# CLASSIFICATION OF FIRE RESISTANCE PERFORMANCE IN ACCORDANCE WITH EN 13501-2:2007+A1:2009

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|---|---|
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| **Notified Body No:** | 1234 |
| **Product name:** | sandwichpanel type SAB WB80.1000 |
| **Classification report No.:** | 2010-Efectis-R0814[Rev.1] |
| **Project number:** | 2010291 |
| **Issue number:** | 02 |
| **Date of issue:** | April 2012 |

This classification report consists of ten pages and may only be used in its entirety.

## 1. Introduction

This classification report defines the classification assigned to a non-loadbearing wall consisting of sandwich panels type SAB WB80.1000.

## 2. Details of the classified product

### 2.1 General

The element, a non-load bearing wall constructed of sandwich panels type SAB WB80.1000 is defined as a fire resistant assembly (as meant in EN 1363-1:1999 and related test standards).

### 2.2 Product description

The element, a non-load bearing wall constructed of sandwich panels type SAB WB80.1000 is fully described in the test report (see clause 3.1) provided in order to support the classification listed in Clause 4.2.

*2.2.1 General*

A fire test was carried out on a non-load bearing wall made of SAB sandwich panels:

- vertical placed SAB sandwich panels, type SAB WB80.1000, with a thickness of 80 mm,
- frame made of steel edges at the junction with the concrete lining of the test frame.

For the dimensions and specifications of the materials and components of the examined construction, see the figures. Significant details of the construction are given in the paragraphs below.

*2.2.2 Test frame*

The test frame was constructed of steel beams with a fire resistant concrete lining, with internal dimensions of 400 x 300 cm (w x h). The width of the test frame was 250 mm.
The size of the frame was reduced to 300 x 300 cm by using aerated concrete blocks of 150 mm thickness

*2.2.3 Wall*

*2.2.3.1 General*

The wall existed of three vertical placed sandwich panels, with dimensions:

- Height: 3000 mm
- Width: 3000 mm
- Thickness: 80 mm

The wall was not fixed at the right vertical side, the so called free edge, to make deflection possible.

2.2.3.2 *Sandwich panels*

The sandwich panels from SAB-profiel, type SAB WB80.1000 with dimensions:

- Span: 3000 mm
- Width: 1000 mm
- Thickness: 80 mm

The wall was built of two full width standard panels and one fitting panel, width: 960 mm. The sandwich panels were constructed from:

- external cover (fire side) of optically profiled steel plates, with a thickness of 0.50 mm, with a 15 μm polyester coating.
- a PIR foam core, with a core density of at least 38 kg/m$^3$;
- the gap filled with a seal with an open cell structure, dimensions: 29 x 8 mm;
- external cover (non direct heated side) of optically profiled steel plates, with a thickness of 0.63 mm, with a 25 μm polyester coating.

*2.2.3.3 Mounting of the wall panels*

The panels were mounted together at the inside of the wall (fire side) with screws type JT3-FR-3, ∅ 4,5 x 75mm, with a centre to centre distance of 100 mm.

*2.2.4 Frame*

At the vertical side of the test frame the so called free edge was placed to make distortion of the wall possible. At all other sides a frame was mounted on the test frame that was built of galvanized steel edges with dimensions: 25 x 80 x 0,88 mm. The panels were screwed to the edges with self tapping screws type: JT3-FR-2H, ∅ 4,8 x 19 mm, with a centre to centre distance of 300 mm.
The bottom of the frame was filled with Rock Wool, type Conlit 756, thickness 5 mm.

