



CLASSIFICATION OF FIRE RESISTANCE PERFORMANCE IN ACCORDANCE WITH NEN-EN 13501-2: 2004

Sponsor: Xella Droogbouw Systemen BV
P.O. Box 398
6600 AJ WIJCHEN
The Netherlands

Prepared by: Centre for Fire Research
Van Mourik Broekmanweg 6
P.O. Box 49
2600 AA Delft

Notified Body No: 1234

Product name: **1S21** metal-stud wall

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This classification report consists of 5 pages and may only be used in its entirety.

1. Introduction

This classification report defines the classification assigned to **1S21** metal-stud wall in accordance with the procedures given in NEN-EN 13501-2:2004

2. Details of classified product

2.1 General

The product, **1S21** metal-stud wall, is defined as a non-load bearing metal-stud wall construction.

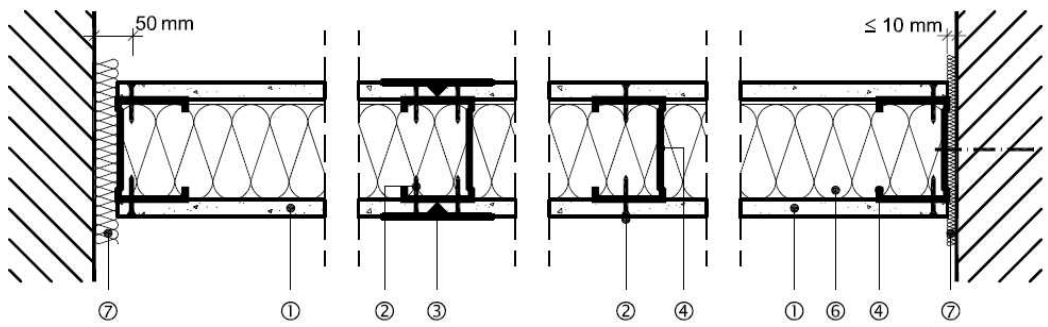
2.2 Product description

The product, **1S21** metal-stud wall, is fully described in the test report provided in support of classification listed in Clause 3.2. Below is a summarized description of the product.

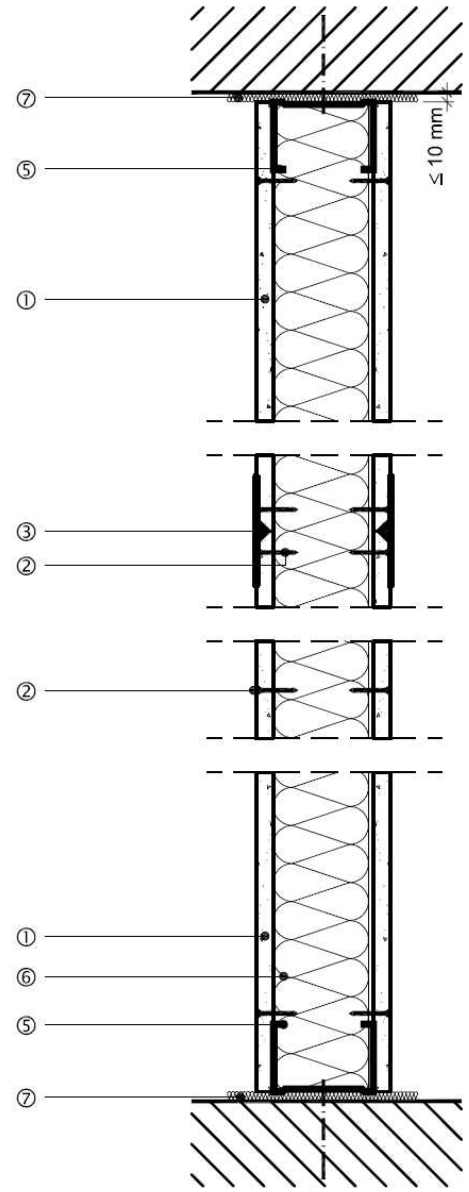
Product description:

- Dingemans U-stud 75-06, as bottom and ceiling rail, dimensions 78 x 45 x 0.6 mm;
- Dingemans C-stud 75-06, as mullions, dimensions 75 x 50 x 0.6 mm;
- C-studs were filled with mineral wool plates (Rockwool 204 (dutch type number)), dimensions 1200 x 600 x 70 mm;
- C-studs covered with Fermacell gypsum fiber boards, thickness 12.5 mm;
- Vertical and horizontal joints between Fermacell gypsum fiber boards were covered with a synthetic wire mesh and then filled with mortar.

For clarification, a schematic drawing of the product is given.



- ① FERMACELL gypsum fiber board 12,5 mm
- ② FERMACELL screws
a ≤ 250 mm - 3,9 x ≥ 30 mm
- ③ Gap (Taperedge)
- ④ C-stud 75-06 ≤ 600 mm
- ⑤ U-stud 75-06
- ⑥ Mineralwool - A1, 70 mm,
Meltpoint ≥ 1000°C, ≥ 30 kg/m³
- ⑦ perimeter insulation strip - A1



FERMACELL Construction 1 S 21

17.06.2005 JB

3. Test reports & test results in support of classification

3.1 Test reports

Name of Laboratory	Name of sponsor	Test reports Nos.	Test method
TNO Centre for Fire Research	Xella Droogbouw Systemen BV	2005-CVB-R0408	NEN-EN 1364-1:2001
“Materialprüfstalt für das Bauwesen” in Braunschweig	Xella Droogbouw Systemen BV	P-3854/1372-MPA BS	DIN 4102-2:1977-09

3.2 Test results

Test method & Test number	Parameter	Results
NEN-EN 1364-1:2001	Integrity	
	cotton pad	96 minutes
	gap gauges	Not reached
	sustained flaming	Not reached
	Insulation	
	average temperature rise	94 minutes
maximum temperature rise	77 minutes	
	Radiation	Not reached

The test was terminated at the request of the sponsor.

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 7.5 of EN 13501-2:2004.

4.2 Classification

The element, **1S21** metal-stud wall, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification:

E 90
EW 90
EI 60

4.3 Field of application

This classification is only valid for wall constructions, which are the same in detail to the investigated construction, including materials and means of assembly used. Also the following conditions have to be met:

- a. The wall is insulated with mineral wool with a thickness of at least 70 mm, a density of at least 30 kg/m^3 and a melting point greater than $1000 \text{ }^\circ\text{C}$.
- b. Mounted in a supporting construction with a minimum density of 2000 kg/m^3 , a thickness of 250 mm and a floor of non-combustible material.
- c. the single span may be increased up to 4 m, only when the following is met:
 - expansion possibilities of the mullions are increased pro rata.
 - horizontal and vertical joints cross at a T-junction.
- d. The width of the wall construction has no limitations.

4.4 Extended application

4.4.1 Type of joints

The test was carried out using the Fermacell Tapered Edge joint. Based on test report "P-3854/1372-MPA BS", d.d. 2 May 2003 from "Materialprüfstalt für das Bauwesen" in Braunschweig, Germany, the following joints, to finish the joint between the vertical and horizontal gypsum fiber boards, are also applicable:

- Fermacell joint filler 5-7 mm joint;
- Fermacell butt joint;
- Fermacell joint stick, glue filled joint $<1 \text{ mm}$.

4.4.2 Mullions

The construction was tested with a c.t.c. distance of the mullions of 600 mm. Taking the surplus value of 17 minutes into account this c.t.c. distance may be increased to 625 mm.

5. Limitations

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

SIGNED



Ing. M.N.R. Slappendel

APPROVED



Dr. Ir. G. van den Berg