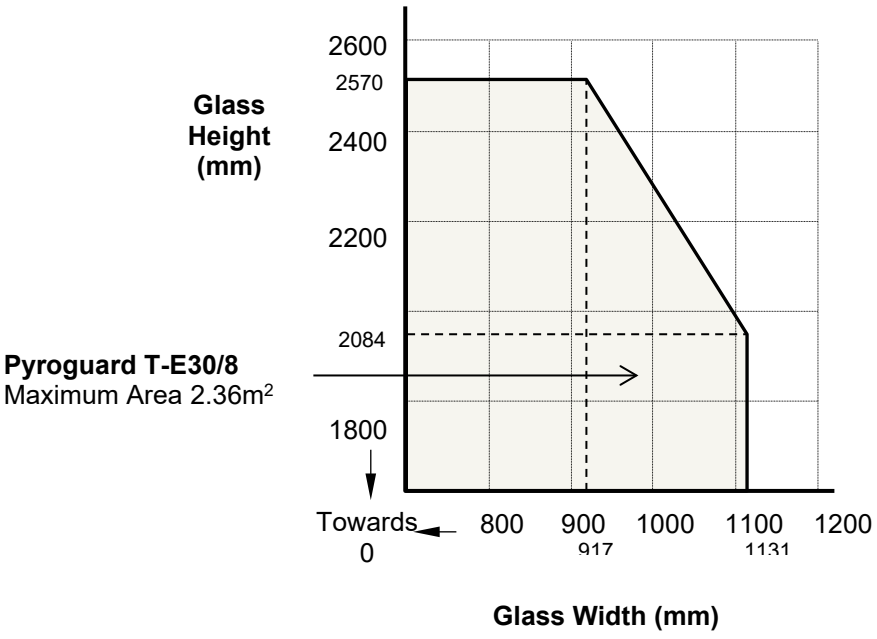
- **Pyroguard T-E30/8**
- Glazing and frame details as described in test report **CTICM 04-V-251 (ref 13-A-182)**

The steel door system shall have appropriate test or assessment evidence or be CERTIFIRE approved for the inclusions of apertures of the proposed dimensions.

- This Certificate of Approval relates to the sizes of glass shown in Figure 20 below, when used in conjunction with the above system.

The aspect ratio of the glass may be unlimited within these glass dimensions.

Figure 20 . Maximum Permitted Glass Dimensions



CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/8/10/12/19 glass in (Forster Presto) steel framed doors for periods of 30 minutes integrity

For this application the following conditions shall apply:

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

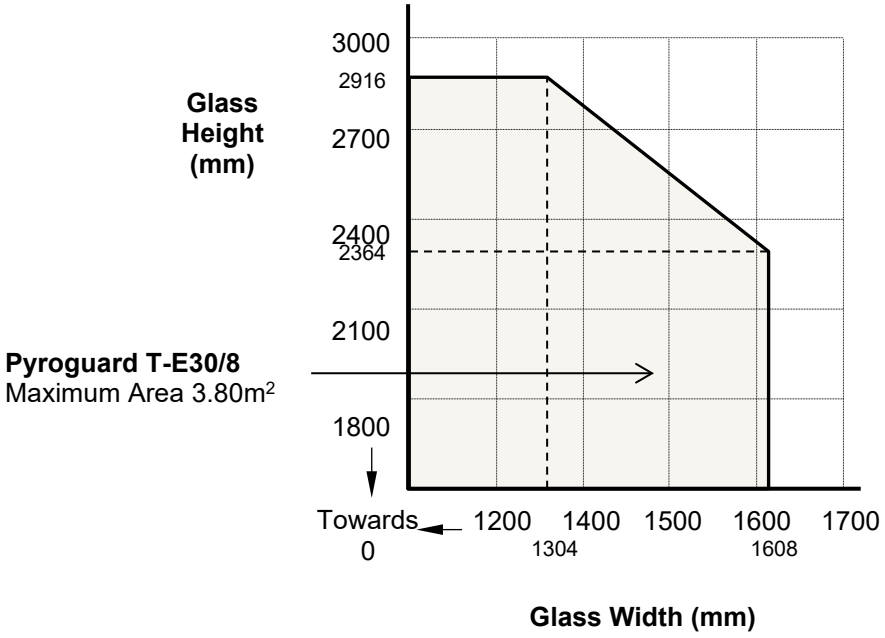
- **Pyroguard T-E30/8**
- Glazing and frame details as described in test report **CTICM 05-V-067 A (ref 13-A-175)**

