



Instytut Techniki Budowlanej

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CLASSIFICATION OF FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2:2016

Sponsor: *T. I. Midwood & Co. Ltd*
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Product name: *Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam or TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam of T. I. Midwood & Co. Ltd company*

Classification report No.: **01976/19/Z00NZP**

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**This classification report consists of 11 pages and only to be used
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1 INTRODUCTION

The classification report defines the resistance to fire classification assigned to the element – linear joint seals in wall, made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam or TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam of T. I. Midwood & Co. Ltd company, in accordance with the procedures given in EN 13501-2:2016.

2 DETAILS OF CLASSIFIED PRODUCT

2.1 General

Element – linear joint seals in wall, made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam or TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam of T. I. Midwood & Co. Ltd company.

2.2 Description

Element – linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam or TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam are described below.

Linear joint seals are made using:

- a) fireproof polyurethane foam TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM – straw version – application of the polyurethane foam by elastic straw, or
- b) fireproof polyurethane foam TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM – gun version – application of the polyurethane foam by gun.

Views and cross-sections of the linear joint seals are presented in fig. 1 and 2.

2.2.1. Type 1 – vertical linear joint seals in vertical supporting construction

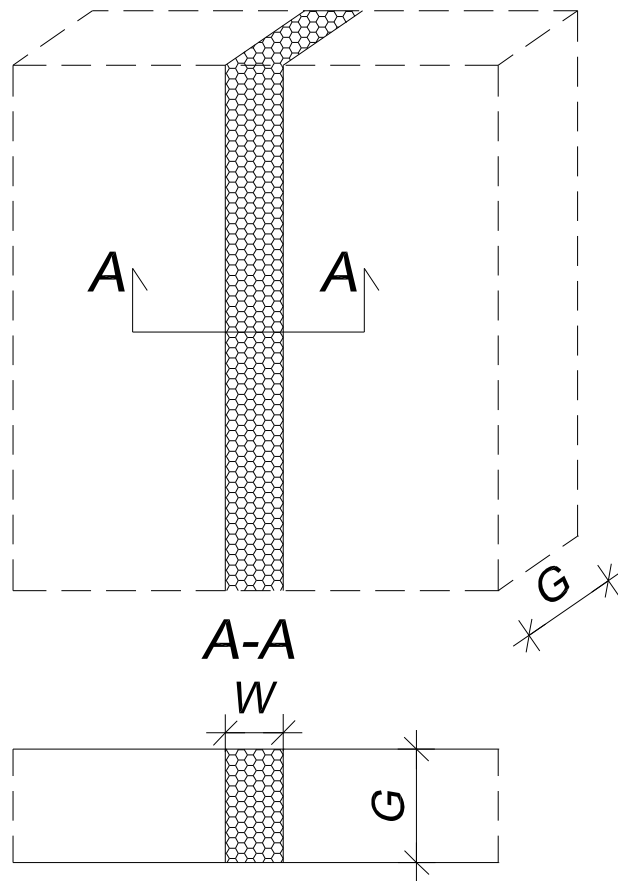
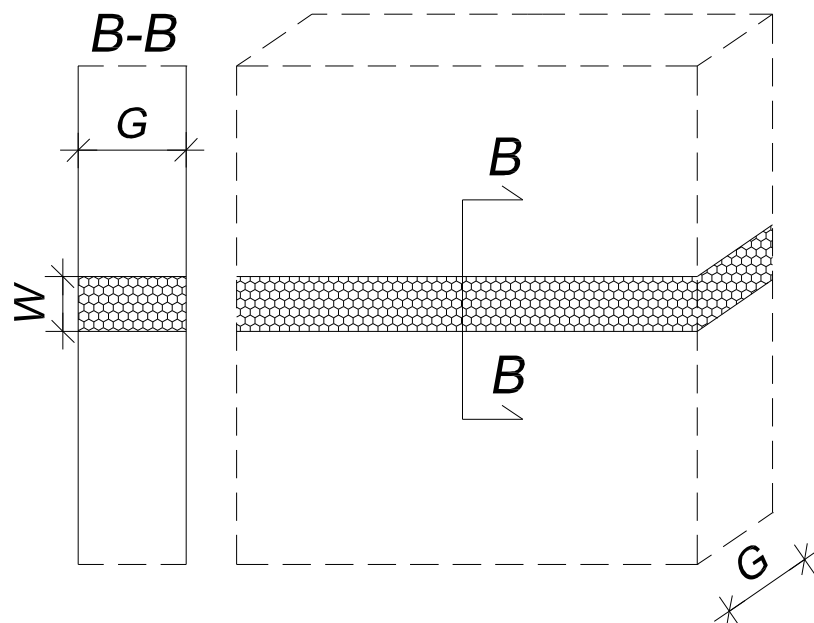


