FIRE RESISTANCE CLASSIFICATION REPORT No. 15961B

Owner of the classification report:

AGC Glass Europe
166, Chaussée de la Hulpe
B-1170 Brussels
Belgium

Introduction:

This classification report defines the classification assigned to a non-loadbearing glazed wall (type: Pyrobelite 10 DGU_Jansen ECO 60 frame), with Pyrobelite 10 DGU in composition 44.2-air 10-Pyrobelite 3/6, in accordance with the procedures given in EN 13501-2:2007+A1:2009: Fire classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

This classification report consists of 8 pages and 6 annexes and may only be used or reproduced in its entirety.

1 Details of classified product

1.1 General

The product is defined as a non-loadbearing glazed wall – type: Pyrobelite 10 DGU_Jansen ECO 60 frame. It is evaluated in respect of the fire performance characteristics given in clause 5 of EN 13501-2:2007+A1:2009.

1.2 Description

The partition is fully described in the test report provided in support of this classification listed in clause 2.1. The drawings of this test report are enclosed in the annexes 1 till 6 of this classification report.

1.2.1 Composition of the classified wall construction:

1.2.1.1 glazing system:

[1]-[6] Glass panes – type: Pyrobelite 10 DGU – composition: 44.2 - air 10 - Pyrobelite 3/6 – nominal thickness: 29.5 mm ± 1.5 mm – measured thickness: 28.5 mm till 29.6 mm.

- position: shown in annex 1.
- fixing: clasped between the glazing beads.
- orientation: Pyrobelite 10 glass component at the exposed side.

	Dimensions of the glass panes: (width x height)	Dimensions of the exposed area: (width x height)	Reference:
[1]	1000 mm x 2860 mm	970 mm x 2830 mm	CM24960-01-501
[2]	800 mm x 945 mm	770 mm x 915 mm	CM24961-01-502
[3]	915 mm x 945 mm	885 mm x 915 mm	CM24962-01-501
[4]	800 mm x 945 mm	770 mm x 915 mm	CM24961-01-501
[5]	915 mm x 945 mm	885 mm x 915 mm	CM24962-01-502
[6]	1775 mm x 850 mm	1745 mm x 820 mm	CM24880-01-501

[7] Setting block – material: hardwood – dimensions: 70 mm x 30 mm x 5 mm – density: 687 kg/m³ (MV).

- number: two per glass pane.
- position: under the glass pane.

[8] Clip-on bead – material: steel – type: Jansen ECO 60 – reference: 402.120 Z – outer dimensions: 20 mm x 15 mm – steel thickness: 1.25 mm

- position: at the exposed side.
- fixing:
  - with fastening studs [9] – material: steel – reference: 450.007 – diameter: 4 mm – length: 15 mm;
  - centre/centre distance: 220 to 250 mm.

[10] Glazing strip – material: self-adhesive ceramic paper – type: Superwool X607 – thickness: 5 mm – density: 210 kg/m³ (NV).

- between the glass panes and the clip-on beads;
- between the glass panes and the frame.

1.2.1.2 Framing system:

The framing system includes the frame components, the intumescent strips and the fixing parts. The exact composition of the frame is confidential and is not communicated to the laboratory

[11] Tube profile – materials: steel – brand and type: Jansen ECO 60 – reference: 01.684 – outer dimensions: 70 mm x 60 mm – wall thickness: 1.75 mm (NV).

- number: two horizontal and two vertical profiles.
- position: at the outer edges.
- fixing to the concrete frame:
  - with anchors [12] – material: steel – brand and type: Hilti 100 HT – diameter: 10 mm – length: 112 mm;
  - centre-to-centre distance: 500 mm.
- fixing: the horizontal and the vertical profiles are welded together at the extremities.

[13] Intermediate tube profile – materials: steel – brand and type: Jansen ECO 60 – reference: 02.684 – outer dimensions: 90 mm x 60 mm – wall thickness: 1.75 mm (NV).

- number: three horizontal and two vertical profiles.
- position: between the glass panes.
- fixing: the intermediate profiles are welded to the adjacent (intermediate-) profiles.

