

## SKG-IKOB

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## European Technical Assessment

**ETA-23/0200**  
**Of 20/06/2023**

### General part

**Technical Assessment Body issuing the European Technical Assessment:**  
**SKG-IKOB Certificatie BV**

**Trade name of the construction product**

**PROFiSEAL FSA HYBRID VLE**

**Product family to which the  
construction product belongs**

**Fire Stopping and Sealing Product:  
Linear Joint and Gap Seals**

**Manufacturer**

**CG PROFESSIONAL / Caupo Group Oy**  
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**Manufacturing plants**

**P02**

**This European Technical Assessment  
contains**

18 pages including 2 Annex which form an integral part of  
this assessment.

**This European Technical Assessment is  
issued in accordance with regulation  
(EU) No 305/2011, on the basis of**

EAD 350141-00-1106, edition September 2017

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## Specific parts

### 1 Technical description of the product

PROFiSEAL FSA HYBRID VLE is used to form a joint seal in linear joints, voids, gaps and other discontinuities within one or between two or more construction elements to reinstate the fire resistance performance of wall and floor constructions.

Product	Properties
PROFiSEAL FSA HYBRID VLE	PROFiSEAL FSA HYBRID VLE is a hybrid sealant in color white or grey. Supplied in liquid form contained within 290 ml cartridges or 600 ml sausages. The Sealant is gunned into the linear joint of adjacent separating elements, to a specified depth, if necessary utilizing PU backer rod.

### 2 Specification of the intended uses in accordance with the applicable Assessment Document (hereinafter EAD)

#### 2.1 Intended use

The intended use of PROFiSEAL FSA HYBRID VLE is to reinstate the fire resistance performance of linear joints in rigid wall constructions and in rigid floor constructions.

The specific elements of construction for the PROFiSEAL FSA HYBRID VLE to be used in, to provide a joint seal, are as follows:

- Flexible walls
- Rigid walls
- Rigid floors

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period. Detailed information and data is given in Annex A.

Environmental conditions are:

Type Z<sub>2</sub>: intended for uses in internal conditions with humidity lower than 85 % RH excluding temperatures below 0°C, without exposure to rain or UV.

#### 2.2 Working life

The assumed working life of PROFiSEAL FSA HYBRID VLE is for the intended use 25 years, provided that the assembled product is subject to appropriate installation, use and maintenance. The indication of 25 years cannot be interpreted as a guarantee given by CG PROFESSIONAL, but should only be regarded as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

### 3. Performance of the product and references to the methods used for its assessment

The assessment of fitness for use has been made in accordance with EAD 350141-00-1106.

PROFISEAL FSA HYBRID VLE		
No	Essential Characteristic	Product performances
<b>BWR 2 Safety in case of fire</b>		
1	Reaction to fire	B-s1,d0
2	Resistance to fire	See annex A
<b>BWR 3 Hygiene, health and environment</b>		
3	Content, emission and/or release of dangerous substances	Declaration of manufacturer
4	Air permeability (material property)	No performance assessed
5	Water permeability (material property)	No performance assessed
<b>BWR 4 Safety and accessibility in use</b>		
6	Mechanical resistance and stability	No performance assessed
7	Resistance to impact/movement	No performance assessed
8	Adhesion	passed
9	Durability	Z <sub>2</sub>
10	Movement capability	See annex A
11	Cycling of perimeter seals for curtain walls	Not relevant
12	Compression set	Not relevant
13	Linear expansion on setting	Not relevant
<b>BWR 5 Protection against noise</b>		
14	Airborne sound insulation	See annex B
<b>BWR 6 Energy economy and heat retention</b>		
15	Thermal properties	No performance assessed
16	Water vapour permeability	No performance assessed

### 4 Assessment and verification of consistency of performance (hereinafter AVCP) system applied, with reference to its legal base

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, see <http://eur-lex.europa.eu/JOIndex.do> of the European Commission<sup>1</sup>, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Fire stopping and fire sealing products	For fire compartmentation and/or fire protection or fire performance	Any	1

## 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

### Tasks of the manufacturer

#### *Factory production control*

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this European technical Assessment. The manufacturer may only use initial / raw / constituent materials stated in the technical documentation of this European Technical Assessment.

The factory production control shall be in accordance with the Control Plan of 24/05/2023 relating to the European technical assessment ETA 23/0200 issued on 24/05/2023 which is part of the technical documentation of this European technical approval. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at SKG-IKOB.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

### Other tasks of the manufacturer

#### *Additional information*

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

#### (a) Technical data sheet:

- Field of application:
- Building elements for which the linear joint seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Limits in size, minimum thickness etc. of the linear joint seal
- Construction of the linear joint seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.

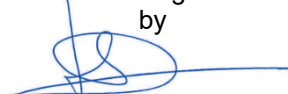
#### (b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting
- Stipulations on maintenance, repair and replacement

Issued in Geldermalsen, the Netherlands on 20/06/2023

The original English version is signed on behalf of SKG-IKOB

by



ir. H.A.J. van Dartel  
Certification Manager

## Annex A – Resistance to fire

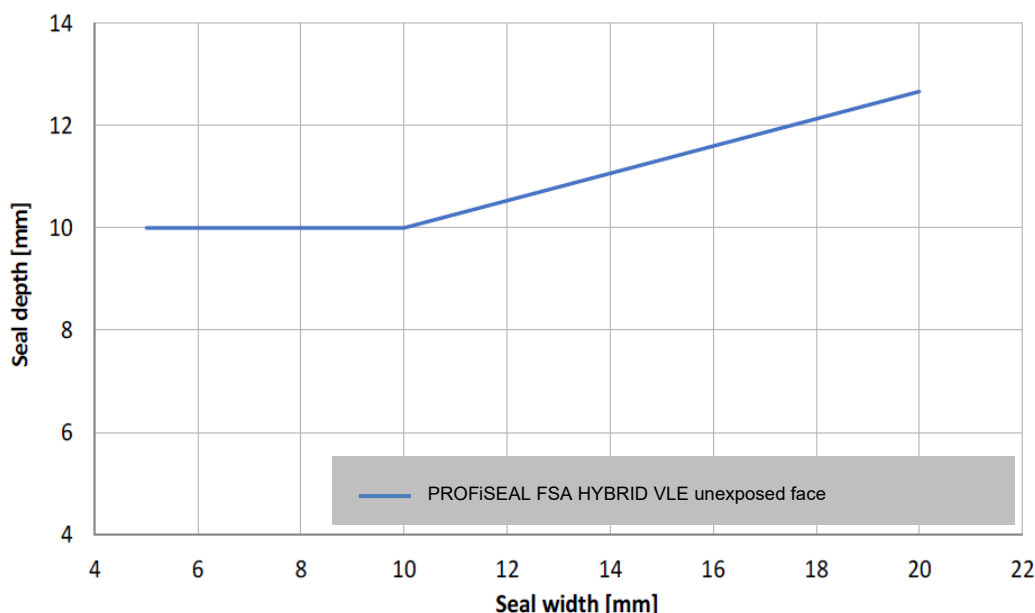
Fire resistance classification (vertical linear joint seals in a stone wall)
Connecting stone to stone wall $\geq 70$ mm
PROFiSEAL FSA HYBRID VLE unexposed face
EI 60 – V – X – F – W 5 to 10
EI 450 – V – X – F – W 10 to 20
E 240 – V – X – F – W 5 to 20

E = Criterion integrity, I = Criterion insulation, V = vertical application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 1 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical);
- the linear joint seals may connect to any type of wall of aerated concrete (class G4/600 or heavier) concrete, block work, limestone or masonry with a minimal thickness of 70 mm;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE is applied are thoroughly cleaned and treated with primer and moistened with water when needed;
- the use of suitable PE / PU backing material is mandatory;
- the depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 1 below, The depth of the sealant may also be increased with respect to the Graph (the lines are minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5 %;
- when PROFiSEAL FSA HYBRID VLE is applied at one face, the classifications are valid with PROFiSEAL FSA HYBRID VLE at the unexposed face.

