



warringtonfiregent
global safety

FIRE RESISTANCE CLASSIFICATION REPORT No. 14335B

Owner of the classification report:

AGC Glass Europe S.A.
166, Chaussée de la Hulpe
B-1170 BRUSSELS

Introduction:

This classification report defines the classification assigned to a glazed non-loadbearing wall – Pyrobel 17N EG in a Jansen Eco 60 frame - 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 seven pages and five annexes and may only be used or reproduced in its entirety.



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1 Details of classified product

1.1 General

The product is defined as a glazed non-loadbearing wall – Pyrobel 17N EG in a 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 Product description

The test element 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 annexes 1 till 5.

Composition of the glazed wall:

The asymmetrical glazed wall is constituted of:

- glass panes [1], [2], [3], [4], [5] and [6];
- a steel frame.

1.2.1 Glass panes

Glass pane – brand and type: Pyrobel 17N EG – thickness: 19 mm (MV) – nominal thickness of the glass: 17.8 mm ± 1.6 mm.

- fixation: clasped between the frame and clip-on beads;
- orientation: the glass panes are asymmetrical with the PVB-layer at the exposed side.

Specimen:	Dimensions of the glass panes:	Dimensions of the exposed area:	Reference:
[1]	1100 mm x 2860 mm	1070 mm x 2830 mm	BX13104-01-501
[2]	845 mm x 982 mm	815 mm x 952 mm	BX13104-03-503
[3]	845 mm x 982 mm	815 mm x 952 mm	BX13104-03-504
[4]	845 mm x 982 mm	815 mm x 952 mm	BX13104-03-502
[5]	845 mm x 982 mm	815 mm x 952 mm	BX13104-03-501
[6]	1720 mm x 836 mm	1690 mm x 806 mm	BX13104-02-501

[7] Adjustment block for the glass panes – type: Promatect-H – dimensions: 70 mm x 21 mm x 5 mm – density: 960 kg/m³ (NV).

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

1.2.2 Frame

The steel frame is composed of vertical profiles [8], horizontal profiles [8], vertical intermediate profiles [9] and horizontal intermediate profiles [9] so that the frame is divided in several parts. The profiles are welded to one another. Clip-on beads [10] are fixed at the exposed side of the frame.

[8] Tube profile – type: Jansen Eco 60 – material: steel – outer dimensions of the section: 60 mm x 70 mm – wall thickness: 1.75 mm (NV).

- fixation to the adjacent building structure:
 - with concrete plugs [12] – brand and type: Hilti 100 HT – material: steel – diameter: 10 mm – length: 112 mm;
 - with the help of a steel plate: the steel plate and the tube profiles [8] are welded to one another;
 - centre/centre distance: see drawing (annex 1).

[9] Tube profile – type: Jansen Eco 60 – material: steel – outer dimensions of the section: 60 mm x 60 mm – wall thickness: 1.75 mm (NV).

[10] Clip-on bead – type: Jansen Eco 60 – material: steel – outer dimensions of the section: 25 mm x 20 mm – wall thickness: 1.3 mm (NV).

- position: at the exposed side.
- fixation:
 - clipped on screws [13] – material: steel – diameter: 4 mm – length: 15.6 mm (MV);
 - centre/centre distance: 250 mm.

[11] Adjustment block for the frame – type: Promatect-H – dimensions: 120 mm x 65 mm x 12 mm – density: 960 kg/m³ (NV).

- position: between the adjacent building structure and each steel plate.
- centre/centre distance: 853 till 857 mm (see drawing).

1.2.3 Finishing

[14] Self-adhesive ceramic paper – type: Superwool X607 – outer dimensions of the section: 20 mm x 5 mm – density: 210 kg/m³.

- position: between the clip-on beads and the glass panes.

[15] Mineral wool – type: Superwool X607 – initial density: 96 kg/m³ – compressed till approximately 15 mm.

- position: between the frame and the adjacent building structure.

2 Test report and test results in support of this classification

2.1 Test report

Name of laboratory that undertook the test	Identification number of test report	Owner of test report	Date of test	Test method
WFRGENT N.V.	14335A	AGC Glass Europe S.A.	7/04/2010	EN 1364-1: 1999

Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:1999.

Direction of exposure: the steel framework is an asymmetrical construction.

The glass panes are also asymmetrical; the PVB-layer is orientated to the fire .

One side exposed to the fire.

