

# FIRE RESISTANCE CLASSIFICATION REPORT No. 15249B

## Owner of the classification report:

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

## Introduction:

This classification report defines the classification assigned to an unloaded glazed wall, type: Pyrobel 17N EG\_Jansen Eco 60 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 eight pages and five annexes and may only be used or reproduced in its entirety.

## 1 Details of classified product

### 1.1 General

The specimen is defined as an unloaded glazed wall – type: Pyrobel 17N EG\_Jansen Eco 60 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 Description

The 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 the annexes 1 till 5 of this classification report.

#### 1.2.1 Composition of the test specimen:

The unloaded glazed wall consists of glass panes in a steel frame.

#### 1.2.2 Glazing system:

The glazing system consists of glass panes [1]-[6], setting blocks [7], clip-on beads [8], bead fixings [9], glazing strips [10] and sealants [11]. The exact composition of the glass panes is confidential and is communicated to the laboratory.

[1]-[6] Glass panes – trade and type: Pyrobel 17N EG – nominal glass thickness: 21.6 mm ± 2.0 mm – measured glass thickness: 20.9 mm.

- position: shown in annex 1 of this classification report.
- fixation: clasped between the clip-on beads and the frame.
- orientation: the glass panes are asymmetrical: the Pyrobel 17-layer at the exposed side.

	Dimensions of the glass panes: (width x height)	Dimensions of the exposed area: (width x height)	Reference
[1]	1300 mm x 2860 mm	1270 mm x 2830 mm	BX15807-01-501
[2]	650 mm x 955 mm	620 mm x 925 mm	BX15807-04-501
[3]	650 mm x 955 mm	620 mm x 925 mm	BX15807-03-501
[4]	650 mm x 955 mm	620 mm x 925 mm	BX15807-04-502
[5]	650 mm x 955 mm	620 mm x 925 mm	BX15807-03-502
[6]	1475 mm x 830 mm	1445 mm x 830 mm	BX15807-02-501

- [7] Setting block – material: calcium silicate – type: Promatect-H – dimensions: 80 mm x 25 mm x 6 mm – density: 960 kg/m<sup>3</sup> (NV).
- number: two per glass pane.
  - position: underneath the glass panes.
- [8] Clip-on bead – material: steel – type: Jansen Eco 60 – dimensions: 20 mm x 25 mm – thickness: 1.25 mm (MV).
- position: at the exposed side.
  - fixation:
    - clipped on screws [9] – material: steel – diameter: 4 mm – length: 16 mm.
    - centre/centre distance: 250 mm.
- [10] Glazing strip – material: self-adhesive ceramic paper – type: Superwool X607 – dimensions: 20 mm x 5 mm – density: 210 kg/m<sup>3</sup> (NV).
- position:
    - between the frame and the glass panes;
    - between the clip-on beads and the glass panes.
- [11] Sealant – material: neutral silicone – trade and type: Dow Corning Firestop 700 grey.
- position:
    - sealing between the glass panes and the frame;
    - sealing between the glass panes and the clip-on beads.

### 1.2.3 Framing system:

The framing system includes the frame components [12]-[13] and the fixing parts [14].

- [12] Tube profile – material: steel – brand and type: Jansen Eco 60 – reference: 01-684 – dimensions of the section: 70 mm x 60 mm – thickness: 1.75 mm.
- position: at the outer edges.
  - fixation to the surrounding building structure:
    - with anchors [14] – material: steel – brand and type: Hilti 100 HT – diameter: 10 mm – length: 112 mm.
    - with the help of a steel plate (thickness: 3 mm); the steel plate and the tube profiles are welded to each other.
    - centre/centre distance: see annex 1 of this classification report.

[13] Intermediate tube profile – material: steel – brand and type: Jansen Eco 60 – reference: 02-684 – dimensions of the section: 90 mm x 60 mm – wall thickness: 1.75 mm.

- number: two horizontal and three vertical profiles.
- fixation: the intermediate profiles are welded to the adjacent (intermediate-) profiles.

[15] Setting block – material: calcium silicate – type Promatect-H – dimensions: 100 mm x 50 mm x 12 mm – density: 960 kg/m<sup>3</sup> (NV).

- number: 12 .
- position: between the steel plate and the surrounding building structure.

[16] Mineral wool – type: Thermal insulation Superwool X607 – initial density: 96 kg/m<sup>3</sup> – compressed to a thickness of 15 mm.

- position: between the steel frame and the surrounding building structure.

## 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	15249A	AGC Glass Europe	28/11/2011	EN 1363-1:1999 EN 1364-1:1999

#### Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1364-1:1999.