## 3. Test reports and extended application reports supporting the classification

### 3.1 Test reports/extended application reports

| Name of Laboratory | Name of sponsor | Test reports/extended application report Nos. | Test method / extended application rules & date |
|---|---|---|---|
| Efectis Nederland BV<br>Centre for Fire Safety<br>NL-2280 CB Rijswijk | SAB profiel bv | 2010-Efectis-R0813[Rev.1] | EN 1364-1:1999 |

### 3.2 Test results

| Test method | Parameter | Results |
|---|---|---|
| EN 1364-1:1999 | Integrity | |
| | cotton pad | 41 minutes failure |
| | gap gauges | 41 minutes no failure |
| | sustained flaming | 41 minutes failure |
| | Insulation | |
| | Average temp rise | 31 minutes failure |
| | Maximum temp rise | 21 minutes failure |
| | Radiation | 41 minutes failure due to end of integrity |

## 4. Classification and field of application

### 4.1 Reference of classification

This classification has been issued in accordance with clause 7.5.2 of EN 13501-2:2007+A1:2009.

### 4.2 Classification

A wall consisting of sandwich panels type SAB WB80.1000 is classified according to the following combinations of performance parameters and classes as appropriate.

**Fire resistance classification:**
**E30**
**EI 20**
**EW30**

### 4.3 Field of direct application of test results

The results of chapter 9 were only valid for a non-load bearing wall , which was the same in detail as the tested structure and which comply with the following conditions:

a) with SAB sandwich panels, type SAB WB80.1000 with a thickness of 80 mm,
b) with side connections and seams carried out specified in this report,
c) for non load bearing wall s with a free span of 4 meters and no limits at the width.
d) increase in the thickness of the wall is allowed.

### 4.3.1 Supporting construction

The supporting construction shall have a minimum thickness of 150 mm and a minimum density of 625 kg/m³.

## 5. Limitations

This classification document does not represent any type approval or certification of the product.

| SIGNED | APPROVED |
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| P.W.M. Kortekaas | S. Lutz |

