



**INSTYTUT TECHNIKI BUDOWLANEJ**

PL 00-611 WARSZAWA

ul. Filtrowa 1

tel.: (+48 22) 825-04-71

(+48 22) 825-76-55

fax: (+48 22) 825-52-86

[www.itb.pl](http://www.itb.pl)



Member of



[www.eota.eu](http://www.eota.eu)

## European Technical Assessment

**ETA-18/0475  
of 28/06/2018**

### General Part

**Technical Assessment Body issuing the European Technical Assessment**

Instytut Techniki Budowlanej

**Trade name of the construction product**

Dunaseal

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

Fire Stopping and Fire Sealing Products.  
Linear Joint and Gap Seals

**Manufacturer**

DUNAMENTI TUZVEDELEM ZRT  
Nemeskeri Kiss Miklos u. 39  
2131 God  
Hungary

**Manufacturing plant**

DUNAMENTI TUZVEDELEM ZRT  
Nemeskeri Kiss Miklos u. 39  
2131 God  
Hungary

**This European Technical Assessment contains**

14 pages including 3 Annexes 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**

European Assessment Document EAD 350141-00-1106 "Fire Stopping and Fire Sealing Products. Linear Joint and Gap Seals"

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## Specific Part

### 1 Technical description of the product

Dunaseal is a compressible strip, friction fixed, consisting of layers of polyurethane foam and intumescent laminate with a thickness of 2,5 mm. There are two variants of the product, presented in Annex B:

- Dunaseal double, with dimensions: 30 x 67,5 x 1000 mm, made of two polyurethane foam layers and three layers of intumescent laminate (two external coating layers and one internal layer), which separate them,
- Dunaseal multilayer, with dimensions: 60 x 165 x 1000 mm, made of five polyurethane foam layers and six layers of intumescent laminate (two external coating layers and four internal layer), which separate them.

Dunaseal product is supplied as a single piece, 1,0 m in length. It is compressed and pushed by hand into the linear joint or gap, on the mineral wool, used as a backing material.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

#### 2.1 Intended use

The intended use of the Dunaseal product is to reinstate the fire resistance performance of rigid wall and floor constructions where there are linear joints and gaps.

The specific elements of construction, that the Dunaseal may be used to provide a linear joint or gap seal in, are, depending on the type of the seal, as follows:

Type 1 – rigid walls: The wall must have a minimum thickness of 150 mm and comprise concrete, aerated concrete, bricks or blocks, with a minimum density of 600 kg/m<sup>3</sup>.

Type 2 – rigid walls: The wall must have a minimum thickness of 200 mm and comprise concrete, aerated concrete, bricks or blocks, with a minimum density of 600 kg/m<sup>3</sup>.

Type 3 and 4 – rigid walls abutting floors: The wall must have a minimum thickness of 150 mm and comprise construction elements made of aerated or reinforced concrete with a minimum density of 600 kg/m<sup>3</sup>.

Type 3 and 4 – rigid floors: The floor must have a minimum thickness of 150 mm and comprise construction elements made of aerated or reinforced concrete with a minimum density of 600 kg/m<sup>3</sup>.

Type 5 and 6 –

rigid walls abutting floors: The wall must have a minimum thickness of 200 mm and comprise construction elements made of aerated or reinforced concrete with a minimum density of 600 kg/m<sup>3</sup>.

Type 5 and 6 – rigid floors: The floor must have a minimum thickness of 200 mm and comprise construction elements made of aerated or reinforced concrete with a minimum density of 600 kg/m<sup>3</sup>.

Types of the seals are specified in Annex C.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period (equal or greater than specified in Annex C).

The Dunaseal may be used to provide a linear joint or gap seal with specific supporting constructions and substrates (for details see Annex C).

The permitted joint / gap width (for the Dunaseal) is specified in Annex C.

The Dunaseal is intended to be used to form linear joint or gap seals with movement capability up to 50%, provided that shear movement of the joint or gap is not greater than 30%.

The performances given in this European Technical Assessment are based on an assumed working life of the Dunaseal of 10 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

Additional provisions are given in Annex A.

## **2.2 Use category**

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

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

### **3.1 Performance of the product**

#### **3.1.1 Safety in case of fire (BWR 2)**

Essential characteristic	Performance
Reaction to fire	Class E
Resistance to fire	Annex C



### 3.1.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content, emission and/or release of dangerous substances	The applicant has submitted a written declaration that the product and/or constituents of the product contain no substances which have been classified as dangerous according to EOTA TR 034. Regarding the dangerous substances, there may be requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.
Air permeability (material property)	No performance assessed
Water permeability (material property)	No performance assessed

### 3.1.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Mechanical resistance and stability	No performance assessed
Resistance to impact / movement	No performance assessed
Adhesion	Covered by tests carried out for the assessment of movement capability
Durability	Use category: Type Z <sub>2</sub>
Movement capability	Movement capability ≤ 50%, provided that shear movement of the joint is ≤ 30%
Compression set	Seal remains in position

### 3.1.4 Protection against noise (BWR 5)

No performance assessed.

### 3.1.5 Energy economy and heat retention (BWR 6)

No performance assessed.

## 3.2 Methods used for the assessment

The assessment of fitness of the product for the declared intended use has been made in accordance with the European Assessment Document EAD 350141-00-1106 "Fire Stopping and Fire Sealing Products. Linear Joint and Gap Seals".

**4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base**

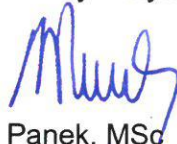
According to Decision 99/454/EC of the European Commission, as amended by Decision 2001/596/EC of the European Commission the system 1 of assessment and verification of constancy of performance applies (see Annex V to Regulation (EU) No 305/2011).

**5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document (EAD)**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

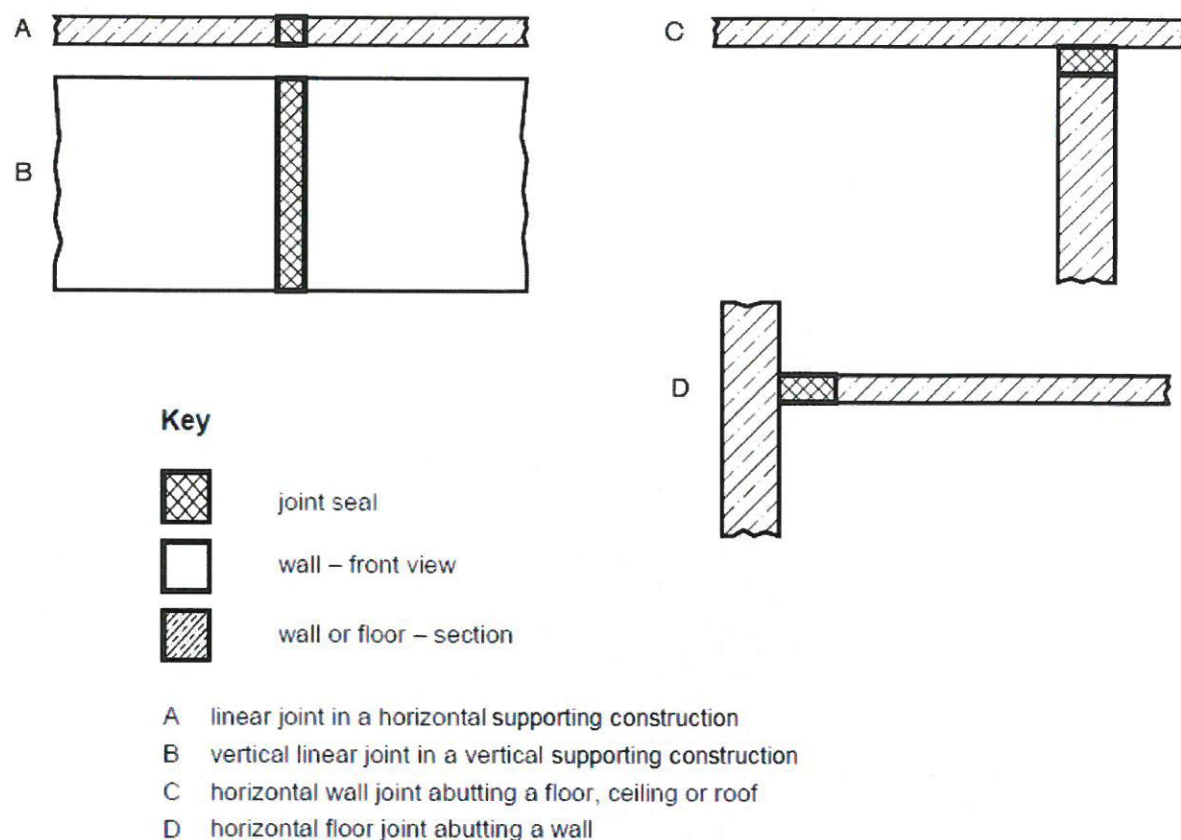
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Anna Panek, MSc  
Deputy Director of ITB

### Additional provisions

- Possible orientation of the linear joint seals is presented in fig. A1 and Table A1.



