FIRE RESISTANCE CLASSIFICATION REPORT No. 24077C

OWNER OF THE CLASSIFICATION REPORT

AGC GLASS EUROPE nv
Avenue Jean Monnet 4
1348 Louvain-la-Neuve
Belgium

INTRODUCTION

This classification report defines the classification assigned to a non-loadbearing glazed wall, type: Pyrobel-T EI30-18 in a timber frame, in accordance with the procedures given in EN 13501-2:2023: Fire classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

This classification report consists of 12 pages and 5 annexes and may only be used or reproduced in its entirety.

1 Details of classified product

1.1 General

The element, type: Pyrobel-T EI30-18 in a timber frame, is defined as a non-loadbearing glazed wall with fire resistance characteristics.

1.2 Description

The element, Pyrobel-T EI30-18 in a timber frame, is fully described below, in support of this classification. The drawings of the test element as it was tested, are enclosed in the annexes 1 till 4 of this classification report.

1.2.1 Composition of the test specimen as tested

Outer dimensions of the test construction:

- height: 4000 mm;
- width:4000 mm;
- thickness: 78 mm.

1.2.1.1 Glazing system

[1] Glass pane					
Manufacturer	AGC GLASS EUROPE nv				
Reference	Pyrobel-T EI30-18				
Composition	T6/6/T6				
Orientation	Symmetrical - horizontal				
Thickness	18 mm				
Dimensions		Width (mm)	Height (mm)	Weight (kg)	Reference
	1a	3864	1904	286.96	0I003-28-337
	1b	3864	1904	286.96	0I003-28-360
Fixing	Clasped between the glazing beads [6]				
[2] Glazing setting block					
Material	Hardwood				
Thickness	5 mm				
Dimensions	80 mm x 18 mm				
Density	655 kg/m³ (NV)				
Quantity	2 underneath each glass pane				

[3] Glazing strip	
Manufacturer	Odice
Reference	Superwool X607
Material	Ceramic paper
Section dimensions	20 mm x 5 mm
Density	210 kg/m³ (NV)
Position	Between the glass panes and the glazing beads
Fixing	Self-adhesive
[4] Sealant	
Manufacturer	Dow Silicone
Reference	Firestop 700
Material	Neutral silicone
Position	Covering the glazing strips
[5] Intumescent strip	
Manufacturer	Jung
Reference	Flamiseal G
Material	Graphite-based
Section dimensions	18 mm x 2 mm
Position	Around the circumference of the glass pane
Fixing	Self-adhesive
[6] Timber glazing bead	
Material	Meranti
Section dimensions	25 mm (w) x 27 / 20 mm (h) (sloped)
Density	450 kg/m³ (NV)
Fixing	With nails (brand and type: Kit Pro T45 G16, material: galvanized steel, diameter: 1.5 mm, length: 45 mm), c/c: 150 mm

1.2.1.2 Timber framing system

[7] Timber frame	
Material	Meranti
Section dimensions	33 mm x 78 mm
Density	571 kg/m³ (450 kg/m³ (NV))
Composition	Edge framing member (outer section dimensions: 33 mm x 78 mm)
Interfixing of the edge framing members	with mortising tenon assembly, glued. See annex 4.

Interfixing of the framing modules	With screws (material: stainless steel, diameter: 5 mm, length: 60 mm), c/c distance: 300 mm, alternating from the top and bottom and 25 mm from the unexposed or exposed side.
Fixing to the concrete furnace frame	With anchor bolts (reference: Hilti 100 HT, material: galvanized steel, diameter: 10 mm, length: 112 mm), c/c distance: 515 mm, starting 200 mm from the corners.
[8] Frame setting block	
Manufacturer	Promat
Reference	Promatect-H
Material	Calcium silicate
Thickness	20 mm
Dimensions	200 mm x 60 mm
Density	870 kg/m³ (NV)
Quantity	7 positions evenly spread underneath the hardwood frame
[9] Cover lath	
Material	Meranti
Section dimensions	43 mm x 12 mm
Density	450 kg/m³ (NV)
Position	Over the connecting joint between the 2 frame modules
Quantity	2, 1 per side
Fixing to the timber frame	With nails (brand and type: Kit Pro T45 G16, material: galvanized steel, diameter: 1.5 mm, length: 45 mm), c/c: 300 mm in pairs.