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 cotton pad	No failure at test termination
Time of occurrence of sustained flaming	74 minutes
Time of failure of gap gauge criterion	74 minutes
Thermal insulation	
Time after which the mean temperature rise at the unexposed side exceeds 140 °C	48 minutes
Time after which the maximum temperature rise at the unexposed side exceeds 180 °C	10 minutes
Radiation	
Time after which the radiation exceeds 15 kW/m ²	74 minutes (*)
Mechanical action	
No impact test	Not applicable

(*) No failure at test termination in case of infinite width extension of the glazed wall (see Test report 14335A – Annex 10).

The test duration was 74 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 as described in clause 2.1: the PVB-layer and the clip-on beads are orientated to the fire and the fixations of the steel frame are orientated to the non exposed side.

EW 60, EW 30, EW 20
E 60, 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.

- unlimited decrease in the wall width.
- unlimited increase in the wall width*.
- unlimited decrease in the wall height of 3 m. No extension in height is allowed above 3 m.
- decrease in linear dimensions of the panes.
- change in the aspect ratio of the panes provided that the largest dimension of the pane and its area are not increased.
- decrease in the distance between vertical mullions and horizontal transoms.
- decrease in distances between fixing centres.

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- increase in the dimensions of framing members.
- allowances for expansion if none were incorporated in the test specimen.
- change in the angle of installation of up to 10° from the vertical.

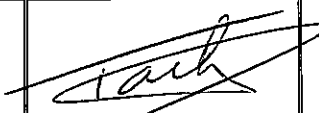
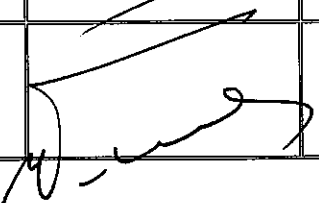
* the radiation intensity for an increased width till $+\infty$ meters remains below 15kW/m².
The calculated values are shown in test report 14335A – Annex 10 .

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 Warning

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

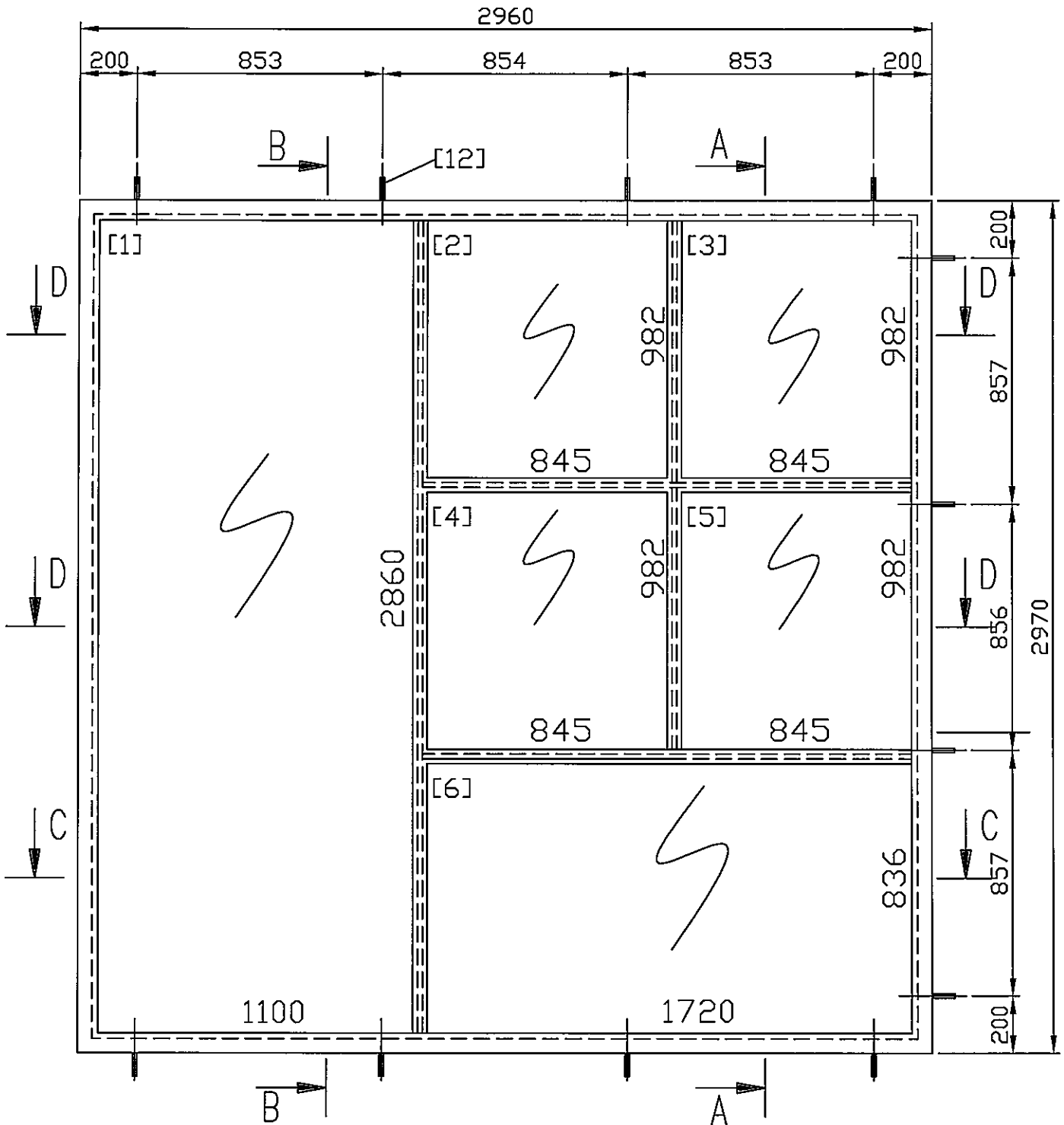
Report	Name	Signature*	Date
Prepared by	P. TACK		1 8 AUG 2010
Reviewed by	Prof. dr. ir. P. VANDEVELDE		1 8 AUG 2010
* For and on behalf of WFRGENT N.V.			

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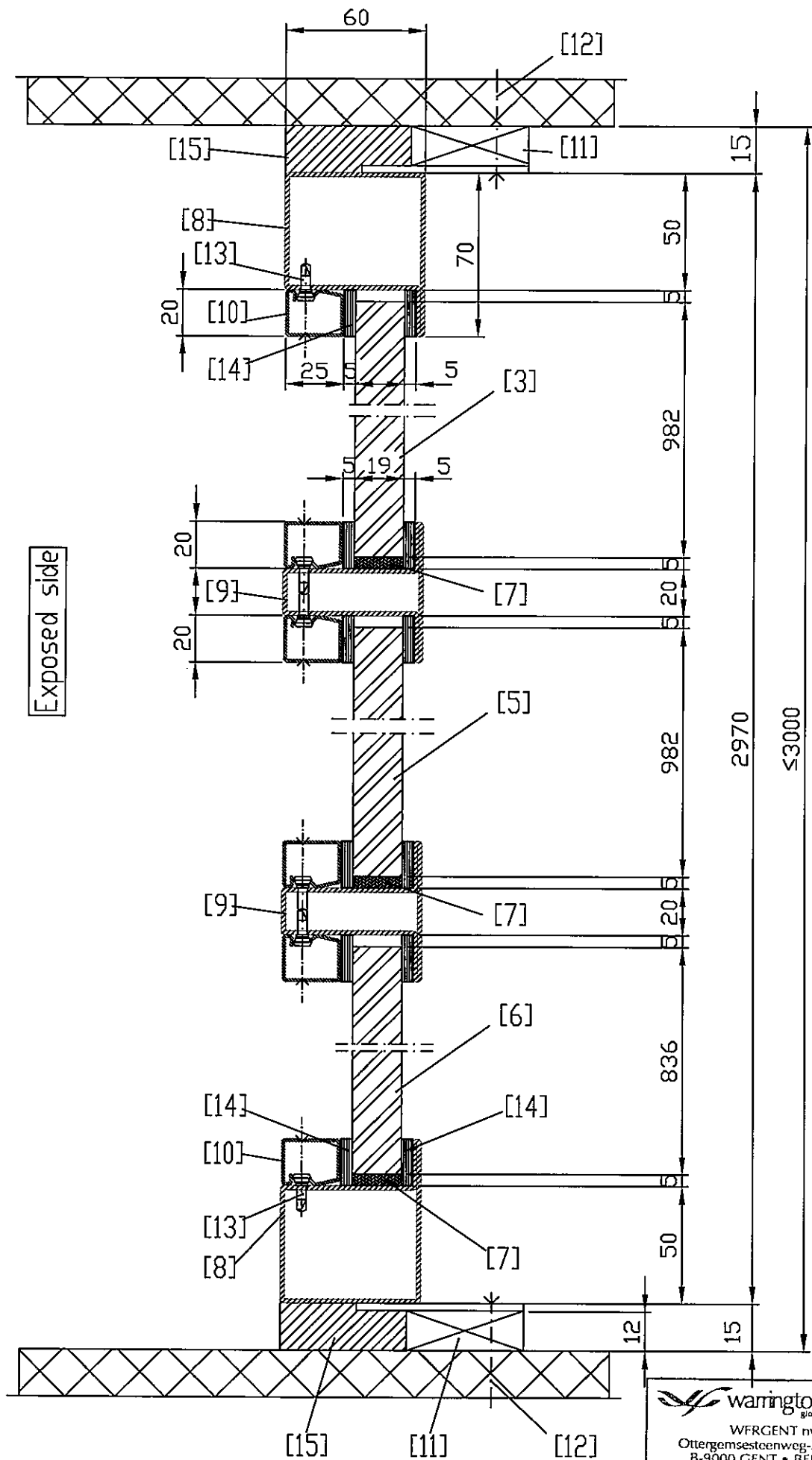
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