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# European Technical Assessment

# ETA-20/1118

Of 15/06/2022

## General part

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

**Trade name of the construction product**

**Bostik FP 404 Fire Retardant PU (Gun)Foam**

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

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

**Manufacturer**

**Bostik Benelux BV**  
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**Manufacturing plants**

**P03**

**This European Technical Assessment  
contains**

12 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

**This version replaces**

ETA 20/1118, version 1, issued on 2021-12-08

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## Specific parts

### 1 Technical description of the product

Bostik FP 404 Fire Retardant PU (Gun)Foam 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 404 Fire Retardant PU (Gun)Foam	FP 404 Fire Retardant PU (Gun)Foam is an in situ formed PU foam. Bostik FP 404 Fire Retardant PU (Gun)Foam is available in aerosol cans of 750 ml. The PU Foam is gunned/sprayed into the linear joint of adjacent separating elements, to a minimum 70 mm depth.

### 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 404 Fire Retardant PU (Gun)Foam 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 404 Fire Retardant PU (Gun)Foam 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<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 Bostik FP 404 Fire Retardant PU (Gun)Foam is for the intended use 10 years, provided that the assembled product is subject to appropriate installation, use and maintenance. The indication of 10 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 404 Fire Retardant PU (Gun)Foam		
No	Essential Characteristic	Product performances
<b>BWR 2 Safety in case of fire</b>		
1	Reaction to fire	Class 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	No performance assessed
9	Durability	Z <sub>2</sub>
10	Movement capability	No performance assessed
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 08/12/2021 relating to the European technical assessment ETA 20/1118 issued on 15/06/2022 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:

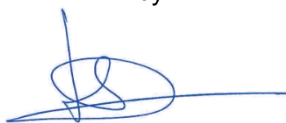
- Field of application:
- Building elements for which the linear joint seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Limits in size, minimum thickness etc. of the linear joint 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 15/06/2022

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 (vertical linear joint seals in a stone wall)		
Bostik FP 404 vertically orientated connecting stone to stone		
<b>Wall thickness <math>\geq</math> 70 mm</b>	<b>Wall thickness <math>\geq</math> 100 mm</b>	<b>Wall thickness <math>\geq</math> 115 mm</b>
EI 30 – V – X – F – W 8 to 10 EI 20 – V – X – F – W 10 to 20	EI 90 – V – X – F – W 8 to 10 EI 45 – V – X – F – W 10 to 30	EI 120 – V – X – F – W 8 EI 60 – V – X – F – W 8 to 20 EI 45 – V – X – F – W 20 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 millimetres (fully filled joint seal)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical). The classifications are valid in both directions;
- 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 in the classifications (70, 100 or 115 mm);
- the surfaces of the material on which FP 404 Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7,5 %;
- the linear joint seal must be fully filled with FP 404 Fire Retardant PU (Gun)Foam.

Fire resistance classification (vertical linear joint seals in a stone wall)		
Bostik FP 404 vertically orientated connecting stone to stone		Bostik FP 404 vertically orientated connecting stone to wood
<b>Wall thickness <math>\geq</math> 150 mm</b>	<b>Wall thickness <math>\geq</math> 200 mm</b>	<b>Wall thickness <math>\geq</math> 100 mm</b>
EI 45 – V – X – F – W 8 to 40	EI 120 – V – X – F – W 8 to 30 EI 60 – V – X – F – W 30 to 40	EI 120 – V – X – F – W 8 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 millimetres (fully filled joint seal)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical). The classifications are valid in both directions;
- 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 in the classifications (100, 150 or 200 mm);

- if applicable, on the other side the linear joint seal connects to any type of wooden construction with a density of  $500\pm 50 \text{ kg/m}^3$  or more where the wooden construction is placed over the full thickness of the wall or minimal thickness as mentioned in the classifications (100 mm);
- the surfaces of the material on which FP 404 Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7,5 %;
- the linear joint seal must be fully filled with FP 404 Fire Retardant PU (Gun)Foam.

<b>Fire resistance classification (horizontal linear joint seals in a stone wall)</b>
<b>Bostik FP 404 connecting stone to wood</b>
<b>Wall thickness <math>\geq 100 \text{ mm}</math> EI 90 – T – X – F – W 8 to 20</b>

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (horizontal). The classifications are valid in both directions;
- the linear joint seal connects on 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 as mentioned in the classifications (100 mm);
- on the other side, the linear joint seal connects to any type of wooden construction with a density of  $500\pm 50 \text{ kg/m}^3$  or more where the wooden construction is placed over the full thickness of the wall or minimal thickness as mentioned in the classifications (100 mm);
- the surfaces of the material on which FP 404 Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7,5 %;
- the linear joint seal must be fully filled with FP 404 Fire Retardant PU (Gun)Foam.