**Graph 1: Minimum seal depth in relation to the seal width**



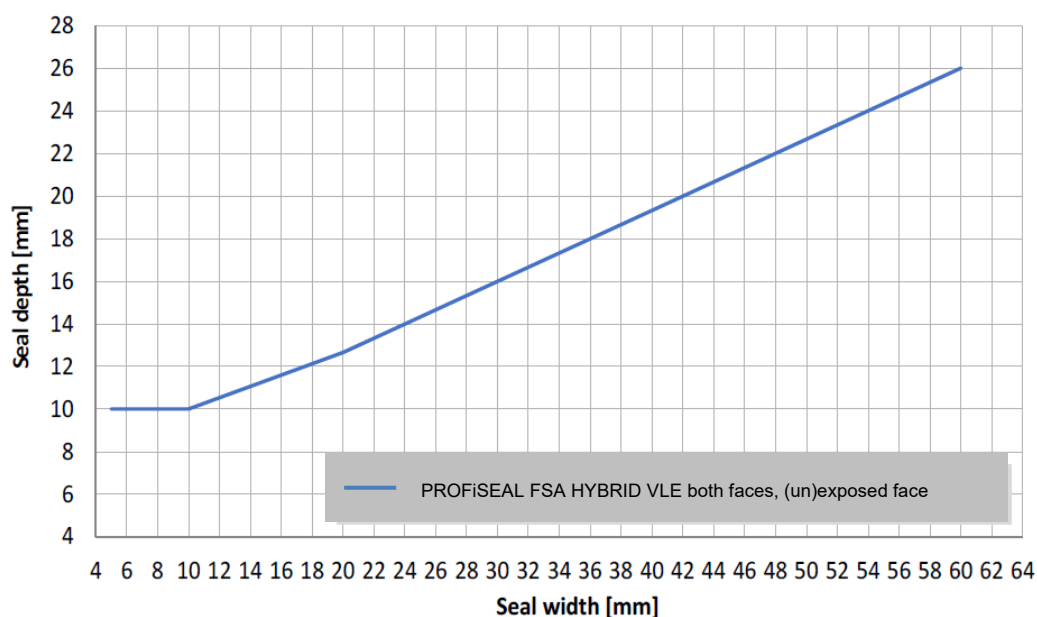
Fire resistance classification (vertical linear joint seals in a stone wall)			
Connecting stone to stone wall $\geq 100$ mm			
<b>PROFiSEAL FSA HYBRID VLE exposed face, CG-PROFiPUR FSA FIRE CE unexposed face</b> EI 45 – V – X – F – W 8 to 40 EI 120 – V – X – F – W 8 to 40	<b>PROFiSEAL FSA HYBRID VLE applied at exposed face</b> EI 60 – V – X – F – W 5 to 40 EI 120 – V – X – F – W 5 to 40 EI 120 – T – X – F – W 5 to 50 EI 180 – T – X – F – W 5 to 50	<b>PROFiSEAL FSA HYBRID VLE applied at unexposed face</b> EI 60 – V – X – F – W 5 to 40 EI 240 – V – X – F – W 5 to 40 EI 90 – T – X – F – W 5 to 50 EI 240 – T – X – F – W 5 to 50	<b>PROFiSEAL FSA HYBRID VLE applied at both faces</b> EI 240 – V – X – F – W 5 to 50 EI 180 – V – X – F – W 50 to 60 EI 240 – V – X – F – W 5 to 60

E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, T = Horizontal application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 2 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical or horizontal);
- the linear joint seals may be applied in any type of wall of aerated concrete (class G4/600 or heavier), concrete, limestone or masonry with a minimal thickness of 100 mm;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE and PROFiPUR FSA FIRE CE is applied are thoroughly cleaned and treated with primer and moistened with water when needed.
- Except for the linear joint seal in combination with PROFiPUR FSA FIRE CE, the use of suitable PE / PU backing material is mandatory;
- the depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 2 below. The depth of the sealant may also be increased with respect to the Graph (the lines are the minimum and recommended seal depth). Where the rest of the slot is fully filled with PROFiPUR FSA FIRE CE the seal depth of the PROFiSEAL FSA HYBRID VLE is minimal 3 mm;
- the allowed movement capability in practice is maximized to 7.5 %;
- when PROFiSEAL FSA HYBRID VLE is applied at both faces, the classifications are valid for both directions.  
When PROFiSEAL FSA HYBRID VLE is applied at one face, the classifications are valid with PROFiSEAL FSA HYBRID VLE at the unexposed face or at the exposed face.

**Graph 2: Minimum seal depth in relation to the seal width**



Fire resistance classification (vertical linear joint seals in a stone wall)		
Connecting stone to stone wall $\geq 115$ mm		
<b>PROFiSEAL FSA HYBRID VLE</b> <b>unexposed face, CG-PROFiPUR FSA</b> <b>FIRE CE exposed face</b> EI 180 – V – X – F – W 8 to 25 EI 240 – V – X – F – W 8 E 240 – V – X – F – W 8 to 25	<b>PROFiSEAL FSA HYBRID VLE applied</b> <b>at unexposed face</b> EI 60 – V – X – F – W 5 to 20 EI 180 – V – X – F – W 5 E 240 – V – X – F – W 5 to 20	<b>PROFiSEAL FSA HYBRID VLE applied</b> <b>at both faces</b> EI 240 – V – X – F – W 5 to 30 E 240 – V – X – F – W 5 to 30

