

FIRE RESISTANCE CLASSIFICATION REPORT No. 14461B

Owner of the classification report:

AGC Glass Europe S.A.
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Introduction:

This classification report defines the classification assigned to a glazed non-loadbearing wall – Pyrobel 17N_Jansen Janisol C4 frame_silicone – 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.

1 Details of classified product

1.1 General

The product is defined as a glazed non-loadbearing wall – Pyrobel 17N_Jansen Janisol C4 frame_silicone. 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 – thickness: 17 mm (MV) – nominal thickness of the glass: 17.8 mm ± 1.6 mm.

- fixation: clasped between the clip-on beads.
- orientation: the glass panes are symmetrical.

Specimen:	Dimensions of the glass panes:	Dimensions of the exposed area:	Reference:
[1]	1300 mm x 2850 mm	1270 mm x 2820 mm	BX13386-01-501
[2]	680 mm x 950 mm	650 mm x 920 mm	BX13386-04-501
[3]	730 mm x 950 mm	700 mm x 920 mm	BX13386-03-501
[4]	680 mm x 950 mm	650 mm x 920 mm	BX13386-04-502
[5]	730 mm x 950 mm	700 mm x 920 mm	BX13386-03-502
[6]	1470 mm x 830 mm	1440 mm x 800 mm	BX13386-02-501

[7] Adjustment blocks for the glass panes – type: Promatect-H – dimensions: 70 mm x 18 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 [8] and horizontal intermediate profiles [8] so that the frame is divided in several parts. The profiles are welded to one another. Clip-on beads [9] are fixed at the exposed and unexposed side of the frame. The frame is considered asymmetrical because the steel frame is only fixated at the unexposed side.

[8] Tube profile – type: Jansen Janisol C4 – material: steel – outer dimensions of the section: 50 mm x 70 mm – wall thickness: 1.5 mm (NV).

- fixation to the adjacent building structure:
 - with concrete plugs [11] – 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).
- the profiles are insulated.

[9] Clip-on beads – type: Jansen Janisol C4 – material: steel – outer dimensions of the section: 20 mm x 20 mm – wall thickness: 1.3 mm (NV).

- position: at the exposed side and unexposed side;
- fixation:
 - clipped on screws [12] – material: steel – diameter: 4 mm – length: 16 mm (NV);
 - center/center distance: 250 mm.

[10] Adjustment blocks for the frame – type: Promatect-H – dimensions: 150 mm x 65 mm x 20 mm and 120 mm x 40 mm x 5 mm – density: 960 kg/m³ (NV).

- position: between the adjacent building structure and each steel plate.

1.2.3 Finishing

[13] 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.

[14] Silicone kit – brand and type: Dow Corning Firestop 700.

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

[15] Mineral wool – type: Superwool X607 – initial density: 96 kg/m³ – compressed till approximately 15 mm (top), 20 mm (side), and 25 mm (bottom).

- 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.	14461A	AGC Glass Europe S.A.	5/07/2010	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 framework and the glass panes are symmetrical. Only the fixation of the steel framework is asymmetrical.

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	No failure at test termination
Time of failure of gap gauge criterion	73 minutes
Thermal insulation	
Time after which the mean temperature rise at the unexposed side exceeds 140 °C	53 minutes
Time after which the maximum temperature rise at the unexposed side exceeds 180 °C	48 minutes
Radiation	
Time after which the radiation exceeds 15 kW/m ²	No failure at test termination (*)
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 14461A – Annex 10).

The test duration was 73 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 fixation of the steel frame is located at the unexposed side.

EI 45, EI 30, EI 20, EI 15
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.

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- decrease in distances between fixing centres.
- 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 14461A – 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.