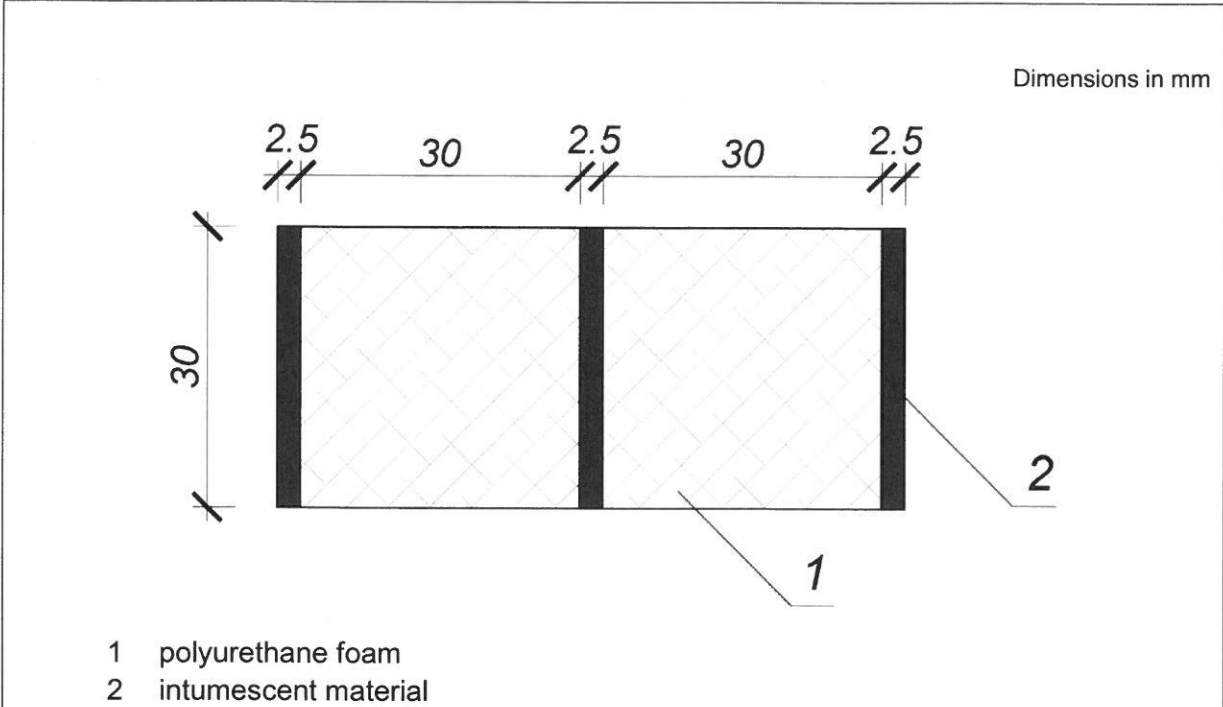
**Fig. A1.** Possible orientation of linear joints seals made with use of Dunaseal product

