

FIRE RESISTANCE CLASSIFICATION REPORT No. 12646C

Owner of the classification report:

SPRL FLEMA
Rue Outre 46
B-7910 Anvaing

Introduction:

This classification report defines the classification assigned to a sliding door in one piece – PL 60 composed of vertically mounted panels in accordance with the procedures given in EN 13501-2: 2007: 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 seven annexes and may only be used or reproduced in its entirety.



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1 Details of classified product

1.1 General

The element is defined as a sliding door in one piece – PL 60. It is evaluated in respect of the fire performance characteristics given in clause 5 of EN 13501-2: 2007.

1.2 Product description

The element is fully described in the test report provided in support of this classification report listed in Clause 2.1. The drawings and the legend are reproduced in annexes 1 – 7 in this classification report.

Short product description:

The sliding door in one piece is composed of nine vertically mounted panels, a frame and an opening and closing mechanism.

The dimensions of the test specimen at the exposed side are: height: 2835 mm;
width: 2610 mm.

The dimensions of the panels are: width: 300 mm;
height: 2740 mm;
thickness: 40 mm.

The two fitting panels at the extremities of the test specimen have a width of 205 mm. The panels are composed of a PVC-casing with a thickness of 2 mm, a core composed of four wooden slats (volumetric mass: 610 kg/m³) and an intumescent product between the wooden slats and the casing. On the top side of the panels, a sheeting consisting of a bent steel plate onto which a carrier has been welded, is placed. An intumescent product is placed at both sides between the bent steel plate and the panels.

One side of both fitting pieces has a PVC profile that has been screwed to the panel. A strip of intumescent compound has also been placed between the profile and the fitting pieces. The panels have been connected to each other by means of three PVC profiles. On the top side, the panels have been attached to each other by means of one screw.

The bottom side of the panels is protected by means of a sealing profile. A strip of intumescent compound has been placed between the panels and the sealing profile and it has been attached by means of staples.

The fixed parts consist of a frame formed with profiles, a horizontally mounted baffle plate and a horizontal guide rail. The profiles are attached to the exposed side of the wall every 600 mm. The horizontal guide rail has been suspended from the wall in three different places by means of mounting brackets. The mounting brackets have been secured through the aerated concrete wall.

The carrier of each panel has a stainless steel wheel that moves in the horizontal guide rail at the exposed side.

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.	12646A	SPRL FLEMA	31/01/2007	EN 1634-1:2000

Exposure conditions during the fire resistance test:

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

Direction of exposure: it concerns an asymmetrical construction with the barrel and the supporting components mounted on the fire side. The panels themselves are symmetrically.

One side exposed to the fire.

2.2 Test results

Parameter	Results
Integrity	
Time of ignition of cotton pad	No failure at test termination
Time of occurrence of sustained flaming	68 minutes
Time of failure of gap gauge criterion	No failure at test termination
Thermal insulation	
Time after which the mean temperature rise at the unexposed side of the door leaf exceeds 140 °C	No failure at test termination
Time after which the maximum temperature rise at 25 mm from the edge of the unexposed side of the door leaf exceeds 180 °C	No failure at test termination
Time after which the maximum temperature rise at 100 mm from the edge of the unexposed side of the door leaf exceeds 180 °C	No failure at test termination
Time after which the maximum temperature rise on the door frame exceeds 180 °C	Not applicable
Time after which the maximum temperature rise on the door frame exceeds 360 °C	Not applicable
Radiation	
Time after which the radiation exceeds 15 kW/m ²	No failure at test termination

The test duration was 68 minutes.

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7.5.5 of EN 13501-2: 2007.

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 following classes are applicable for the element mounted in both directions (*)

E 60, E45, E 30, E20, E 15

(*) provided that the door panels are themselves symmetrical with the exception of the edges, that any supporting ironmongery is of a sufficiently high melting point and that there is no change in the number of door panels or the mode of operation.