[14] Setting block – material: calcium silicate – dimensions: 100 mm x 50 mm x 15 mm – density: 960 kg/m³ (NV).

- position: under the steel frame.
- centre-to-centre distance: approx. 500 mm.

[15] Mineral wool – type: Thermal insulation Superwool X607 – initial density: 96 kg/m³ (NV) – initial thickness: 25 mm.

- position: between the steel frame and the concrete frame, at the fixed edges.

2 Test reports and test results in support of the classification

2.1 Test reports

Name of the laboratory that carried out the test	Identification number of the reports	Owner of the report	Date of the test	Test method
WFRGENT nv	15961A	AGC Glass Europe.	29/04/2013	EN 1363-1:2012 EN 1364-1:1999

Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:2012.

Direction of exposure: The glazing component is asymmetrical: the Pyrobelite 10 (fire => 6/3) glass segment at the exposed side.
The frame is asymmetrical.

No load is applied.

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

2.2 Test results

Parameter	Results
Loadbearing capacity	Not applicable
Integrity	
Time of ignition of a cotton pad	No failure at test termination
Time of occurrence of sustained flaming	31 minutes
Time of failure of gap gauge criterion	No failure at test termination
Thermal insulation	
Time after which the mean temperature at the unexposed side exceeds 140 °C	23 minutes
Time after which the maximum temperature rise at the unexposed side exceeds 180 °C	11 minutes
Radiation	
Time after which the radiation intensity exceeds 15 kW/m²	No failure at test Termination
Mechanical action	
No impact test	Not applicable

The test duration was 32 minutes.

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7.5.2 of EN 13501-2:2007+A1:2009.

3.2 Classification

The element is classified according to the following combinations of performance parameters and classes as appropriate. No other classifications are permitted.
The classification is only valid for the direction of exposure as described in § 2.1.

EW 30, EW 20

E 30, E 20

3.3 Field of direct application

This classification is valid for the following end use applications according to EN 13501-2:2007+A1:2009 and EN 1364-1:1999.

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. Other changes are not permitted:

a) unlimited decrease and increase in the wall width.
b) unlimited decrease in the wall height.
c) decrease in linear dimensions of the panes.
d) change in the aspect ratio of the panes provided that the largest dimension of the pane and its area are not increased.
e) decrease in the distance between mullions and transoms.
f) decrease in distances between fixing centres.
g) increase in the dimensions of framing members.
h) allowances for expansion if none were incorporated in the test specimen.
i) change in angle of installation up to 10° from the vertical.

4 Duration of the validity of the classification report

At the time the standard EN 13501-2:2007+A1:2009 was published, no decision was made concerning the duration of validity of the classification document.