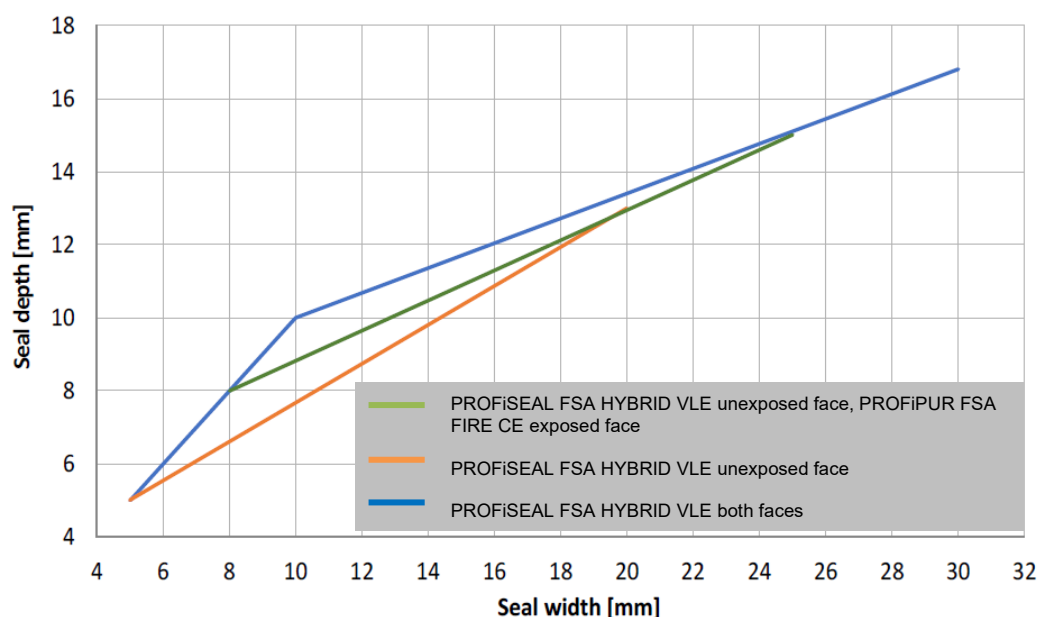
E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 3 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical);
- the linear joint seals may be applied in any type of wall of aerated concrete (class G4/600 or heavier), concrete, limestone or masonry with a minimal thickness of 115 mm;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE or PROFiPUR FSA FIRE CE is applied are thoroughly cleaned and treated with primer and moistened with water when needed.
- Except for the fully filled linear joint seal in combination with PROFiPUR FSA FIRE CE, the use of suitable PE / PU backing material is mandatory;
- the depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 3 below. The depth of the sealant may also be increased with respect to the Graph (the lines are the minimum and recommended seal depth). When applicable, the rest of the slot is fully filled with PROFiPUR FSA FIRE CE;
- the allowed movement capability in practice is maximized to 7.5 %;
- when PROFiSEAL FSA HYBRID VLE is applied at both faces, the classifications are valid for both directions.

When PROFiSEAL FSA HYBRID VLE is applied at one face, the classifications are valid with PROFiSEAL FSA HYBRID VLE at the unexposed face.

**Graph 3: Minimum seal depth in relation to the seal width**



Fire resistance classification (vertical linear joint seals in a stone wall)			
Connecting stone to stone wall $\geq 150$ mm			Connecting stone to stone wall $\geq 200$ mm
<b>PROFiSEAL FSA HYBRID VLE</b> exposed face, CG-PROFiPUR FSA FIRE CE unexposed face EI 60 – V – X – F – W 8 to 50	<b>PROFiSEAL FSA HYBRID</b> VLE applied at exposed face EI 45 – T – X – F – W 5 to 50 E 240 – T – X – F – W 5 to 50	<b>PROFiSEAL FSA HYBRID</b> VLE applied at unexposed face EI 90 – T – X – F – W 5 to 50 E 240 – T – X – F – W 5 to 50	<b>PROFiSEAL FSA HYBRID VLE</b> exposed face, CG-PROFiPUR FSA FIRE CE unexposed face EI 120 – V – X – F – W 8 to 50

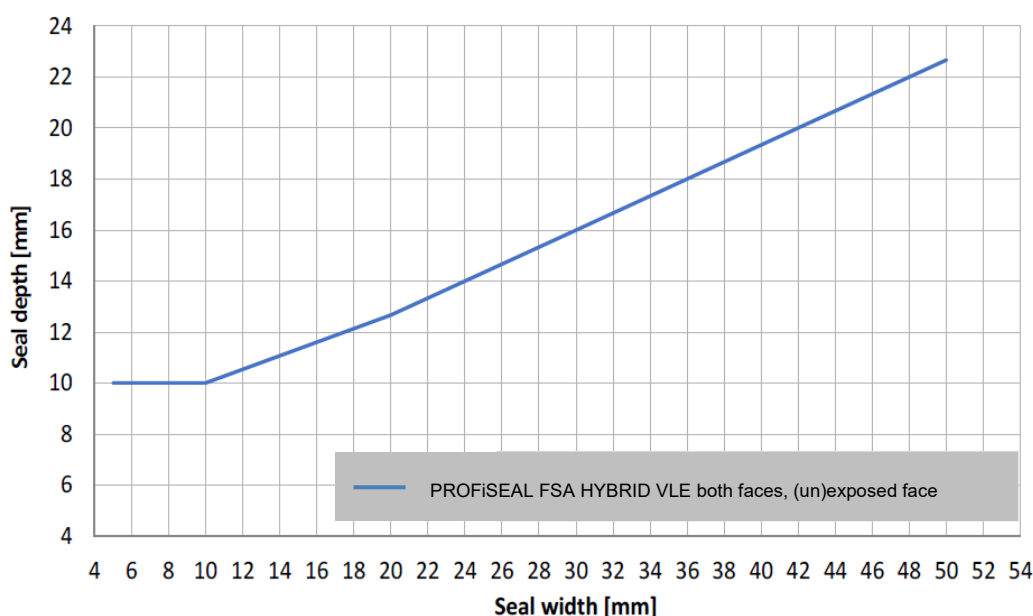
E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, T = Horizontal application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 4 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical or horizontal);
- the linear joint seals may be applied in any type of wall of aerated concrete (class G4/600 or heavier), concrete, limestone or masonry with a minimal thickness of 150 or 200 mm;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE and PROFiPUR FSA FIRE CE is applied are thoroughly cleaned and treated with primer and moistened with water when needed.
- Except for the linear joint seal in combination with PROFiPUR FSA FIRE CE, the use of suitable PE / PU backing material is mandatory;
- the depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 4 below. The depth of the sealant may also be increased with respect to the Graph (the lines are the minimum and recommended seal depth). Where the rest of the slot is fully filled with PROFiPUR FSA FIRE CE the seal depth of the PROFiSEAL FSA HYBRID VLE is minimal 3 mm;
- the allowed movement capability in practice is maximized to 7.5 %;
- when PROFiSEAL FSA HYBRID VLE is applied at both faces, the classifications are valid for both directions.

When PROFiSEAL FSA HYBRID VLE is applied at one face, the classifications are valid with PROFiSEAL FSA HYBRID VLE at the unexposed face or at the exposed face.

