

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-23/0455
of 23 January 2024

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Fire protective joint seal "HBT-ISIFLEX-
Brandschutzsilikon"

Product family
to which the construction product belongs

Linear joint and gap seals

Manufacturer

HBT Hochbau-Brandschutz-Technik GmbH
Neue Bahnhofstraße 46
34621 Frielendorf
DEUTSCHLAND

Manufacturing plant

Werk 5

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

350141-00-1106, Edition September 2017

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Specific Part

Technical description of the product

Object of this European Technical Assessment (ETA) is the kit "HBT-ISIFLEX-Brandschutzsilikon" for executing fire protective linear joint and gap seals.

The joint sealing kit will be assessed in accordance with the European Assessment Document (EAD) N° 350141-00-1106¹.

The kit "HBT-ISIFLEX-Brandschutzsilikon"² for fire protective sealing of structural joints and gaps between solid, fire-resistant construction elements made of concrete, reinforced concrete or pre-stressed concrete such as ceilings, floors and walls, as well as between solid elements for integrity and between solid structures and untreated steel elements, consists at least of the sealant "HBT-ISIFLEX-Fugensilikon" and the compressible joint cord "ISIFLEX PE Fugenschnur".

Optionally and if required, the kit "HBT-ISIFLEX-Brandschutzsilikon" can include additional components such as the surface degreaser "ASP Cleaner" for degreasing the joint surfaces, the surface primer "ASP Primer" for preparing the joint surfaces and/or the surface smoother "ASP Finish" for subsequent leveling of the executed joint. If required, the kit may also include loose mineral wool for residual joint filling and cut-to-size mineral wool slabs to secure the position of the back filling.³

Joint edge movements of the executed fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon" shall not exceed 25 % related to the joint width.

The fire protective sealant "HBT-ISIFLEX-Fugensilikon" is a neutral curing Oxim silicone of gray or white colour. It is supplied in cartridges of 310 ml with adapter or in 600 ml tubular bags.

The joint cord "ISIFLEX PE Fugenschnur" made of foamed polyethylene (PE) is an endless profile with a round cross-section. It is available in several diameters to suit the permissible joint widths and can be cut to fit the joint length.

The specific parameters of the individual components of the kit "HBT-ISIFLEX-Brandschutzsilikon" are listed in Annex A.

Details of the system-setup of the tested fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon" are given in Annex B.

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

The installed kit "HBT-ISIFLEX-Brandschutzsilikon" is intended to be used to seal horizontal and vertical linear joints (linear butt joints and linear stepped joints between elements) between massive fire-resistant and fire separating walls and ceilings/floors made of building materials of class A1 or A2-s1,d0 classified in accordance with EN 13501-1, with a thickness of at least 100 mm and a material density of at least 600 kg/m³, as well as for sealing joints between a massive mineral construction element to a metal construction elements with a melting point above 1000°C.

The vertical and horizontal joints executed with the "HBT-ISIFLEX-Brandschutzsilikon" kit are intended to restore and maintain the fire resistance of the massive fire-separating elements in case of fire and in areas of necessary material contact between massive elements and steel components at the points where they are interrupted or separated by joints.

The executed joint sealing kit is not intended to transmit forces.

¹ EAD 350141-00-1106, Edition September 2017 Fire stopping and fire sealing products "Linear joint and gap seals" published in the Official Journal of the EU N° C 435/07 of 15 December 2017, S. 152

² