

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

Sponsor and manufacturer:	SAB-profiel bv Produktieweg 2-3a 3401 MG IJSSELSTEIN The Netherlands
Prepared by:	Efectis Nederland BV Centre for Fire Safety Lange Kleiweg 5 P.O. Box 1090 2280 CB RIJSWIJK The Netherlands
Notified Body No:	1234
Product name:	sandwich panels type SAB W 95.1020 TL
Classification report No.:	2012-Efectis-R0382b
Project number:	2012382
Issue number:	01
Date of issue:	November 2012

This classification report consists of eleven 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 W 95.1020 TL.

2. Details of the classified product

2.1 General

The element, a non-load bearing wall constructed of sandwich panels type SAB W 95.1020 TL 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 W 95.1020 TL is fully described in the test report. The information below is 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: Vertically oriented SAB sandwich panels, type SAB W 95.1020 TL, with a thickness of 95 mm, frame made of steel edge profiles 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 4000 x 3000 mm (w x h). The width of the test frame was 250 mm.

The size of the frame was reduced to 3000 x 3000 mm by using aerated concrete blocks of 150 mm thickness

2.2.3 Wall

2.2.3.1 General

The wall consisted of three vertically oriented sandwich panels, with overall dimensions:

Height:	3000 mm
Width:	3000 mm
Thickness:	95 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 W 95.1020 TL had the following dimensions:

Height:	3000 mm
Width:	1020 mm
Thickness:	95 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 (non-fire side) of optically profiled steel plates, with a thickness of 0.63 mm, with a 25 µm polyester coating;
- A PIR foam core, with a core density of at least 38 kg/m³;
- Internal cover (fire side) of optically profiled steel plates, with a thickness of 0.50 mm, with a 15 µm polyester coating.

2.2.3.3 Frame

At the vertical side of the test frame the so called free edge was placed to make distortion of the wall possible. The wall was connected to the aerated concrete with a thickness of 150 mm. At all other sides a frame was mounted on the test frame that was built of galvanized steel edge profiles with dimensions: 25 x 80 x 0.88 mm. The panels were screwed to the edge profiles met self tapping screws type: JT3-FR-2H, Ø 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.

2.2.3.4 Joints

The joints of the sandwich panels were connected with:

- On the heated side with screws JT3-FR-2H, Ø 4.8 x 19 mm at c.t.c. distances of 1000 mm;
- in the joint an open cell PUR seal with dimensions of 50 x 18 mm was placed.

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 Centre for Fire Safety NL-2280 CB Rijswijk	SAB profiel BV	2012-Efectis-R0382a	EN 1364-1:1999

3.2 Test results

Integrity (E) – Cotton pad – Opening gauges ∅ 6 mm ∅ 25 mm – Flames > 10s	17 minutes 18 minutes not applied 18 minutes not applied 17 minutes
Thermal insulation (I) – Average temperature rise – Maximum temperature rise	17 minutes due to end of integrity 17 minutes due to end of integrity
Radiation (W)	17 minutes no failure
* Heating was terminated after 18 minutes at the request of the sponsor.	

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 W 95.1020 TL is classified according to the following combinations of performance parameters and classes as appropriate.

**Fire resistance classification:
EI 15**

4.3 Field of direct application of test results

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) Decrease in height
- b) Increase in the thickness of the wall
- c) Increase in the thickness of component materials
- d) Decrease in linear dimensions of boards or panels but not thickness
- e) Decrease in distance of fixing centres

4.3.1 Extension of width

The width of an identical construction may be increased.

4.3.2 *Extension of height*

The height of constructions tested at a minimum of 3 m, may be increased to 4 m when the expansion allowances are increased pro-rata.

4.3.3 *Supporting constructions*

The result of a test of the non-loadbearing wall is applicable to any other supporting construction within the same type that has a greater fire resistance (thicker, denser, as appropriate).