The following classes are applicable for the element mounted in the same direction as the test specimen (with the supporting components exposed to the fire):

**EI₁ 60, EI₁ 45, EI₁ 30, EI₁ 20, EI₁ 15
EI₂ 60, EI₂ 45, EI₂ 30, EI₂ 20, EI₂ 15
EW 60, EW 30, EW 20
E 60, E45, E 30, E20, E 15**

3.3 Field of direct application

Unless otherwise stated hereafter the construction of the door assembly shall be the same as that tested. The number of leaves and the mode of operation shall not be changed.

The classification EI₁ 60, EI₂ 60, EW 60 is valid for the following variations of the door (in one direction as tested):

The classification E60 is valid for the following variations of the door (in both directions):


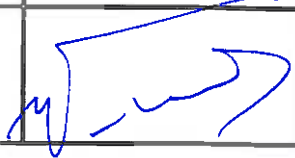
- The thickness of the door panels and the density of each of the materials may be increased provided that the total increase in the weight of the door is not greater than 25%.
- The thickness of the door panels may not be reduced.
- The composition shall not change from that tested. The density shall not be reduced but may be increased.
- The dimensions in section and/or the density of the timber frame may not be decreased but it may be increased.
- The panels may be painted.
- The number of fixings used to attach the fire resisting door to the supporting construction may be increased but shall not be decreased and the distance between the fixings may be reduced but shall not be increased.
- Changes in the door hardware are permitted provided the alternative hardware has been demonstrated in another doorset of similar configuration.
- The number of movement restrictors (locks, hinges etc.) may be increased, but shall not be reduced.
- Unlimited size reduction in door dimensions is allowed.
- Size increase (width/height) is permitted provided that the area is not increased by more than 50% if the overlaps at the rear and head of the door are adjusted to increase the tightness of the interlock by 10 mm per metre of increase in size.
- Specimens comprising joined panels shall incorporate at least one full size panel with examples of jointing techniques at each end.
- The fire resistance of the sectional door in a rigid standard supporting construction as specified in the standard EN 1363-1 can be applied to a door assembly mounted in the same manner in a wall of provided that the density and thickness of the wall are equal to or greater than that in which it was tested.