1.2.1.3 Insulation

[10] Insulation	
Reference	Promat Dalfratherm
Material	Silicate fibres
Initial density	96 kg/m³ (NV)
Initial thickness	13 mm
Position	Between the concrete furnace frame and the timber frame.

2 Test reports/EXAP reports and test results in support of the classification

2.1 Test reports/EXAP reports

Name of the laboratory	Report ref. no.	Name of the owner	Date of the test	Method
WFRGENT nv	24077A	AGC GLASS EUROPE nv	16/05/2025	EN 1364-1:2015
WFRGENT nv	24077B	AGC GLASS EUROPE nv	-	EN 15254-4:2018

Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:2020.

Direction of exposure: The test specimen is a symmetrical construction.

No extra load supplementary to the own weight of the non-loadbearing glazed wall was applied during the test.

One vertical edge is free, the other edges are fixed.

2.2 Test results

Parameters	Results
Thermal insulation – I	
ΔT_m = 140°C	30 minutes, no failure(2)
ΔT_M = 180°C	30 minutes
Integrity – E	
Spontaneous and sustained flaming	30 minutes
Failure with ∅ 6 mm gap gauge	30 minutes, no failure(2)
Failure with ∅ 25 mm gap gauge	30 minutes, no failure(2)
Ignition of cotton pad	30 minutes, no failure(2)
Radiation – W	
Radiation intensity = 15 kW/m²	31 minutes, no failure(1)

(1) The test was discontinued after 31 minutes at the test sponsor's request.

(2) No failure until the moment of spontaneous and sustained flaming.

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-2:2023.

3.2 Classification

The element, type: Pyrobel-T EI30-18 in a timber frame, is classified according to the following combinations of performance parameters and classes as appropriate. No other classifications are permitted.

The classifications are valid for both sides of the non-loadbearing glazed wall.

EI 30, EI 20, EI 15
EW 30, EW 20, EW 15
E 30, E 20, E 15

3.3 Field of direct application

This classification is valid for the following end use applications according to EN 1364-1:2015.

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

3.3.1 Glazed element

3.3.1.1 Installation angle

A change in the angle of installation up to ± 10° from the vertical plane is allowed, provided the height of the glazed element does not exceed 3960 mm.

3.3.1.2 Height of the glazed element without overrun

For the classification times:

- EI 30;
- EW 30;
- E 30.

An increase in height up to a maximum of 4260 mm is allowed, provided the allowances for thermal expansion of the construction are increased pro-rata.

3.3.1.3 Height of the glazed element with overrun

For the classification times:

- EI 20, EI 15;
- EW 20, EW 15;
- E 20, E 15.

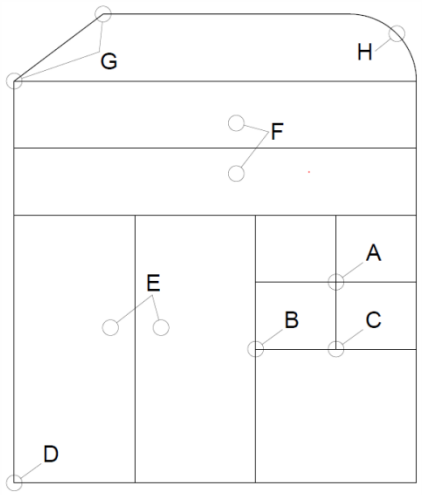
An increase in height up to a maximum of 4752 mm is allowed, provided the allowances for thermal expansion of the construction are increased pro-rata.

3.3.1.4 Width of the glazed element

A greater width is allowed by replicating the tested glazed elements or parts thereof, provided the framing system is identical to the one tested and the connection joints between the glazed elements have been tested.