5. **Limitations**

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

SIGNED



P.W.M. Kortekaas
Project leader fire resistance

APPROVED



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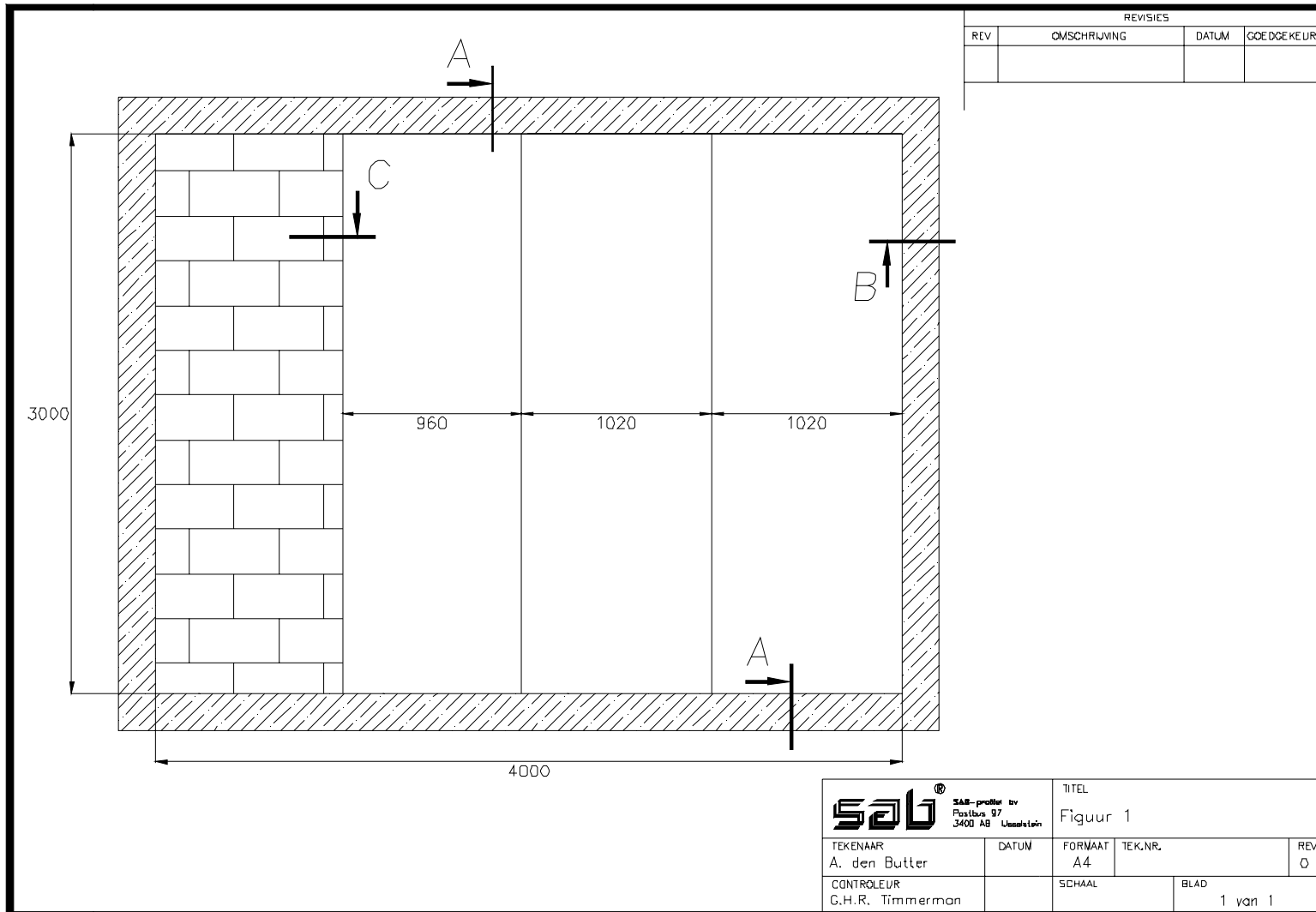