4 Duration of the validity of the classification report

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

5 Warning

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

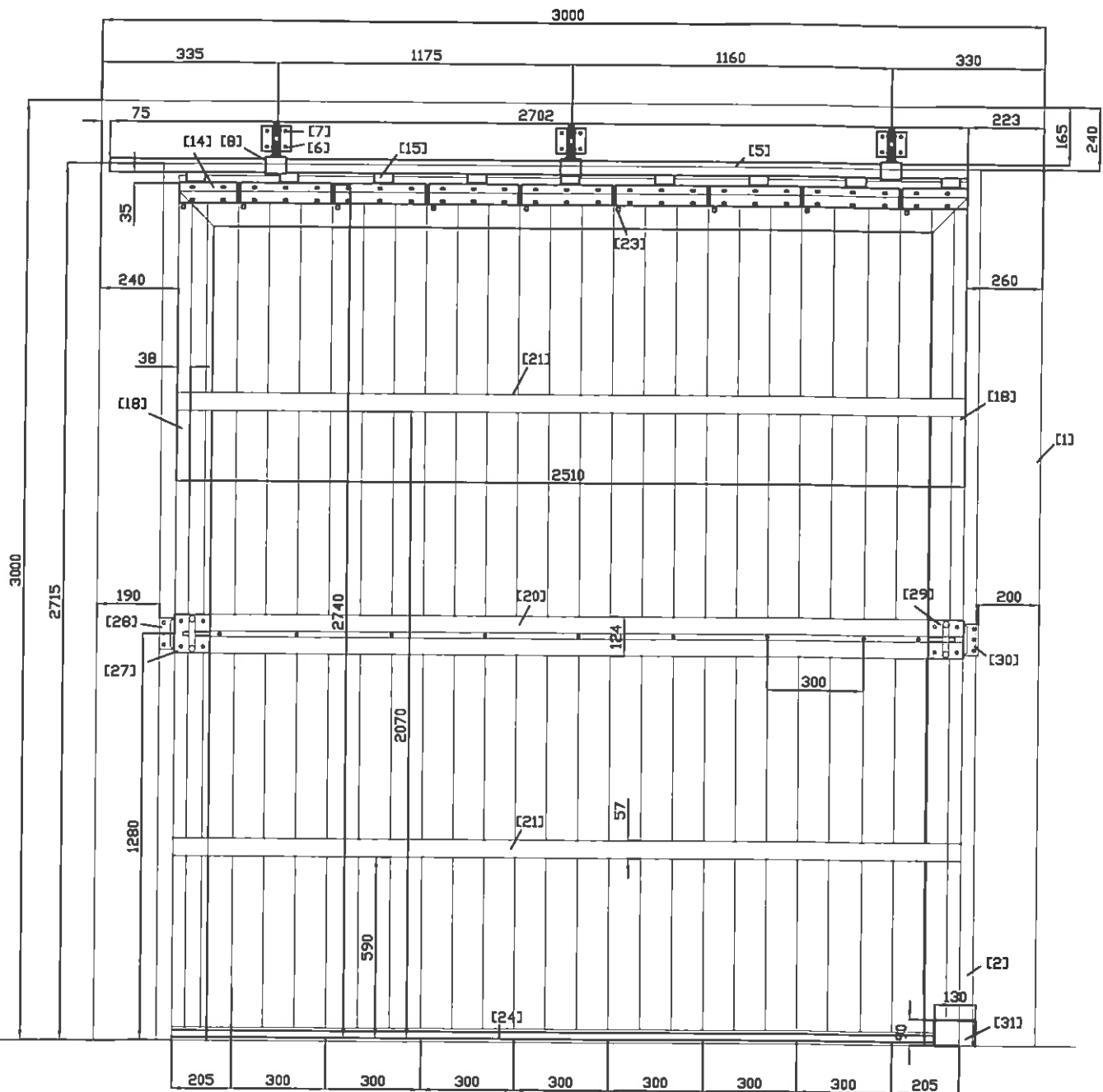
Report	Name	Signature*	Date
Prepared by	N. DE KLERCK		08 OCT 2008
Reviewed by	Prof. dr. ir. P. VANDEVELDE		08 OCT 2008
* For and on behalf of WFRGENT N.V.			

EN 13501-2 FSG REC 017 -version 1

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

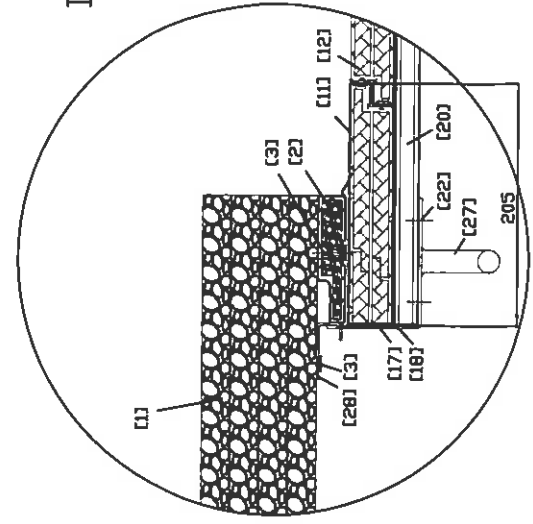
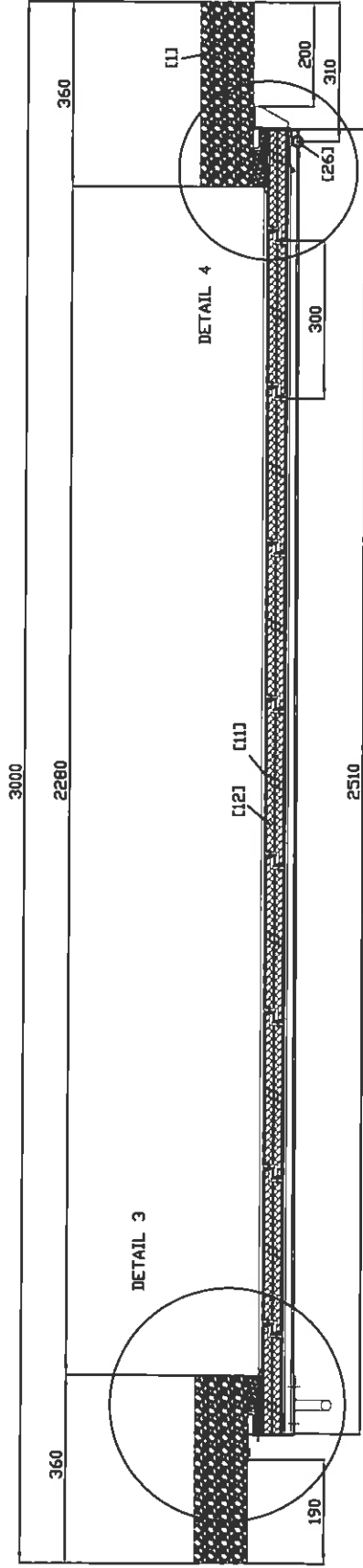
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Front view - exposed side