The steel door system shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of apertures of the proposed dimensions.

- This Certificate of Approval relates to the sizes of glass shown in Figure 21 below, when used in conjunction with the above system.

The aspect ratio of the glass may be unlimited within these glass dimensions.

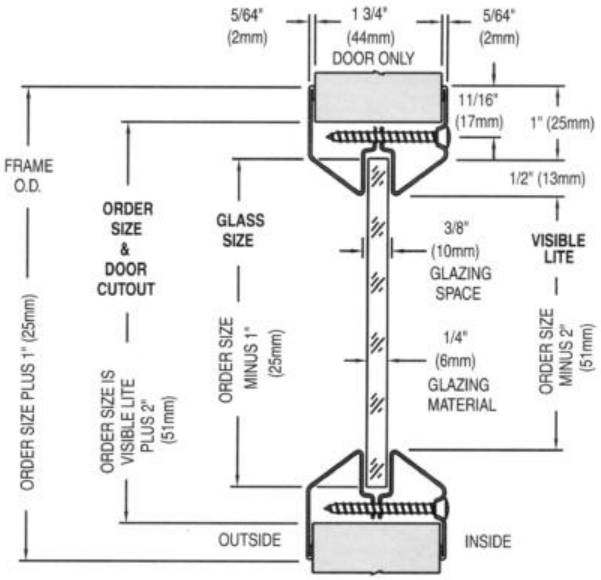
Figure 21 . Maximum Permitted Glass Dimensions



CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/8/10/12/19 glass in steel doorsets for periods of 30, 60, 90 and 120 minutes integrity

For this application the following conditions shall apply:
The glass shall be installed within a previously fire tested or CERTIFIRE approved steel doorset system utilising the following basic specification:



- **Pyroguard T-E30/8/10/12/19**
- **Eurobond Doors 44mm steel door leaf**
- **Zeroplus FS9009 ceramic glazing tape**
- **Anemosta LOPRO metal bead frames**

The steel door system shall have appropriate test or assessment evidence or be CERTIFIRE approved for the inclusions of apertures of the proposed dimensions.

- This Certificate of Approval relates to the sizes of glass shown in table below when used in conjunction with the above system.

The aspect ratio of the glass may be unlimited within these glass dimensions.

Maximum Permitted Glass Dimensions

Integrity Performance minutes	Maximum Width mm	Maximum Height mm	Maximum Area m^2
30 and 60	552 wide at 442 high	552 high at 442 wide	0.24
	210 wide at 1356 high	1695 high at 168 wide	0.28
90	535 wide at 442 high	535 high at 442 wide	0.23
	210 wide at 1356 high	1695 high at 168 wide	0.28
120	176 wide at 1356 high	1423 high at 168 wide	0.24

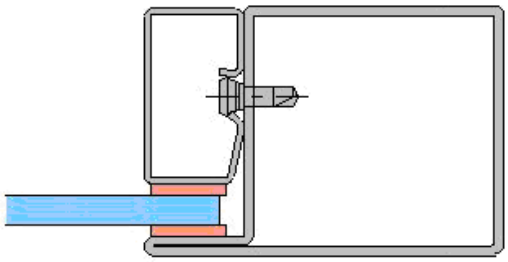
CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-E30/10/12/19 glass in a multiple glazed (Forster Presto) Glazed Screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:

- **Pyroguard T-E30/10**
- Glazing and frame details as described in **Efectis 03-G-381 A (ref 13-A-175)**



The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 22 below, when used in conjunction with the above system. The aspect ratio of the glass may be unlimited within these glass dimensions.