Direction of exposure:

- The glazing system is asymmetrical: the clip-on beads and the Pyrobel 17-layer of the glass are exposed to the fire.
- The framing system is asymmetrical: the fixation of the frame is exposed to the fire.

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

## 2.2 Test results

Parameter	Results
<b>Loadbearing capacity</b>	Not applicable
<b>Integrity</b>	
Time of ignition of a cotton pad	No failure at test termination
Time of occurrence of sustained flaming	After 61 minutes
Time of failure of gap gauge criterion	No failure at test termination
<b>Thermal insulation</b>	
Time after which the mean temperature at the unexposed side exceeds 140 °C	After 58 minutes
Time after which the maximum temperature rise at the unexposed side exceeds 180 °C	After 11 minutes
<b>Radiation</b>	
Time after which the radiation intensity exceeds 15 kW/m <sup>2</sup>	No failure at test Termination
<b>Mechanical action</b>	Not applicable

The test duration was 62 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 classifications are only valid for the direction as described in clause 2.1.

**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 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:

- a) unlimited decrease in the partition width.
- b) unlimited increase in partition width\*.
- c) unlimited decrease in partition height. no extension in height is allowed above 3 m.
- d) decrease in linear dimensions of panes.
- e) change in the aspect ratio of the panes provided that the largest dimension of the pane and its area are not increased.
- f) decrease in distance between mullions and/or transoms.
- g) decrease in distance between fixing centres.
- h) increase of dimensions of framing members.
- i) allowances for expansion if none were incorporated in the test specimen.
- j) change in angle of installation up to 10° from the vertical.

\* the radiation intensity for an increased width till  $+\infty$  meters remains below 15 kW/m<sup>2</sup> after 60 minutes. The calculated values are shown in test report 15249A – Annex 10.

### 3.4 Field of extended application

Not applicable.

## 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

APPROVED

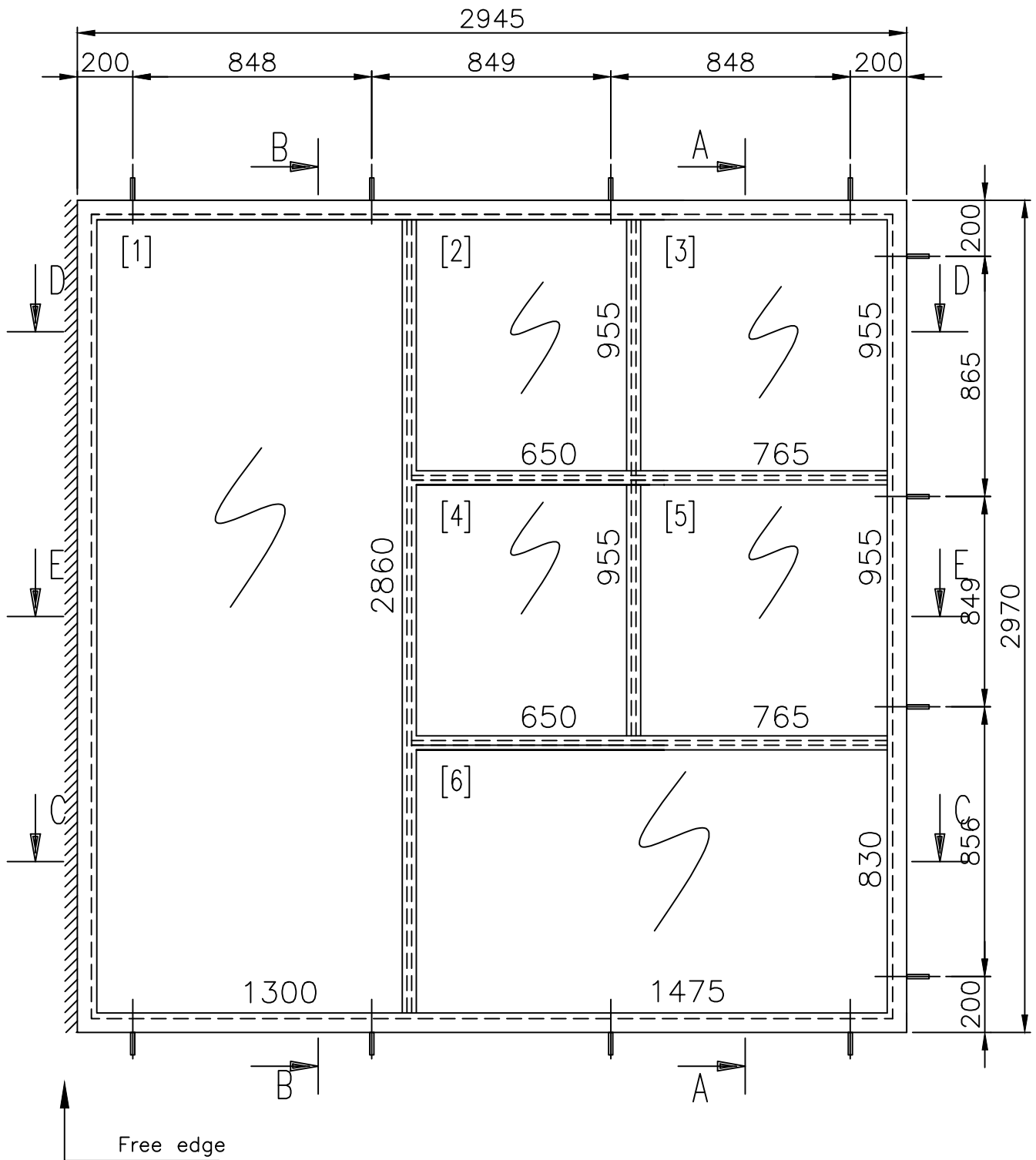
This document is the original version of this classification report and is written in English.