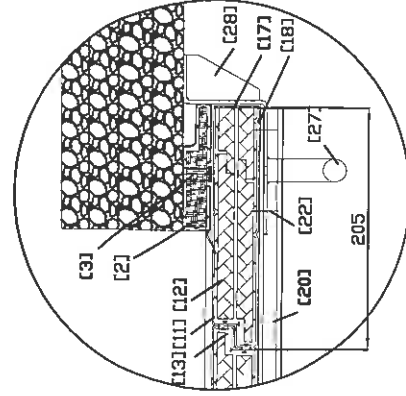




HORIZONTAL SECTION AA

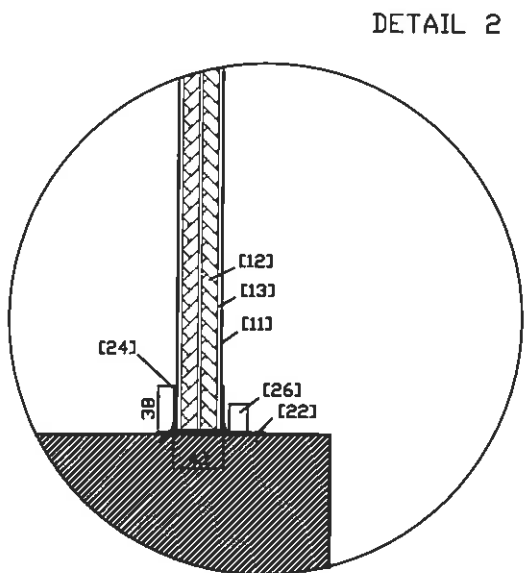
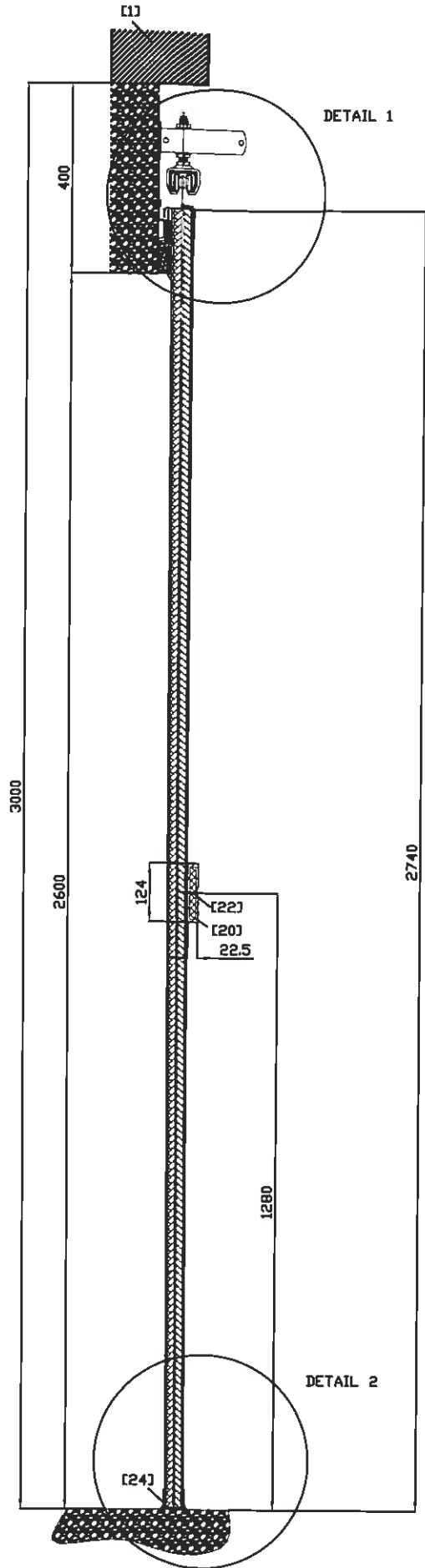
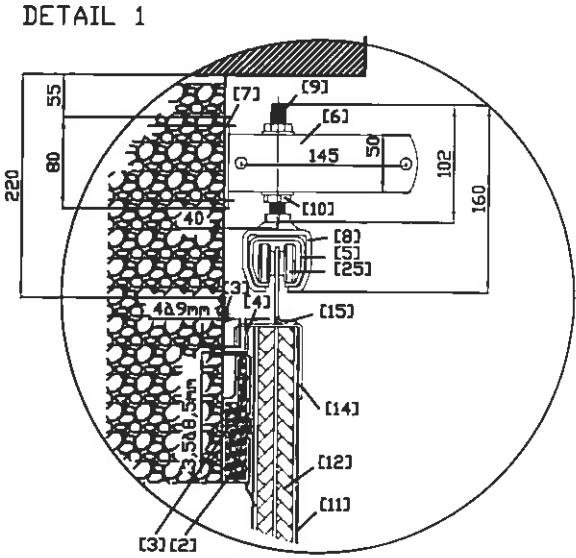


