FIRE RESISTANCE CLASSIFICATION REPORT No. 19660C

OWNER OF THE CLASSIFICATION REPORT

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INTRODUCTION

This classification report defines the classification assigned to linear joint seals,

types: Soudafoam FR HY combined with:

- Soudaseal® FR;
- Firecryl® FR or;
- Fire Silicone® B1 FR;

in rigid wall and floor supporting constructions, 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 10 pages and 1 annex and may only be used or reproduced in its entirety.

1 Details of classified product

1.1 General

The products – types: Soudafoam FR HY combined with Soudaseal® FR, Firecryl® FR or Fire Silicone® B1 FR are defined as linear joint seals.

1.2 Description

The elements, 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.

1.2.1 Composition of the test specimen

1.2.1.1 Linear joint seals

1.2.1.1.1 Soudafoam® FR HY backfilling combined with Soudaseal® FR sealant

Foam sealant – brand and type: Soudafoam® FR HY – material: 1-component polyurethane foam – dimensions: see § 3.2.1 – ETA pending – DoP no. 231559.

- position:
  - applied over the whole joint and cut to wish after the foam is solidified;
  - cut until an offset of 20 mm inside the joint at the exposed side, the unexposed side or at both sides of the supporting construction;
- fixing: self-adhesive.

Mastic sealant – brand and type: Soudaseal® FR Grey – material: based on SMX polymer – thickness: 20 mm –width: see § 3.2.1 – ETA no. 13/0334 – DoP no. 230017.

- position:
  - applied on the foam sealant in the voids of the joints after the cutting away of the foam sealant;
  - finished flush with the supporting construction surface(s);
- number:
  - 1 layer at either the exposed, unexposed side;
  - 2 layers at both sides of the supporting construction;
- fixing: self-adhesive.

1.2.1.1.2 Soudafoam® FR HY backfilling combined with Firecryl® FR sealant

Foam sealant – brand and type: Soudafoam® FR HY – material: 1-component polyurethane foam – dimensions: see § 3.2.2 – ETA pending – DoP no. 231559.

- position:
  - applied over the whole joint and cut to wish after the foam is solidified;
  - cut until an offset of:
    - 20 mm inside the joint at the exposed side, the unexposed side or at both sides of the supporting construction;
    - 3 mm inside the joint at both sides of the supporting construction;
- fixing: self-adhesive.

Acrylic sealant – brand and type: Firecryl® FR – material: acrylate dispersion – thickness: 3 or 20 mm –width: see § 3.2.2 – ETA no. 13/0335 – DoP no. 230011.

- position:
  - applied on the foam sealant in the voids of the joints after the cutting away of the foam sealant;
  - finished flush with the supporting construction surface(s);
- number:
  - 1 layer at either the exposed, unexposed side;
  - 2 layers at both sides of the supporting construction;
- fixing: self-adhesive.

1.2.1.1.3 Soudafoam® FR HY backfilling combined with Fire Silicone® B1 FR sealant

Foam sealant – brand and type: Soudafoam® FR HY – material: 1-component polyurethane foam – dimensions: see § 3.2.3 – ETA pending – DoP no. 231559.

- position:
  - applied over the whole joint and cut to wish after the foam is solidified;
  - cut until an offset of 20 mm inside the joint at the exposed side, the unexposed side or at both sides of the supporting construction;
- fixing: self-adhesive.

Silicone sealant – brand and type: Fire Silicone® B1 FR – material: polysiloxane – thickness: 20 mm –width: see § 3.2.3 – ETA no. 13/0336 – DoP no. 230016.

- position:
    - applied on the foam sealant in the voids of the joints after the cutting away of the foam sealant;
    - finished flush with the supporting construction surface(s);
- number:
    - 1 layer at either the exposed, unexposed side;
    - 2 layers at both sides of the supporting construction;
- fixing: self-adhesive.

1.2.1.2 Standard supporting construction

1.2.1.2.1 Rigid aerated concrete wall (thickness: 100 mm)

The supporting construction consists of a rigid aerated concrete wall (density: 550 kg/m³; thickness: 100 mm) according to European Standard EN 1366-4:2006+A1:2010 §7.2.2.1.

