

FIRE RESISTANCE CLASSIFICATION REPORT NO. 18776B

Owner of the classification report

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Introduction

This classification report defines the classification assigned to linear joint seals – type: Soudaseal® FR – applied between lightweight partition walls and the adjacent solid walls and floor plates, in accordance with the procedures given in EN 13501-2:2016: Fire classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

This classification report consists of 8 pages and 1 annex and may only be used or reproduced in its entirety.

1 Details of classified product

1.1 General

The element, type: Soudaseal® FR, is defined as a linear joint seal.

1.2 Product description

The different test setups of the linear joint seals are fully described below, in support of this classification. The drawings of the test element as it was tested are enclosed in annex 1 of this classification report.

The test elements are joint seals between a lightweight partition wall and the adjacent solid wall and solid floor plate.

1.2.1 Composition of the test specimen as tested

1.2.1.1 Linear joint seal

[1] Hybrid sealant – brand and type: Soudaseal® FR – material: based on SMX polymers – thickness: 12.5 mm – width: 0 mm to 20 mm.

- positions:

- in the joint between the paper faced gypsum boards and the wall and floor constructions on both sides of the lightweight partition wall;
- the metal stud profiles are used as backfilling for the sealant;
- flush with the gypsum board surface.

1.2.1.2 Supporting constructions

1.2.1.2.1 Lightweight partition wall

The lightweight partition walls are constructed in accordance with EN 1363-1:2012 § 7.2.2.4 and prEN 1366-4:2017.

The lightweight partition walls \geq EI 30 are composed of a metal framework, consisting of U- and C-profiles (Group A: width 50 mm), covered on both sides with a single layer of paper faced gypsum boards (type: F according to EN 520) with thickness: 12.5 mm. The partition walls are insulated with rock wool (thickness: 50 mm; density: 35 kg/m³).

Outer dimensions of the lightweight partition walls:

- height: 3000 mm;
- width: 1200 mm;
- thickness: 75 mm.

The lightweight partition walls \geq EI 90 are composed of a metal framework, consisting of U- and C-profiles (Group A: width 50 mm), covered on both sides with a double layer of paper faced gypsum boards (type: F according to EN 520) with thickness: 12.5 mm. The partition walls are insulated with rock wool (thickness: 50 mm; density: 90 kg/m³).

Outer dimensions of the lightweight partition walls:

- height: 3000 mm;
- width: 1200 mm;
- thickness: 100 mm.

1.2.1.2.2 Solid wall

The lightweight partition walls are applied in between standard low density walls (550 kg/m³) in accordance with EN 1363-1:2012 § 7.2.2.1.

1.2.1.2.3 Solid floor

The horizontal edge connections consist of the concrete furnace frame, which simulates a standard high density floor construction with a density of 2200 kg/m³ in accordance with EN 1366-4:2006+A1:2010.

2 Test reports and test results in support of the classification

2.1 Test reports

Name of the laboratory	Report ref. no.	Name of the owner	Date of the test	Method
WFRGENT nv	18776A	SOUDAL NV	09/01/2018	EN 1366-4:2006 + A1:2010 prEN 1366-4:2017 (08-2017)
WFRGENT nv	18787A	SOUDAL NV	10/01/2018	EN 1366-4:2006 + A1:2010 prEN 1366-4:2017 (08-2017)

Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:2012.

Direction of exposure: the linear joint seals are exposed to the fire from one side. All joint seals are composed symmetrically.

The joint seals have not been subjected to a mechanically induced movement.

2.2 Test results

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OBSERVATIONS				EXCEEDED (MINUTES)			
Position	Orientation	Type	Width x thickness [mm]	Thermal insulation – I ^(*)	Integrity – E ^(*)		
				$\Delta T_M = 180^\circ\text{C}$	Ignition of cotton pad	Spontaneous and sustained flaming	Failure with gap gauge
1	Horizontal	Soudaseal® FR	20x12.5	66 ⁽¹⁾	66 ⁽¹⁾	66 ⁽¹⁾	66 ⁽¹⁾
3	Vertical	Soudaseal® FR	20x12.5	66 ⁽¹⁾			

(1) The test was stopped after 66 minutes at the request of the sponsor.