Figure 1: Overview of the construction

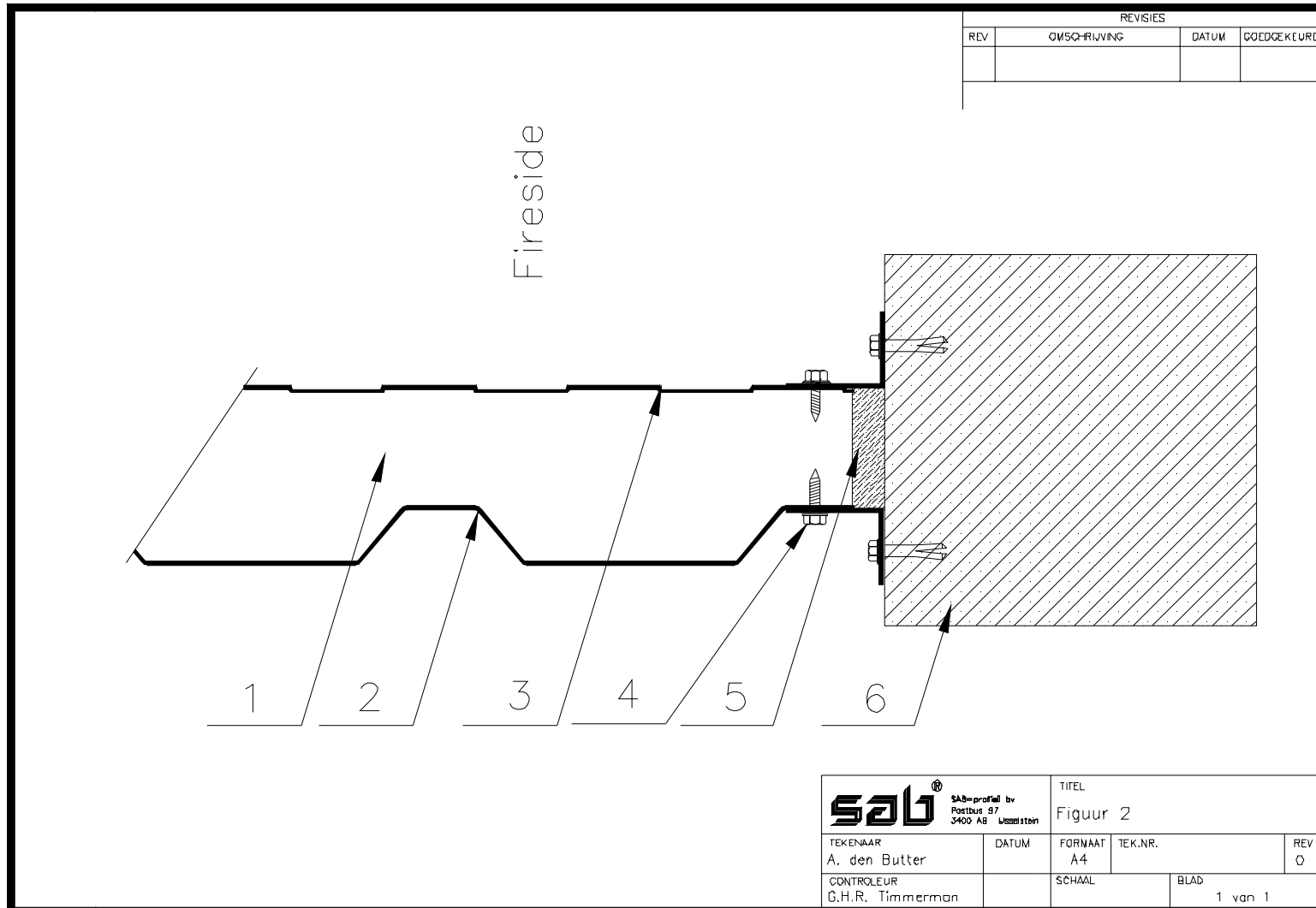


Figure 2: Section C sandwich panel fixing (fixed edge)