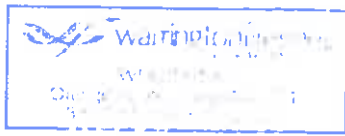
DETAIL 3



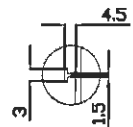
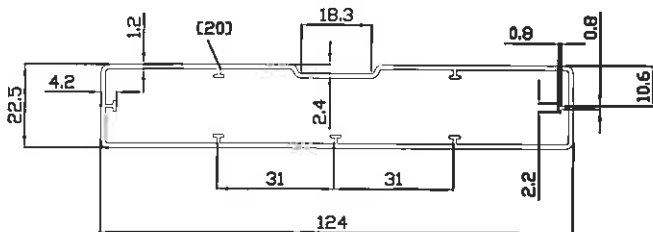
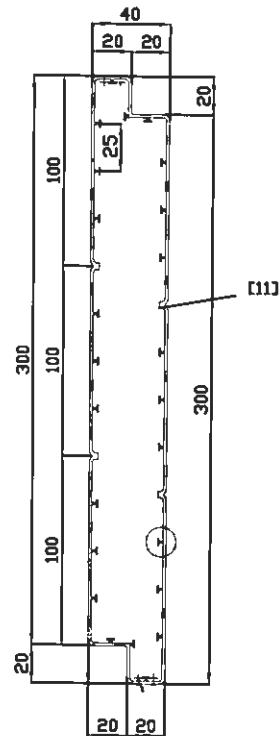
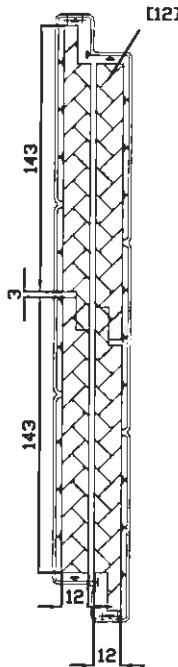
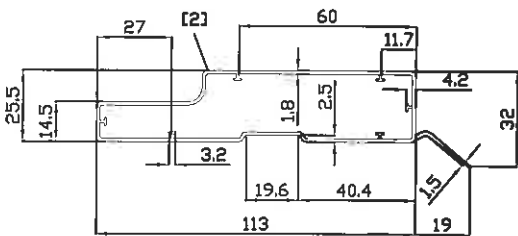
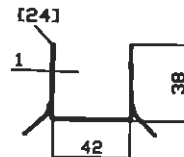
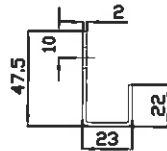
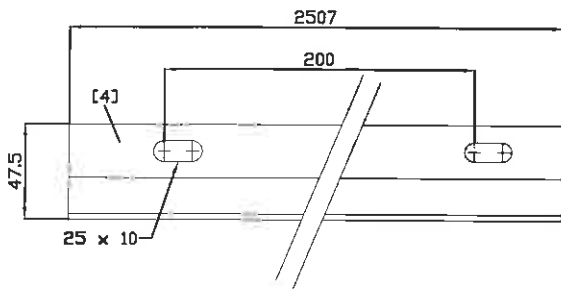
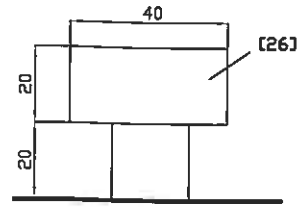
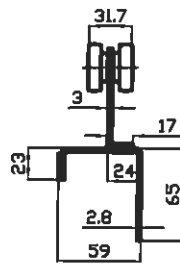
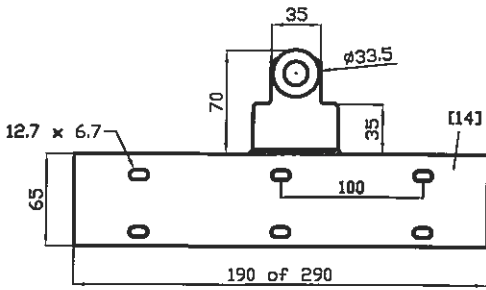
DETAIL 4

