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and types of construction

Bautechnisches Prüfamt

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European Technical Assessment

ETA-22/0845
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General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Joint filling rope "RP 55 I"

Product family
to which the construction product belongs

Linear joint and Gap seals

Manufacturer

MEHLAG Brandschutz und Handels GmbH
Gildenweg 4
50354 Hürth
DEUTSCHLAND

Manufacturing plant

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This European Technical Assessment
contains

9 pages including 4 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

EAD 350141-00-1106, Edition September 2017

This version replaces

ETA-22/0845 issued on 1 March 2023

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Specific Part

1 Technical description of the product

Object of this European Technical Assessment (ETA) is the joint filling rope "RP 55 I" used for the execution of linear joint seals. The joint filling rope "RP 55 I" is a flexible and elastic joint closure made of mineral fibres braided with textile glass yarn.

Details of the material specifications and the manufacturing process of "RP 55 I" are deposited with the Deutsches Institut für Bautechnik.

"RP 55 I" is produced in seven different nominal diameters.

Further properties are shown in the Annex A.

2 Specification of the intended use in accordance with the applicable European assessment Document

The assessment of the construction product bases on the European assessment document (EAD) N° 350141-00-1106, edition September 2017¹.

The joint filling rope "RP 55 I" is used for sealing horizontal and vertical linear joints (structural joints as stepped joints and linear butt joints) with or without shear stress between rigid fire-resistant walls and floors of a minimum density of 700 kg/m³ with a fire-separating function.

The joint filling rope "RP 55 I" is intended to maintain or reinstate the fire resistance performance of separating building elements where they are interrupted or separated by joints. Here the built-in rope is not suitable for load transfer.

The maximum permitted joint width is 55 mm.

The maximum lateral stretching capability of "RP 55 I" is 7.4 %.

The fire resistance of elements between the joint filling rope "RP 55 I" is applied, are given in Annex B.

The performances given in section 3 are only valid if the joint filling rope "RP 55 I" is installed and used in compliance with

- the specifications and conditions given in Annex B and
- the manufacturer's instructions according to section 5.

The verification and assessment methods on which this European Technical Assessment is based lead to an assumption of working life of the applied joint filling rope "RP 55 I" of 25 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.

The durability is only ensured, if the special provisions for the intended use according to Annex B and the manufacturer's information according to section 5 are considered.

¹ EAD 350141-00-1106 Fire stopping and fire sealing products – Linear joint and gap seals; edition 09/2017, Official Journal of the EU N° C 435/07 of 15 December 2017; p. 157

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

3.1 Mechanical resistance and stability (BWR 1)

Not relevant

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire

The joint filling rope "RP 55 I" is classified class A1 in accordance with EN 13501-1².

3.2.2 Fire resistance

The fire resistance has been classified in accordance with EN 13501-2 is given in Annex B and refers to the joint executed with the joint filling rope "RP 55 I" under the specified conditions.

3.3 Hygiene, health and the environment (BWR 3)

3.3.1 Content and/or emission of dangerous substances

The product "RP 55 I" does not contain dangerous substances.³

3.4 Safety in use (BWR 4)

NPD - No performance determined.

3.5 Protection against noise (BWR 5)

NPD - No performance determined.

3.6 Energy economy and heat retention (BWR 6)

NPD - No performance determined.

3.7 Sustainable use of natural resources (BWR 7)

NPD - No performance determined.

3.8 General aspects

The verification of durability is part of testing the essential characteristics.

In accordance with EAD 350141-00-1106¹, the joint filling rope "RP 55 I" can be used under the following final use conditions, without any essential change in the properties relevant for the fire protective effect and the resulting performance:

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

Type Y₂: Products for linear joint seals intended for use at temperatures below 0 °C, but with no exposure to rain nor UV.

Type Z₁: intended for use in internal conditions with humidity equal to or higher than 85 % RH, excluding temperatures below 0 °C.

Type Z₂: intended for use under internal conditions with humidity lower than 85 % RH, but excluding temperatures below 0 °C (dry, without frost).