Fig. 1 View and cross-section of the vertical linear joint seal in wall

2.2.2. Type 2 – horizontal linear joint seals in vertical supporting construction



3 TEST REPORTS/EXTENDED APPLICATION REPORTS AND TEST RESULTS IN SUPPORT OF THE CLASSIFICATION

3.1 Test report/extended application reports

Name of laboratory	Name of sponsor	Report ref. No	Test standard
Fire Testing Laboratory Building Research Institute 2, Przemysłowa St. 26-670 Pionki	SELENA FM S.A. 2-4, Strzegomska St. 53-611 Wrocław Poland	LZP01- 00867/17/Z00NZP	PN-EN 1366-4 +A1:2011
Fire Testing Laboratory Building Research Institute 2, Przemysłowa St. 26-670 Pionki	SELENA FM S.A. 2-4, Strzegomska St. 53-611 Wrocław Poland	LZP01- 06052/15/R29NP	PN-EN 1366-4 +A1:2011

3.2 Test results

Test results						
Linear joint seal numbering in accordance with the appropriate test report	Linear joint seal type in accordance with p. 2.2 / width of the linear joint seal	Linear joint seal orientation in accordance with EN 13501-2	E - integrity			I – thermal insulation
			Cracks or openings in excess of given dimensions	Ignition of a cotton pad	Cracks or openings in excess of given dimensions	Maximum temperature rise at any point, limited to 180 K above the initial mean temperature
Criterion not achieved to the time, [min]						
Test Report No. LZP01-06052/15/R29NP						
Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam , in wall thickness of 150 mm made of aerated concrete blocks density of 600 kg/m ³						
1	Type 2 / 30 mm	T	240	39	240	240
2	Type 2 / 20 mm	T	240	70	240	78
3	Type 2 / 10 mm	T	240	173	240	183
19	Type 1 / 30 mm	V	240	71	240	240
20	Type 1 / 20 mm	V	240	128	240	118
21	Type 1 / 10 mm	V	240	240	240	223
Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam , in wall thickness of 150 mm made of aerated concrete blocks density of 600 kg/m ³						
7	Type 2 / 30 mm	T	240	44	240	51
8	Type 2 / 20 mm	T	240	94	240	95
9	Type 2 / 10 mm	T	240	181	240	195
22	Type 1 / 30 mm	V	240	63	240	61
23	Type 1 / 20 mm	V	240	103	240	100

Test results						
Linear joint seal numbering in accordance with the appropriate test report	Linear joint seal type in accordance with p. 2.2 / width of the linear joint seal	Linear joint seal orientation in accordance with EN 13501-2	E - integrity			I – thermal insulation
			Cracks or openings in excess of given dimensions	Ignition of a cotton pad	Cracks or openings in excess of given dimensions	Maximum temperature rise at any point, limited to 180 K above the initial mean temperature
			Criterion not achieved to the time, [min]			
Test Report No. LZP01-00867/17/Z00NZP						
Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam, in wall thickness of 200 mm made of aerated concrete blocks density of 600 kg/m ³						
1	Type 2 / 30 mm	T	240	77	240	240
3	Type 2 / 10 mm	T	240	198	240	195
12	Type 1 / 30 mm	V	240	99	240	220
10	Type 1 / 20 mm	V	240	163	240	240
19	Type 1 / 10 mm	V	240	211	240	215
Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam, in wall thickness of 200 mm made of aerated concrete blocks density of 600 kg/m ³						
2	Type 2 / 30 mm	T	240	240	87	103
4	Type 2 / 10 mm	T	240	240	97	94
13	Type 1 / 30 mm	V	240	240	92	240
9	Type 1 / 20 mm	V	240	142	240	225
11	Type 1 / 10 mm	V	240	240	240	240
Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam, in wall thickness of 240 mm made of aerated concrete blocks density of 600 kg/m ³						
5	Type 2 / 30 mm	T	240	103	240	102
7	Type 2 / 10 mm	T	240	240	240	240
15	Type 1 / 30 mm	V	240	115	240	240
17	Type 1 / 20 mm	V	240	240	240	240
20	Type 1 / 10 mm	V	240	240	240	240
Linear joint seals made using TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam, in wall thickness of 240 mm made of aerated concrete blocks density of 600 kg/m ³						
6	Type 2 / 30 mm	T	240	240	126	240
8	Type 2 / 10 mm	T	240	213	240	240
14	Type 1 / 30 mm	V	240	112	240	115
18	Type 1 / 20 mm	V	240	239	240	240
16	Type 1 / 10 mm	V	240	240	240	240