**Graph 4: Minimum seal depth in relation to the seal width**





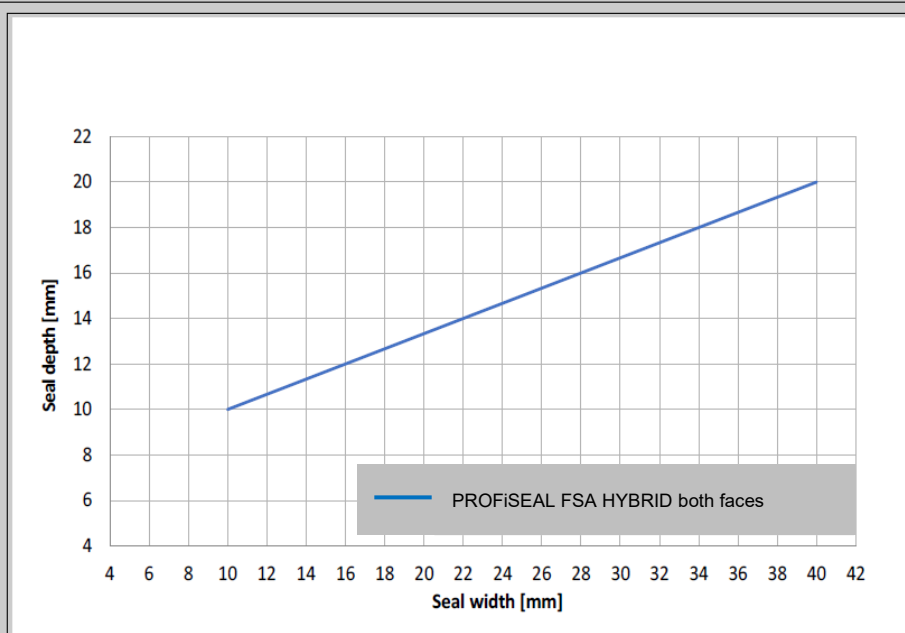
Fire resistance classification (horizontal linear joint seals in a stone wall and a wall abutting a floor)
<b>PROFiSEAL FSA HYBRID VLE, applied at both faces</b>
<b>Wall / floor with thickness <math>\geq 100</math> mm</b>
EI 240 – T – M 25 – F – W 10 to 30
EI 180 – T – M 25 – F – W 30 to 40
E 240 – T – M 25 – F – W 10 to 40

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a vertical wall and a wall abutting a floor, M = Movement induced in %, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 5 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall and a wall abutting a floor, ceiling or roof with an orientation as mentioned (horizontal);
- the linear joint seals may connect to any type of construction of aerated concrete (class G4/600 or heavier), concrete, limestone or masonry with a minimal thickness as mentioned (100 mm);
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE is applied are thoroughly cleaned and treated with primer when needed.
- the use of suitable PE / PU backing material is mandatory;
- the required depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 5 below. The required depth of the sealant may also be increased with respect to the Graph (the lines are the minimum and recommended seal depth);
- deformation of the linear joint seals in practice is maximized to 25 %;
- the classifications are valid for both directions.

**Graph 5: Minimum seal depth in relation to the seal width**



Fire resistance classification (linear joint seals in a floor with thickness $\geq 100$ mm)	
PROFiSEAL FSA HYBRID VLE, applied at exposed side	PROFiSEAL FSA HYBRID VLE, applied at unexposed side
EI 90 – H – X – F – W 10 EI 30 – H – X – F – W 10 to 40 E 120 – H – X – F – W 10 to 40	E 120 – H – X – F – W 10 EI 60 – H – X – F – W 10 to 40 E 120 – H – X – F – W 10 to 25 E 60 – H – X – F – W 40

E = Criterion integrity, I = Criterion insulation, H = Horizontal supporting construction (floor), X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 3 for seal depth)

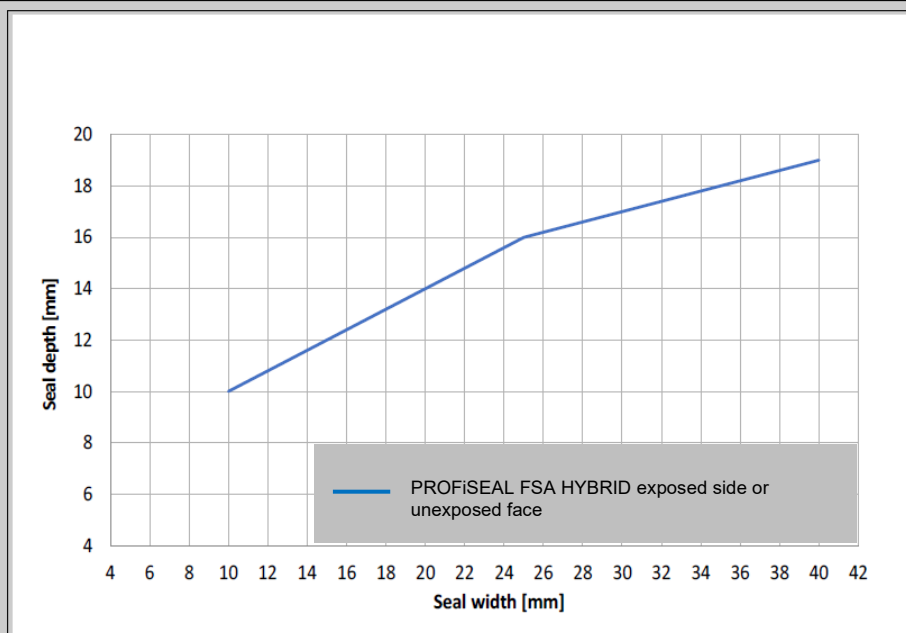
Fire resistance classification (linear joint seals in a wall abutting a floor with thickness both $\geq 100$ mm)	
PROFiSEAL FSA HYBRID VLE, applied at exposed side	PROFiSEAL FSA HYBRID VLE, applied at unexposed side
EI 90 – T – X – F – W 10 EI 30 – T – X – F – W 10 to 40 E 120 – T – X – F – W 10 to 40	E 120 – T – X – F – W 10 EI 60 – T – X – F – W 10 to 40 E 120 – T – X – F – W 10 to 25 E 60 – T – X – F – W 40

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a wall abutting a floor, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 6 for seal depth)

The following conditions apply:

- the linear joint seals may be applied at any type of floor and / or wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above. In a floor application, the fire resistance applies from below. The fire resistance in a wall abutting a floor application is valid from one side;
- the classifications are not valid for horizontally orientated joints in a wall;
- the surfaces of the material on which the PROFiSEAL FSA HYBRID VLE is applied are thoroughly cleaned and treated with Primer when needed;
- the use of suitable PE / PU backing material is mandatory;
- the required depth of the PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimal depth of the sealant in relation to the width of the linear joint seal is shown in Graph 6 below. The required depth of the sealant may also be increased with respect to the Graph (the line gives the minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5%.