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.

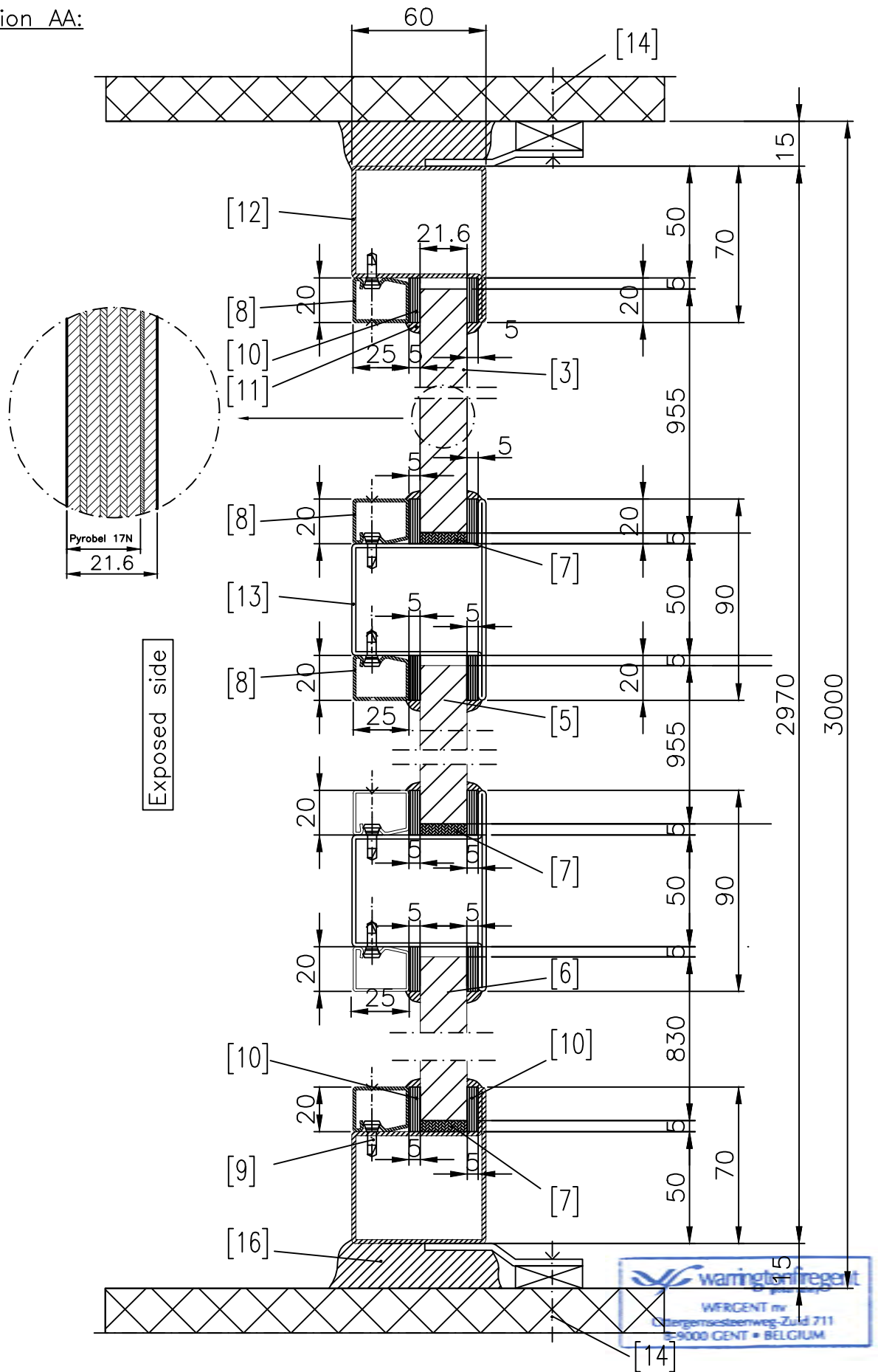
The authenticity of the electronic signatures is assured by Belgium Root CA.