**Table A1**

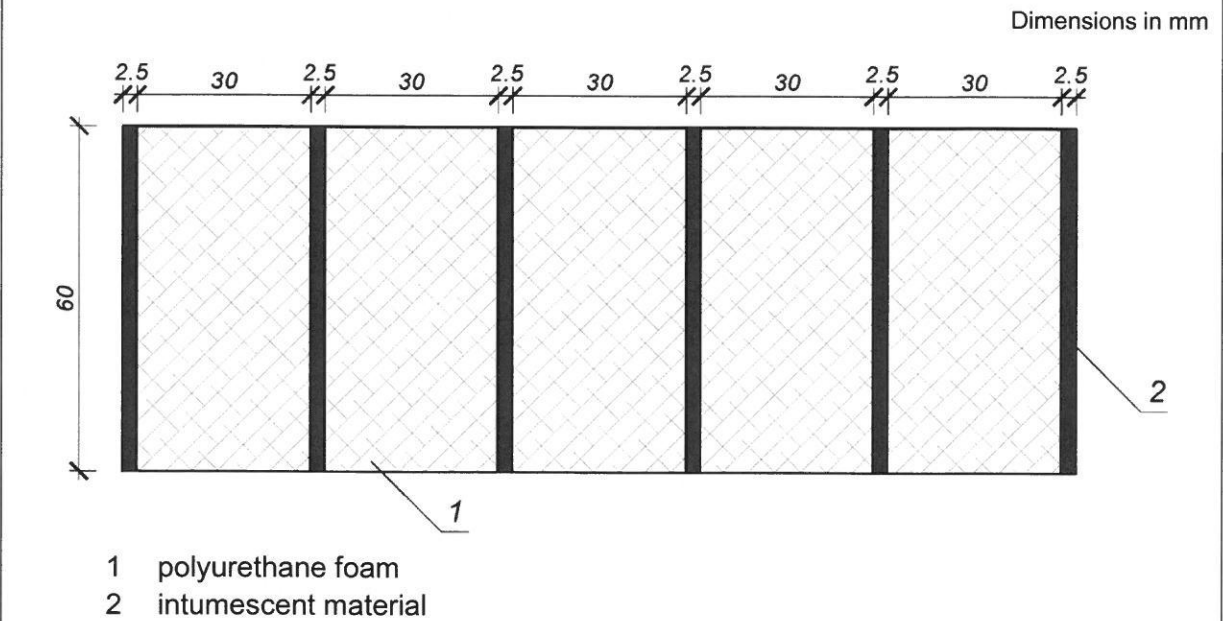
Seal type in accordance with Annex C	Intended product	Possible orientation in accordance with fig. A1
Type 1	Dunaseal double	B
Type 2	Dunaseal multilayer	B
Type 3	Dunaseal double	A, C, D
Type 4	Dunaseal double	A, C, D
Type 5	Dunaseal multilayer	A, C, D
Type 6	Dunaseal multilayer	A, C, D

- The Dunaseal product shall be applicable only to straight parallel edge surfaces of linear joints or gaps.
- Mineral wool shall be compressed by 50% prior to the installation in the joint (initial width of the mineral wool shall be twice as big as the width of the joint).

<b>Dunaseal</b>	<b>Annex A</b> of European Technical Assessment ETA-18/0475
<b>Additional provisions</b>	



**Fig. A2. Dunaseal double**



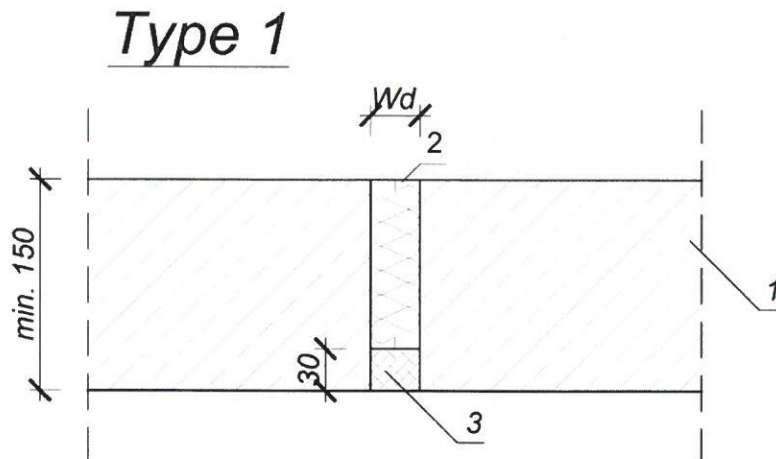
**Fig. A3. Dunaseal multilayer**

Dunaseal	Annex B of European Technical Assessment ETA-18/0475
Variants of products	



**Fig. C1.** Vertical linear joint seal (type 1) made with use of mineral wool and Dunaseal product in rigid wall.

Dimensions in mm



- 1 rigid wall with thickness  $\geq 150$  mm and density  $\geq 600$  kg/m<sup>3</sup>
- 2 mineral wool with a minimum density of 50 kg/m<sup>3</sup>;  
width compressed by 50% prior to the installation in the joint
- 3 Dunaseal double
- Wd width of the linear joint seal made with use of Dunaseal double: 35 mm