**Graph 6: Minimum seal depth in relation to the seal width**



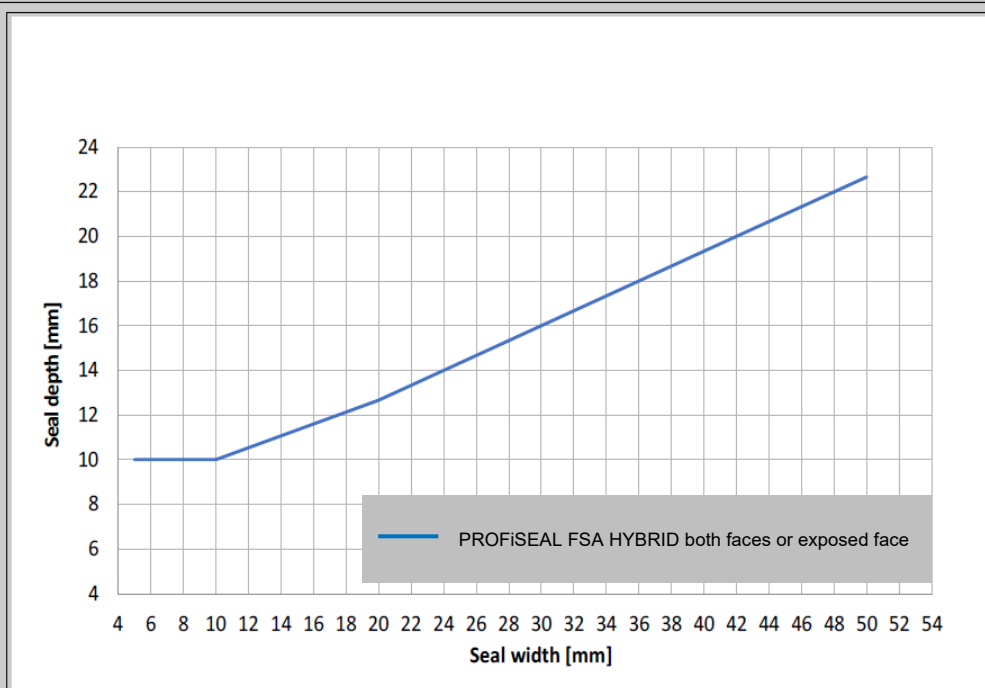
<b>Fire resistance classification</b> <b>(horizontal linear joint seals in a stone wall and a wall abutting a floor)</b>
<b>Applied at both faces</b>
<b>Wall abutting a floor</b> <b>Wall thickness <math>\geq 100</math> mm / floor thickness <math>\geq 150</math> mm</b> EI 240 – T – X – F – W 5 to 50
<b>Applied at exposed face</b>
<b>Wall abutting a floor</b> <b>Wall thickness <math>\geq 100</math> mm / floor thickness <math>\geq 150</math> mm</b> EI 30 – T – X – F – W 5 to 50 E 180 – T – X – F – W 5 to 50

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a vertical wall (abutting a floor), X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (depth see conditions)

The following conditions apply:

- the classifications are valid for a horizontal orientation in a vertical wall or a horizontal orientation in a vertical wall abutting a horizontal floor;
- the linear joint seals may be applied at both sides or one side to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness of 100 mm for the wall and a minimal thickness of 150 mm for the floor;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE is applied are thoroughly cleaned and treated with primer when needed.
- the use of suitable PE / PU backing material is mandatory;
- the required depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 7 below. The required depth of the sealant may also be increased with respect to the Graph (the lines are the minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5%;
- the classifications are valid for the tested directions.

**Graph 7: Minimum seal depth in relation to the seal width**



Fire classification (vertical linear joint seals in a stone wall)		
PROFiSEAL FSA HYBRID VLE applied at both faces, connecting stone to wood	PROFiSEAL FSA HYBRID VLE applied at both faces, connecting stone to steel	
<b>Wall thickness <math>\geq 100</math> mm</b> EI 120 – V – X – F – W 5 to 20 E 120 – V – X – F – W 5 to 20	<b>Wall thickness <math>\geq 100</math> mm</b> EI 30 – V – X – F – W 5 to 20 EI 45 – V – X – F – W 20 E 120 – V – X – F – W 5 to 20	<b>Wall thickness <math>\geq 150</math> mm</b> EI 60 – V – X – F – W 5 to 20- E 120 – V – X – F – W 5 to 20

Fire classification (horizontal linear joint seals in a stone wall)		
PROFiSEAL FSA HYBRID VLE applied at both faces, connecting stone to wood	PROFiSEAL FSA HYBRID VLE applied at both faces, connecting stone to steel	
<b>Wall thickness <math>\geq 100</math> mm</b> EI 120 – T – X – F – W 5 to 20 E 120 – T – X – F – W 5 to 20 E 240 – T – X – F – W 20	<b>Wall thickness <math>\geq 100</math> mm</b> EI 45 – T – X – F – W 5 to 20 EI 60 – T – X – F – W 20 E 120 – T – X – F – W 5 to 20	<b>Wall thickness <math>\geq 150</math> mm</b> EI 90 – T – X – F – W 5 to 20- EI 120 – T – X – F – W 20 E 120 – T – X – F – W 5 to 20

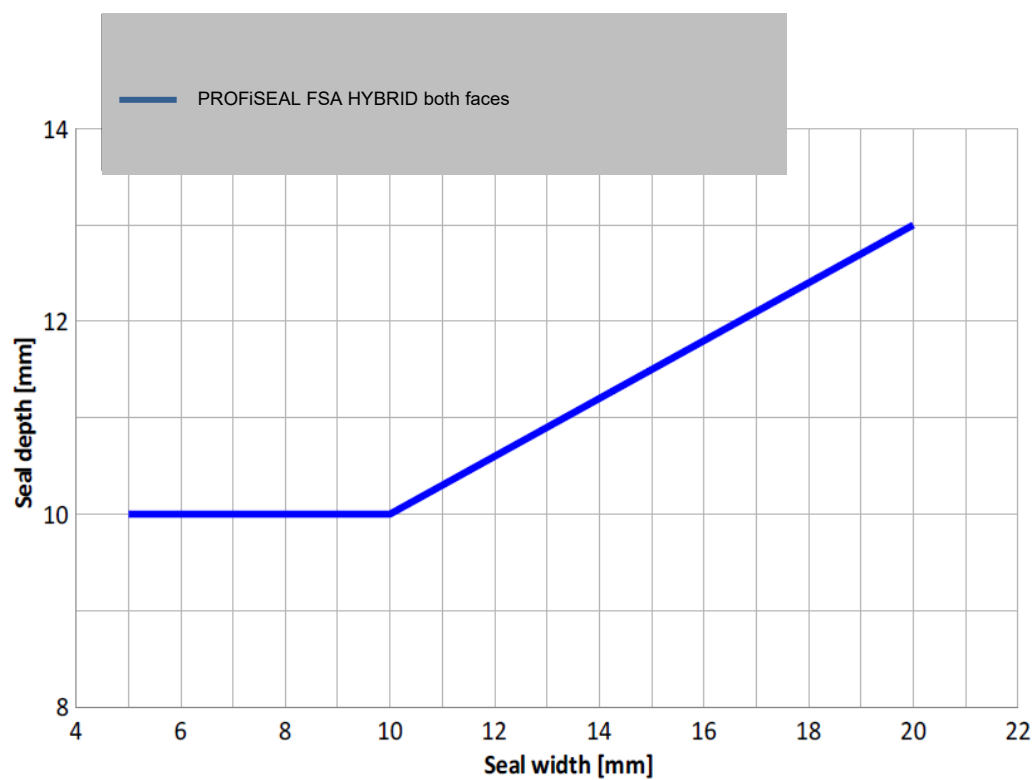
Fire classification (vertical and horizontal linear joint seals in a stone wall)	
Fully filled with PROFiSEAL FSA HYBRID VLE, vertically orientated, connecting stone to steel	Fully filled with PROFiSEAL FSA HYBRID VLE, horizontally orientated, connecting stone to steel
<b>Wall thickness <math>\geq 100</math> mm</b> EI 45 – V – X – F – W 20 E 120 – V – X – F – W 20	<b>Wall thickness <math>\geq 100</math> mm</b> EI 90 – T – X – F – W 20 E 120 – T – X – F – W 20