² EN 13501-1:2010 Fire classification of construction products and building elements, Part 1 Classification using test data from reaction to fire tests of the products

³ In accordance with the Regulation (EC) N° 1272/2008 of the European Parliament and the Council of 16 December 2008, published in the Official Journal of the EU N° L353 of 31 December 2008, p 1

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

According to the European Assessment Document EAD Nr. 350141-00-1106¹ the following legal basis applies: 1999/454/EC⁴

The system of assessment and verification of constancy of performance (AVCP) (see Annex V and Article 65 Paragraph 2 to Regulation (EU) N° 305/2011) is: **System 1**
as given in the following table:

Product(s)	Intended use(s)	Level(s) or class(es) (resistance to fire)	System of assessment and verification of constancy of performance
joint filling rope RP 55 I	for sealing joints between fire-resistant separating building elements	any	1

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

The technical details necessary for the implementation of system 1 for assessment and verification of constancy of performance (AVCP) are laid down in the control plan (confidential part of this ETA) deposited with Deutsches Institut für Bautechnik.

In accordance with this ETA the manufacturer shall provide the declaration of performance and installation instructions containing at least information on type, properties (minimum thickness, minimum density) and fire resistance of the building elements with a fire-separating function in which the joint filling rope "RP 55 I" shall be installed and shall give a description or graphic presentation of the proper installation concerning number and arrangement of the joint filling ropes in dependence on the construction element, the joint width and the intended fire resistance.

The manufacturer can give additional information on execution, packaging, transport and storage as well as on use, execution, maintenance and repair.

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beglaubigt:
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⁴ Decision of the Commission N° 1999/454/EC of 22 June 1999 (OJ L 178/52 of 14/07/99, p. 3), as amended by Decision of the Commission N° 2001/596/EC of 8 January 2001 (OJ L 209/33 of 2/8/2001, p. 2)

Product description

Table A.1 shows the dimensions and the nominal bulk density of the joint filling rope "RP 55 I".

Table A.1

nominal diameter* [mm]	joint width b [mm]	bulk density [kg/m ³]
12	≤ 10	≥ 440
15	≤ 12	≥ 288
20	≤ 17	≥ 224
30	≤ 27	≥ 208
40	≤ 37	≥ 196
50	≤ 47	≥ 224
60	≤ 55	≥ 200

* nominal diameter depending on the joint width to be sealed

Joint filling rope "RP 55 I"

Product description

Annex A

Separating building elements

The joint filling rope RP 55 I 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)
 - concrete, reinforced concrete or masonry with a minimum density 2400 kg/m³ (see Table B.3)

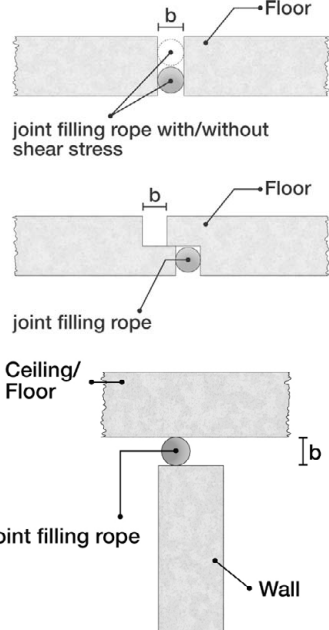
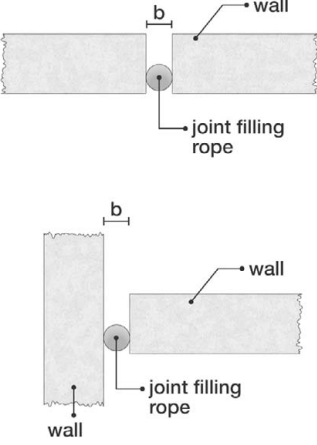
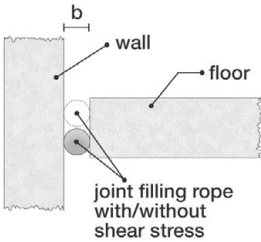
The minimum thickness of the separating building elements shall be 150 mm (see Table B.2 and B.3).