VERTICAL SECTION BB





DETAILS





[14] - [15] - [25]



[29]



[29]



[27]



[28]



[30]



[2]



[11] - [12] - [13]



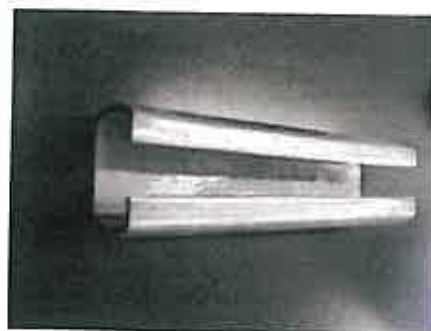
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[26]



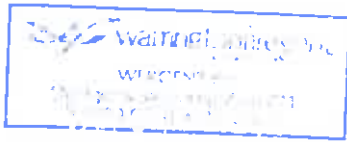
[8] - [9] - [10]



[5]



[6]



LEGEND:

- [1] Wall – aerated concrete – thickness: 150 mm.
- [2] Profile – plastic – filled with pinewood and intumescent compound – volumic mass pinewood at test date: 610 kg/m^3 (MV) – volumic mass pinewood dry: 470 kg/m^3 (NV) – with upright spacers (PVC) inside: 3.2 mm x 1.5 mm x 4.2 mm – total width: 132 mm – total thickness: 25.5 mm – thickness of the plastic: 2.5 mm – length: 2712 mm (vertical) and 2507 mm (horizontal).
- [3] Screw plug – brand and type: FISCHER F10 M92.
- [4] L-shaped profile – steel – dimensions of the section: 22 mm x 23 mm x 47.5 mm – length: 2507 mm (MV) – on the attachment side provided with perforations: 25 mm x 10 mm – core/core distance 200 mm – d = 2mm.
- [5] Guide rail – galvanized steel – outside dimensions of the section: 46 mm x 44.5 mm – thickness: 3 mm (MV) – length: 2702 mm (MV).
- [6] Mounting bracket – galvanized steel – outside dimensions: 170 mm x 50 mm x 24 mm – with feet: 80 mm x 39.5 mm – thickness: 4 mm.
- [7] Threaded rod – steel – diameter: 8 mm with bolt and pinion.
- [8] Profile – galvanized steel – outside dimensions of the section: 60 mm x 54.5 mm – length: 65 mm – thickness: 4.5 mm (MV).
- [9] Threaded rod – steel – diameter: 14 mm.
- [10] Nuts – M14.
- [11] Casing – PVC – thickness: 2 mm – with upright spacers (PVC) every 25 mm on the inside: 1.5 mm x 3 mm x 4.5 mm – outside dimensions of the section: 40 mm x 320 mm – provided with a tongue/groove on both longitudinal sides: 20 mm x 20 mm – length: 2726 mm (MV).
- [12] Wooden slats – pinewood – width: 143 mm and provided with a tongue/groove: 17 mm x 6 mm or width: 163 mm and provided with a tongue/groove: 20 mm x 6 mm – length: 2460 mm – volumic mass at test date: 610 kg/m^3 (MV).



