



Instytut Techniki Budowlanej

Badania naukowe | Prace rozwojowe | Akredytowany Zespół Laboratoriów |

Jednostka notyfikowana nr 1488 | Członek EOTA | Certyfikowane systemy zarządzania ISO 9001, ISO 27001

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Warsaw, 2018-11-07

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00990/18/R233NZZP/ENG

Technical opinion on fire resistance of linear joint seals made with use of Dunaseal single, Dunaseal double, Dunaseal multilayer 3, Dunaseal multilayer 4 and Dunaseal multilayer 5

1 FORMAL BASES

- 1.1 Order of „MERCOR“ S. A. company.
- 1.2 Annex No. 00990/18/R233NZZP to the contract No. 00990/10/R00NP.

2 TECHNICAL BASES

- 2.1 PN-EN 1366-4+A1:2011 Badania odporności ogniowej instalacji użytkowych – Część 4: Uszczelnienia złączy liniowych (eqv. EN 1366-4:2006+A1:2010 *Fire resistance tests for service installations – Part 4: Linear joint seals*).
- 2.2 PN-EN 13501-2:2016 Klasyfikacja ogniowa wyrobów budowlanych i elementów budynków – Część 2: Klasyfikacja na podstawie badań odporności ogniowej, z wyłączeniem instalacji wentylacyjnej (eqv. EN 13501-2:2016 *Fire classification of construction products and buildings elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services*).
- 2.3 Test Report No. LZP01-01129/17/Z00NZZP of fire resistance test of linear joint seals in wall supporting construction. The test was conducted in ITB Fire Testing Laboratory in Pionki, 2017-08-08.
- 2.4 Test Report No. LZP02-01129/17/Z00NZZP of fire resistance test of linear joint seals in wall supporting construction. The test was conducted in ITB Fire Testing Laboratory in Pionki, 2017-09-18.
- 2.5 Classification Report No. 01129/17/Z00NZZP dated 2017-12-04 – Linear joint seals of Dunamenti Dunaseal system.

3 SCOPE OF THE OPINION

The opinion applies to the fire resistance of linear joint seals made with use of Dunaseal single, Dunaseal double, Dunaseal multilayer 3, Dunaseal multilayer 4 and Dunaseal multilayer 5.

4 TECHNICAL DESCRIPTION

The linear joint seals are made in accordance with Classification Report No. 01129/17/Z00NZN [2.5] with following changes:

- the maximum width of linear joint seals of Type 1, Type 3 and Type 4 is 53 mm and instead of Dunaseal double, depending on the width of the joint and movement capability there can be used Dunaseal single or Dunaseal double in accordance with p. 5,
- the maximum width of linear joint seals of Type 2, Type 5, and Type 6 is 150 mm and instead of Dunaseal multilayer, depending on the width of the joint and movement capability there can be used Dunaseal single, Dunaseal double, Dunaseal multilayer 3, Dunaseal multilayer 4 and Dunaseal multilayer 5 in accordance with p. 5.

The dimensions and structure of Dunaseal strips are presented in fig. 1.

