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Designated according to Article 29 of Regulation (EU) No 305/2011

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European Technical Assessment

ETA-20/1249
Of 07/06/2022

General part

Technical Assessment Body issuing the European Technical Assessment: **SKG-IKOB Certificatie BV**	
Trade name of the construction product	**Bostik FP 402 Fireseal Silicone**
Product family to which the construction product belongs	**Fire Stopping and Sealing Product:** **Linear Joint and Gap Seals**
Manufacturer	**Bostik Benelux BV** Denariusstraat 11 4903 RC Oosterhout The Netherlands Tel.: +31(0)1624 910 00 E-mail: infoNL@bostik.com Web: www.bostik.com
Manufacturing plants	**P01**
This European Technical Assessment contains	11 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

Bostik FP 402 Fireseal Silicone 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 constructions.

Product	Properties
FP 402 Fireseal Silicone	FP 402 Fireseal Silicone is a silicone sealant. Supplied in liquid form contained within 310 ml cartridges and 600 ml sausages. The Sealant is gunned into the linear joint of adjacent separating elements, to a specified depth, if necessary utilizing PE / 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 system Bostik FP 402 Fireseal Silicone is to reinstate the fire resistance performance of linear joints in rigid wall constructions and in rigid floor constructions.

The specific elements of construction that the system Bostik FP 402 Fireseal Silicone may be used to provide a joint seal in, are as follows:

- 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_2: 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 Bostik FP402 Fireseal Silicone 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 Bostik Benelux BV, 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.

Bostik FP 402 Fireseal Silicone		
No	Essential Characteristic	Product performances
BWR 2 Safety in case of fire		
1	Reaction to fire	B-s1,d0
2	Resistance to fire	See annex A
BWR 3 Hygiene, health and environment		
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
BWR 4 Safety and accessibility in use		
6	Mechanical resistance and stability	No performance assessed
7	Resistance to impact/movement	No performance assessed
8	Adhesion	passed
9	Durability	Z_2
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
BWR 5 Protection against noise		
14	Airborne sound insulation	See annex B
BWR 6 Energy economy and heat retention		
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 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 Commission1, 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 07/06/2022 relating to the European technical assessment ETA 20/1249 issued on 07/06/2022 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 join 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 join seal
- Construction of the linear join 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 07/06/2022

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

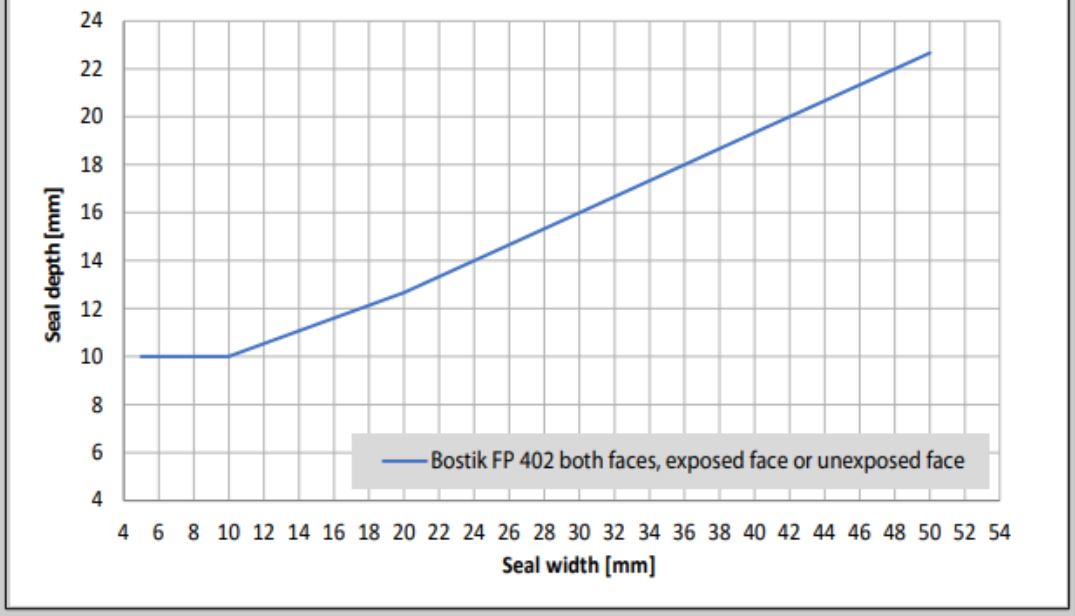
Fire resistance classification (linear joint seals in a stone wall)		
Connecting stone to stone wall thickness ≥ 100 mm		
Bostik FP 402 at both faces	**Bostik FP 402 at exposed face**	**Bostik FP 402 at unexposed face**
EI 180 – V – X – F – W 5 to 50 E 240 – V – X – F – W 5 to 50 EI 180 – T – X – F – W 5 to 50 E 240 – T – X – F – W 5 to 50	EI 30 – V – X – F – W 5 to 40 EI 30 – T – X – F – W 5 to 50	EI 60 – V – X – F – W 5 to 40 E 240 – V – X – F – W 5 to 40 EI 60 – T – X – F – W 5 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 millimetres (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 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 with a minimal thickness as mentioned (100 mm);
- the surfaces of the material on which FP 402 Fireseal Silicone 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 required depth of FP 402 Fireseal Silicone depends on the width of the linear joint seal. The minimum depth of FP 402 Fireseal Silicone in relation to the width of the linear joint seal is shown in Graph 1 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 %;
- when FP 402 Fireseal Silicone is applied at both faces, the classifications are valid for both directions. When FP 402 Fireseal Silicone is applied at one face, the classifications are valid with FP 402 Fireseal Silicone at the unexposed face or at the exposed face.