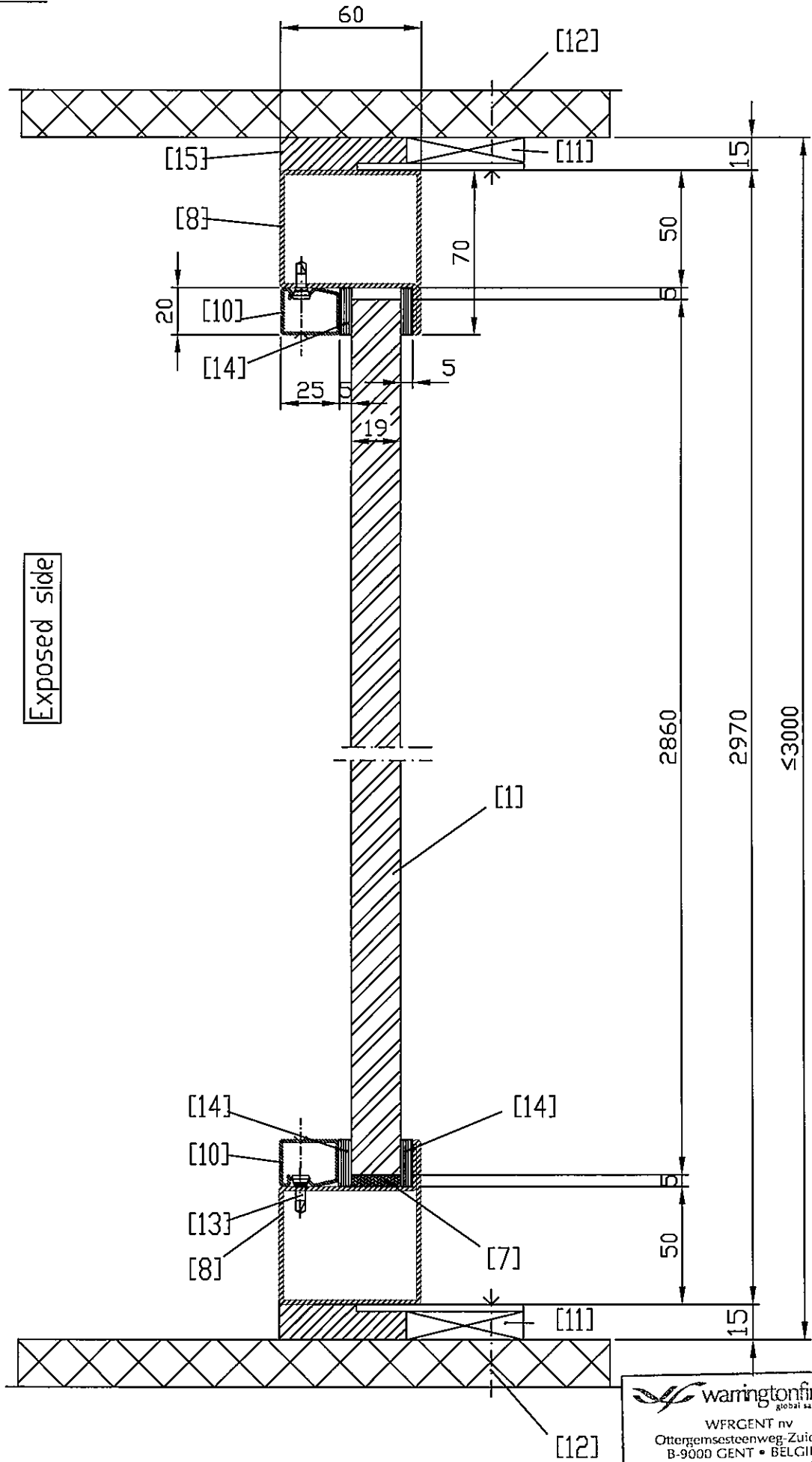
Front view - unexposed side - dimensions.



Section AA.



Section BB.



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