Safety, Structures and Fire Performance Department
Expertise, Regulatory Assessment and Research Division

Pilot laboratory approved by the French Ministry of the Interior (Order of 5 February 1959, modified)

Classification report No. RS17-091

Established in compliance with the Order of 22 March 2004 (modified) and standard NF EN 13501-2 + A1: 2013-03

This classification report attests only to the characteristics of the object submitted for fire resistance testing and does not prejudge the characteristics of similar products. As such, it does not constitute a product certification within the meaning of articles L115-27 to L115-33 and R115-1 to R115-3 of the French Consumer Code. Only the signed electronic classification report with a valid digital certificate shall form the basis for any litigation. This electronic classification report is to remain on file at CSTB's offices for at least 10 years. Any reproduction of this electronic classification report is solely authorised in its entirety. **This report contains a total of 4 pages and 3 pages of appendices. | Version of 29 November 2017**

PERIOD OF VALIDITY

This classification report, and any extensions, are valid until: **29 November 2022**

NOTE: Beyond this date, this classification report is no longer valid, unless it is accompanied by a certificate of renewal issued by this approved laboratory. The element and its assembly must comply with the detailed description provided above. In the event of a dispute over the element covered by this classification report, the laboratory assessment may be requested from its owner, without any obligation to transfer the document.

CONCERNING

Vertically-arranged sandwich panel wall

Trademark: Food-Grade INDUSTRIAL (IND) panels

AT THE REQUEST OF:

ISOCAB France S.A.S.

ZI Grande Synthe

3 rue Charles Fourier

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In case of doubt or dispute, the French version only is valid.

CSTB
le futur en construction

Classification report No. RS17-091

This fire resistance classification report defines the classification assigned to the wall in accordance with the procedures outlined in EN 13501-2 +A1: 2013-03.

1 Description of the element

The dimensions are expressed in millimetres [mm].

Wall consisting of 200 mm-thick, vertically-arranged Food-Grade INDUSTRIAL (IND) sandwich panels.

Maximum span between supports: 4000 mm.

Maximum width: unlimited.

Note: The maximum span between supports refers to the distance between two support beams for vertical installation of the sandwich panels.

1.1 Description

1.1.1 Sandwich panels

The Food-Grade INDUSTRIAL (IND) sandwich panels consist of a 200 mm-thick insulating core (Isophenic or QuadCore insulation), with both faces covered by a 0.5 mm-thick pre-painted galvanised steel sheet. The core is bonded to the panel facings during the hardening phase owing to the insulation's self-adhesive properties.

The panels interlock with one another by a mortise and tenon system which exists on both sides of the panels and along the entire length by male and female bends of the two steel facings.

1.1.2 Installation

The panels are arranged vertically in the support wall. They are maintained on either side by steel 0.6-mm thick “L” angle section profiles, measuring 100 mm x 100 mm, secured to the support wall by Ø 6.3 x 55 mm screws, with a maximum centre-to-centre distance of 300 mm, with the insertion of an intumescent seal, having a cross-section of 30 mm x 2 mm between the angle sections and the wall (see appendices Nos. 2 and 3 for orientation purposes).

For the lower rail, the sandwich panels rest on the support wall with the insertion of a strip of rock wool compressed to a thickness of 25 mm to 50 mm.

The sandwich panels are placed between the angle sections, leaving a 25 to 50 mm gap along the vertical edges and the upper rail. The peripheral clearance between the panels and the supporting wall is sealed off by a strip of rock wool, compressed and pinched between the flanges of the angle section profiles.

The angle section profiles are secured to the sandwich panels by Ø 5.5 x 22 mm screws, with a maximum centre-to-centre distance of 200 mm. The tightness between the angle section profiles and the sandwich panels on one side and the junction of the angle section profiles on the other side is ensured by a bead of Nullifire M701 sealant. The tightness between the angle section profiles and the support wall is ensured by a bead of Trade Mate Fireblock Seal sealant.

The tightness between sandwich panels is ensured by a bead of Dow 700 Fire Stop sealant applied in the bottom of the grooves of the female parts of the panels and to the external joints between panels.

Drawings of the construction element ⇨ See appendices Nos. 1 to 5

2 Laboratory assessment in support of classification

2.1 Laboratory assessment

Organisation that performed the test	Sponsor's name	Study reference No.	Date of study	**Method** (Reference documents)
CSTB.	ISOCAB France S.A.S.	RS17-090	29 November 2017	Order of 22 March 2004 (modified) and its appendix 4

2.2 Results of study No. RS17-090

	Testing parameters	
	Temperature/Time curve	T = 345 log 10 (8t + 1) + 20
	Direction of exposure (direction of fire)	Fire direction is N/A
Fire integrity		**Results**
Duration		60 minutes
Thermal insulation		**Results**
Duration		60 minutes

3 Element representativeness

By its standard construction materials and its on-site assembly principle, the element installed under the conditions noted by the laboratory, and in accordance with the instructions provided by the manufacturer, can be considered representative of current standard construction. It gives rise to the issuance **of a confirmed classification report.**

4 Classification and field of application

4.1 Classification reference

This classification was pronounced in accordance with paragraph 7.5.2.3 of standard EN 13501-2 +A1:2013-03.