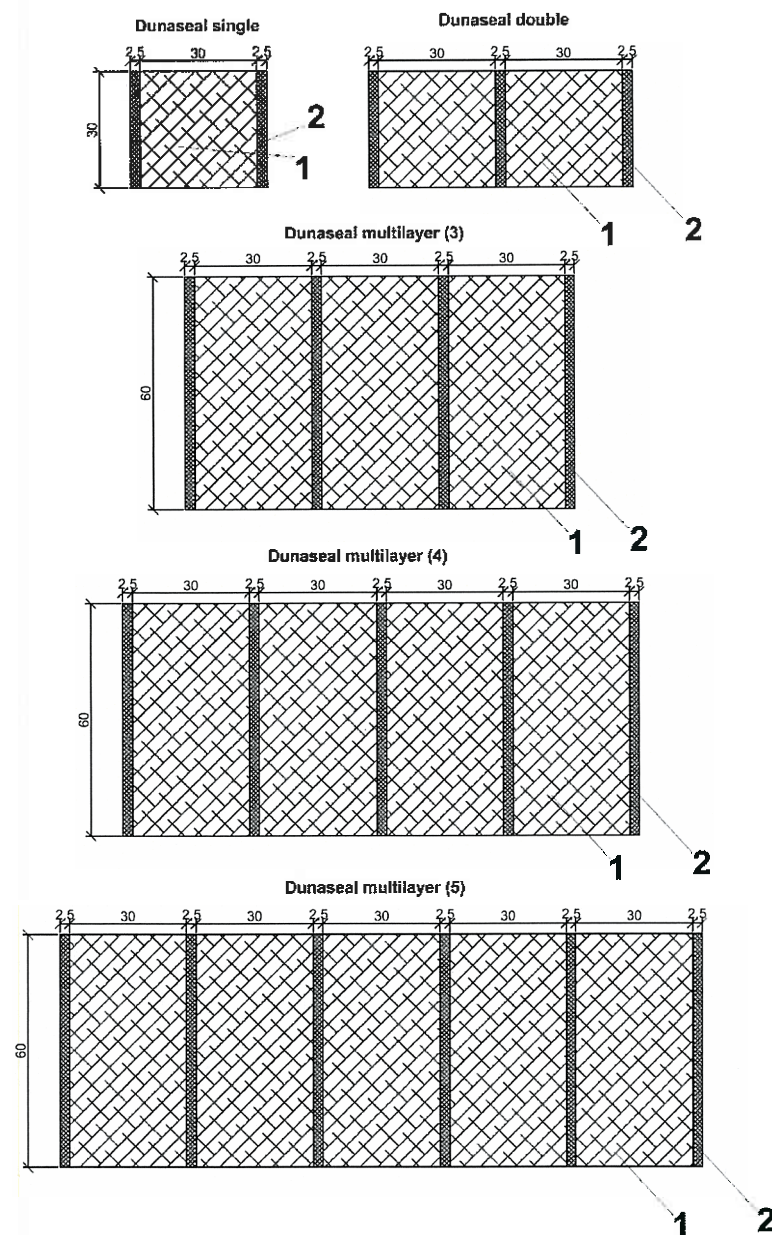


Fig. 1 Dimensions and structure of Dunaseal strips (1 – polyurethane foam in accordance with Classification Report No. 01129/17/Z00NZN [2.5], 2 – intumescent material in accordance with Classification Report No. 01129/17/Z00NZN [2.5]),

5 TECHNICAL OPINION ON FIRE RESISTANCE CLASSIFICATION ACCORDING TO THE PERFORMANCE CRITERIA OF THE STANDARD PN-EN 13501-2:2016

5.1. Fire resistance class of **linear joint seals Type 1** made in accordance with classification report No. 01129/17/Z00NZP [2.5], with changes described in p. 4, according to the performance criteria of the standard PN-EN 13501-2:2016:

Movement capability of gap (%)	Width of gap (mm)					Orientation	Type of splices	Fire resistance class
	Dunaseal single	Dunaseal double	Dunaseal multilayer 3	Dunaseal multilayer 4	Dunaseal multilayer 5			
0	0 - 20	21 - 53	n/a	n/a	n/a	V	B	EI 120
10	0 - 18	19 - 48	n/a	n/a	n/a	V	B	EI 120
20	0 - 17	18 - 44	n/a	n/a	n/a	V	B	EI 120
30	0 - 15	16 - 40	n/a	n/a	n/a	V	B	EI 120
40	0 - 14	15 - 38	n/a	n/a	n/a	V	B	EI 120
50	0 - 13	14 - 35	n/a	n/a	n/a	V	B	EI 120

5.2. Fire resistance class of **linear joint seals Type 2** made in accordance with classification report No. 01129/17/Z00NZP [2.5], with changes described in p. 4, according to the performance criteria of the standard PN-EN 13501-2:2016:

Movement capability of gap (%)	Width of gap (mm)					Orientation	Type of splices	Fire resistance class
	Dunaseal single	Dunaseal double	Dunaseal multilayer 3	Dunaseal multilayer 4	Dunaseal multilayer 5			
0	0 - 20	21 - 53	54 - 85	86 - 118	119 - 150	V	B	EI 120
10	0 - 18	19 - 48	49 - 77	78 - 107	108 - 136	V	B	EI 120
20	0 - 17	18 - 44	45 - 71	72 - 98	99 - 125	V	B	EI 120
30	0 - 15	16 - 40	41 - 65	66 - 90	91 - 115	V	B	EI 120
40	0 - 14	15 - 38	39 - 61	62 - 84	85 - 107	V	B	EI 120
50	0 - 13	14 - 35	36 - 57	58 - 78	79 - 100	V	B	EI 120

5.3. Fire resistance class of **linear joint seals Type 3** made in accordance with classification report No. 01129/17/Z00NZP [2.5], with changes described in p. 4, according to the performance criteria of the standard PN-EN 13501-2:2016:

Movement capability of gap (%)	Width of gap (mm)					Orientation	Type of splices	Fire resistance class
	Dunaseal single	Dunaseal double	Dunaseal multilayer 3	Dunaseal multilayer 4	Dunaseal multilayer 5			
0	0 - 20	21 - 53	n/a	n/a	n/a	H	B	EI 120
10	0 - 18	19 - 48	n/a	n/a	n/a	H	B	EI 120
20	0 - 17	18 - 44	n/a	n/a	n/a	H	B	EI 120
30	0 - 15	16 - 40	n/a	n/a	n/a	H	B	EI 120
40	0 - 14	15 - 38	n/a	n/a	n/a	H	B	EI 120
50	0 - 13	14 - 35	n/a	n/a	n/a	H	B	EI 120

5.4. Fire resistance class of linear joint seals Type 4 made in accordance with classification report No. 01129/17/Z00NZZP [2.5], with changes described in p. 4, according to the performance criteria of the standard PN-EN 13501-2:2016:

Movement capability of gap (%)	Width of gap (mm)					Orientation	Type of splices	Fire resistance class
	Dunaseal single	Dunaseal double	Dunaseal multilayer 3	Dunaseal multilayer 4	Dunaseal multilayer 5			
0	0 - 20	21 - 53	n/a	n/a	n/a	H	B	EI 120
10	0 - 18	19 - 48	n/a	n/a	n/a	H	B	EI 120
20	0 - 17	18 - 44	n/a	n/a	n/a	H	B	EI 120
30	0 - 15	16 - 40	n/a	n/a	n/a	H	B	EI 120
40	0 - 14	15 - 38	n/a	n/a	n/a	H	B	EI 120
50	0 - 13	14 - 35	n/a	n/a	n/a	H	B	EI 120

5.5. Fire resistance class of linear joint seals Type 5 made in accordance with classification report No. 01129/17/Z00NZZP [2.5], with changes described in p. 4, according to the performance criteria of the standard PN-EN 13501-2:2016:

Movement capability of gap (%)	Width of gap (mm)					Orientation	Type of splices	Fire resistance class
	Dunaseal single	Dunaseal double	Dunaseal multilayer 3	Dunaseal multilayer 4	Dunaseal multilayer 5			
0	0 - 20	21 - 53	54 - 85	86 - 118	119 - 150	H	B	EI 120
10	0 - 18	19 - 48	49 - 77	78 - 107	108 - 136	H	B	EI 120
20	0 - 17	18 - 44	45 - 71	72 - 98	99 - 125	H	B	EI 120
30	0 - 15	16 - 40	41 - 65	66 - 90	91 - 115	H	B	EI 120
40	0 - 14	15 - 38	39 - 61	62 - 84	85 - 107	H	B	EI 120
50	0 - 13	14 - 35	36 - 57	58 - 78	79 - 100	H	B	EI 120

5.6. Fire resistance class of linear joint seals Type 6 made in accordance with classification report No. 01129/17/Z00NZZP [2.5], with changes described in p. 4, according to the performance criteria of the standard PN-EN 13501-2:2016:

Movement capability of gap (%)	Width of gap (mm)					Orientation	Type of splices	Fire resistance class
	Dunaseal single	Dunaseal double	Dunaseal multilayer 3	Dunaseal multilayer 4	Dunaseal multilayer 5			
0	0 - 20	21 - 53	54 - 85	86 - 118	119 - 150	H	B	EI 120
10	0 - 18	19 - 48	49 - 77	78 - 107	108 - 136	H	B	EI 120
20	0 - 17	18 - 44	45 - 71	72 - 98	99 - 125	H	B	EI 120
30	0 - 15	16 - 40	41 - 65	66 - 90	91 - 115	H	B	EI 120
40	0 - 14	15 - 38	39 - 61	62 - 84	85 - 107	H	B	EI 120
50	0 - 13	14 - 35	36 - 57	58 - 78	79 - 100	H	B	EI 120

6 EXPIRY DATE OF THE OPINION


The opinion is valid until October 31, 2021, provided that no material or structural changes will be made to the linear joints technical solutions.

SIGNED



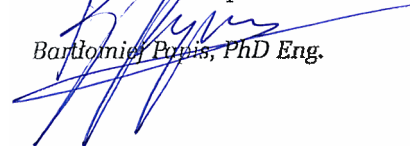
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