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European Technical Assessment

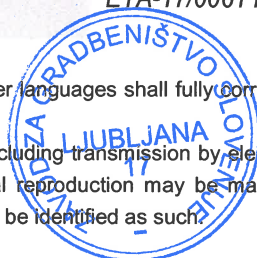
**ETA-17/0061
of 24.05.2018***English version prepared by ZAG*

General Part

**Organ za tehnično ocenjevanje, ki je izdal
ETA***Technical Assessment Body issuing the ETA***ZAG Ljubljana****Komercialno ime gradbenega proizvoda***Trade name of the construction product***Insu-Rope****Družina proizvoda, ki ji gradbeni proizvod
pripada***Product family to which the construction product belongs***35: Vrv iz kamene volne za protipožarno
tesnenje gradbenih dilatacij***35: Rope from stone wool for fire resistant joint seals***Proizvajalec***Manufacturer***EZS d.o.o****Brezje pri Grosupljem 10****1290 Grosuplje****Slovenija**www.ezs-skupina.si**Proizvodni obrat***Manufacturing plant***Stična 1****1295 Ivančna Gorica****Slovenija****Ta Evropska tehnična ocena vsebuje***This European Technical Assessment contains***8 strani vključno z 4 prilogami, ki so
sestavni del te ocene***8 pages including 4 annexes which form an integral
part of this assessment***Ta Evropska tehnična ocena je izdana na
podlagi Uredbe (EU) št. 305/2011 na podlagi***This European Technical Assessment is issued in
accordance to Regulation (EU) No 305/2011, on the basis
of***EAD 350141-00-1106, izdaja september
2017***EAD 350141-00-1106, edition September 2017***Ta verzija zamenjuje***This version replaces***ETA-17/0061 izdano dne 05.05.2017***ETA-17/0061 issued on 05.05.2017*

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Specific parts

1. Technical description of the product

Insu-Rope is a flexible joint filling rope made of mineral fibres with a braid of glass yarn.

Insu-Rope is produced in seventeen (17) different diameters. For further product properties, see Annex A.

Details of the material specifications and the manufacturing process of Insu-Rope are deposited with the ZAG Slovenija.

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

Insu-Rope is used for sealing horizontal and vertical linear joints (structural joints as stepped joints and linear butt joints) with or without shear stress between fire-resistant separating rigid walls and floors.

Insu-Rope is intended to maintain or reinstate the fire resistance performance of separating building elements where they are interrupted or separated by joints.

The maximum permitted joint width is 150 mm.

The maximum lateral stretching capability of Insu-Rope is up to 20 %.

Insu-Rope is not intended for load transmission.

The performances given in section 3 are only valid if the joint filling rope is used in compliance with

- the specifications and conditions given in Annex B and
- the manufacturer's instructions.

The verifications and assessment methods on which this European Technical Assessment is based lead the assumption of working life of the joint filling rope Insu-Rope of minimum 40 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, 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.

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

3.1. Mechanical resistance and stability (BWR 1)

Not applicable.

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire

Insu-Rope is classified in class A1 in accordance with EN 13501-1.



3.2.2 Fire resistance

3.2.2.1 Fire resistance regarding seal width and depth

The fire resistance has been classified in accordance with EN 13501-2, as given in Annex B 2.

3.2.2.2 Fire resistance regarding movement

The fire resistance has been classified in accordance with EN 1366-4:2006+A1:2010, as given in Annex B 2.

3.3 Hygiene, health and environment (BWR 3)

3.3.1 Content, emission and/or release of dangerous substances

The product Insu-Rope does not have direct contact to indoor air, soil, ground- or surface water.

3.4 Safety and accessibility in use (BWR 4)

No performance assessed.

3.5 Protection against noise (BWR 5)

No performance assessed.

3.6 Energy economy and heat retention (BWR 6)

No performance assessed.

3.7 General aspects relating to fitness for use (BWR 7)

Insu-Rope meets the following use categories according to EAD 350141-00-1106:

Type Y₁: intended for use at temperatures below 0 °C with exposure to UV but no exposure to rain.

Type Y₂: intended for use at temperatures below 0 °C, but with no exposure to rain or UV radiation.

Type Z₁: intended for use in internal conditions with humidity equal to or higher than 85 % RH, excluding temperatures below 0 °C (no exposure to frost or changing frost-thaw but permanent or alternating condensation).

Type Z₂: intended for use in internal conditions with humidity lower than 85 % RH, excluding temperatures below 0 °C.

The verification of durability is part of testing the essential characteristics. Durability is only ensured if the specifications of intended use according to Annex B 1 and the manufacturer's instructions according to section 5 are taken into account. Durability and serviceability are only ensured if specifications of intended use according to Annexes B1 and B2 are kept.



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

According to Decision of the Commission of 22 June 1999 (1999/454/EC) (OJ L 178/52 of 14/07/99, p. 3), as amended by Decision of the Commission of 8 January 2001 (2001/596/EC) (OJ L 209/33 of 2/8/2001, p. 2), the system of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) **system 1** has to be applied.

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in chapter 3 of EAD 350141-00-1106.

Issued in Ljubljana on 24. 05. 2018

Signed by:

Franc Capuder, M.Sc.