1.2.1.2.2 Rigid aerated concrete wall (thickness: 200 mm)

The supporting construction consists of a rigid aerated concrete wall (density: 550 kg/m³; thickness: 200 mm) according to European Standard EN 1366-4:2006+A1:2010 §7.2.2.1.

1.2.1.2.3 Rigid aerated concrete floor (thickness: 150 mm)

The supporting construction consists of a rigid aerated concrete floor (density: 550 kg/m³; thickness: 150 mm) according to European Standard EN 1366-4:2006+A1:2010 §7.2.2.1.

2 Test reports/EXAP reports and test results in support of the classification

2.1 Test reports/EXAP reports

Name of the laboratory	Report ref. no.	Name of the owner	Date of the test	Method
WFRGENT nv	19660A	Soudal NV	14/05/2019	EN 1366-4:2006+A1:2010
WFRGENT nv	19659A	Soudal NV	17/05/2019	EN 1366-4:2006+A1:2010
WFRGENT nv	19658A	Soudal NV	15/05/2019	EN 1366-4:2006+A1:2010

Exposure conditions during the fire resistance test:

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

Direction of exposure:

- vertical supporting construction: the linear joint seals are exposed to the fire from one side;
- horizontal supporting construction: the linear joint seals are exposed to the fire from below.

The joint edges are symmetrical, the joint seals can be asymmetrical.

The joint seals are not subjected to a mechanically induced movement.

2.2 Test results

See the test reports listed in § 2.1.

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-2:2016.

3.2 Classification

The products, sealants – types: Soudafoam FR HY combined with Soudaseal® FR, Firecryl® FR or Fire Silicone® B1 FR – are classified according to the following combinations of performance parameters and classes as appropriate. No other linear joint type classifications are permitted.

All classifications (insulation and/or integrity rating) cover lower classifications as well.

3.2.1 Soudafoam® FR HY backfilling combined with Soudaseal® FR sealant

Linear joint seal				Classification	
Width [mm]	Sealant		Backfilling	EI	E
	Depth [mm]	Application side	Depth [mm]		
Rigid wall (thickness ≥ 100 mm)					
10	≥20	Exposed	≥80	EI120-V-X-F-W10	E120-V-X-F-W10
20	≥20	Exposed	≥80	EI90-V-X-F-W20	E120-V-X-F-W20
10 to 20	**≥20**	**Exposed**	**≥80**	**EI90-V-X-F-W10 to W20**	**E120-V-X-F-W10 to W20**
20	≥20	Unexposed	≥80	EI120-V-X-F-W20	E120-V-X-F-W20
30	≥20	Symmetrical	≥60	EI120-V-X-F-W30	E120-V-X-F-W30
Rigid wall (thickness ≥ 200 mm)					
20	≥20	Exposed	≥180	EI240-V-X-F-W20	E240-V-X-F-W20
40	≥20	Exposed	≥180	EI180-V-X-F-W40	E180-V-X-F-W40
20 to 40	**≥20**	**Exposed**	**≥180**	**EI180-V-X-F-W20 to W40**	**E180-V-X-F-W20 to W40**
40	≥20	Symmetrical	≥160	EI180-V-X-F-W40	E240-V-X-F-W40
Rigid floor (thickness ≥ 150 mm)					
30	≥20	Exposed	≥130	EI120-H-X-F-W30	E120-H-X-F-W30
40	≥20	Exposed	≥130	EI120-H-X-F-W40	E120-H-X-F-W40
30 to 40	**≥20**	**Exposed**	**≥130**	**EI120-H-X-F-W30 to W40**	**E120-H-X-F-W30 to W40**
30	≥20	Unexposed	≥130	EI120-H-X-F-W30	E120-H-X-F-W30
40	≥20	Unexposed	≥130	EI120-H-X-F-W40	E120-H-X-F-W40
50	≥20	Unexposed	≥130	EI120-H-X-F-W50	E120-H-X-F-W50
30 to 50	**≥20**	**Unexposed**	**≥130**	**EI120-H-X-F-W30 to W50**	**E120-H-X-F-W30 to W50**