5 Limitations

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

SIGNED

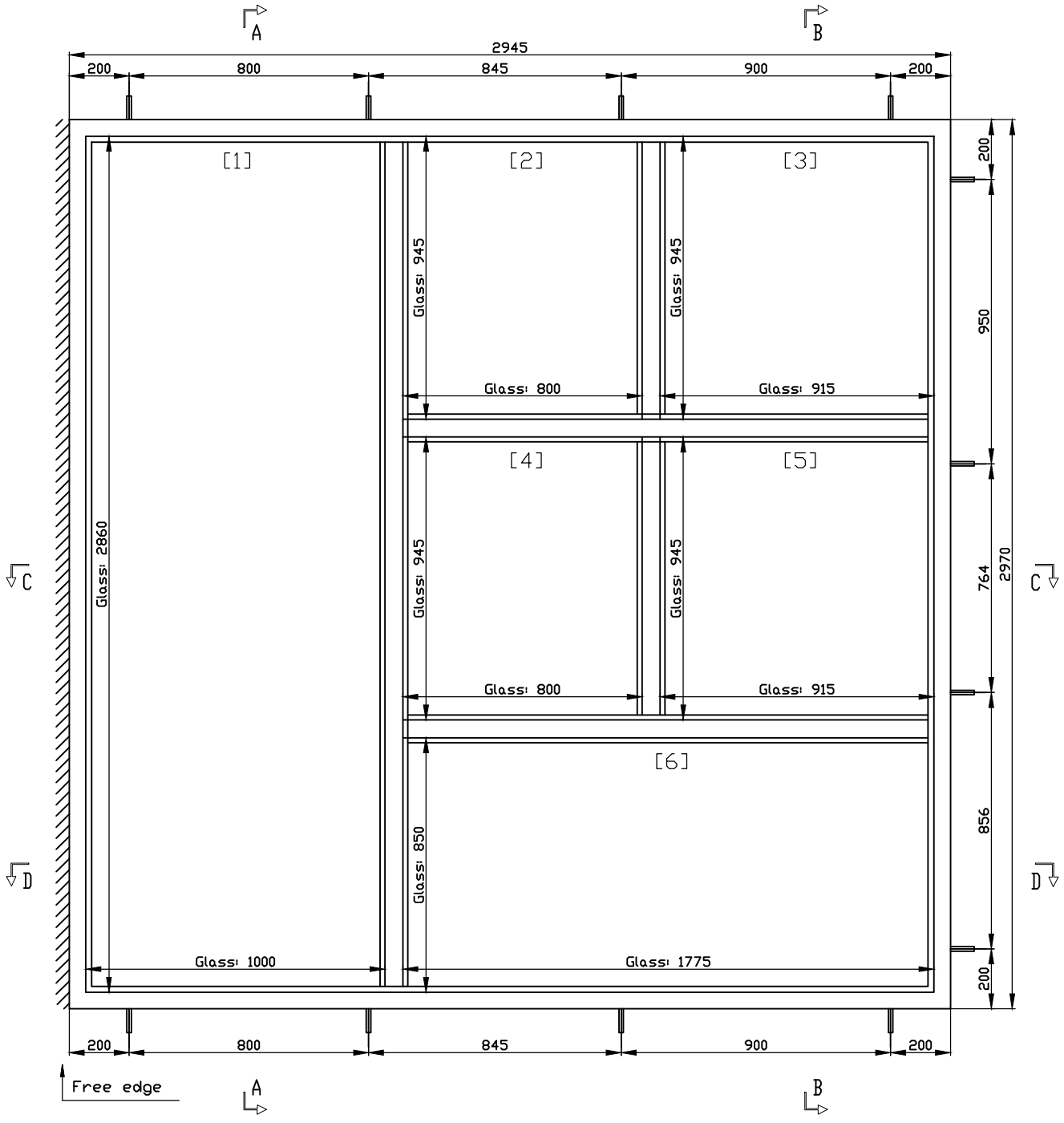
Herwin Coghe (Signature)
Project assistant
Ghent
2013.09.09 10:33:48 +02'00'

APPROVED

Dudley Van Holderbeke (Signature)
Project leader
Ghent
2013.09.09 11:34:59 +02'00'