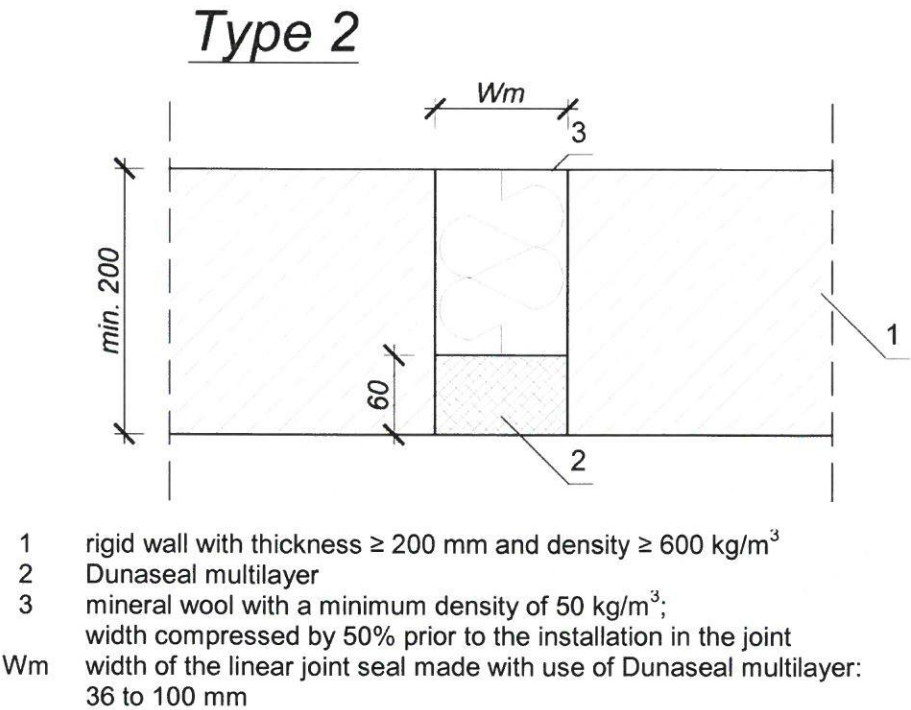
**Resistance to fire classification of vertical linear joint seal made with use of Dunaseal product in rigid wall, in accordance with fig. C1 and Annex A:**

**Fire resistance class: EI 120 – V – M 050 – B – W 35**

<b>Dunaseal</b>	<b>Annex C1</b> of European Technical Assessment ETA-18/0475
<b>Construction details and resistance to fire classification of linear joint seals made with use of Dunaseal product</b>	

**Fig. C2.** Vertical linear joint seal (type 2) made with use of mineral wool and Dunaseal product in rigid wall.

Dimensions in mm



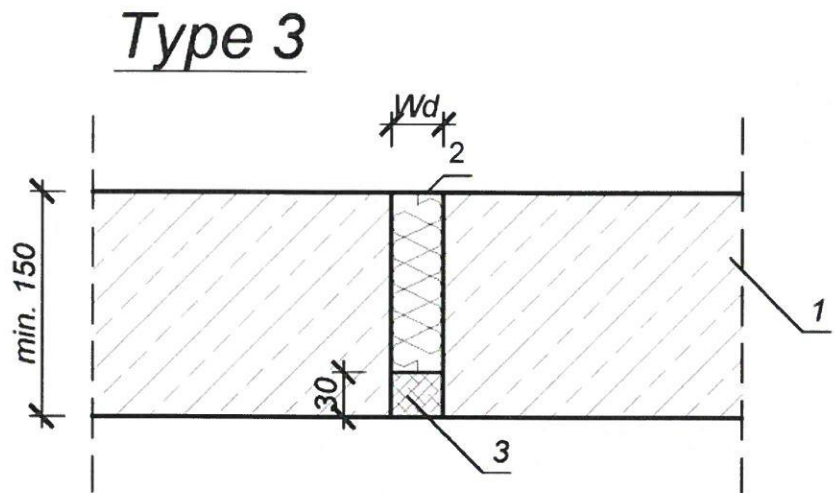
**Resistance to fire classification of vertical linear joint seal made with use of Dunaseal product in rigid wall, in accordance with fig. C2 and Annex A:**

**Fire resistance class: EI 120 – V – M 050 – B – W 36 to 100**

<b>Dunaseal</b>	<b>Annex C2</b> of European Technical Assessment ETA-18/0475
<b>Construction details and resistance to fire classification of linear joint seals made with use of Dunaseal product</b>	

**Fig. C3.** Horizontal linear joint seal (type 3) made with use of mineral wool and Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor.