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



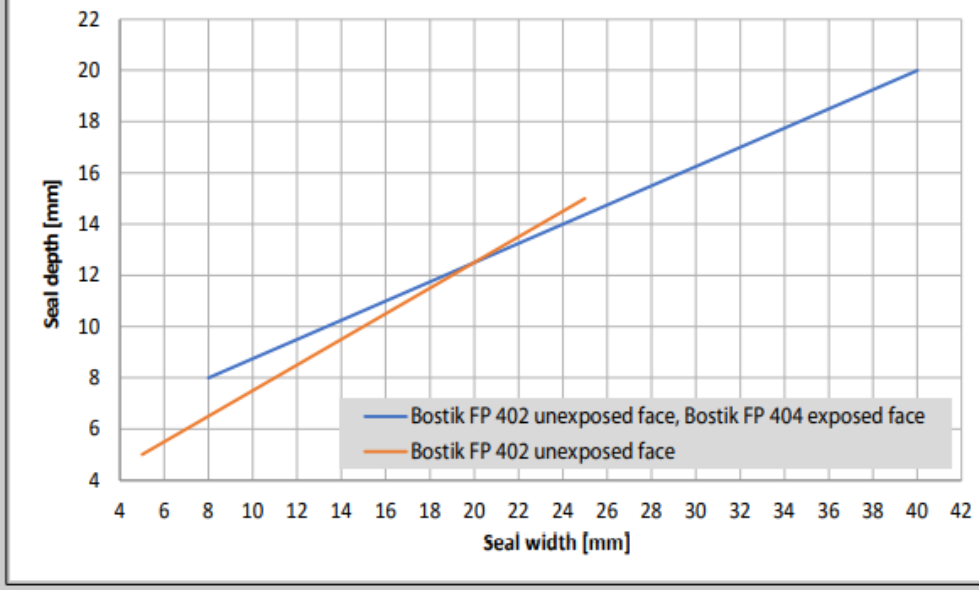
Fire resistance classification (vertical linear joint seals in a stone wall)	
Connecting stone to stone wall thickness ≥ 115 mm	
Bostik FP 402 at unexposed face, Bostik FP 404 exposed face EI 180 – V – X – F – W 8 to 40 EI 240 – V – X – F – W 8 E 240 – V – X – F – W 8 to 40	**Bostik FP 402 at unexposed face** EI 60 – V – X – F – W 5 to 25 EI 240 – V – X – F – W 5 E 240 – V – X – F – W 5 to 25

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 millimetres (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 as mentioned (115 mm);
- the surfaces of the material on which FP 402 Fireseal Silicone or FP 404 Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and treated with Primer and moistened with water when needed;
- except for the linear joint seal in combination with FP 404 Fire Retardant PU (Gun)Foam, the use of suitable PE / PU backing material is mandatory;
- the required depth of FP 402 Fireseal Silicone depends on the width of the linear joint seal. The minimum depth of FP 402 Fireseal Silicone in relation to the width of the linear joint seal is shown in Graph 2 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). When applicable, the rest of the slot shall be fully filled with FP 404 Fire Retardant PU (Gun)Foam;
- the allowed movement capability in practice is maximized to 7.5 %;
- when FP 402 Fireseal Silicone is applied at one face, the classifications are valid with FP 402 Fireseal Silicone at the unexposed face.