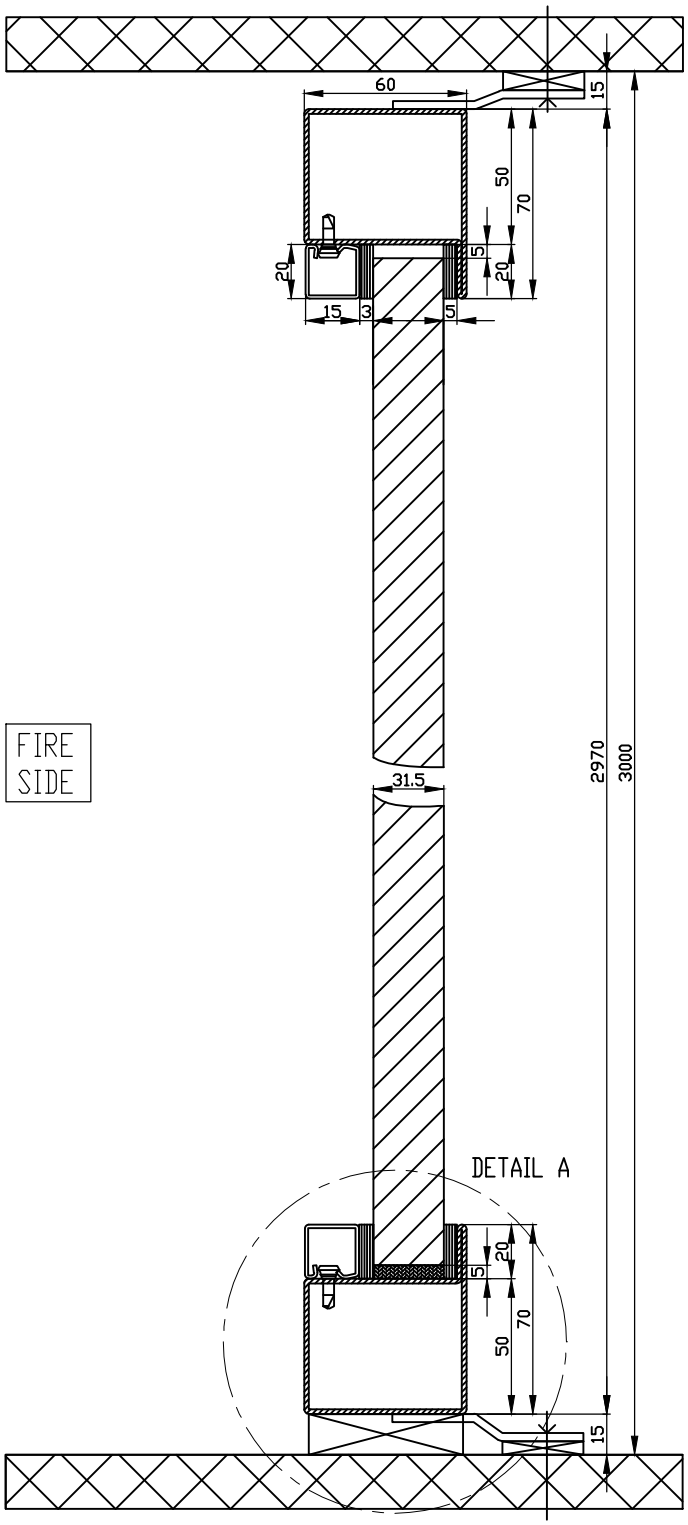
This document is the original version of this classification report and is written in English.

Front view (unexposed side) - dimensions.