3.2.2 Soudafoam® FR HY backfilling combined with Firecryl® FR sealant

Linear joint seal				Classification	
Width [mm]	Sealant		Backfilling	EI	E
	Depth [mm]	Application side	Depth [mm]		
Rigid aerated concrete wall (thickness ≥ 100 mm)					
10	≥20	Exposed	≥80	EI120-V-X-F-W10	E120-V-X-F-W10
20	≥20	Exposed	≥80	EI90-V-X-F-W20	E120-V-X-F-W20
10 to 20	**≥20**	**Exposed**	**≥80**	**EI90-V-X-F-W10 to W20**	**E120-V-X-F-W10 to W20**
20	≥20	Unexposed	≥80	EI90-V-X-F-W20	E120-V-X-F-W20
30	≥3	Symmetrical	≥94	EI90-V-X-F-W30	E120-V-X-F-W30
Rigid aerated concrete wall (thickness ≥ 200 mm)					
20	≥20	Exposed	≥180	EI240-V-X-F-W20	E240-V-X-F-W20
30	≥20	Exposed	≥180	EI240-V-X-F-W30	E240-V-X-F-W30
20 to 30	**≥20**	**Exposed**	**≥180**	**EI240-V-X-F-W20 to W30**	**E240-V-X-F-W20 to W30**
Rigid aerated concrete floor (thickness ≥ 150 mm)					
30	≥20	Exposed	≥130	EI120-H-X-F-W30	E120-H-X-F-W30
30	≥20	Unexposed	≥130	EI120-H-X-F-W30	E120-H-X-F-W30
30	≥3	Symmetrical	≥144	EI60-H-X-F-W30	E90-H-X-F-W30

3.2.3 Soudafoam® FR HY backfilling combined with Fire Silicone® B1 FR sealant

Linear joint seal				Classification	
Width [mm]	Sealant		Backfilling	EI	E
	Depth [mm]	Application side	Depth [mm]		
Rigid aerated concrete wall (thickness ≥ 100 mm)					
10	≥20	Exposed	≥80	EI120-V-X-F-W10	E120-V-X-F-W10
20	≥20	Exposed	≥80	EI120-V-X-F-W20	E120-V-X-F-W20
10 to 20	**≥20**	**Exposed**	**≥80**	**EI120-V-X-F-W10 to W20**	**E120-V-X-F-W10 to W20**
30	≥20	Symmetrical	≥60	EI120-V-X-F-W30	E120-V-X-F-W30
Rigid aerated concrete wall (thickness ≥ 200 mm)					
20	≥20	Exposed	≥180	EI240-V-X-F-W20	E240-V-X-F-W20
30	≥20	Exposed	≥180	EI240-V-X-F-W30	E240-V-X-F-W30
40	≥20	Exposed	≥180	EI240-V-X-F-W40	E240-V-X-F-W40
20 to 40	**≥20**	**Exposed**	**≥180**	**EI240-V-X-F-W20 to W40**	**E240-V-X-F-W20 to W40**
Rigid aerated concrete floor (thickness ≥ 150 mm)					
30	≥20	Exposed	≥130	EI120-H-X-F-W30	E120-H-X-F-W30
40	≥20	Exposed	≥130	EI120-H-X-F-W40	E120-H-X-F-W40
30 to 40	**≥20**	**Exposed**	**≥130**	**EI120-H-X-F-W30 to W40**	**E120-H-X-F-W30 to W40**
30	≥20	Unexposed	≥130	EI90-H-X-F-W30	E90-H-X-F-W30
40	≥20	Unexposed	≥130	EI120-H-X-F-W40	E120-H-X-F-W40

Linear joint seal				Classification	
Width [mm]	Sealant		Backfilling	EI	E
	Depth [mm]	Application side	Depth [mm]		
50	≥20	Unexposed	≥130	EI120-H-X-F-W50	E120-H-X-F-W50
30 to 50	**≥20**	**Unexposed**	**≥130**	**EI90-H-X-F-W30 to W50**	**E90-H-X-F-W30 to W50**
50	≥20	Symmetrical	≥110	EI45-H-X-F-W50	E90-H-X-F-W50

Explanation

V	Vertical joint seal in a wall construction
H	Joint seal in a floor construction
X	No movement applied during test
F	Field: type of splices in the joint seal
Ww1 to Ww2	Joint widths range [mm]. w1 is the lower and w2 is the higher width limit

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
   - The classifications for vertical linear joints in a vertical test construction (wall), tested without shear movement don't cover other orientations;
   - The classifications for linear joints in a horizontal test construction (floor), tested without shear movement, are also valid for:
     - horizontal wall joints abutting a floor, ceiling or roof.

b) supporting construction
   - **rigid wall**
     The test results obtained with autoclaved aerated concrete standard supporting constructions apply to concrete, block work and masonry separating elements of a thickness and density equal or greater than that tested.
     - density supporting construction ≥ 550 kg/m³;
     - thickness supporting construction ≥ 100 mm or ≥ 200 mm.