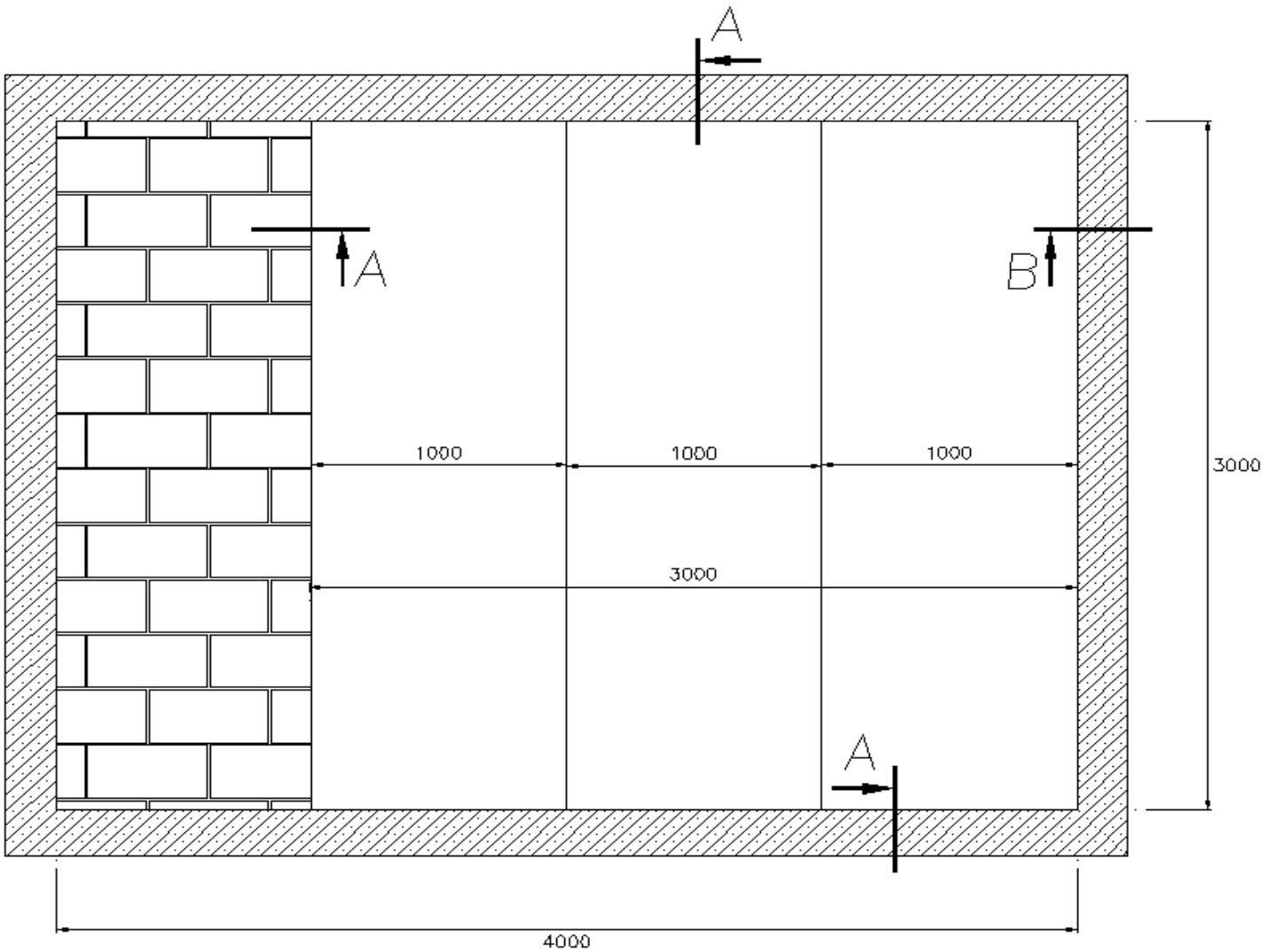

Figure 1: Dimensions of the construction at the fire side with fixings A and B