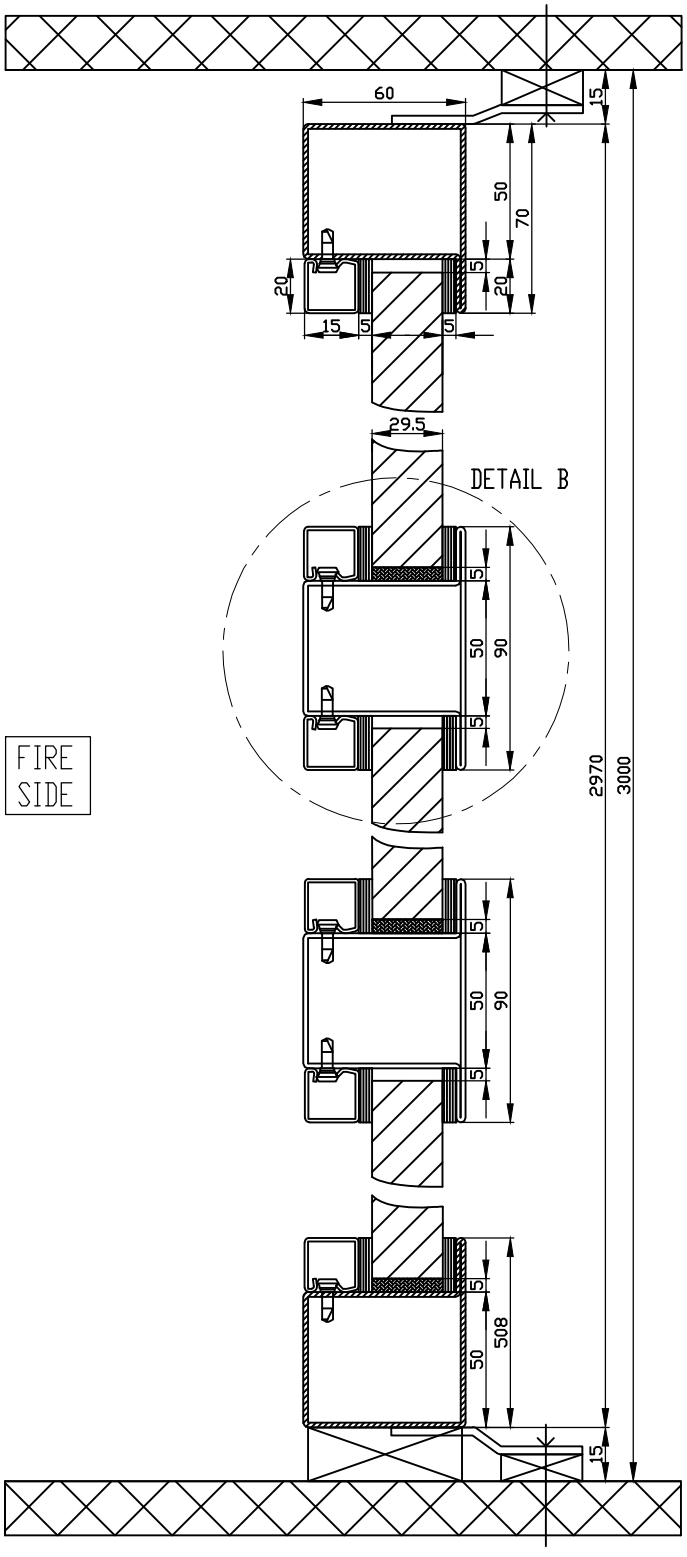
Dimensions in mm

Section A-A - dimensions.