4.2 Classification

The element is classified according to the combinations of parameters and performance characteristics described below. **No other classification is authorised**.

FIRE RESISTANCE CLASSIFICATION: EI 60

NOTE: To maintain the validity of the classification above, no dimensional or configuration changes may be applied, and the composition of the element may not be modified without the issuance of a classification extension or a site evaluation document ("Avis de chantier") issued by an approved laboratory.

5 Direct field of application of the results

To maintain the validity of the classifications, extensions can only be made in accordance with the field of application of NF EN 1364-1 (August 2015) or in accordance with extensions formulated by the laboratory.

General

Under paragraph 13.1 of NF EN 1364-1 (August 2015), the results of the study shall be directly applicable to similar constructions where one or more of the following modifications have been made, and the construction continues to comply with the corresponding design rules, in terms of rigidity and stability.

a. Decrease in height.
b. Increase in partition thickness.
c. Increase in the thickness of the constituent materials.
d. Decrease in the linear dimensions of the panels but not their thickness.
e. Decrease in centre-to-centre distances between fasteners.
f. Vertical joints of the type under study.

Horizontal extension

The width of the walls is not limited.

Vertical extension

The maximum span between wall supports is limited to 4.00 metres.

Note: The maximum span between supports refers to the distance between two support beams for vertical installation of the sandwich panels.

Support constructions

The result applies to reinforced concrete support structures having a minimum density of 2200 kg/m^3 and having a fire resistance greater than or equal to EI 60.

Cautionary statement

This classification report does not represent type approval or certification of the element.