Head of Service of TAB

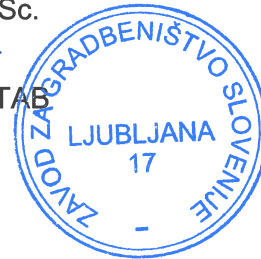


Table A

Opening gap width (in mm)	Insu-Rope diameter (in mm) (stationary gap)	Insu-Rope diameter (in mm) (gap movement up to 20%)
10	12	20
15	20	20
20	30	30
25	40	40
30	40	50
40	50	60
50	60	70
60	70	80
70	80	100
80	90	110
90	100	120
100	120	140
110	130	150
120	140	170
130	150	180
140	160	
150	180	

Insu-Rope**Product description****Annex A**

Separating building elements

The joint filling rope Insu-Rope is used for sealing linear joints between the following separating building elements:


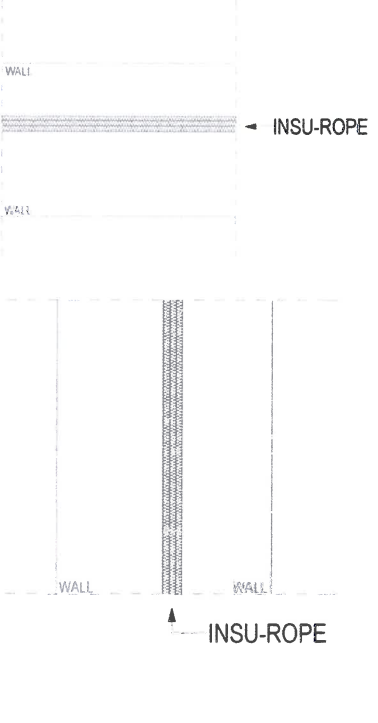

- rigid walls and floors
 - aerated concrete, concrete, reinforced concrete or masonry with a minimum density of 700 kg/m³ (see Table B.2)

The minimum thickness of the separating building elements shall be 150 mm (see Table B.2). The separating building elements shall be classified according to EN 13501-2 for the required fire resistance period.

According to table B.1, the joint filling rope Insu-Rope is used

- in horizontal joints between fire-resistant separating floors or between walls and floors (A)
- in vertical joints between fire-resistant separating walls (B)
- in horizontal joints between fire-resistant separating floors and walls (C).

Table B.1

Application (A)	Application (B)	Application (C)
 <p>The diagram for Application (A) shows three scenarios: 1) A horizontal joint between two floors with Insu-Rope filling the gap. 2) A vertical joint between a wall and a floor with Insu-Rope filling the gap. 3) A horizontal joint between a floor/ceiling/roof and a wall with Insu-Rope filling the gap.</p>	 <p>The diagram for Application (B) shows a vertical joint between two walls. Insu-Rope is shown as a vertical rope filling the gap between the walls.</p>	 <p>The diagram for Application (C) shows a horizontal joint between a wall and a floor. Insu-Rope is shown as a horizontal rope filling the gap between the wall and the floor.</p>

Insu-Rope

Intended Use

Specification of the intended use relating to the verified fire resistance
- Building elements -



Design and arrangement of the joint filling rope

The joint filling ropes shall be installed sequentially for both single- and double-layer applications. The edge of installing rope should be put to the edge of pre-installed rope. Any additional accessories to connect 2 ropes sequentially are not needed. For arrangement and number of layers of the joint filling rope, see Table B.2. The classification of the fire resistance for different arrangements is given in Table B.2

Table B.2

Overview of the fire-resistant designs for the arrangement in rigid wall constructions and rigid floor constructions with a minimum thickness of 150 mm and a minimum density of 700 kg/m³

application	joint width [mm]	Insu-Rope number of layers and arrangement		classification fire resistance
(B)	10 - 150	1	any arrangement within the joint	EI 240 – V – X – F – W 10 to 100 (7,5% lateral movement approved)
(B)	10 - 100	2	any arrangement within the joint	EI 240 – V– M020 – F – W 10 to 100
(B)	110 - 130	1	any arrangement within the joint	EI 240 – V– M020 – F – W 110 to 130
(A) (C)	10 - 100	2	any arrangement within the joint	EI 240 – H – X – F – W 10 to 100 (7,5% lateral movement approved)
(A) (C)	110 - 150	1	any arrangement within the joint	EI 240 – H – X – F – W 110 to 150 (7,5% lateral movement approved)

Insu-Rope

Intended Use

Specification of the intended use relating to the verified fire resistance
- Design and arrangement -



Annex B 2

List of reference documents

EAD 350141-00-1106, issued September 2017	Fire Stopping and Fire Sealing Products - Linear joint and gap seals
SIST EN 13501-1:2007 +A1:2009	Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
SIST EN 13501-2:2016	Fire classification of construction products and building elements - Part 2: Classification using data from resistance tests, excluding ventilation services
SIST EN ISO 1182:2011	Reaction to fire tests for products – Non-combustibility test (ISO 1182:2010)
SIST EN ISO 1716:2010	Reaction to fire tests for products – Determination of the gross heat of combustion (calorific value) (ISO 1716:2010)
SIST EN 1363-1:2012	Fire resistance tests – Part 1: General requirements
SIST EN 1366-4:2006 +A1:2010	Fire resistance tests for service installations – Part 4: Linear joint seals

**Insu-Rope****Reference documents****Annex C**