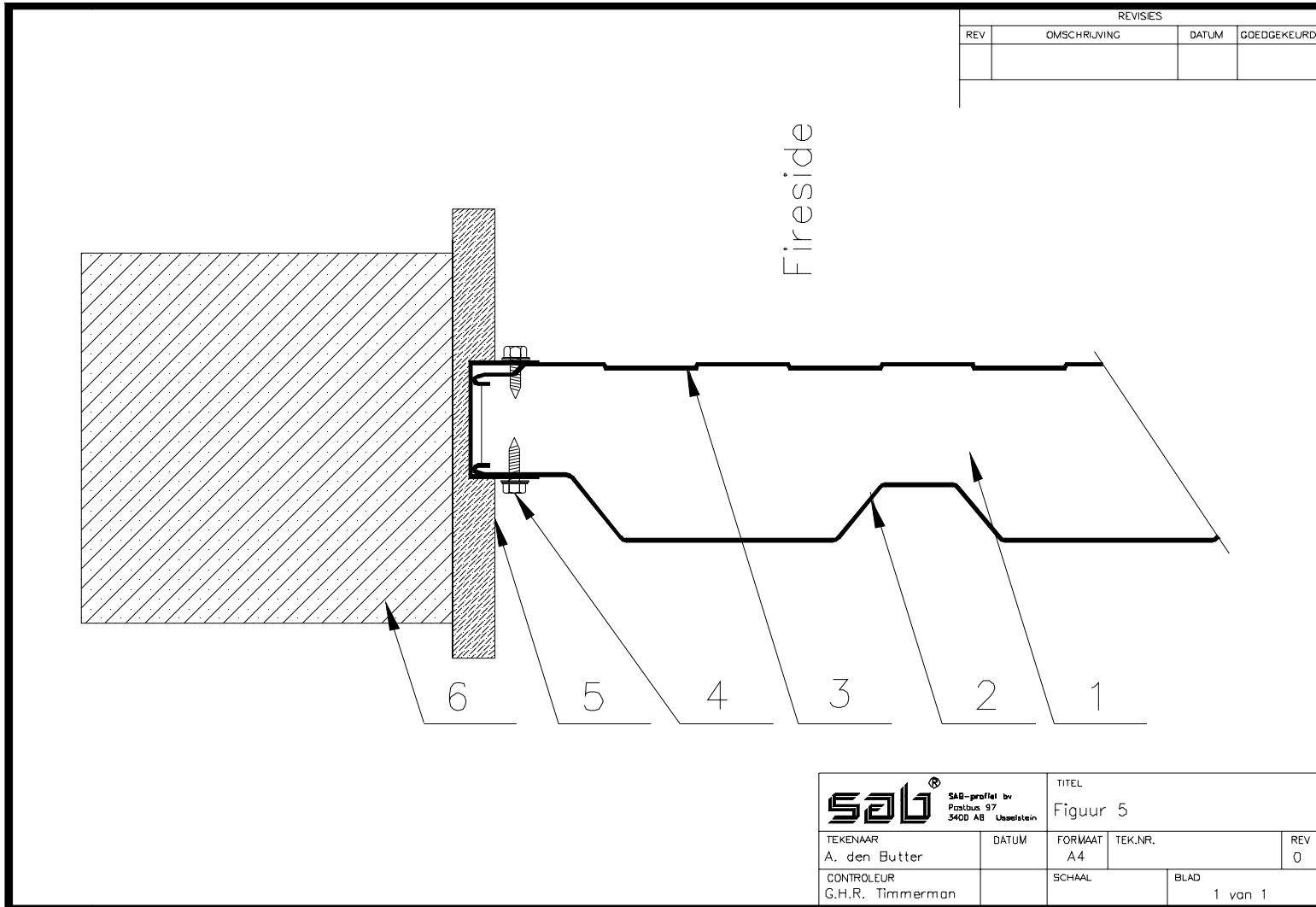


Figure 3: Section B sandwich panel fixing (fixed edge)