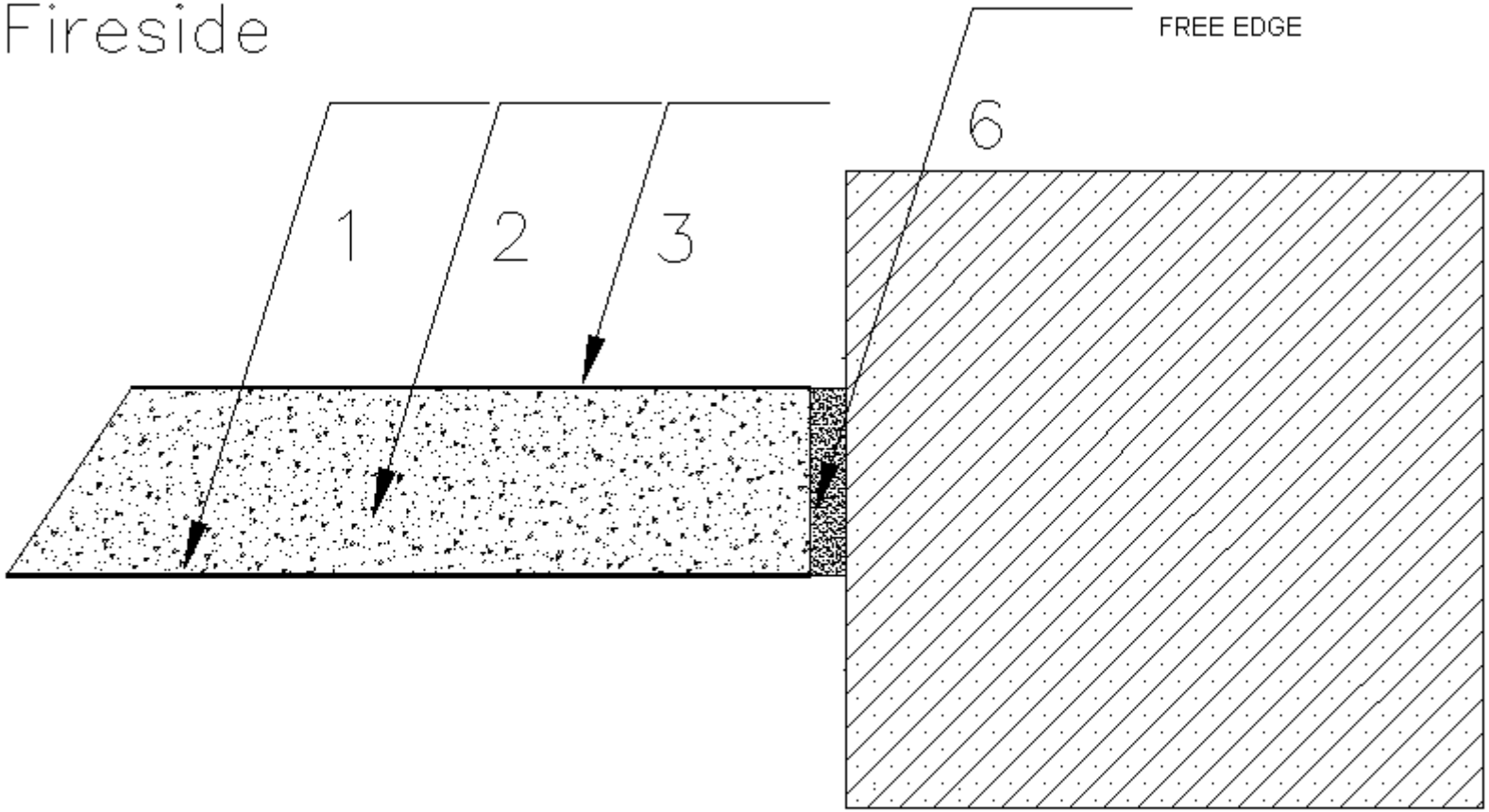


Figure 2: Section sandwich panel fixing B: the free edge