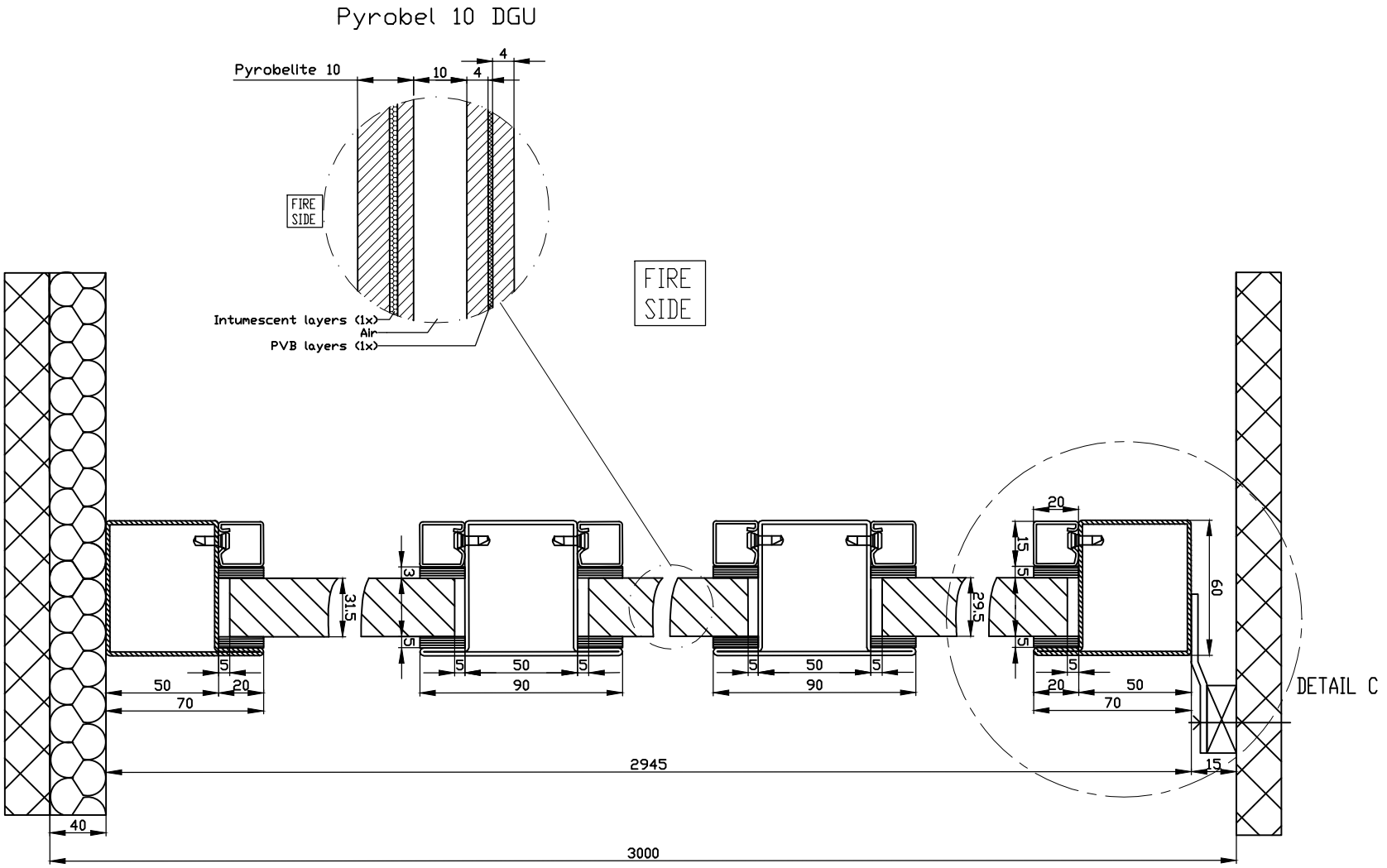
Dimensions in mm

Section B-B - dimensions.