<b>Fire resistance classification (linear joint seals in a floor)</b>	
<b>Thickness floor <math>\geq 100 \text{ mm}</math></b>	<b>Thickness floor <math>\geq 150 \text{ mm}</math></b>
EI 60 – H – X – F – W 8 EI 45 – H – X – F – W 8 to 20 EI 30 – H – X – F – W 20 to 30 EI 20 – H – X – F – W 30 to 40	EI 120 – H – X – F – W 8 to 20 EI 60 – H – X – F – W 20 to 30 EI 45 – H – X – F – W 30 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 (fully filled joint seal)

Fire resistance classification (linear joint seals in a wall abutting a floor)	
Thickness both wall and floor $\geq$ 100 mm	Thickness both wall and floor $\geq$ 150 mm
EI 60 – T – X – F – W 8 EI 45 – T – X – F – W 8 to 20 EI 30 – T – X – F – W 20 to 30 EI 20 – T – X – F – W 30 to 40	EI 120 – T – X – F – W 8 to 20 EI 60 – T – X – F – W 20 to 30 EI 45 – T – X – F – W 30 to 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 millimetres (fully filled joint seal)

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. In a wall abutting a floor application, the fire resistance applies from both directions;
- the classifications are not valid for horizontally orientated joints in a wall;
- 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 allowed movement capability in practice is maximized to 7.5 %.

Fire resistance classification (linear joint seals in a wall abutting a floor)	
Thickness wall $\geq$ 70 mm, thickness floor $\geq$ 100 mm	Thickness wall $\geq$ 100 mm, thickness floor $\geq$ 150 mm
EI 45 – T – X – F – W 8 to 15	EI 45 – T – X – F – W 8 to 20 EI 30 – T – X – F – W 20 to 30

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 millimetres (fully filled joint seal)

The following conditions apply:

- the linear joint seals may be applied 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 to any type of of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above;
- the classifications are also valid for horizontally orientated joints in a wall;
- 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 allowed movement capability in practice is maximized to 7.5 %.

**Classification of the fire resistance *Bostik FP 404 in combination with other Bostik FP sealants***

<p><b>Fire resistance classification (Bostik FP 403 in combination with Bostik FP 404)</b></p> <p>Bostik FP 403 Hybrid applied at the unexposed face, Bostik FP 404 applied at the exposed face</p>	
<p><b>Vertically orientated connecting stone to stone</b></p> <p><b>Wall thickness <math>\geq 115</math> mm</b></p> <p>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</p>	
<p><b>Vertically orientated connecting stone to wood</b></p> <p><b>Wall thickness <math>\geq 100</math> mm</b></p> <p>EI 120 – V – X – F – W 8 to 20</p>	<p><b>Horizontally orientated connecting stone to wood</b></p> <p><b>Wall thickness <math>\geq 100</math> mm</b></p> <p>EI 120 – T – X – F – W 8 to 20</p>

<p><b>Fire resistance classification (Bostik FP 401 in combination with Bostik FP 404)</b></p> <p>Bostik FP 401 Acrylic applied at the unexposed face, Bostik FP 404 applied at the exposed face</p>	
<p><b>Vertically orientated connecting stone to stone</b></p> <p><b>Wall thickness <math>\geq 115</math> mm</b></p> <p>EI 180 – V – X – F – W 8 to 30 EI 240 – V – X – F – W 8 E 240 – V – X – F – W 8 to 30</p>	

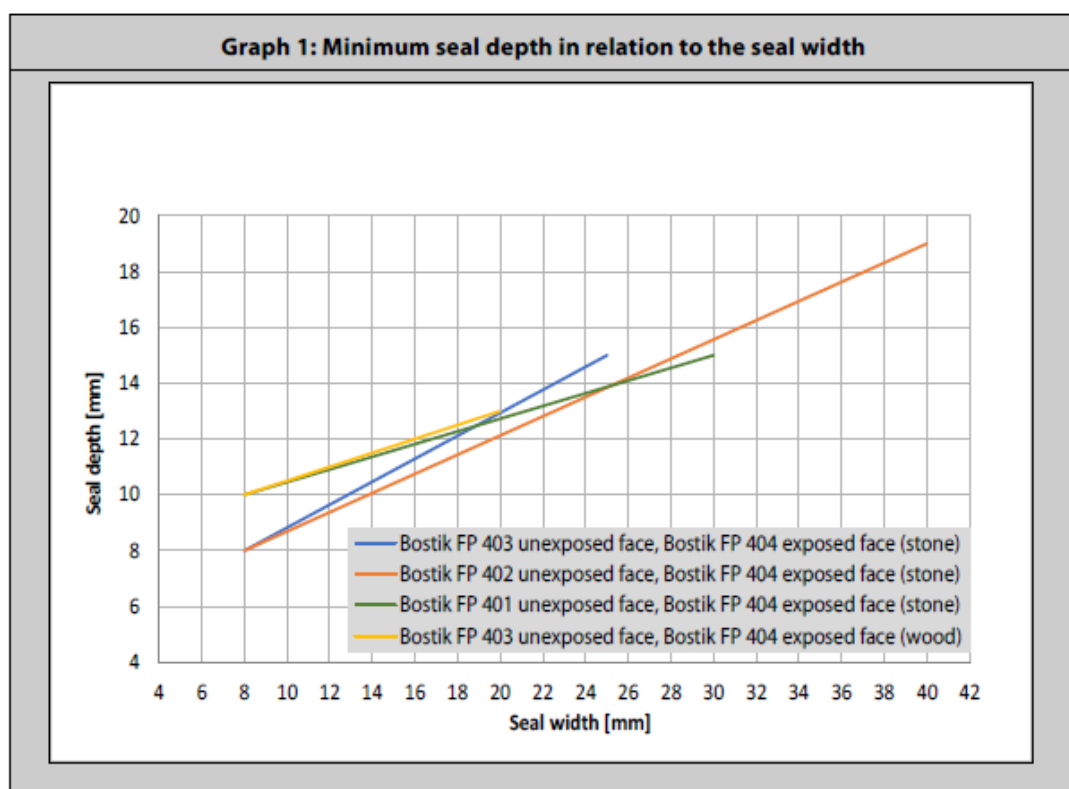
<p><b>Fire resistance classification (Bostik FP 402 in combination with Bostik FP 404)</b></p> <p>Bostik FP 402 Silicone applied at the unexposed face, Bostik FP 404 applied at the exposed face</p>	
<p><b>Vertically orientated connecting stone to stone</b></p> <p><b>Wall thickness <math>\geq 115</math> mm</b></p> <p>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</p>	