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OBSERVATIONS				EXCEEDED (MINUTES)			
Position	Orientation	Type	Width x thickness [mm]	Thermal insulation – I ^(*)	Integrity – E ^(*)		
				$\Delta T_M = 180^\circ\text{C}$	Ignition of cotton pad	Spontaneous and sustained flaming	Failure with gap gauge
5	Horizontal	Soudaseal® FR	20x25	132 ⁽¹⁾	132 ⁽¹⁾	132 ⁽¹⁾	132 ⁽¹⁾
7	Vertical	Soudaseal® FR	20x25	130			

(1) The test was stopped after 132 minutes at the request of the sponsor.

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7.5.9 of EN 13501-2:2016.

3.2 Classification

The linear joint seals, type: Soudaseal® FR, applied between lightweight partition walls and the adjacent solid walls and floor plates, are classified according to the following combinations of performance parameters and classes as appropriate.

Lower classifications are included.

The classifications are valid for both sides of the linear joint seals.

For lightweight partition walls with on both sides a covering thickness = thickness linear joint seal ≥ 12.5 mm.

EI 60 – V – X – F - W 0 to W 20

E 60 – V – X – F - W 0 to W 20

EI 60 – T – X – F - W 0 to W 20

E 60 – T – X – F - W 0 to W 20

For lightweight partition walls with on both sides a covering thickness = thickness linear joint seal ≥ 25 mm:

EI 120 – V – X – F - W 0 tot W 20

E 120 – V – X – F - W 0 tot W 20

EI 120 – T – X – F - W 0 tot W 20

E 120 – T – X – F - W 0 tot W 20

V = vertical joint seal in a wall construction

T = horizontal joint seal in a wall construction

X = no movement

F = splice between two joint seals applied in the field

W = joint widths range (mm)

3.3 Field of direct application

This classification is valid for the following end use applications according to EN 1366-4:2006+A1:2010.

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) Orientation

- Classifications for the linear joint seals are valid between vertical lightweight partition walls and the adjacent vertical solid walls and horizontal floor plates.

b) Supporting construction

- lightweight partition walls:
every lightweight partition wall with the same or higher classification than the linear joint seals is applicable, provided that:
 - they are classified in accordance with EN 13501-2;
 - they are fully insulated on the inside by means of rock wool thickness 50 mm and density $\geq 35 \text{ kg/m}^3$ for classifications $\leq \text{EI } 60$ and density $\geq 90 \text{ kg/m}^3$ for classifications $\leq \text{EI } 120$;
 - they are provided with a covering on both sides thickness $\geq 12.5 \text{ mm}$ for classifications $\leq \text{EI } 60$ and thickness $\geq 25 \text{ mm}$ for classifications $\leq \text{EI } 120$;
 - there are metal studs applied in the partition wall used as backfilling for the linear joint seal;
- solid wall constructions:
 - thickness \geq thickness lightweight partition wall;
 - density $\geq 550 \text{ kg/m}^3$;
- solid floor constructions:
 - density $\geq 2200 \text{ kg/m}^3$.

c) Dimensions

- Classifications for the linear joint seals of the “sealant” type are valid for smaller joint widths = from 0 to 20 mm. ⁽¹⁾

⁽¹⁾ According to prEN 1366-4:2017 (Date:2017-08) § 13.5.6, EN 15882-4:2012 Table A.1 and EAD 350141-00-1106 :September 2017 § 2.2.2.1.

4 Limitations

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

The classification assigned to the products in this report is appropriate to a Declaration of Performance (DoP) of the essential characteristics of the construction product by the manufacturer within the context of System 1 Assessment and Verification of Constancy of Performance (AVCP).

Under the Construction Products Regulation (CPR: EU 305/2011), such a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

The test laboratory has played no part in sampling the products for the test, although it holds appropriate references, supplied by the manufacturer, to provide evidence for the traceability of the samples tested.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

SIGNED

APPROVED

This document is a translation into English of the report No. 18776B, originally issued in Dutch. This translated classification report has been issued under the responsibility of and checked by WFRGENT nv. This translation is issued according to the "Interpretations of the European standard EN ISO/IEC 17025:2005" which applies to fire test laboratories, as defined in the EGOLF agreement EGA 08rev2:2013.

In case of doubt, the most recent version prevails, originally issued in Dutch.

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Horizontal and vertical joint seals between lightweight partition walls and adjacent solid walls and floor panels.