Tested connection joints:

- Type F: two full horizontal panes side by side.



3.3.2 Glazing system

3.3.2.1 Linear dimensions

An unlimited decrease in height and/or width of the panes is allowed.

3.3.2.2 Dimensions and area of individual rectangular glass panes with overrun

For the classification times:

- EI 20, EI 15;
- EW 20, EW 15;
- E 20, E 15.

The following table shows the calculated extended size/area:

Tested sizes/areas			**Extended sizes/areas**		
Width (mm)	**Height** (mm)	**Area** (m²)	**Width** (mm)	**Height** (mm)	**Area** (m²)
3864	1904	7.357	4637	2285	8.902

The results are given in the following annex:

Annex 05: the maximum allowed dimensions of rectangular shaped glass panes are represented by the outer lines.

3.3.2.3 Glazing beads

Test results on timber beads fixed by nails/pins cover screw fixing of at least the same length, applied with the same or smaller centre to centre distance (≤ 150 mm).

Test results on sloped or chamfered bead profiles also cover a flat bead of the same height (27 mm).

The tested bead width may be increased (≥ 25 mm). The bead depth may not be changed. (according to EN 15254-4:2018, figure 5)

3.3.2.4 Framing system

The distance between mullions and/or transoms may be decreased from that tested.

The distance between fixing centres may be decreased from that tested (≤ 300 mm).

The cross sectional dimensions of the frame profiles may be increased from the dimensions tested (≥ 33 mm x ≥ 78 mm).

3.3.2.5 Supporting constructions

The classification is valid for the following standard supporting constructions in accordance with EN 1363-1 with at least the same fire resistance and overall thickness as the test specimen:

- High density rigid standard supporting construction;

3.4 Field of extended application

3.4.1 Replacement of glass within the same glass product range

It is allowed to exchange the glass pane Pyrobel-T EI30-18 with the glass pane Pyrobel-T EI30-18 laminated with a non-fire protection interlayer smaller than 1 mm or Pyrobel-T EI30-18 DGU variant from the same product range.

No Limitation: The Pyrobel-T EI30-18 laminated with a non-fire protection interlayer variant can be used in a direction indifferent to the fire. As long as the thickness of the added non-fire protection interlayer is smaller than 1 mm.

Limitation: The Pyrobel-T EI30-18 laminated with a non-fire protection interlayer can only be used if the non-fire protection interlayer consisting of PVB (polyvinyl butyral), EVA (ethyl vinyl acetate), PU (polyurethane) or PC (polycarbonate).
The Pyrobel-T EI30-18 DGU variant can only be used with the fire side at the side of the fire resistant segment.

3.4.2 Glass shapes

Circular, triangular or 4 sided non-rectangular shapes may be cut from within the extended rectangular pane size defined by the field of direct application.

All other non-rectangular shapes may only be cut from the tested rectangular pane size and shall not be extended further.

3.4.3 Timber beads: Exchange of timber species / bead fixing / bead shape and dimensions

Allowed changes:

- The timber type can be exchanged with a timber type with a density ≥ 450 kg/m³.
- The tested unprotected timber can be replaced by protected timber.
- The bead depth may be increased (≥ 27 mm) provided the mechanical edge cover remains within the limits determined by the reference test.
- The bead width (≥ 25 mm) may be increased without restriction.

Limitation:

- Hard wood with a density ≥ 450 kg/m³ shall not be exchanged with soft wood.

3.4.4 Exchange of gaskets / glazing strips / setting blocks

Exchange of a glazing material, e.g. gaskets, is only allowed if it is demonstrated in a reference test and/or pre-existing test data that the exchange does not have a detrimental effect on the fire performance within a comparable glazing system of the same glass product range.

3.4.5 Changing or adding surface coverings

Decorative surface coverings of the glazing beads may be added.

Limitation:

- It must be demonstrated that the covering material achieves at least Class A2 when tested according to EN 13501-1.
- Any coverings on glazed elements classified EI shall be secured using only fixing method(s) proven in the reference test and/or by pre-existing test data.