- **rigid floor**
  The test results obtained with autoclaved aerated concrete standard supporting constructions apply to concrete, block work and masonry separating elements of a thickness and density equal or greater than that tested.
  - density supporting construction ≥ 550 kg/m³;
  - thickness supporting construction ≥ 150 mm.

c) seal position

Where the linear joint seal was applied flush with the surface of the supporting construction and is exposed to the fire, the result will also be applicable for positioning the seal inside the supporting construction at an offset from the exposed side up until it's flush with the unexposed side.

d) mechanical induced movement

- If the movement capability of a linear joint seal is less than ±7.5%, the linear joint seal may be tested without mechanically induced movement and the result applies to the movement capability reported.

4 Limitations

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

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.

SIGNED

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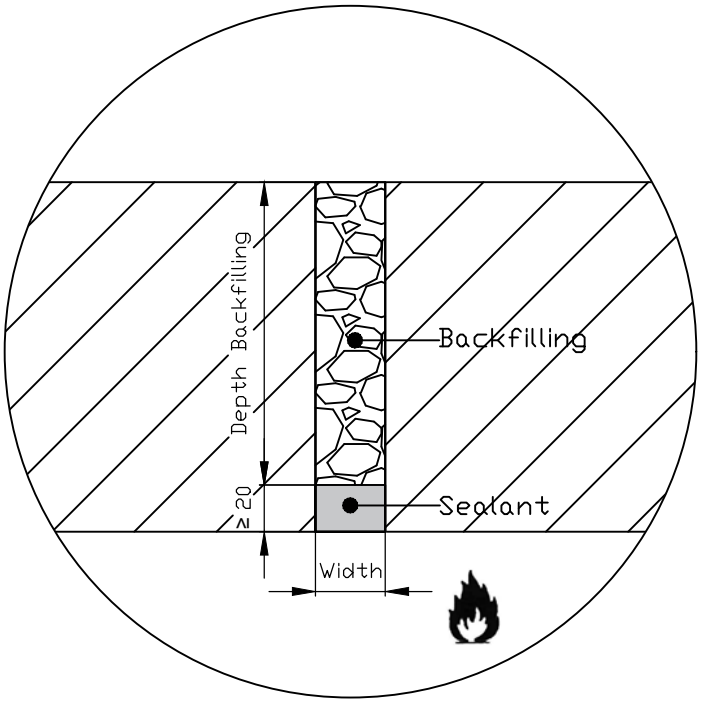
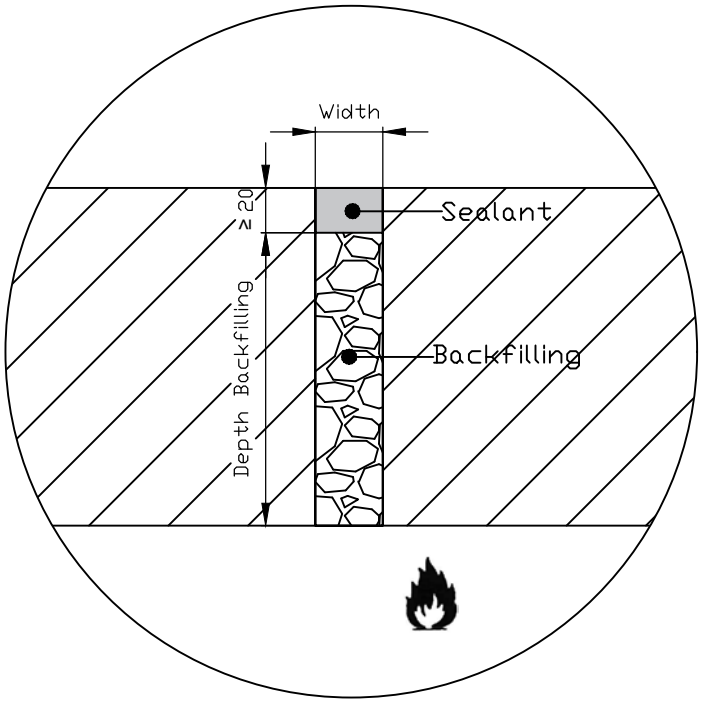
This document is the original version of the classification report and is written in English.