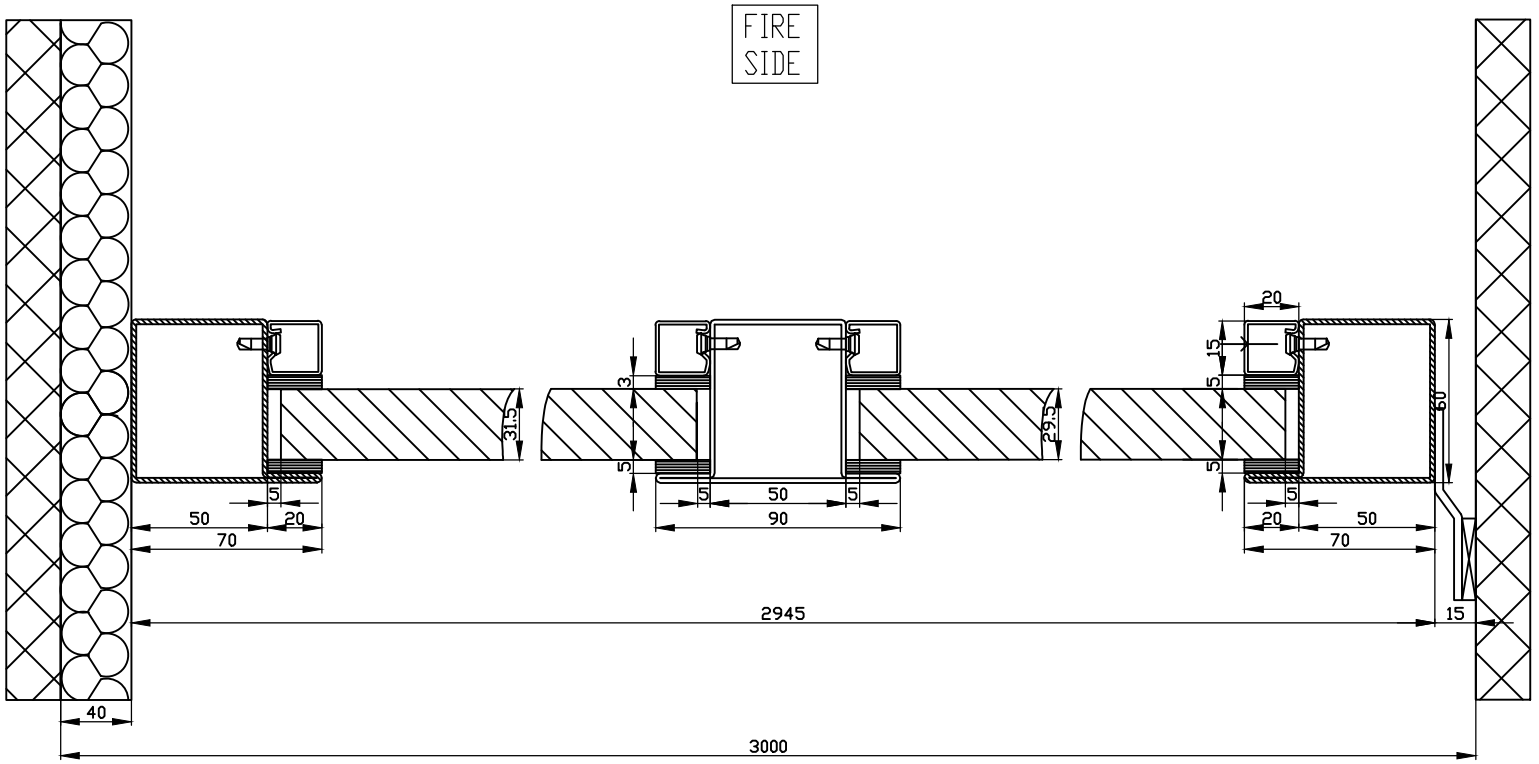
Dimensions in mm

Section C-C - dimensions.



Dimensions in mm

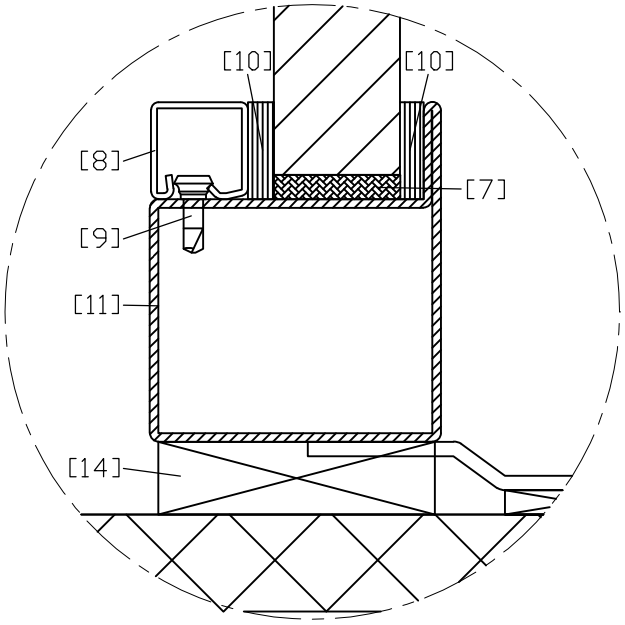
Section D-D - dimensions.



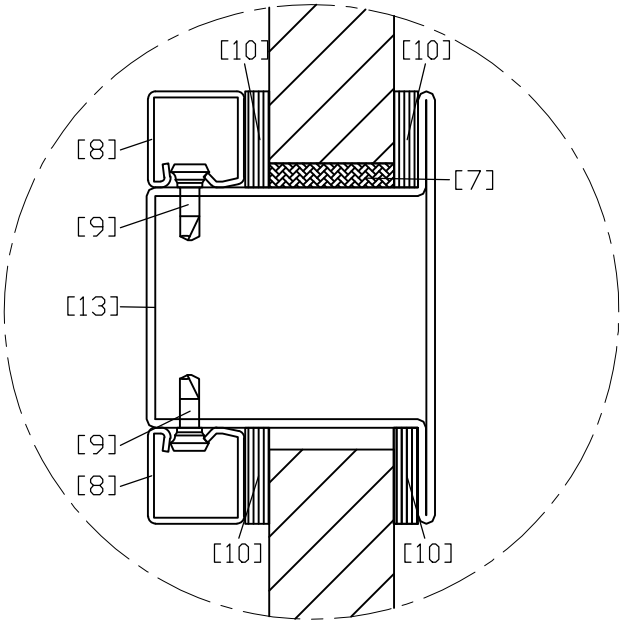
Dimensions in mm

Details.

DETAIL A



DETAIL B



DETAIL C