3.4.6 Timber frames: Thickness / profile / timber type (charring rate / density)

Allowed changes:

- The timber type can be exchanged with a timber type with a density ≥ 571 kg/m³.
- The tested unprotected timber can be replaced by protected timber.
- The frame depth (≥ 33 mm) may be increased without restriction.
- The frame width (≥ 78 mm) may be increased without restriction.

Limitation:

- Hard wood with a density ≥ 450 kg/m3 shall not be exchanged with soft wood.
- A frame fixed by screws shall not be exchanged by a clipped or nailed fixing.

3.4.7 Changes or adding frame surface coverings

Decorative surface coverings of the framing members may be added.

Limitation:

- Decorative surface coverings of the framing members may be added where one does not exist, provided it is demonstrated that the covering material achieves at least Class A2 when classified according to EN 13501-1.
- If the surface covering is not Class A2 then the rules laid down in the EN 15269-2, EN 15269-3 and EN 15269-5 apply.

4 Limitations

This classification report does not represent type approval nor certification of the product.

SIGNED

Tomas Ghysens (Signature)
Project Coordinator
Ghent
2025.08.28 10:44:36 +02'00'

APPROVED

Seppe Van Damme
(Signature)
Project leader
Ghent
2025.08.28 10:56:51 +02'00'

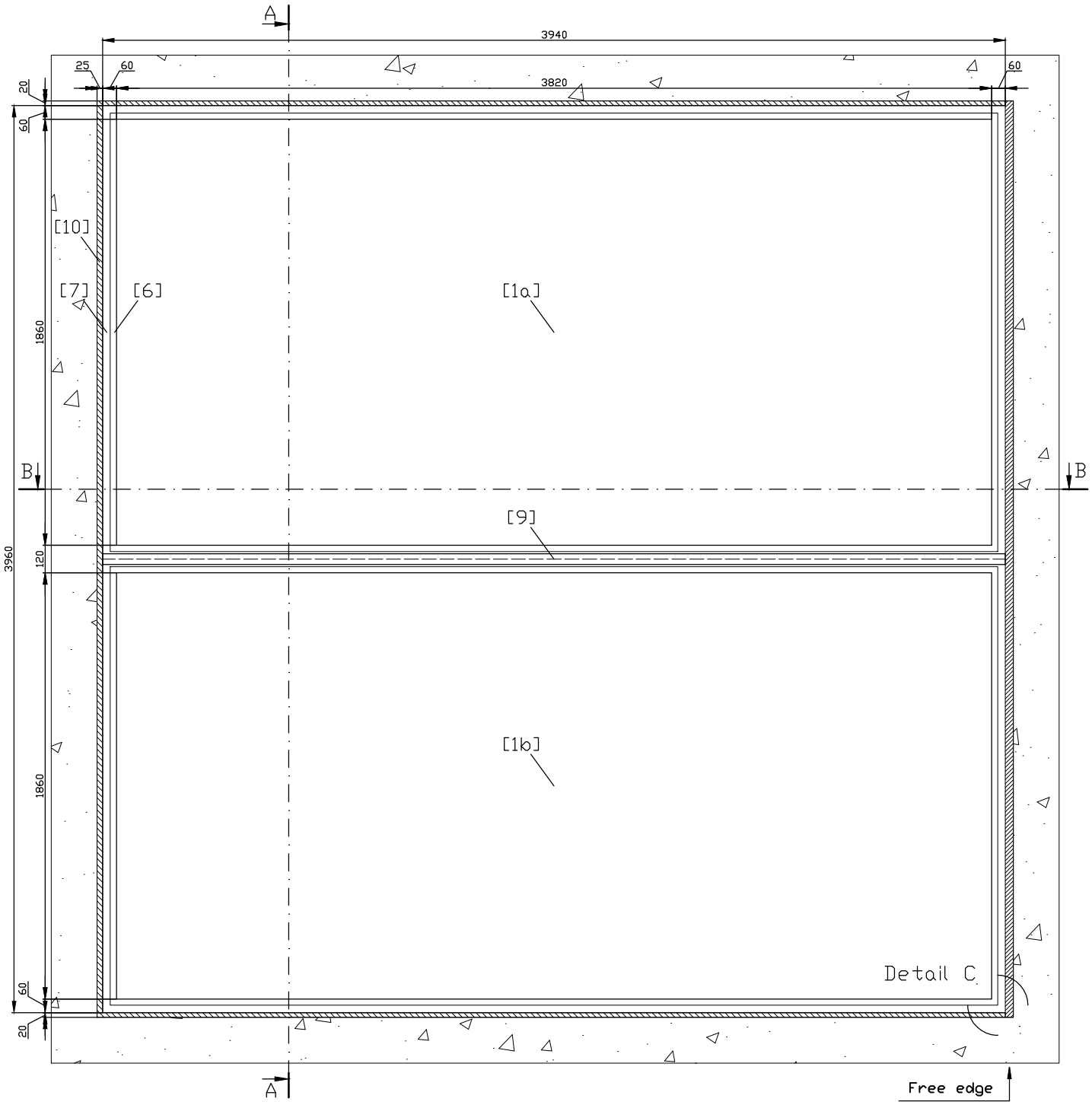
Signed for and on behalf of Warringtonfire Gent