Dimensions in mm



- 1 rigid floor or rigid wall with thickness  $\geq 150$  mm and density  $\geq 600$  kg/m<sup>3</sup>
- 2 mineral wool with a minimum density of 50 kg/m<sup>3</sup>,  
width compressed by 50% prior to the installation in the joint
- 3 Dunaseal double
- Wd width of the linear joint seal made with use of Dunaseal double: 35 mm

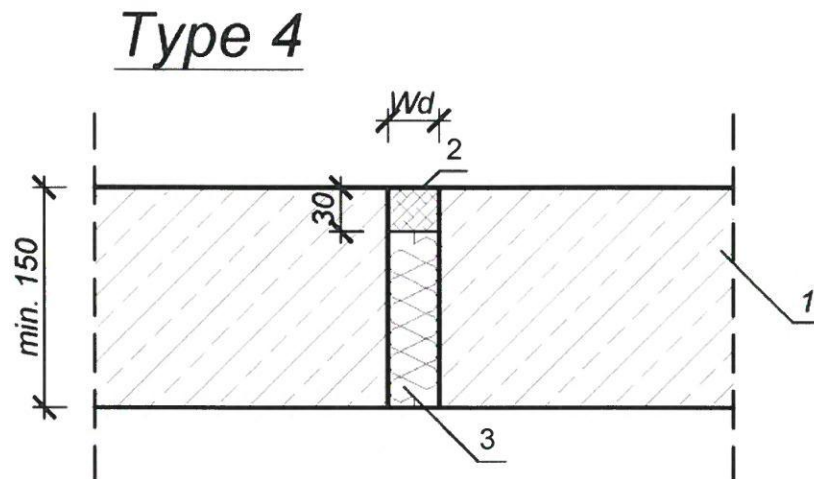
**Resistance to fire classification of horizontal linear joint seal made with use of Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor, in accordance with fig. C3 and Annex A:**

**Fire resistance class: EI 120 – H – M 050 – B – W 35**

<b>Dunaseal</b>	<b>Annex C3</b> of European Technical Assessment ETA-18/0475
<b>Construction details and resistance to fire classification of linear joint seals made with use of Dunaseal product</b>	

**Fig. C4.** Horizontal linear joint seal (type 4) made with use of mineral wool and Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor.

Dimensions in mm



- 1 rigid floor or rigid wall with thickness  $\geq 150$  mm and density  $\geq 600$  kg/m<sup>3</sup>
- 2 Dunaseal double
- 3 mineral wool with a minimum density of 50 kg/m<sup>3</sup>;  
width compressed by 50% prior to the installation in the joint
- Wd width of the linear joint seal made with use of Dunaseal double: 35 mm

**Resistance to fire classification of horizontal linear joint seal made with use of Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor, in accordance with fig. C4 and Annex A:**

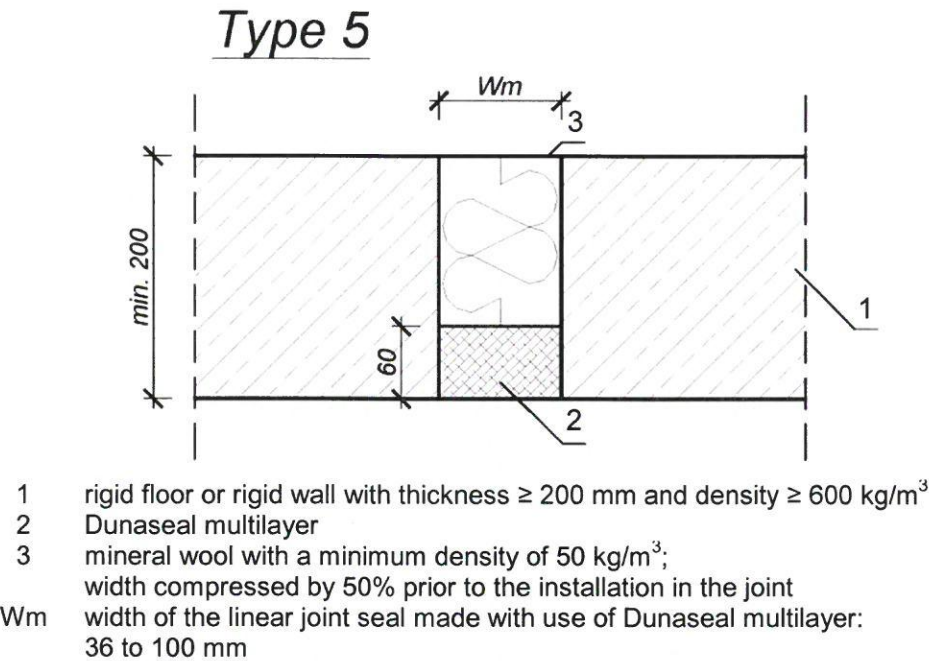
**Fire resistance class: EI 120 – H – M 050 – B – W 35**