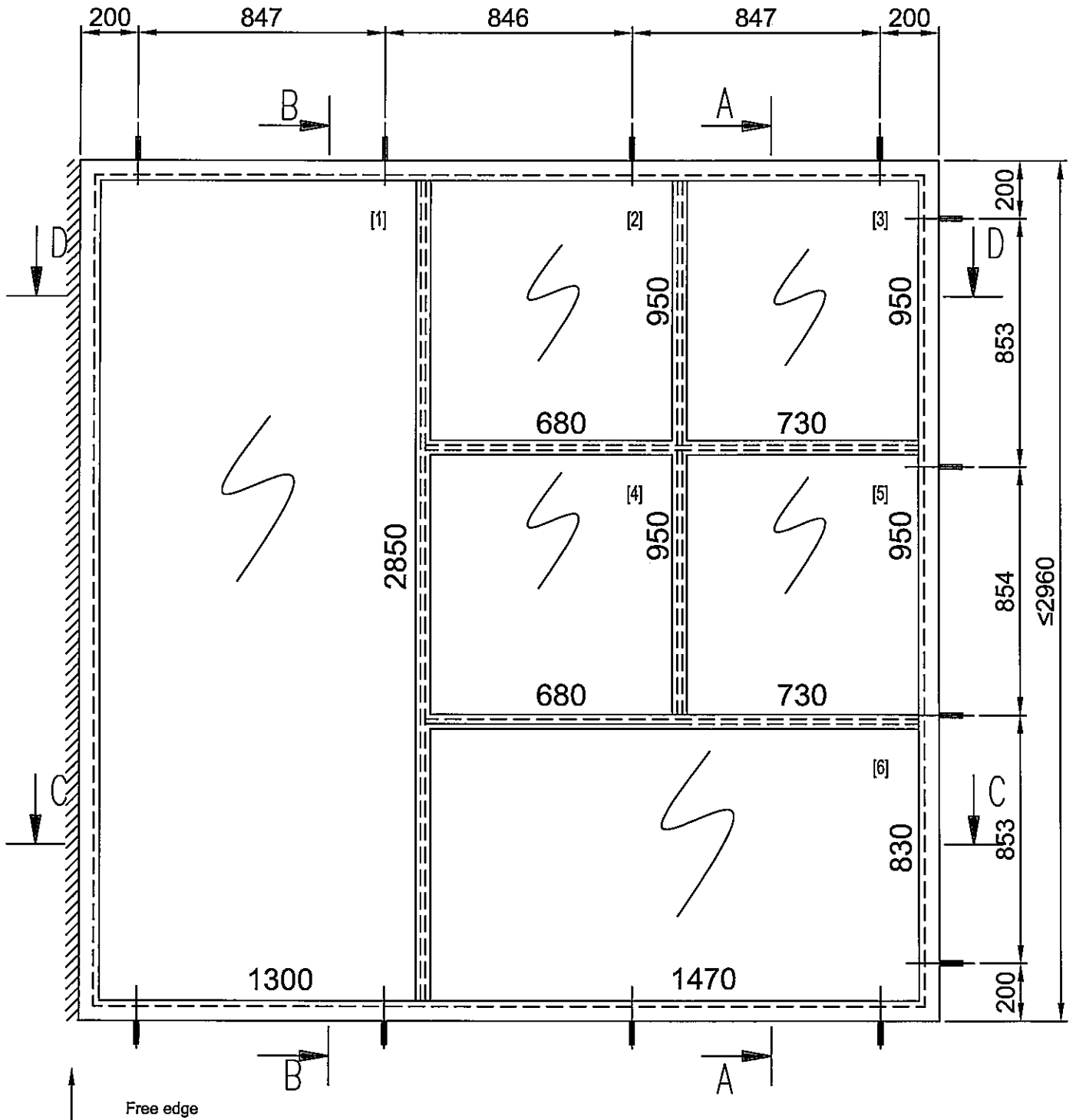
Report	Name	Signature*	Date
Prepared by	P. TACK		18 AUG 2010
Reviewed by	Prof. dr. ir. P. VANDEVELDE		18 AUG 2010
* For and on behalf of WFRGENT N.V.			