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 RP 55 I 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>Diagrams for Application (A) showing joint filling rope in horizontal joints between floors, walls, and ceiling/floor. The diagrams illustrate the rope being used in joints between two floor slabs, between a wall and a floor slab, and between a ceiling and a floor slab. The rope is shown in cross-section and in plan view, with labels for 'Floor', 'Wall', 'Ceiling/Floor', and 'joint filling rope'. A dimension 'b' is indicated for the width of the joint.</p>	 <p>Diagrams for Application (B) showing joint filling rope in vertical joints between walls. The diagrams illustrate the rope being used in vertical joints between two wall sections. The rope is shown in cross-section and in plan view, with labels for 'wall' and 'joint filling rope'. A dimension 'b' is indicated for the width of the joint.</p>	 <p>Diagram for Application (C) showing joint filling rope in horizontal joints between walls and floors. The diagram illustrates the rope being used in a horizontal joint between a wall and a floor slab. The rope is shown in cross-section and in plan view, with labels for 'wall', 'floor', and 'joint filling rope with/without shear stress'. A dimension 'b' is indicated for the width of the joint.</p>

For the number of layers and the arrangement of the joint filling rope, see Table B.2 and B.3.

Joint filling rope "RP 55 I"	Annex B1
Intended Use Elements – Design and arrangement	

Design and arrangement of the joint filling rope

The joint filling ropes shall be arranged overlapped. For joints

- with a single-layer arrangement the joint filling ropes shall overlap a minimum of 100 mm,
- with a multi-layer arrangement the joints of the joint filling rope shall be arranged 500 mm shifted to each other.

For joints with vertical shear stress, the joint filling ropes shall be arranged with a minimum distance of 25 mm to the outer edge of the building element. For arrangement and number of layers of the joint filling rope, see Table B.2 and B.3.

Tabelle 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/m ³				
application	joint width [mm]	RP 55 I number of layers and arrangement		classification fire resistance
(A) (B)	10 to 55	1	any arrangement within the joint	EI 90-V-X-F-W 10 to 55 EI 90-H-X-F-W 10 to 55
(A) (B)	55	1		EI 120-V-X-F-W 55 EI 120-H-X-F-W 55

Table B.3

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 2400 kg/m ³				
application	joint width [mm]	RP 55 I number of layers and arrangement		classification fire resistance
(A) (C)	10 to 50	2	One strip on each side, minimum distance 25 mm to the outer edge of the building element	EI 90-H-M 65-F-W 10 to 50
(A) (B)	10 to 55	2	layers arranged close together, any arrangement within the joint	EI 120-V-X-F-W 10 to 55 EI 120-H-X-F-W 10 to 55
(A) (B)	10 to 27	4		EI 180-V-X-F-W 10 to 55
	37 to 55	3		EI 180-H-X-F-W 10 to 55

* The maximum shear stress of horizontal joints is restricted to $\Delta h = 100$ mm compared to the installed condition.

For the choice of the suitable joint filling rope (nominal diameter depending on the joint width to be sealed) see Table A.1.

Joint filling rope "RP 55 I"	Annex B2
Intended Use Specification of the intended use relating to the verified fire resistance	

List of reference documents

EN 13501-1:2010-01	Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
EN 13501-2:2010-02	Fire classification of construction products and building elements - Part 2: Classification using data from resistance tests, excluding ventilation services
EN ISO 1182:2010-10	Reaction to fire tests for products – Non-combustibility test (ISO 1182:2010)
EN ISO 1716	Reaction to fire tests for products – Determination of the gross heat of combustion (calorific value) (ISO 1716:2010)
EN 1363-1:2012-10	Fire resistance tests – Part 1: General requirements
EN 1366-4:2010-08	Fire resistance tests for service installations – Part 4: Linear joint seals

Joint filling rope "RP 55 I"

Reference documents

Annex C