<b>Dunaseal</b>	<b>Annex C4</b> of European Technical Assessment ETA-18/0475
<b>Construction details and resistance to fire classification of linear joint seals made with use of Dunaseal product</b>	



**Fig. C5.** Horizontal linear joint seal (type 5) made with use of mineral wool and Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor.

Dimensions in mm



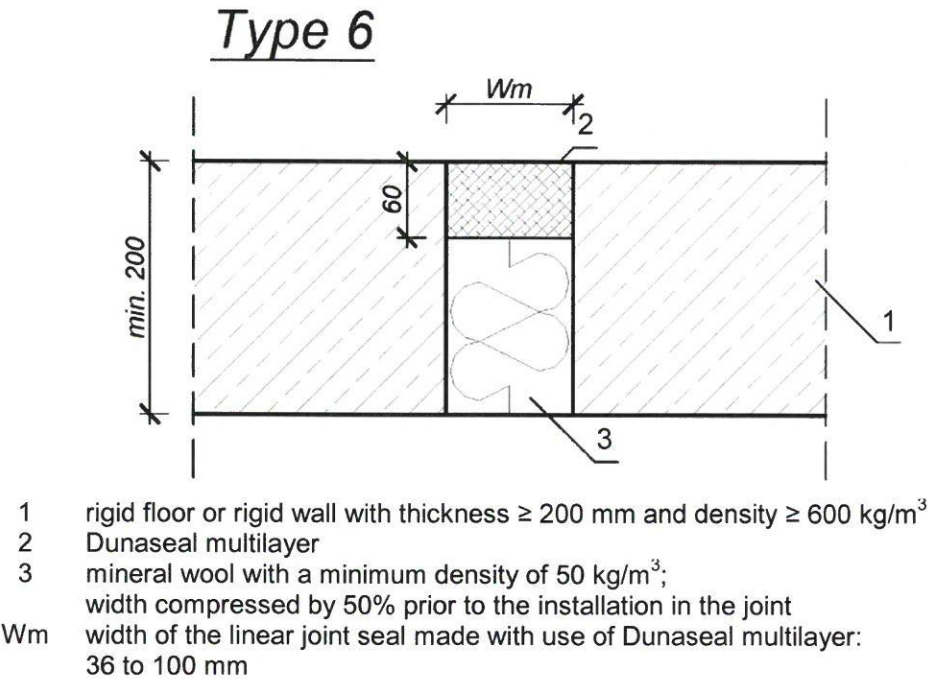
**Resistance to fire classification of horizontal linear joint seal made with use of Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor, in accordance with fig. C5 and Annex A:**

**Fire resistance class: EI 120 – V – M 050 – B – W 36 to 100**

<b>Dunaseal</b>	<b>Annex C5</b> of European Technical Assessment ETA-18/0475
<b>Construction details and resistance to fire classification of linear joint seals made with use of Dunaseal product</b>	

**Fig. C6.** Horizontal linear joint seal (type 6) made with use of mineral wool and Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor.

Dimensions in mm



**Resistance to fire classification of horizontal linear joint seal made with use of Dunaseal product in rigid floor, rigid floor abutting a rigid wall or rigid wall abutting a rigid floor, in accordance with fig. C6 and Annex A:**

**Fire resistance class: EI 120 – V – M 050 – B – W 36 to 100**

<b>Dunaseal</b>	<b>Annex C6</b> of European Technical Assessment ETA-18/0475
<b>Construction details and resistance to fire classification of linear joint seals made with use of Dunaseal product</b>	