Issued in Marne-la-Vallée, 29 November 2017

Technician in charge of the study

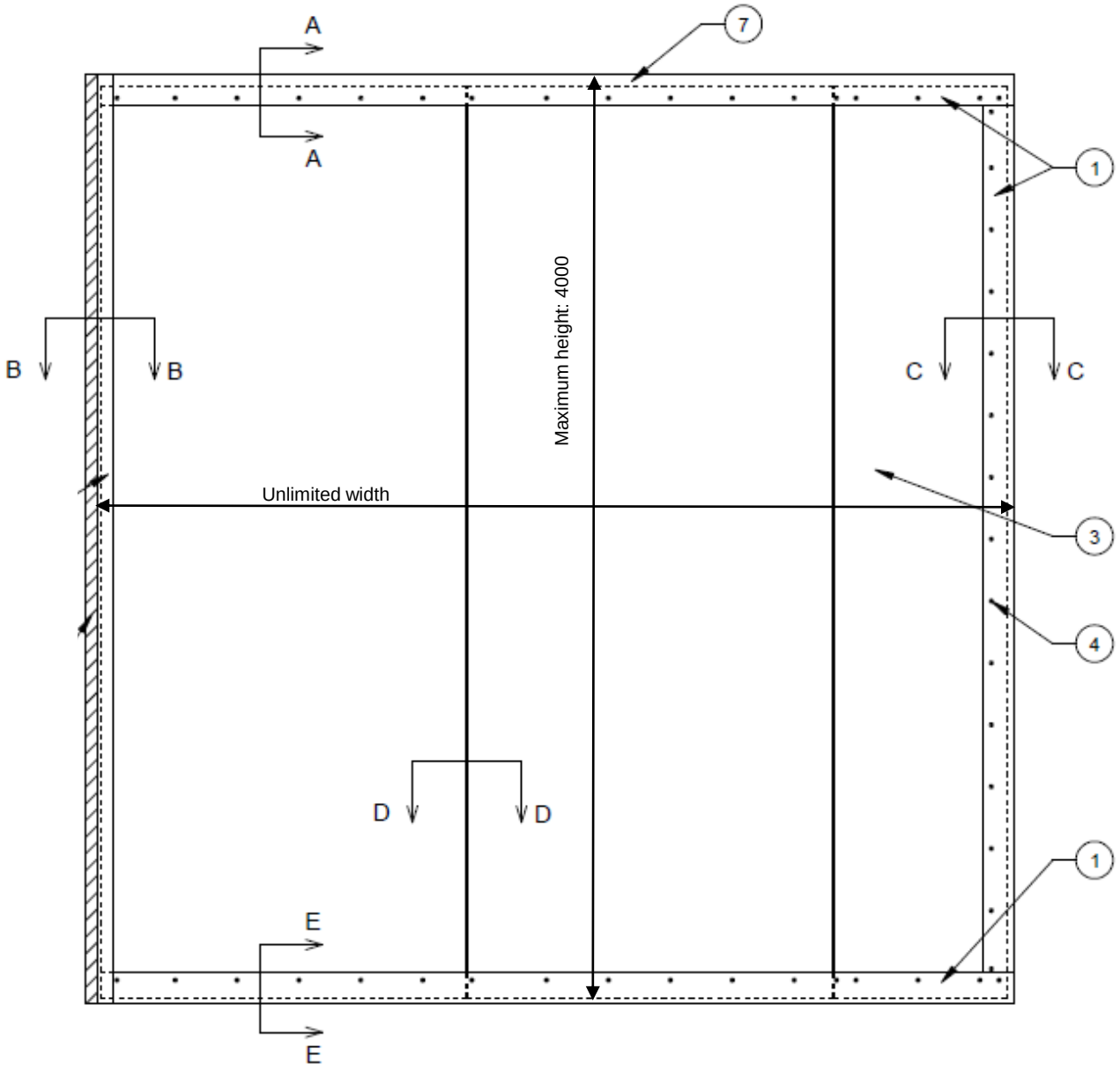
Karine Jacquemet

Head of the Regulatory Assessments Division

Signature numérique de Olivier Cheze

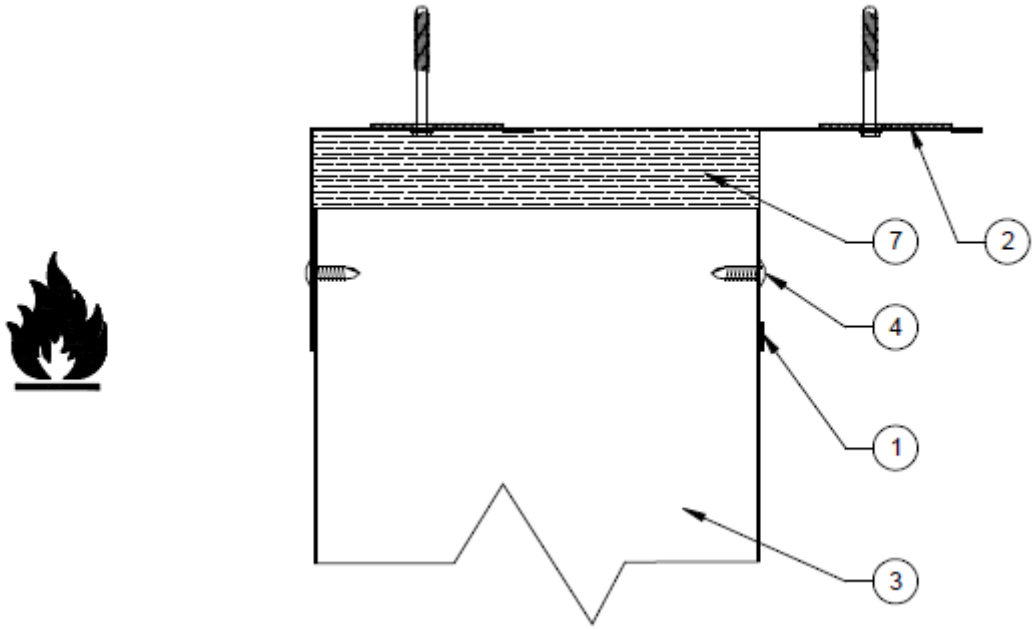
Olivier Chèze

End of the classification report



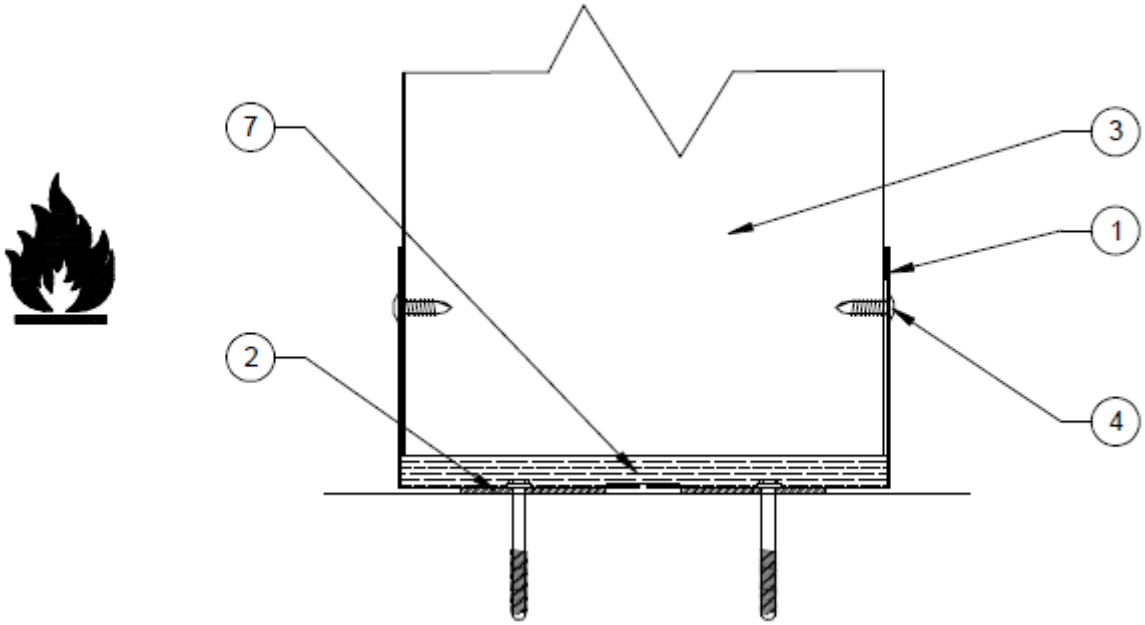
Appendix 1: Overall view of the partition