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

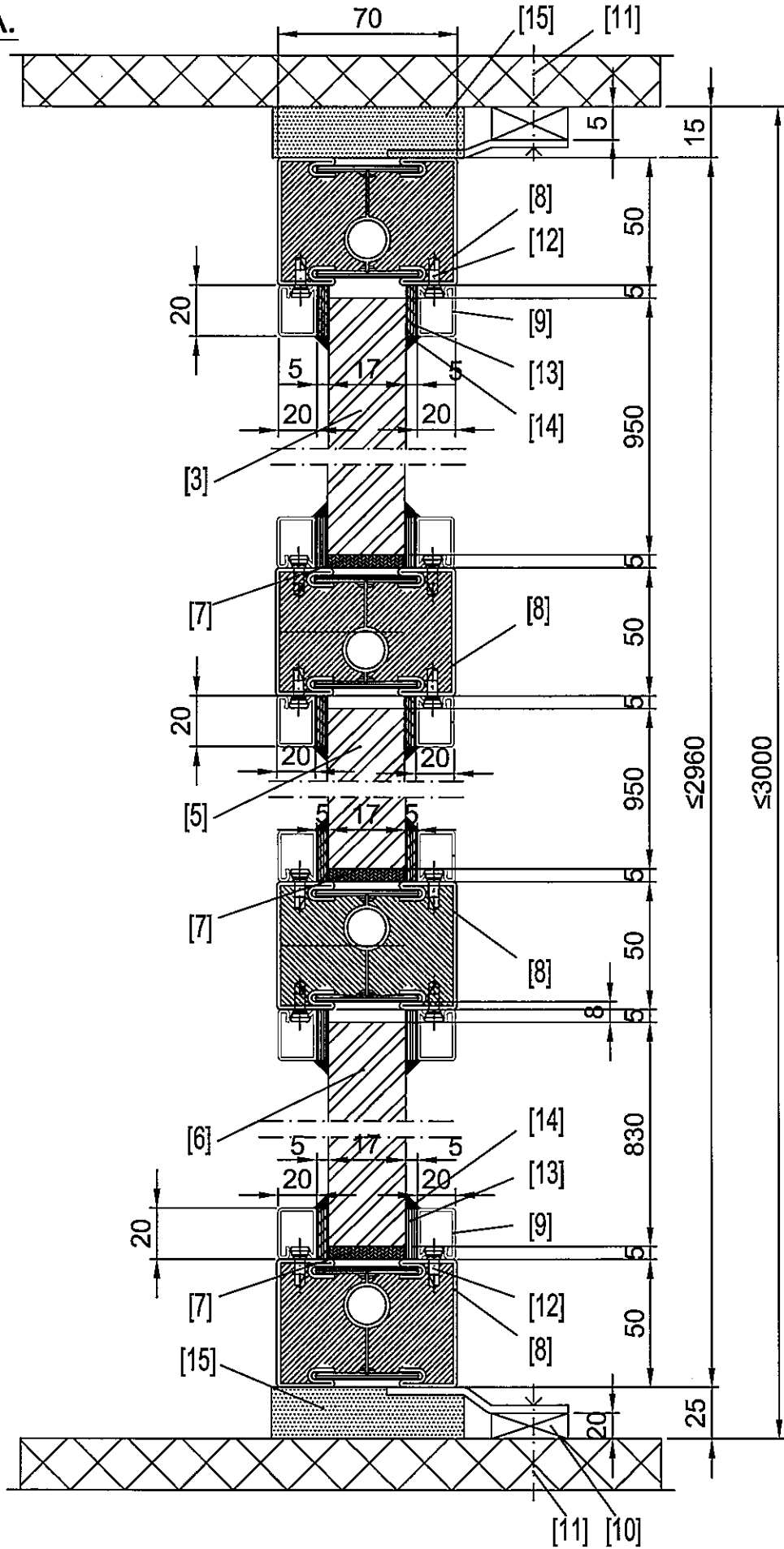
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Front view - unexposed side - dimensions.



Section AA.

exposed side



Section CC.

exposed side