E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, T = Horizontal application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 8 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical or horizontal);
- the linear joint seals may connect to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry. At the other side, the linear joint seals may connect to:
  - any type of wooden construction with a density of  $500 \pm 50$  kg/m<sup>3</sup> or higher where the wooden construction is placed over the full thickness of the wall or at least 100 mm, or;
  - any type of steel construction with a melting point above 1000°C and the steel construction is placed over the full thickness of the wall or as mentioned;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE is applied are thoroughly cleaned and treated with primer when needed;
- except for the fully filled linear joint seals, the use of suitable PE / PU backing material is mandatory;
- except for the fully filled linear joint seals, the required depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 4. The required depth of the sealant may also be increased with respect to the Graph (the line is the minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5 %;
- the classifications are valid in both directions.

**Graph 8: Minimum seal depth in relation to the seal width**



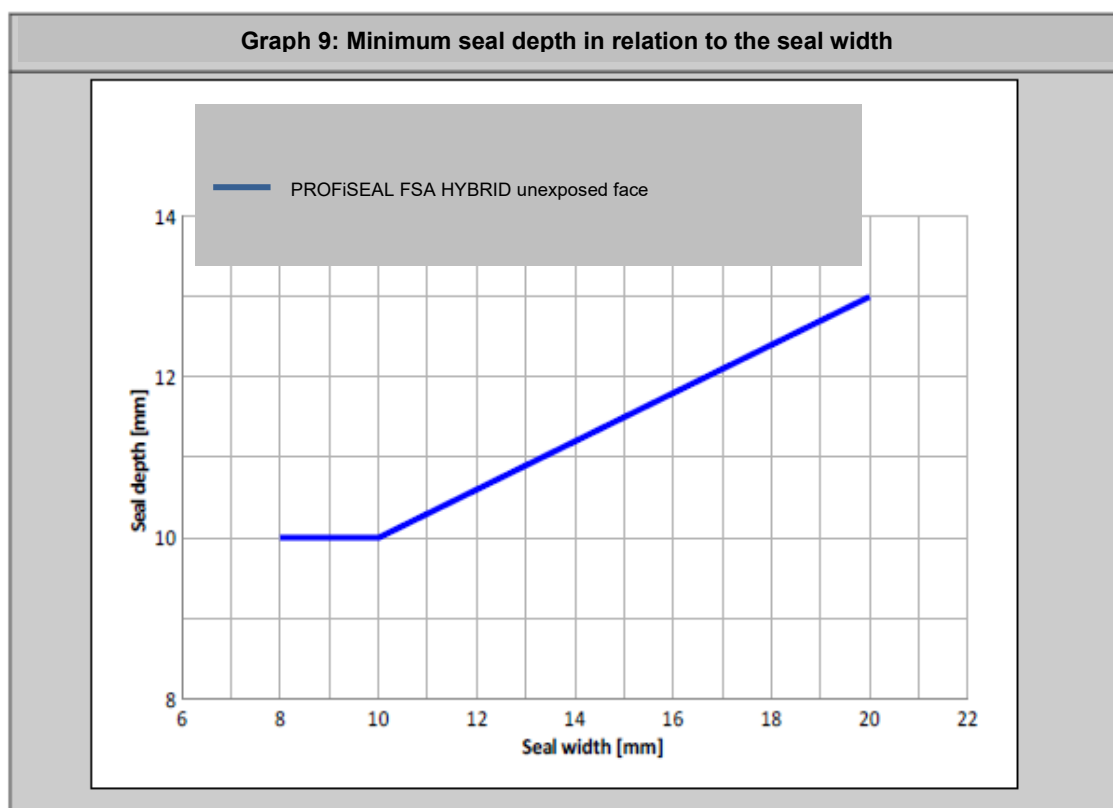
**Classification of the fire resistance PROFiSEAL FSA HYBRID VLE in combination with PROFiPUR FSA FIRE CE (PU foam)**

Fire resistance classification (PROFiSEAL FSA HYBRID VLE in combination with PROFiPUR FSA FIRE CE)	
PROFiSEAL FSA HYBRID VLE, applied at the unexposed face, PROFiPUR FSA FIRE CE applied at the exposed face, vertically orientated, connecting stone to wood	PROFiSEAL FSA HYBRID VLE, applied at the unexposed face, PROFiPUR FSA FIRE CE applied at the exposed face, horizontally orientated, connecting stone to wood
<b>Wall thickness <math>\geq 100</math> mm</b> EI 120 – V – X – F – W 8 to 20 E 120 – V – X – F – W 8 to 20	<b>Wall thickness <math>\geq 100</math> mm</b> EI 120 – T – X – F – W 8 to 20 E 120 – T – X – F – W 8 to 20

E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, T = Horizontal application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (see Graph 9 for seal depth)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical or horizontal);
- the linear joint seals may connect to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry. At the other side, the linear joint seals may connect to any type of wooden construction with a density of  $500 \pm 50$  kg/m<sup>3</sup> or more and the wooden construction is placed over the full thickness of the wall or at least 100 mm;
- the surfaces of the material on which PROFiSEAL FSA HYBRID VLE and PROFiPUR FSA FIRE CE is applied are thoroughly cleaned and treated with primer and moistened with water when needed;
- the required depth of PROFiSEAL FSA HYBRID VLE depends on the width of the linear joint seal. The minimum depth of PROFiSEAL FSA HYBRID VLE in relation to the width of the linear joint seal is shown in Graph 9 below. The required depth of the sealant may also be increased with respect to the Graph (the line is the minimum and recommended seal depth). The rest of the slot is fully filled with PROFiPUR FSA FIRE CE;
- the allowed movement capability in practice is maximized to 7.5 %;
- the classifications are valid for PROFiSEAL FSA HYBRID VLE applied at the unexposed face.