4 CLASSIFICATION AND FIELD OF APPLICATION

4.1 Reference of classification

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

4.2 Classification

The linear joint seals in wall are classified according to the following combinations of performance parameters and classes as appropriate:

R	E	I	W		t	t	-	M	S	C	IncSlow	sn	ef	r
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4.2.1 Fire resistance class of linear joint seal **Type 1** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam**, in wall thickness of **min. 150 mm**, in accordance with p. 2.2.1

Fire resistance class: EI 180 – V – X – F – W 10 *)

Fire resistance class: EI 90 – V – X – F – W 11 to 20 *)

Fire resistance class: EI 60 – V – X – F – W 21 to 30 *)

4.2.2 Fire resistance class of linear joint seal **Type 1** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam**, in wall thickness of **min. 200 mm**, in accordance with p. 2.2.1

Fire resistance class: EI 180 – V – X – F – W 10 *)

Fire resistance class: EI 120 – V – X – F – W 11 to 20 *)

Fire resistance class: EI 90 – V – X – F – W 21 to 30 *)

- 4.2.3** Fire resistance class of linear joint seal **Type 1** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam**, in wall thickness of **min. 240 mm**, in accordance with p. 2.2.1

Fire resistance class: EI 240 – V – X – F – W 10 *)

Fire resistance class: EI 240 – V – X – F – W 11 to 20 *)

Fire resistance class: EI 90 – V – X – F – W 21 to 30 *)

- 4.2.4** Fire resistance class of linear joint seal **Type 2** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam**, in wall thickness of **min. 150 mm**, in accordance with p. 2.2.2

Fire resistance class: EI 120 – T – X – F – W 10 *)

Fire resistance class: EI 60 – T – X – F – W 11 to 20 *)

Fire resistance class: EI 30 – T – X – F – W 21 to 30 *)

- 4.2.5** Fire resistance class of linear joint seal **Type 2** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam**, in wall thickness of **min. 200 mm**, in accordance with p. 2.2.2

Fire resistance class: EI 180 – T – X – F – W 10 *)

Fire resistance class: EI 60 – T – X – F – W 11 to 20 *)

Fire resistance class: EI 60 – T – X – F – W 21 to 30 *)

- 4.2.6** Fire resistance class of linear joint seal **Type 2** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - straw foam**, in wall thickness of **min. 240 mm**, in accordance with p. 2.2.2

Fire resistance class: EI 240 – T – X – F – W 10 *)

Fire resistance class: EI 90 – T – X – F – W 11 to 20 *)

Fire resistance class: EI 90 – T – X – F – W 21 to 30 *)

- 4.2.7** Fire resistance class of linear joint seal **Type 1** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam**, in wall thickness of **min. 150 mm**, in accordance with p. 2.2.1

Fire resistance class: EI 90 – V – X – F – W 10 *)

Fire resistance class: EI 90 – V – X – F – W 11 to 20 *)

Fire resistance class: EI 60 – V – X – F – W 21 to 30 *)

- 4.2.8** Fire resistance class of linear joint seal **Type 1** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam**, in wall thickness of **min. 200 mm**, in accordance with p. 2.2.1

Fire resistance class: EI 240 – V – X – F – W 10 *)

Fire resistance class: EI 120 – V – X – F – W 11 to 20 *)

Fire resistance class: EI 90 – V – X – F – W 21 to 30 *)

- 4.2.9** Fire resistance class of linear joint seal **Type 1** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam**, in wall thickness of **min. 240 mm**, in accordance with p. 2.2.1