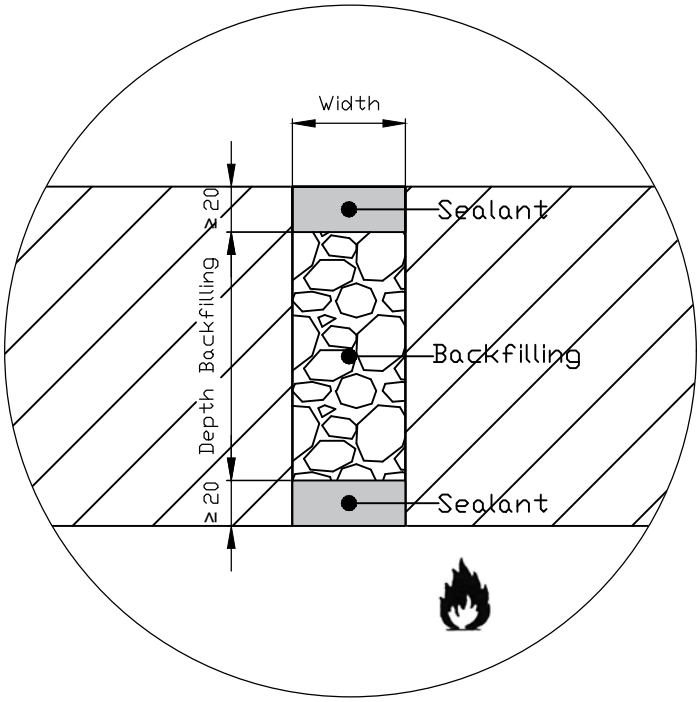
Linear joint seal types



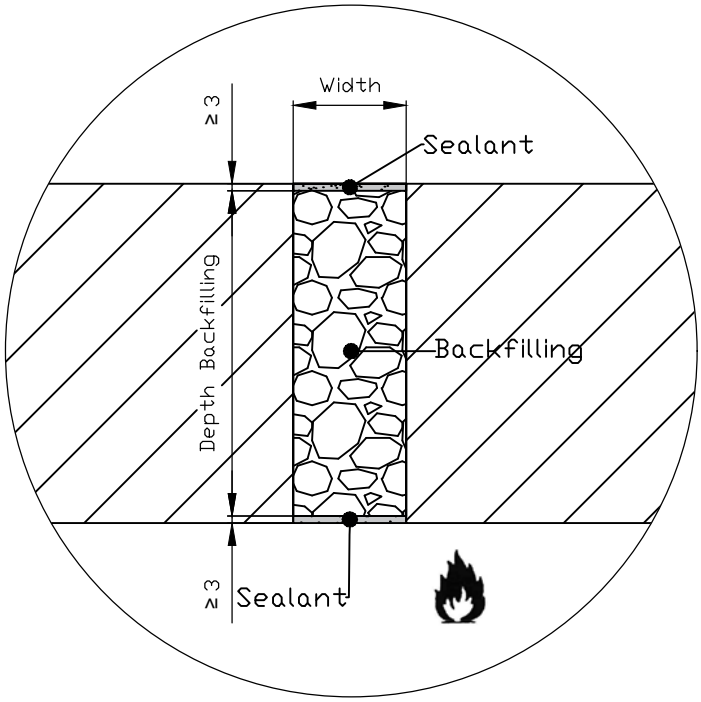
Soudafoam® FR HY backfilling flush with unexposed side and sealant at the exposed side.



Soudafoam® FR HY backfilling flush with the exposed side and sealant at the unexposed side.



Soudafoam® FR HY backfilling at an offset of 20 mm and sealant at both sides.



Soudafoam® FR HY backfilling at an offset of 3 mm and Firecryl® FR sealant at both sides.