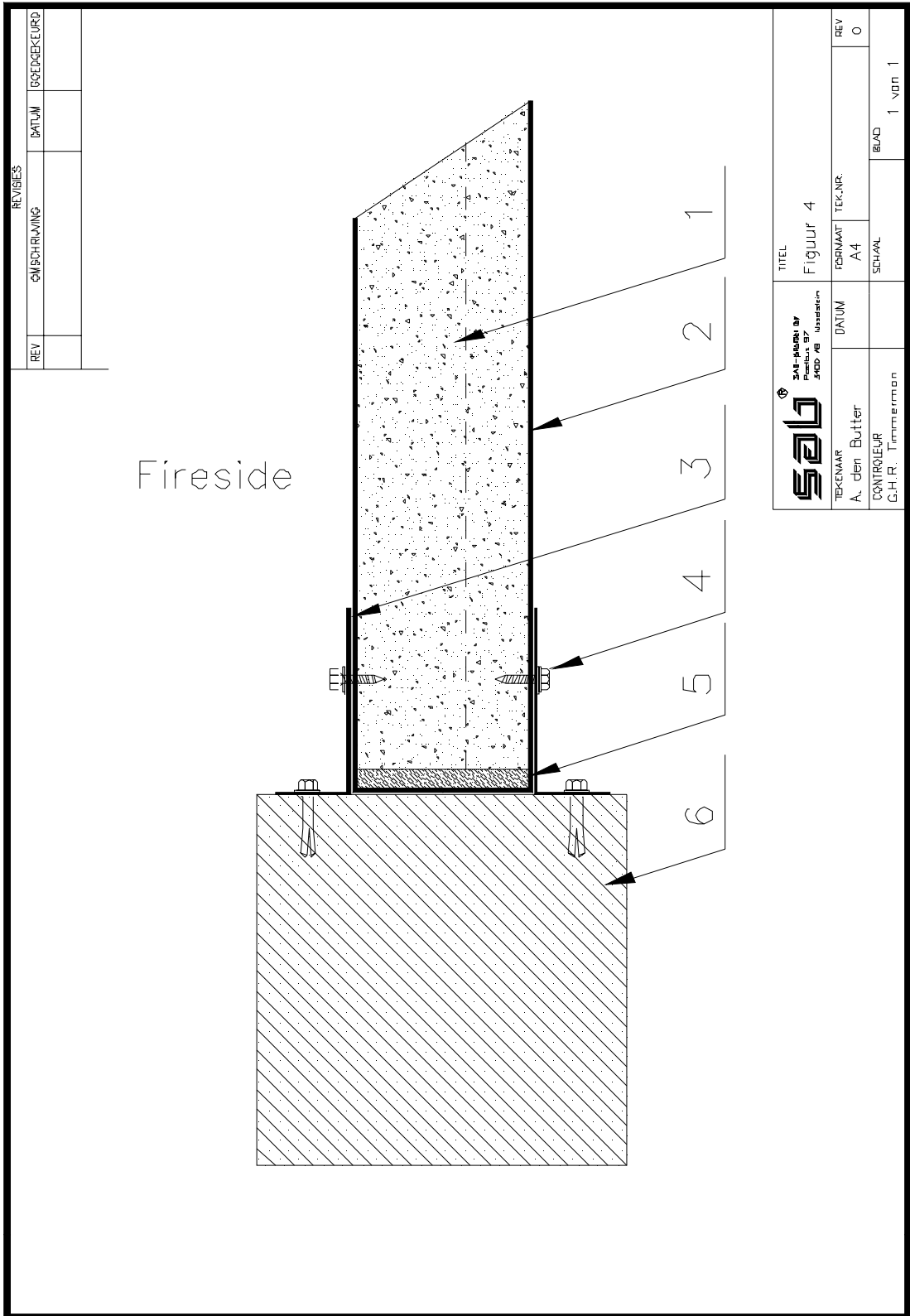


Figure 4: Section A panel fixing at the bottom