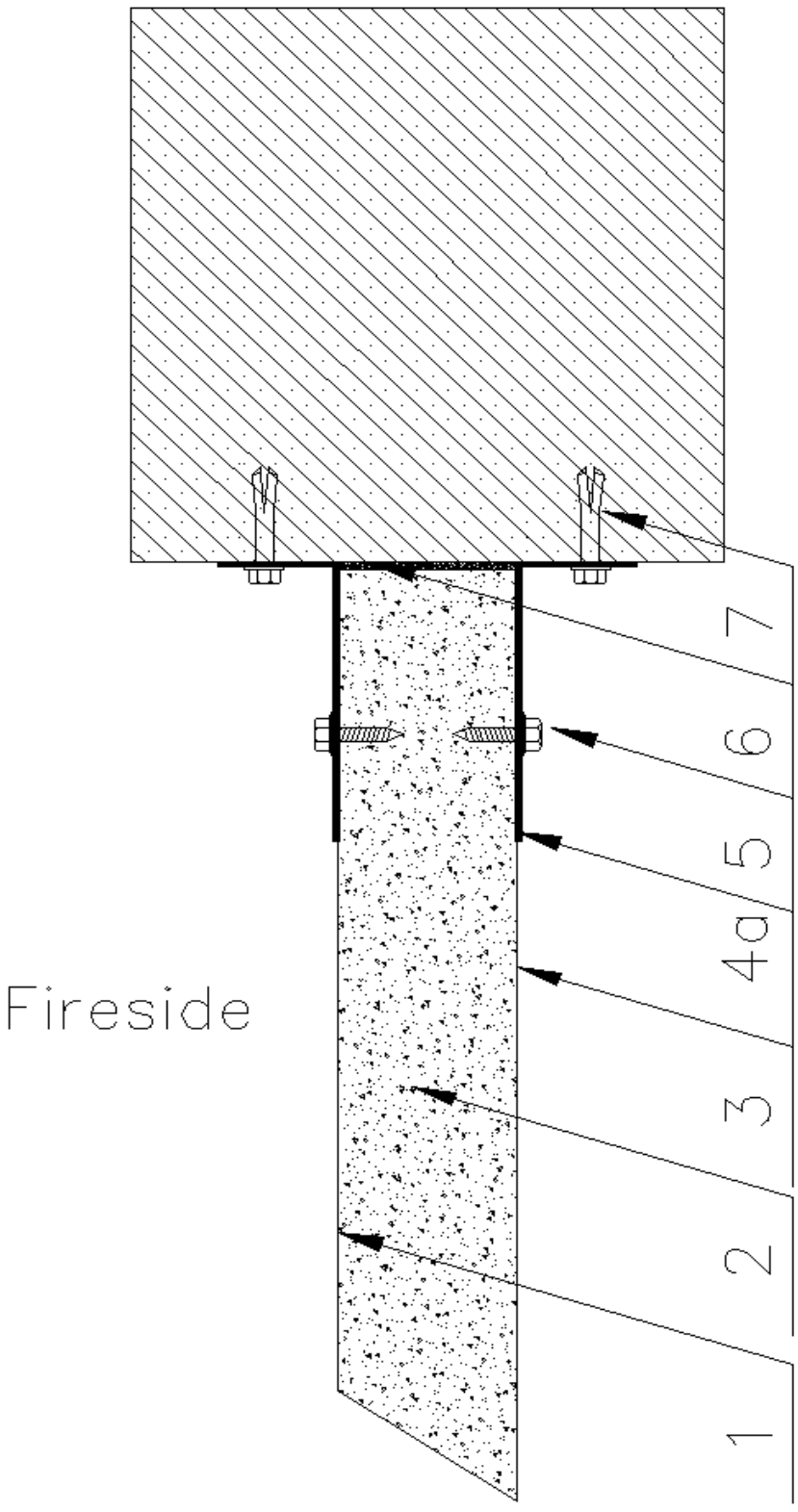


Figure 3: Section panel fixing A at the top and the vertical side at the aerated concrete pier