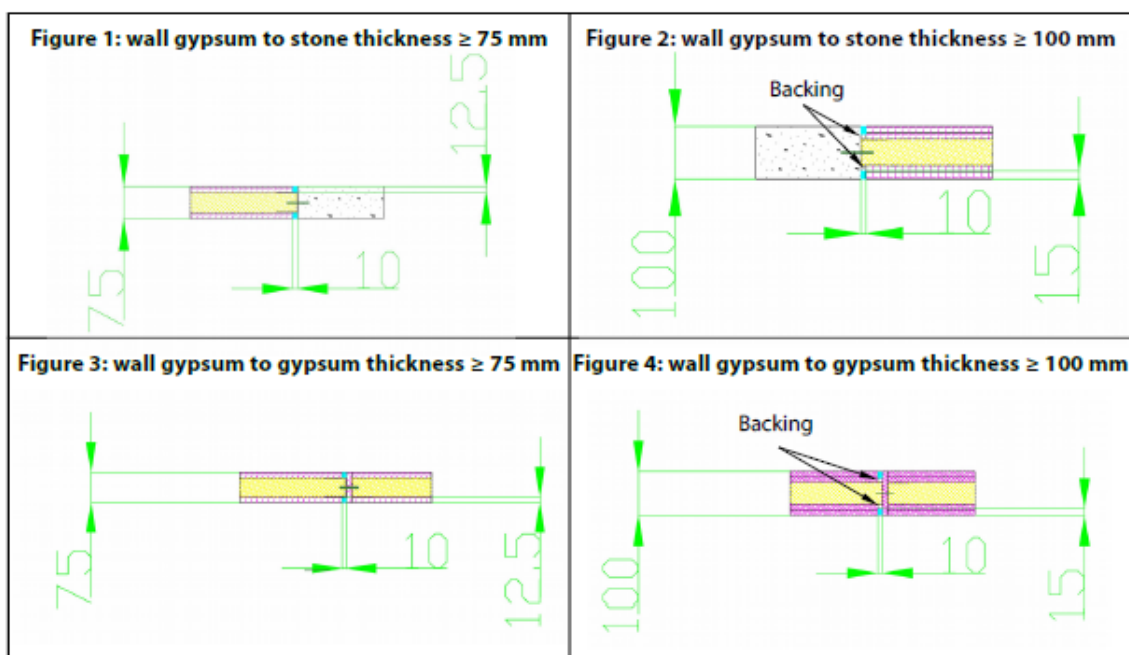


Fire resistance classification (vertical linear joint seals in a gypsum and / or stone wall)			
PROFiSEAL FSA HYBRID VLE, connecting gypsum to stone, applied at both faces		PROFiSEAL FSA HYBRID VLE, connecting gypsum to gypsum, applied at both faces	
<b>Wall thickness <math>\geq 75</math> mm</b> See figure 1 EI 60 – V – X – F – W 10	<b>Wall thickness <math>\geq 100</math> mm</b> See figure 2 EI 120 – V – X – F – W 10	<b>Wall thickness <math>\geq 75</math> mm</b> See figure 3 EI 60 – V – X – F – W 10	<b>Wall thickness <math>\geq 100</math> mm</b> See figure 4 EI 120 – V – X – F – W 10

E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (depth see conditions)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical);
- the linear joint seals may connect to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned (75 or 100 mm);
- the linear joint seals may connect to a gypsum wall with a minimum thickness as mentioned (75 or 100 mm). In practice, the metal profiles of the gypsum wall are mechanically fixed at a distance every 300 mm or less. Mechanically fixation of the metal profiles is mandatory;
- the classifications are only valid for constructions shown in figures 1 to 4;
- the surfaces of the material on which the sealant is applied are thoroughly cleaned and treated with primer when needed;
- the depth of PROFiSEAL FSA HYBRID VLE in a wall of 75 mm is 12.5 mm at both faces, representing the full thickness of the gypsum panel, see figures 1 and 3. The depth of PROFiSEAL FSA HYBRID VLE in a wall of 100 mm is 15 mm at both faces. The rest of the cavity behind the sealant is filled up with suitable PE / PU backing material, see figures 2 and 4;
- the allowed movement capability in practice is maximized to 7.5 %;
- the classifications are valid for both directions.



Fire resistance classification (horizontal linear joint seals in a gypsum and stone wall and a gypsum wall abutting a floor)			
PROFiSEAL FSA HYBRID VLE Wall thickness $\geq 75$ mm		PROFiSEAL FSA HYBRID VLE Wall thickness $\geq 100$ mm	
Wall thickness $\geq 75$ mm See figure 5 EI 60 – T – M 25 <sup>1</sup> – F – W 10	Wall thickness $\geq 100$ mm See figure 6 EI 60 – T – M 25 <sup>1</sup> – F – W 10	Wall thickness $\geq 75$ mm See figure 7 and 9 EI 120 – T – M 25 <sup>1</sup> – F – W 10	Wall thickness $\geq 100$ mm See figure 8 and 10 EI 120 – T – M 25 <sup>1</sup> – F – W 10

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a vertical wall and a wall abutting a floor, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimeters (depth see conditions)

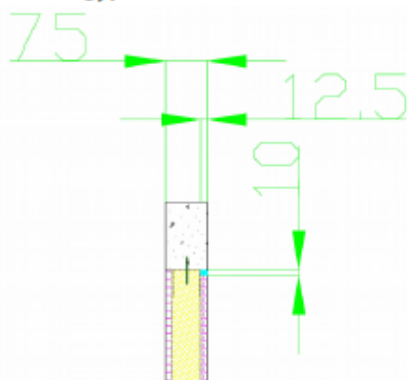
The following conditions apply:

- the classifications are valid for linear joint seals in a wall and a wall abutting a floor, ceiling or roof with an orientation as mentioned (horizontal);
- the linear joint seals may connect to any type of construction of aerated concrete (class G4/600 or heavier), concrete, block work or masonry with a minimal thickness as mentioned (75 or 100 mm);
- the linear joint seals may connect to a gypsum wall with a minimum thickness as mentioned. In practice, the metal profiles of the gypsum wall are mechanically fixed at a distance every 300 mm or less. Mechanically fixation of the metal profiles is mandatory;
- the classifications are only valid for constructions shown in figures 5 to 10;
- the surfaces of the material on which the sealant is applied are thoroughly cleaned and treated with primer when needed;
- the depth of PROFiSEAL FSA HYBRID VLE in a wall of 75 mm is 12.5 mm at both faces or at the unexposed face, representing the full thickness of the gypsum panel, see figures 5 and 6;
- the depth of PROFiSEAL FSA HYBRID VLE in a wall of 100 mm is 12.5 mm at both faces or at the unexposed face, representing the full thickness of the gypsum panel, see figures 9 and 10;
- the depth of PROFiSEAL FSA HYBRID VLE in a wall of 100 mm is 15 mm at both faces or at the unexposed face. The rest of the cavity behind the sealant is completely filled up with suitable PE / PU backing material, see figures 7 to 8;
- the allowed movement capability of the linear joint seals in practice is maximized to 25 %;
- when PROFiSEAL FSA HYBRID VLE is applied at both faces, the classifications are valid for both directions.  
When PROFiSEAL FSA HYBRID VLE is applied at one face, the classifications are valid with PROFiSEAL FSA HYBRID VLE at the unexposed face.