- [13] Intumescent compound – the composition was confidentially communicated to the laboratory.
- [14] Bent steel plate – L-shaped – black coated steel – dimensions of the section: 23 mm x 59 mm x 65 mm – length: 190 mm or 290 mm – thickness: 3 mm (MV) – provided with two rows of perforations on one side: 12.7 mm x 6.7 mm, c/c distance: 100 mm – also on the top provided with two rows of perforations.
- [15] Carrier – L-shaped – black coated steel – dimensions: 70 mm x 17 mm – width: 17 mm – thickness: 2 mm (MV).
- [16] Selftapping screws – 6.3 mm x 35 mm.
- [17] Strip of intumescent compound – width: 35 mm – thickness: 2 mm.
- [18] Profile – PVC – dimensions of the section: 38 mm x 42 mm x 38 mm – thickness: 1 mm (MV) – length: 2740 mm.
- [19] Sheet-metal screw – self-tapping – cylindrical head – 4.2 x 38.
- [20] Profile – PVC – dimensions of the section: 124 mm x 22.5 mm – with a notch on one side: 18.3 mm x 2.4 mm – thickness: 1 mm (MV) – length: 2502 mm.
- [21] Profile – PVC – dimensions of the section: 57 mm x 24 mm – thickness: 1 mm (VM) – length: 2505 mm.
- [22] Screw – galvanized – 5 x 60.
- [23] Sheet-metal screw – self-tapping – cylindrical head – 4.3 x 45.
- [24] Sealing profile – PVC – outside dimension of the section: 38 mm x 42 mm – thickness: 1 mm (MV) – length: 2503 mm.
- [25] Stainless steel wheel – width: 32 mm – diameter: 33.5 mm.
- [26] Roller guide – steel plate – 67 mm x 67 mm – thickness: 2.3 mm (MV) – provided with 4 perforations: diameter 8 mm – c/c distance: 24 mm – steel roller: diameter: 20 mm – height: 20 mm – alloy roller: diameter: 40 mm – height: 20 mm.

- [27] Steel handle – L-shaped – black coated – dimensions: 115 mm x 86 mm – width: 122.5 mm – thickness: 3 mm – with a grip: diameter: 12.4 mm (MV).
- [28] C-shaped profile – steel – dimensions: 20 mm x 22.5 mm x 50 mm – height: 121.5 mm – thickness: 3 mm.
- [29] Steel handle – L-shaped – black coated – dimensions: 115 mm x 62 mm x 23 mm – width: 121.5 mm – thickness: 3 mm – with a grip: diameter: 12.4 mm (MV).
- [30] L-shaped profile – steel – dimensions: 50 mm x 43 mm – height: 121.5 mm – thickness: 3 mm.
- [31] Protection profile – steel – dimensions: 90 mm x 45 mm x 40 mm x 17 mm – height: 90 mm – thickness: 2 mm.
- [32] Opening handle – steel – outside dimensions: 120 mm x 85 mm – provided with a notch: 79 mm x 36 mm, depth: 20.5 mm – thickness: 1.25 mm (MV) – provided with four openings: diameter: 4.4 mm at 12 mm from the edges.
- [33] L-shaped closing profile – galvanized steel – width: 30 mm – dimensions of the section: 66 mm x 30 mm – thickness: 5 mm (MV) – with galvanized steel sheet: 56 mm x 30 mm – thickness: 5 mm.