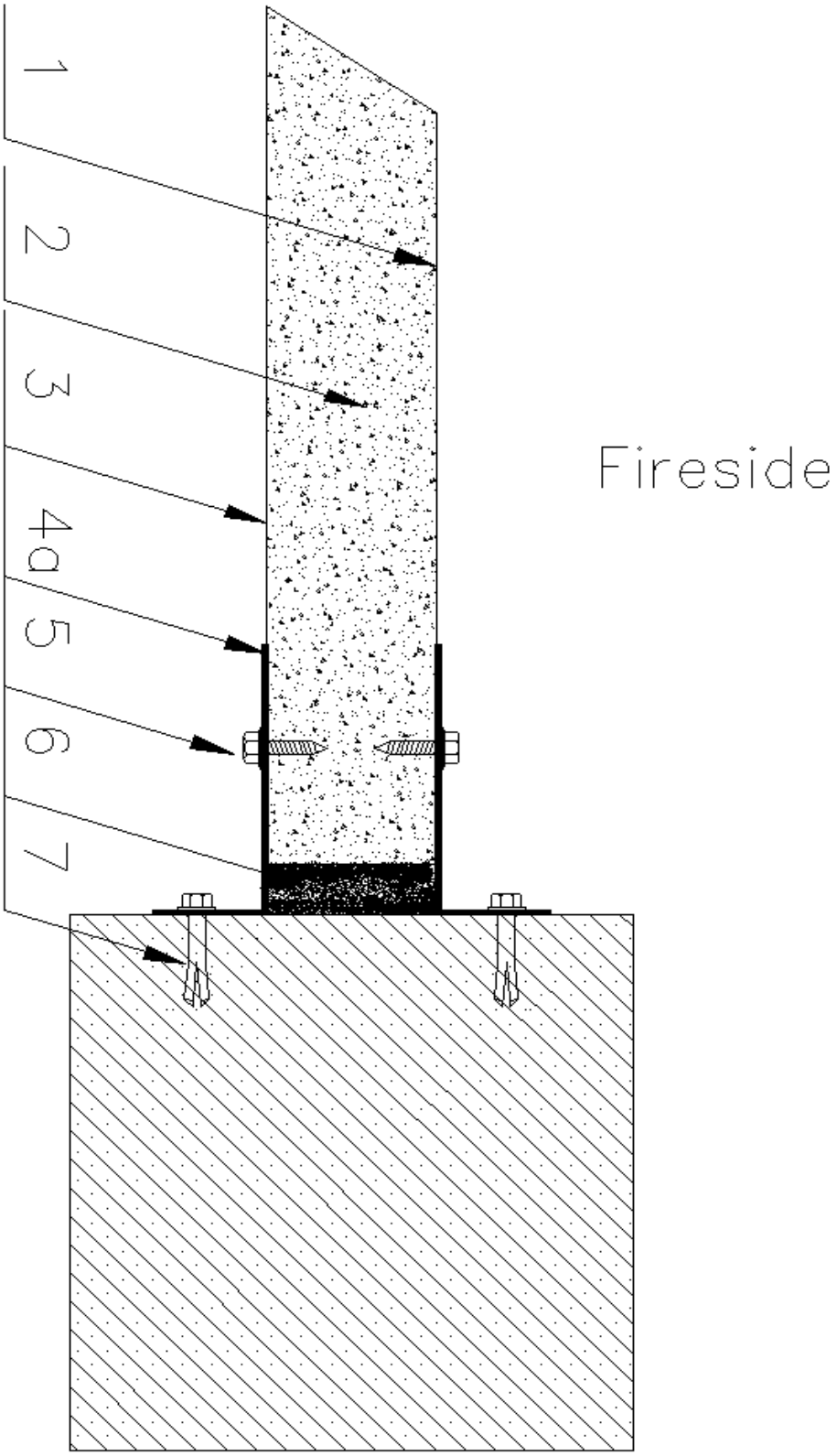


Figure 4: Section panel fixing A at the bottom concrete lining of the test frame

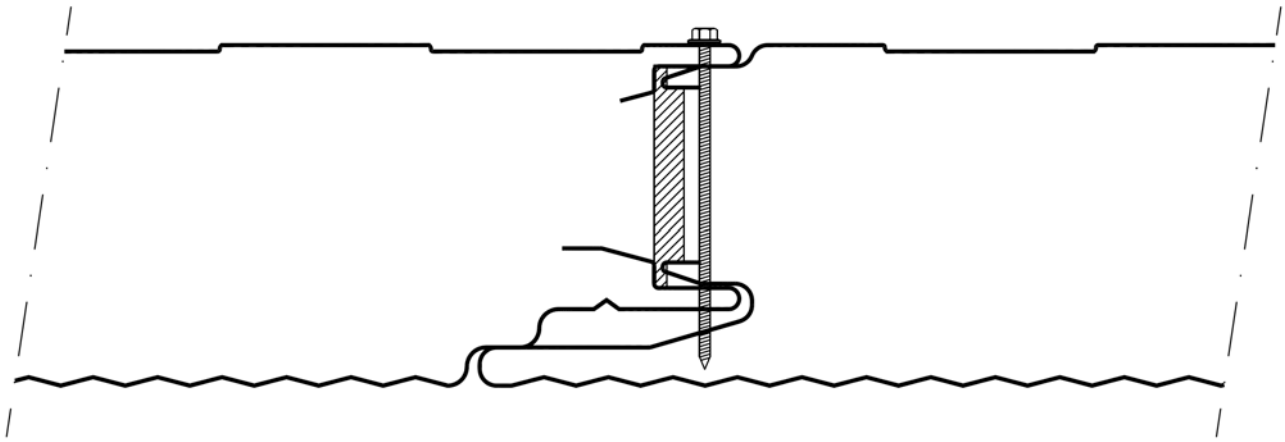

Figure 5: Joint between the sandwich panels