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



Fire resistance classification (linear joint seals in a stone wall)	
Bostik FP 402 at exposed face, Bostik FP 404 unexposed face	
wall thickness ≥ 150 mm	**wall thickness ≥ 200 mm**
EI 60 – V – X – F – W 8 to 50	EI 45 – V – X – F – W 8 to 50

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 millimetres (depth see conditions)

The following conditions apply:

- the classifications are valid for a vertical orientation in a vertical wall;
- the linear joint seals may be applied to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness of 150 mm or 200 mm;
- the surfaces of the material on which the sealant is applied are thoroughly cleaned and treated with Primer when needed. The the surfaces of the material on which the FP 404 Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the required depth of the FP 402 Fireseal Silicone is minimal 3 mm. The rest of the slot is fully filled with FP 404 Fire Retardant PU (Gun)Foam;
- the linear joint seals are tested without mechanically induced movement, therefore the allowed movement capability in practice is maximized to 7.5 %;
- the classifications are valid for FP 402 Fireseal Silicone applied at the exposed face.

Fire resistance classification (linear joint seals in a floor, applied at exposed side)		
≥ 100 mm (depth see Graph 3)	**≥ 150 mm (depth see Graph 3)**	**≥ 150 mm (fixed depth 19 mm)**
EI 90 – H – X – F – W 10 EI 30 – H – X – F – W 10 to 25 EI 20 – H – X – F – W 25 to 40 E 120 – H – X – F – W 10 E 60 – H – X – F – W 10 to 25	EI 90 – H – X – F – W 10 EI 45 – H – X – F – W 10 to 40 EI 60 – H – X – F – W 40 E 120 – H – X – F – W 10 to 40	EI 60 – H – X – F – W 10 to 40 E 120 – H – X – F – W 10 to 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 millimetres (see Graph 3 for seal depth or fixed seal depth of 19 mm)

Fire resistance classification (linear joint seals in a with floor thickness ≥ 100 mm, applied at unexposed side)
EI 120 – H – X – F – W 10 EI 90 – H – X – F – W 10 to 25 EI 45 – H – X – F – W 25 to 40 E 120 – H – X – F – W 10 to 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 millimetres (see Graph 3 for seal depth)

The following conditions apply:

- the linear joint seals may be applied at any type of floor of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above;
- the surfaces of the material on which the FP 402 Fireseal Silicone 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 FP 402 Fireseal Silicone 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 3 below. The required depth of the sealant may also be increased with respect to the Graph (the black line is the minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5 %;
- the fire resistance classification is valid from below.

Fire resistance classification (linear joint seals in a wall abutting a floor applied at exposed side)		
Thickness wall and floor both ≥ 100 mm (depth see Graph 3)	**Thickness wall and floor both ≥ 150 mm (depth see Graph 3)**	**Thickness wall and floor both ≥ 150 mm (fixed depth 19 mm)**
EI 90 – T – X – F – W 10 EI 30 – T – X – F – W 10 to 25 EI 20 – T – X – F – W 25 to 40 E 120 – T – X – F – W 10 E 60 – T – X – F – W 10 to 25	EI 90 – T – X – F – W 10 EI 45 – T – X – F – W 10 to 40 EI 60 – T – X – F – W 40 E 120 – T – X – F – W 10 to 40	EI 60 – T – X – F – W 10 to 40 E 120 – T – X – F – W 10 to 40

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 millimetres (see Graph 3 for seal depth or fixed seal depth of 19 mm)

Fire resistance classification (linear joint seals in a wall abutting a floor with thickness both ≥ 100 mm, applied at unexposed side)
EI 120 – T – X – F – W 10 EI 90 – T – X – F – W 10 to 25 EI 45 – T – X – F – W 25 to 40 E 120 – T – X – F – W 10 to 40

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 millimetres (see Graph 3 for seal depth)

The following conditions apply:

- the classifications are valid for a horizontal orientated joint in between a wall and abutting a floor. The classifications are *not* valid for horizontally orientated joint in a wall;
- the linear joint seals may be applied at any type of floor of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above. The thickness applies for the wall and the floor as mentioned in the tables above;
- the surfaces of the material on which the FP 402 Fireseal Silicone 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 FP 402 Fireseal Silicone 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 3. The required depth of the sealant may also be increased with respect to the Graph (the black line is the minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5 %;
- the fire resistance in a wall abutting a floor is valid from one side, when applied at one side or is valid from both sides, when applied at both sides.