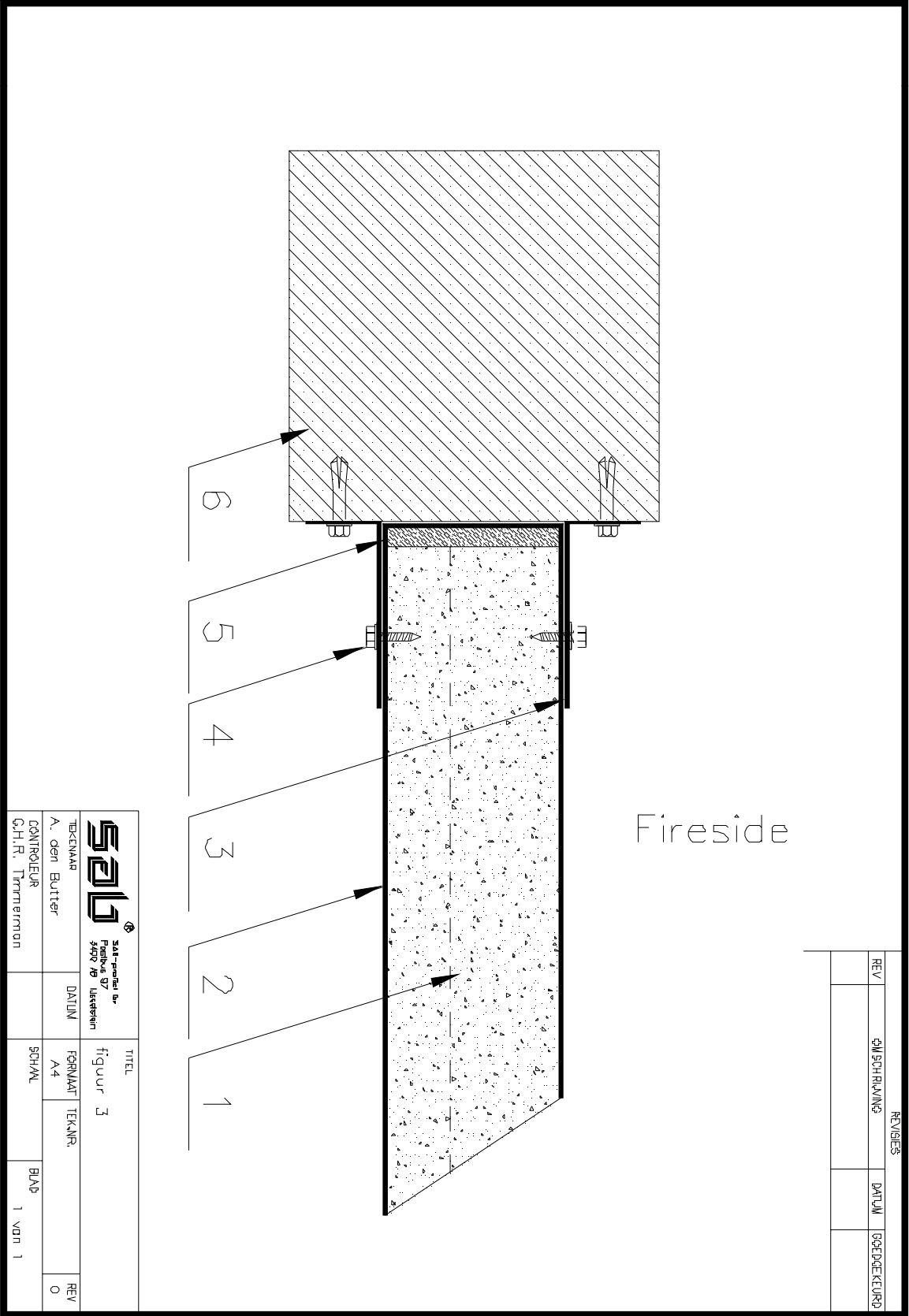


Figure 5: Section A panel fixing at the bottom