This document is the original version of the classification report and is written in English.

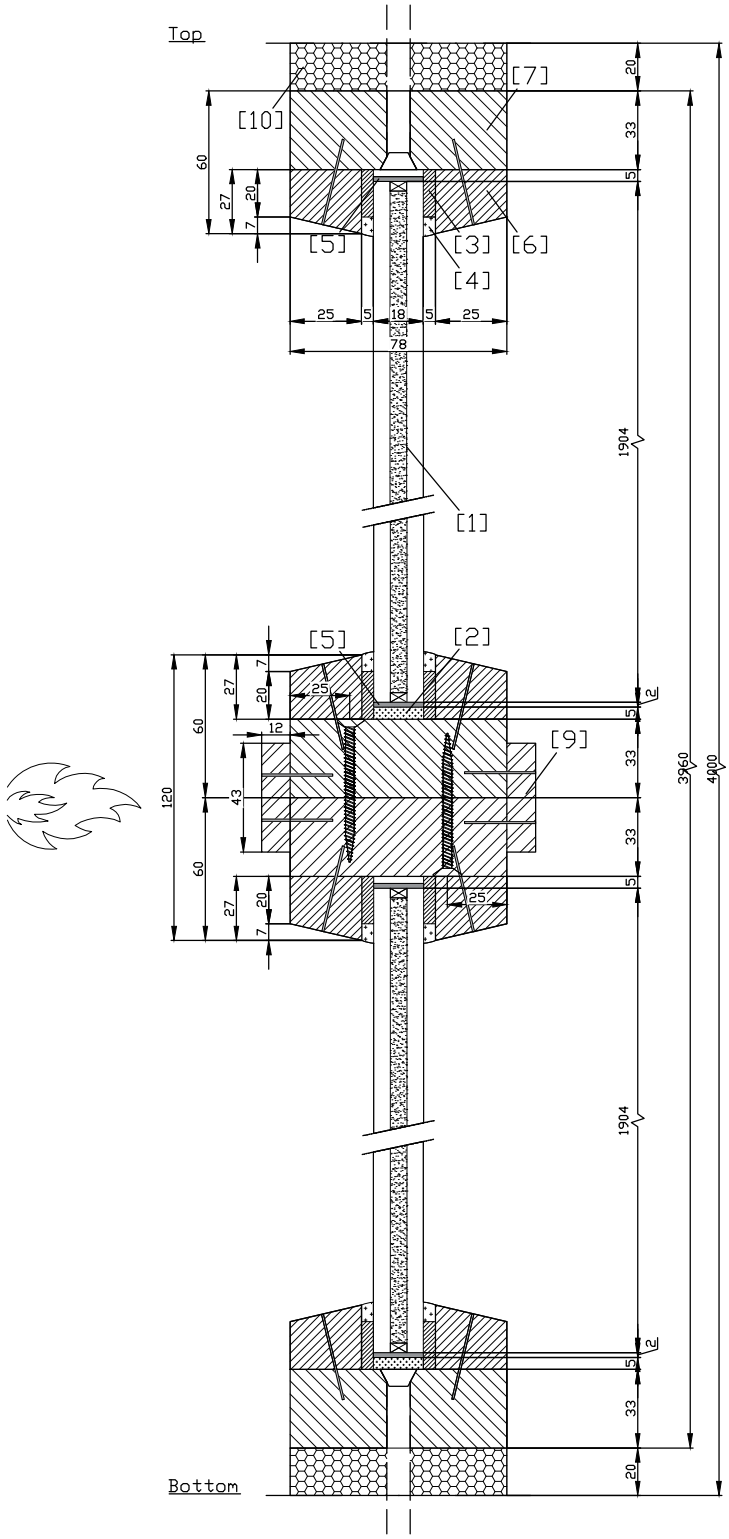
In case of doubt, the most recent version prevails, originally issued in English.