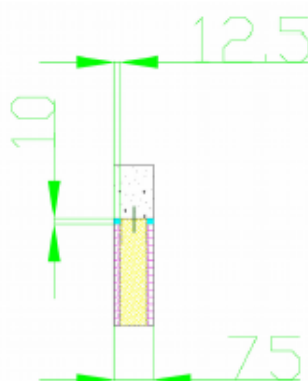
<sup>1</sup> In practise, the metal profile from the gypsum wall that abuts the floor will be mechanically fixed and no shear movement is possible. The movement that was applied prior to the test therefore results in a deformation of the sealant and is added to simulate the deformation of the gypsum wall during a fire



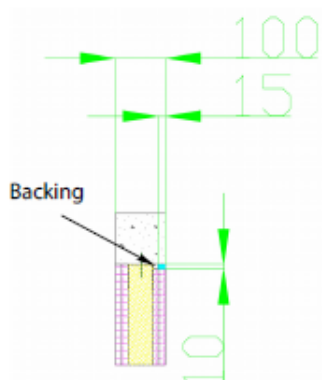
**Figure 5: wall gypsum to stone thickness  $\geq 75$  mm**



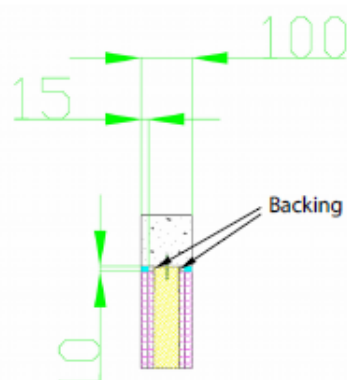
**Figure 6: wall gypsum to stone thickness  $\geq 75$  mm**



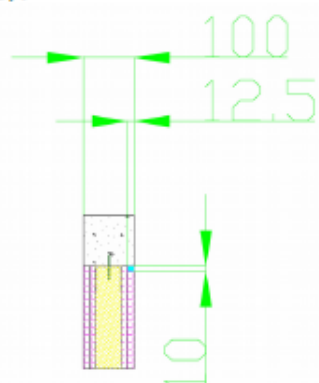
**Figure 7: wall gypsum to stone thickness  $\geq 100$  mm**



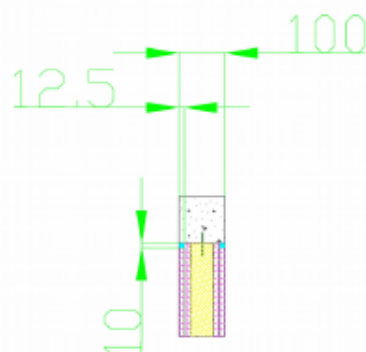
**Figure 8: wall gypsum to stone thickness  $\geq 100$  mm**



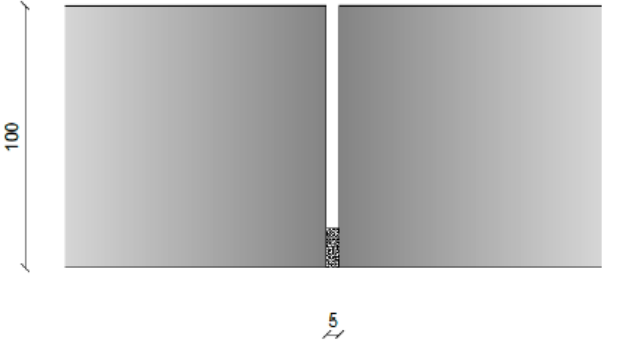
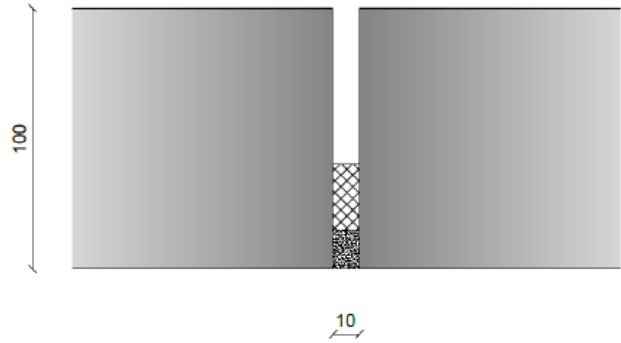
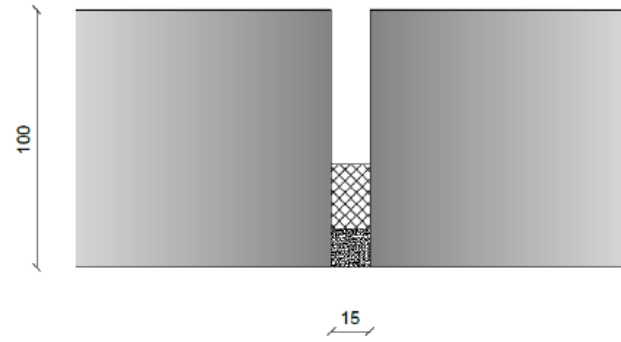
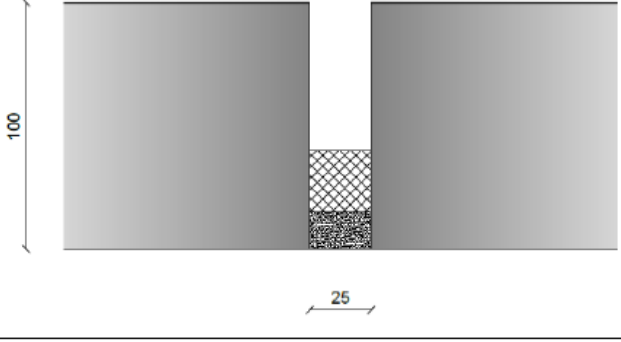
**Figure 9: wall gypsum to stone thickness  $\geq 100$  mm**



**Figure 10: wall gypsum to stone thickness  $\geq 100$  mm**



## Annex B – Airborne sound insulation

Joint Width = 5 mm	
Joint Width = 10 mm	
Joint Width = 15 mm	
Joint Width = 25 mm	

The PROFiSEAL FSA HYBRID VLE sealant, 10 mm depth is backed with PU backer rod.

	Joint width			
	5 mm	10 mm	15 mm	25 mm
$R_{s,w}(C;C_{tr})$	51(-1;-3) dB	53(-1;-4) dB	51(-1;-3) dB	52(-1;-4) dB
$C_{100-5000};C_{tr;100-5000}$	(0;-3) dB	(0;-4) dB	(0;-3) dB	(0;-4) dB
$C_{50-3150};C_{tr;50-3150}$	(-1;-6) dB	(-2;-8) dB	(-1;-6) dB	(-1;-7) dB
$C_{50-5000};C_{tr;50-5000}$	(0;-6) dB	(-1;-8) dB	(0;-6) dB	(0;-7) dB
$D_{n,e,w}$	60 dB	60 dB	58 dB	59 dB
$R_w$	30 dB	33 dB	33 dB	36 dB