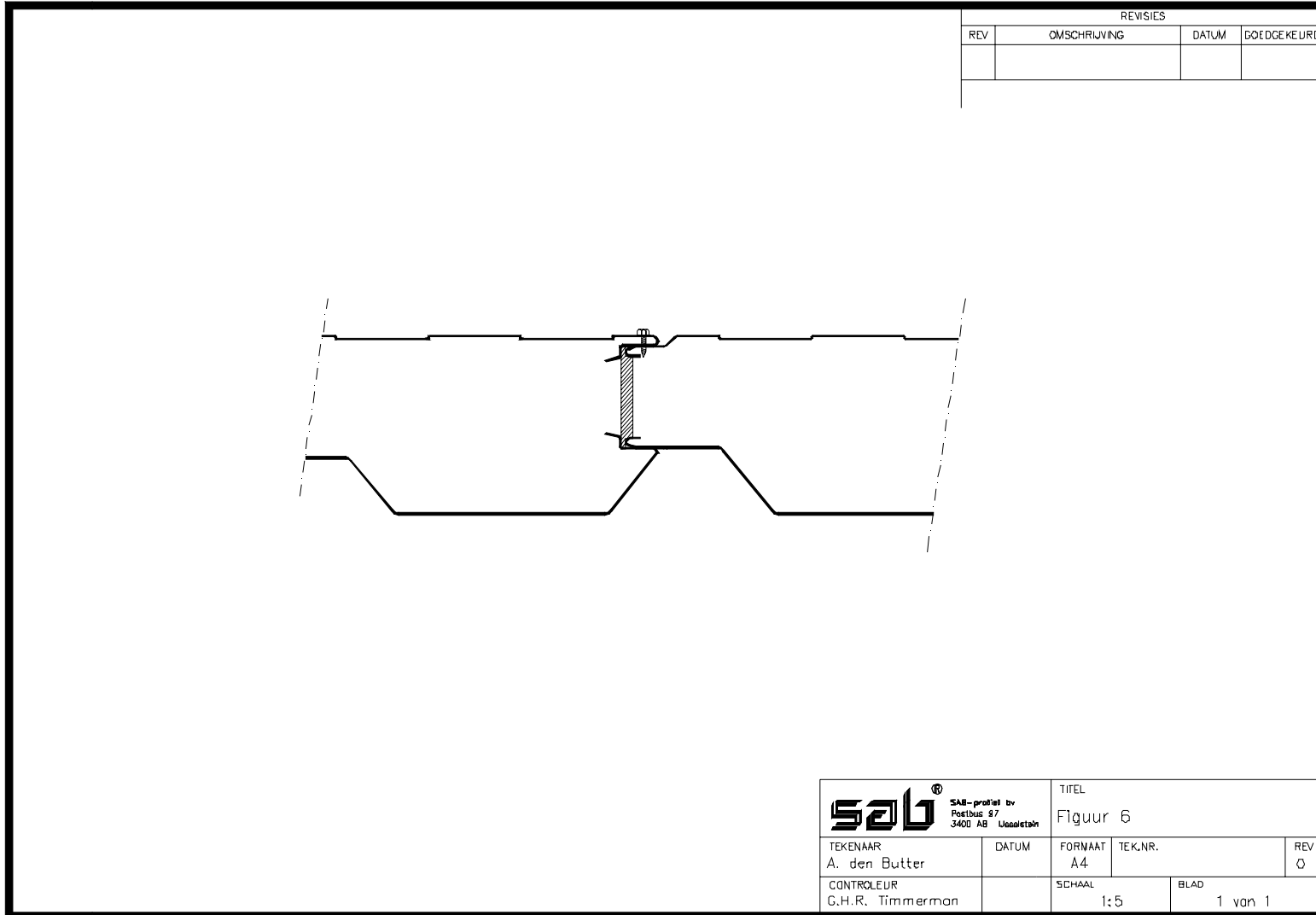


Figure 6: Joints between the panels