This report may be used only literally and completely for publications. - For publications of certain texts, in which this report is mentioned, our permission must be obtained in advance.
The authenticity of the electronic signatures is assured by Belgium Root CA.

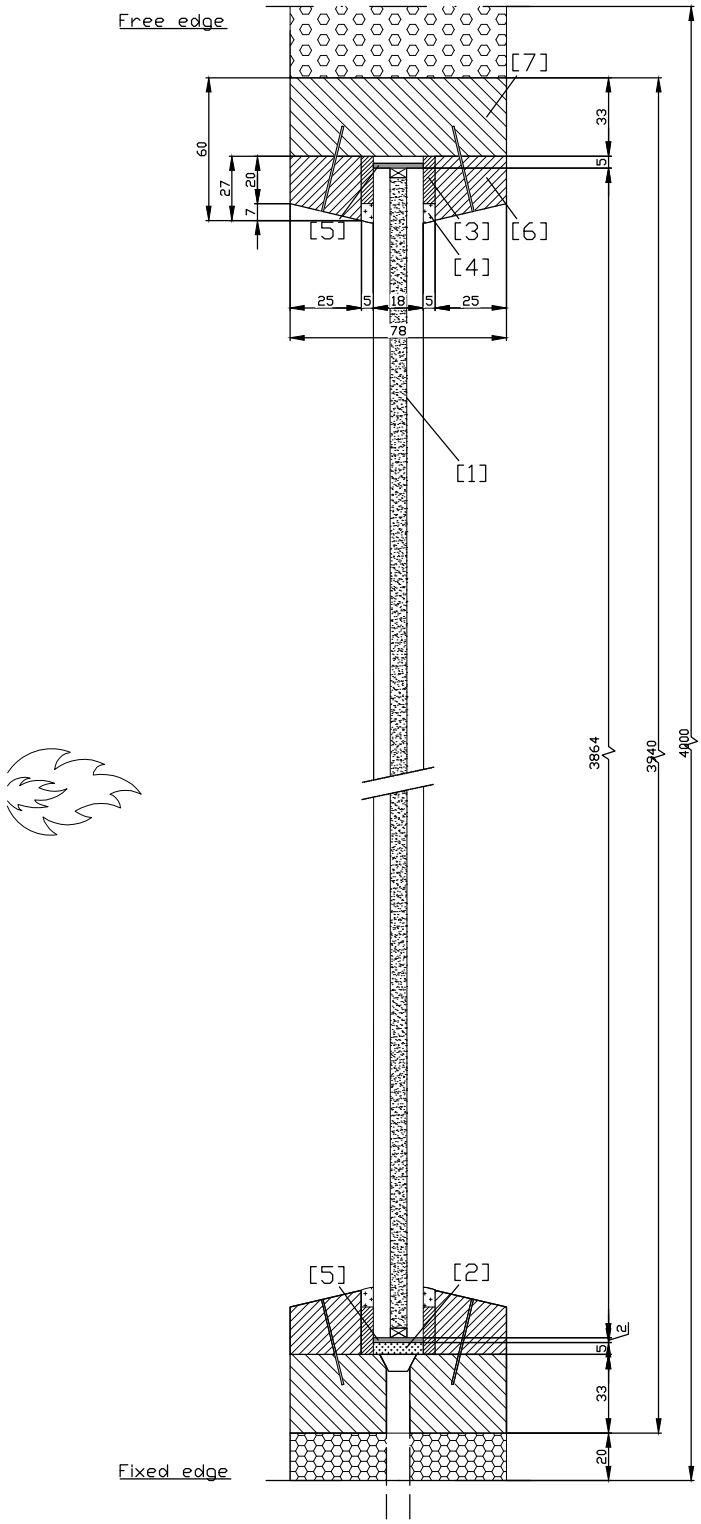
Front view (unexposed side) - positions - dimensions