Maximum Permitted Glass Dimensions

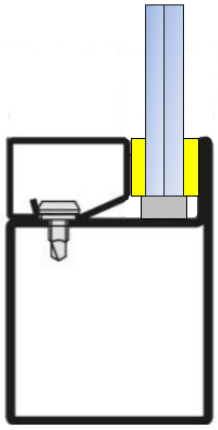
Maximum Width	Maximum Height	Maximum Area
3316mm wide @ 1369mm high	1625mm high @ 2834mm wide	4.61m^2

CERTIFICATE No CF 5319
PYROGUARD UK LIMITED

Pyroguard T-EW30/6 VF RV 66.2 in a multiple glazed (Forster Presto) Glazed Screen for periods of 30 minutes integrity

For this application the following conditions shall apply:

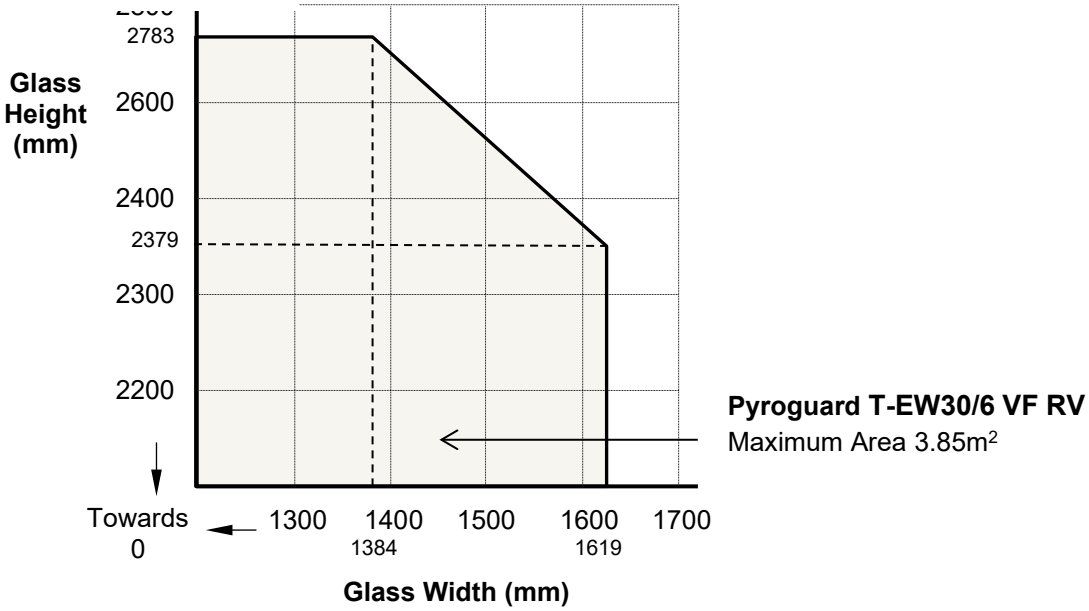
The glass shall be installed within a previously fire tested or CERTIFIRE approved multiple paned steel framed screens utilising the following basic specification:



- **Pyroguard T-EW30/6 VF RV a 66.2 laminated glass**
- Glazing and frame details as described in **Efectis 03-G-381 A (ref 13-A-175)**

The multiple paned steel framed screens shall have appropriate test or assessment evidence or be CERTIFIRE Approved for the inclusions of glass of the proposed dimensions. This Certificate of Approval relates to the sizes of glass shown in Figure 23 below, when used in conjunction with the above system.
The aspect ratio of the glass may be unlimited within these glass dimensions.

ure 23 . Maximum Permitted Glass Dimensions



Not approved for manufacture at sites CTM69121-3 & CTM69121-6