Fire resistance class: EI 240 – V – X – F – W 10 *)

Fire resistance class: EI 180 – V – X – F – W 11 to 20 *)

Fire resistance class: EI 90 – V – X – F – W 21 to 30 *)

- 4.2.10** Fire resistance class of linear joint seal **Type 2** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam**, in wall thickness of **min. 150 mm**, in accordance with p. 2.2.2

Fire resistance class: EI 180 – T – X – F – W 10 *)

Fire resistance class: EI 90 – T – X – F – W 11 to 20 *)

Fire resistance class: EI 30 – T – X – F – W 21 to 30 *)

- 4.2.11** Fire resistance class of linear joint seal **Type 2** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam**, in wall thickness of **min. 200 mm**, in accordance with p. 2.2.2

Fire resistance class: EI 180 – T – X – F – W 10 *)

Fire resistance class: EI 90 – T – X – F – W 11 to 20 *)

Fire resistance class: EI 60 – T – X – F – W 21 to 30 *)

- 4.2.12** Fire resistance class of linear joint seal **Type 2** made using **TIMCO FILL & FIX B1 FIRE RATED EXPANDING FOAM - gun foam**, in wall thickness of **min. 240 mm**, in accordance with p. 2.2.2

Fire resistance class: EI 180 – T – X – F – W 10 *)

Fire resistance class: EI 120 – T – X – F – W 11 to 20 *)

Fire resistance class: EI 120 – T – X – F – W 21 to 30 *)

***) Key**

- E** – integrity;
- I** – thermal insulation;
- V** – orientation: vertical supporting construction – vertical joint;
- T** – orientation: vertical supporting construction – horizontal joint;
- X** – without movement;
- F** – sealing made on construction site;
- W** – joint widths range (in mm).

4.3 Field of application

This classification is valid for the following end use applications in accordance with EN 1366-4:2006 +A1:2010:

- 4.3.1** The possible orientation of the linear joint seals in accordance with PN-EN 1366-4+A1:2011:
- **B** – vertical linear joint in vertical supporting construction – linear joints classified in p. 4.2.1 – 4.2.3 and 4.2.7 – 4.2.9;
 - **C** – horizontal linear joint in vertical supporting construction – linear joints classified in p. 4.2.4 – 4.2.6 and 4.2.10 – 4.2.12.
- 4.3.2** Classification given in p. 4.2.1, 4.2.4, 4.2.7 i 4.2.10 is valid for linear joint seals in aerated concrete, concrete, block work and masonry wall separating elements thickness of min. 150 mm and density of min. 600 kg/m³.
- 4.3.3** Classification given in p. 4.2.2, 4.2.5, 4.2.8 i 4.2.11 is valid for linear joint seals in aerated concrete, concrete, block work and masonry wall

- 4.3.4** Classification given in p. 4.2.3, 4.2.6, 4.2.9 i 4.2.12 is valid for linear joint seals in aerated concrete, concrete, block work and masonry wall separating elements thickness of min. 240 mm and density of min. 600 kg/m³.
- 4.3.5** The possible position of linear joint seals in supporting construction is presented in fig. 1 and 2. Classification given in p. 4.2 is applicable only to straight parallel edge surfaces of sealing elements, in accordance with fig. 3.

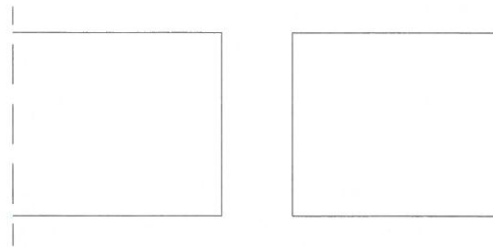


Fig. 3 Edge surfaces of sealing elements

5 LIMITATIONS

This classification given remains valid as long as:

- test method remains unchanged,
- product standard or technical approval remains unchanged,
- constructional or material modifications do not exceed limits of the field of application defined in 4.3.

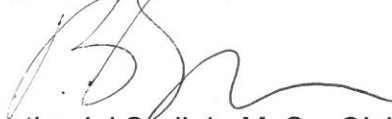
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This classification document does not represent type approval or certification of the product.

In the case of ambiguity, the base of interpretation of this report is its version in Polish.

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