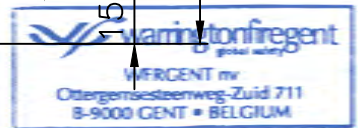
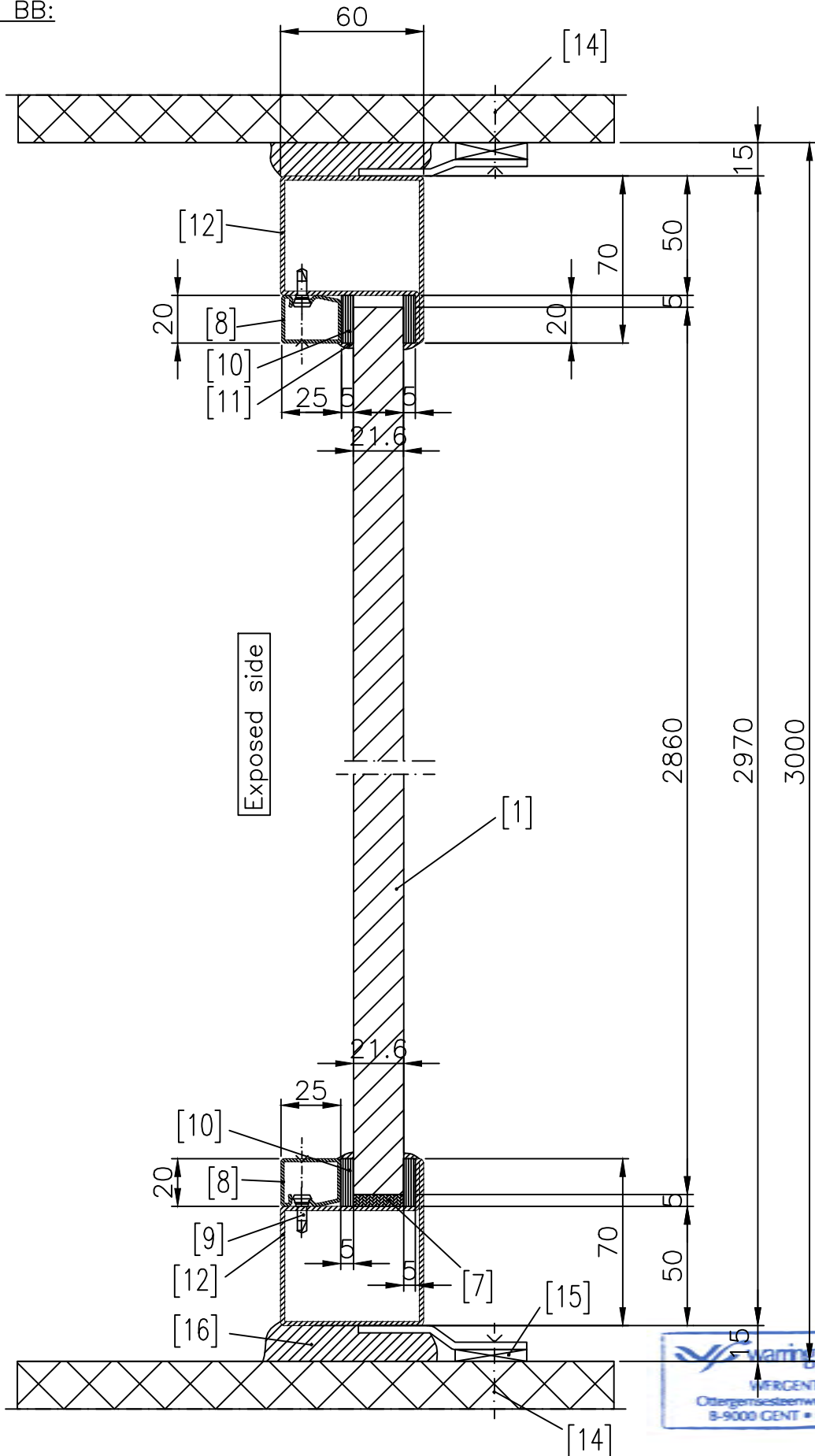
Front view (unexposed side) – dimensions.



Section AA:



Section BB:





Sections DD and EE