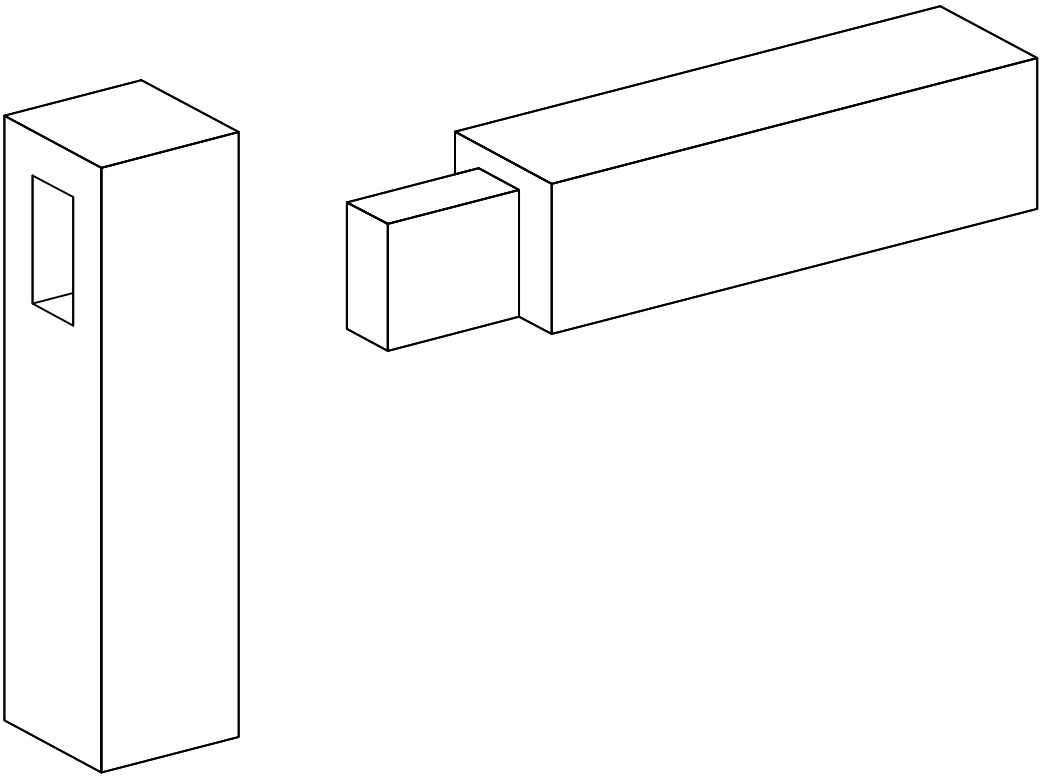
Section A-A - positions - dimensions



Section B-B - positions - dimensions

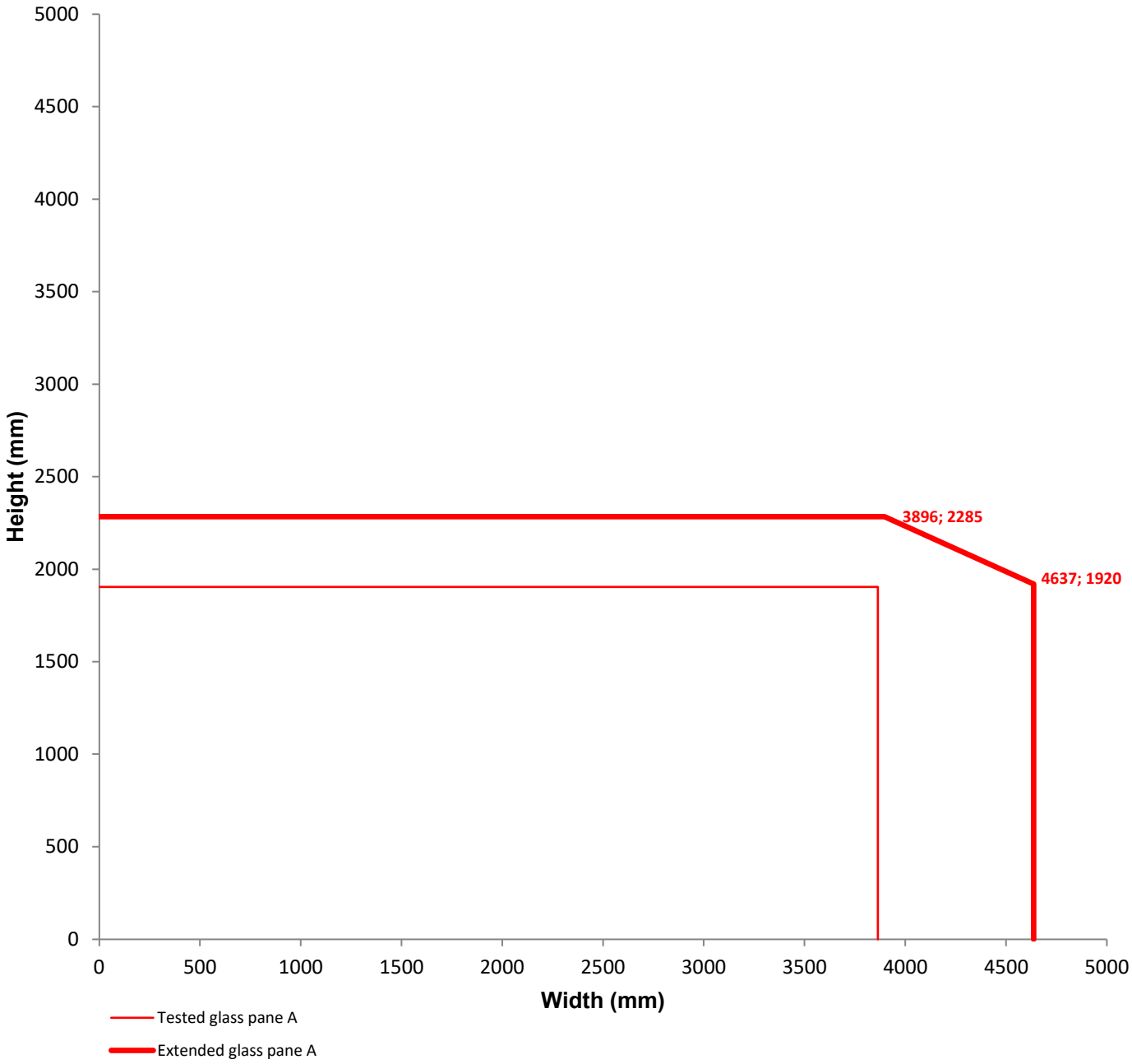


Detail C



Individual rectangular glass panes: aspect ratio and increase in area

The extended dimensions are only valid for the following classification times:
- **EI 20, EI 15;**
- **EW 20, EW 15;**
- **E 20, E 15.**



Note:

The maximum dimensions of rectangular glass panes are represented by the outer lines.