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 (horizontal or vertical). The classifications are valid for the Bostik FP sealant applied at the unexposed face and valid in one direction;
- 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 in the classifications (100 or 115 mm);
- in combination with Bostik FP 403 Fireseal Hybrid, the linear joint seals may connect to any type of wooden construction with a density of  $500 \pm 50 \text{ kg/m}^3$  or more where the wooden construction is placed over the full thickness of the wall or at least 100 mm;
- the surfaces of the material on which Bostik FP sealant and FP 404 Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and treated with primer and moistened with water when needed;
- the required depth of Bostik FP sealant depends on the width of the linear joint seal. The minimum depth of the Bostik FP sealant 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 rest of the slot is fully filled with FP 404 Fire Retardant PU (Gun)Foam;
- the allowed movement capability in practice is maximized to 7.5 %.



<p><b>Fire resistance classification (Bostik FP 401 in combination with Bostik FP 404)</b></p> <p>Bostik FP 401 Acrylic applied at the exposed face,          Bostik FP 404 applied at the unexposed face</p>
<p><b>Vertically orientated connecting stone to stone</b></p>
<p><b>Wall thickness <math>\geq 70</math> mm</b></p> <p>EI 45 – V – X – F – W 8 to 20          E 240 – V – X – F – W 8 to 20</p>
<p><b>Wall thickness <math>\geq 100</math> mm</b></p> <p>EI 90 – V – X – F – W 8 to 30          E 120 – V – X – F – W 8 to 30          EI 30 – V – X – F – W 30 to 40</p>

<p><b>Fire resistance classification (Bostik FP 402 in combination with Bostik FP 404)</b></p> <p>Bostik FP 402 Silicone applied at the exposed face,          Bostik FP 404 applied at the unexposed face</p>
<p><b>Vertically orientated connecting stone to stone</b></p>
<p><b>Wall thickness <math>\geq 150</math> mm</b></p> <p>EI 60 – V – X – F – W 8 to 50</p>
<p><b>Wall thickness <math>\geq 200</math> mm</b></p> <p>EI 45 – V – X – F – W 8 to 50</p>

<p><b>Fire resistance classification (Bostik FP 403 in combination with Bostik FP 404)</b></p> <p>Bostik FP 403 Hybrid applied at the exposed face,          Bostik FP 404 applied at the unexposed face</p>
<p><b>Vertically orientated connecting stone to stone</b></p>
<p><b>Wall thickness <math>\geq 100</math> mm</b></p> <p>EI 45 – V – X – F – W 8 to 40          E 120 – V – X – F – W 8 to 40</p>
<p><b>Wall thickness <math>\geq 150</math> mm</b></p> <p>EI 60 – V – X – F – W 8 to 50</p>
<p><b>Wall thickness <math>\geq 200</math> mm</b></p> <p>EI 120 – V – X – F – W 8 to 50</p>

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 70 mm, 100 mm, 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 Bostik FP sealant 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 Bostik FP sealant applied at the exposed face.

### Annex B – Airborne sound insulation

Joint width Joint depth	10	20	30	40
	100 mm	100 mm	100 mm	100 mm
$R_{s,w}(C;C_{tr})$	53(-1;-4) dB	51(-1;-3) dB	45(-1;-1) dB	41(-1;-4) dB
$C_{100-5000};C_{tr;100-5000}$	(0;-4) dB	(-2;-3) dB	(-1;-1) dB	(0;-4) dB
$C_{50-3150};C_{tr;50-3150}$	(-1;-7) dB	(-1;-5) dB	(-1;-2) dB	(-1;-7) dB
$C_{50-5000};C_{tr;50-5000}$	(0;-7) dB	(-2;-5) dB	(-1;-2) dB	(0;-7) dB
$D_{n,e,w}$	60 dB	58 dB	52 dB	48 dB
$R_w$	33 dB	34 dB	30 dB	27 dB