Appendix 1 Figure 2 – Detail A – A



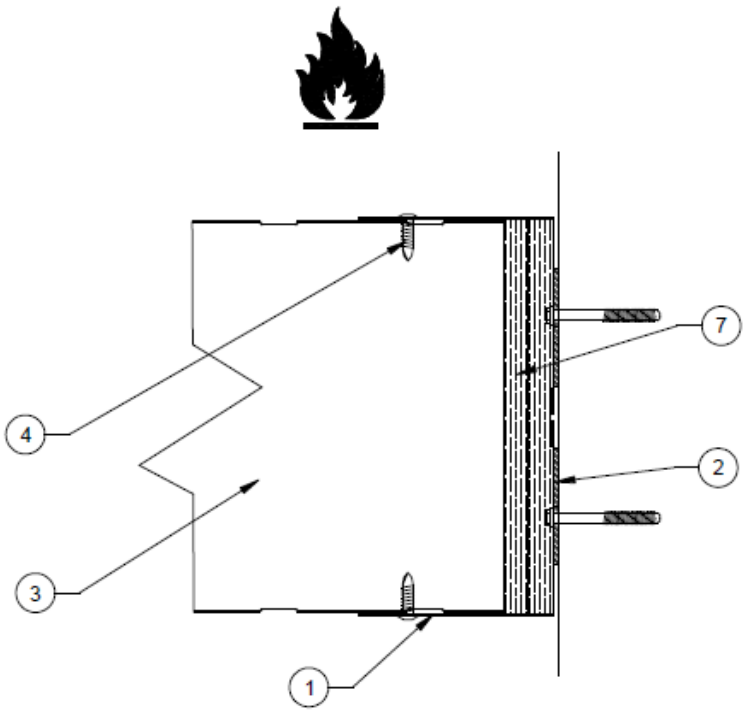
Appendix 2: Upper rail fastening detail

Appendix 1 Figure 6 – Detail E – E



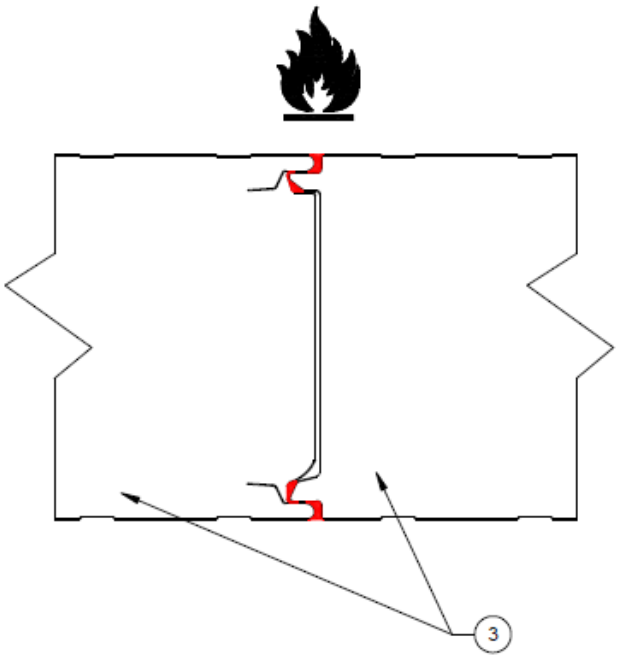
Appendix 3: Lower rail fastening detail

Appendix 1 Figure 4 – Detail C – C



Appendix 4: Vertical edge fastening detail

Appendix 1 Figure 5 – Detail D – D



Appendix 5: Detail at the panel junction