Fire resistance classification (linear joint seals in a wall, thickness ≥ 100 mm abutting a floor with thickness ≥ 150 mm, applied at both sides)
EI 240 – T – X – F – W 5 to 50

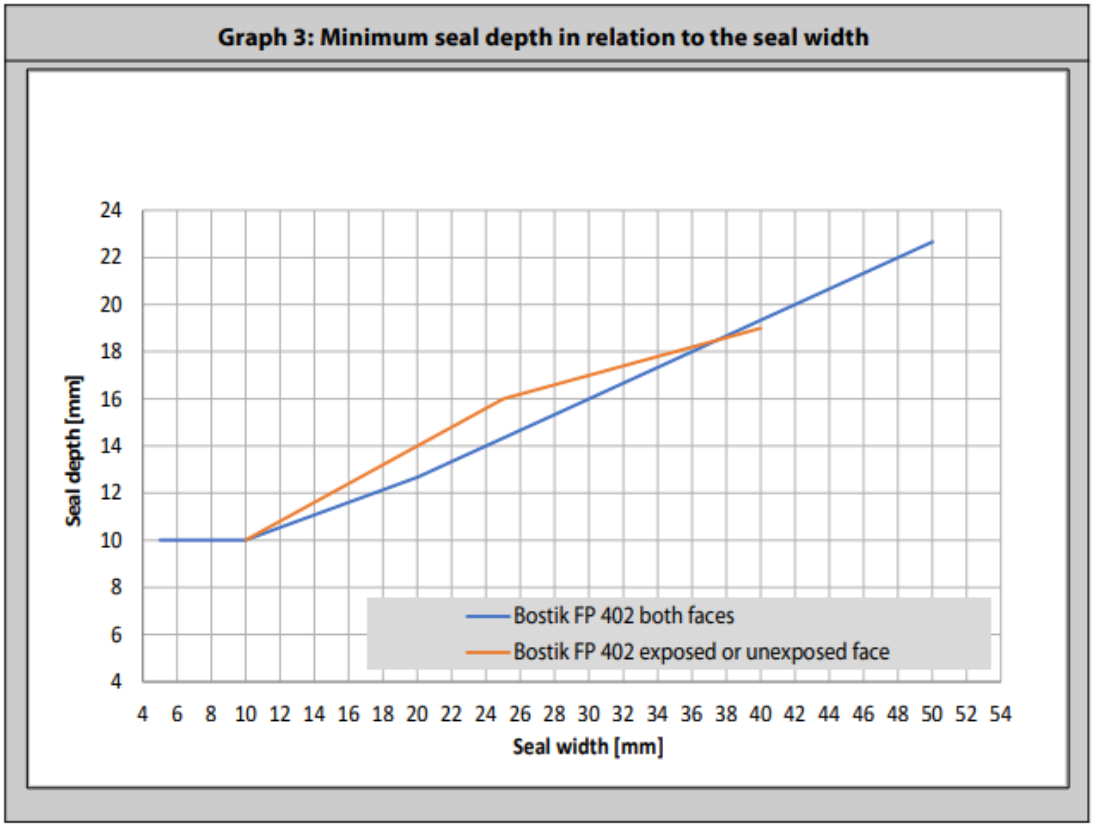
E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a vertical wall (abutting a floor),
X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimetres (see Graph 3 for seal depth)

The following conditions apply:

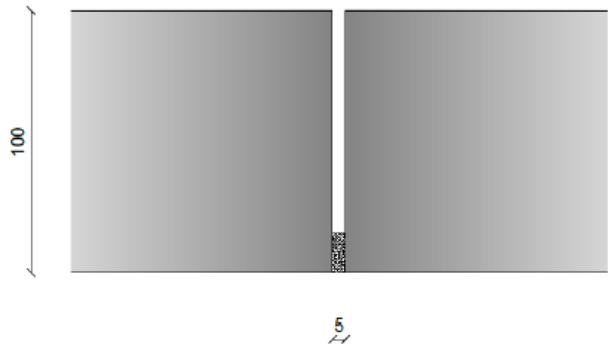
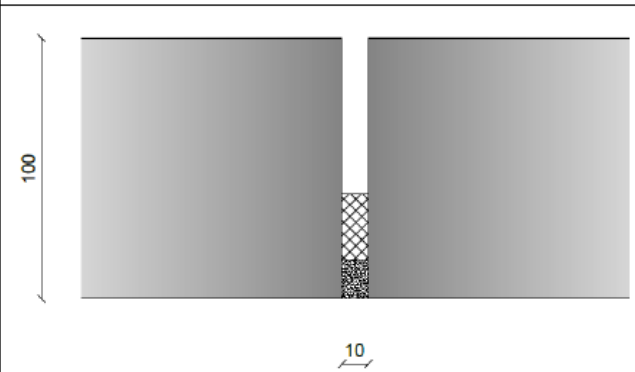
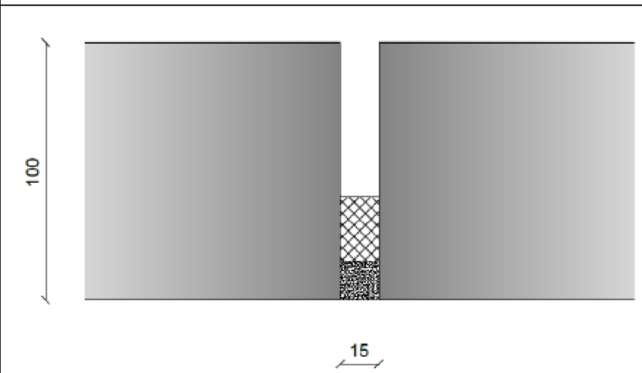
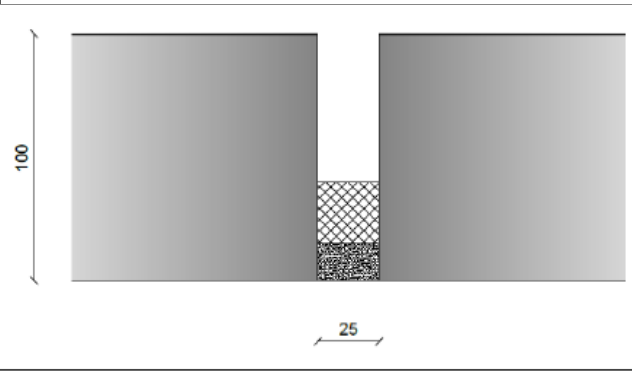
- the classifications are valid for a horizontal orientated joint in between a wall and abutting a floor. The classifications are *also* valid for horizontally orientated joint in a wall;

- the linear joint seals may be applied at any type of floor of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above. The thickness applies for the wall and the floor as mentioned in the tables above;
- the surfaces of the material on which the FP 402 Fireseal Silicone 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 FP 402 Fireseal Silicone 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 3. The required depth of the sealant may also be increased with respect to the Graph (the black line is the minimum and recommended seal depth);
- the allowed movement capability in practice is maximized to 7.5 %;
- the fire resistance is valid from both sides.

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



Annex B – Airborne sound insulation

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

The Bostik FP 402 Fireseal Silicone sealant, 10 mm depth is backed with PU / PE backer rod.

	Joint width			
	5 mm	10 mm	15 mm	25 mm
$R_{s,w}(C;C_{tr})$	46(-1;-2) dB	46(-2;-4) dB	48(-2;-3) dB	48(-1;-3) dB
$C_{100\text{-}5000};C_{tr;100\text{-}5000}$	(0;-2) dB	(-1;-4) dB	(-1;-3) dB	(0;-3) dB
$C_{50\text{-}3150};C_{tr;50\text{-}3150}$	(-1;-4) dB	(-2;-5) dB	(-2;-5) dB	(-1;-5) dB
$C_{50\text{-}5000};C_{tr;50\text{-}5000}$	(0;-4) dB	(-1;-5) dB	(-1;-5) dB	(0;-5) dB
$D_{n,e,w}$	53 dB	53 dB	55 dB	55 dB
R_w	23 dB	26 dB	30 dB	32 dB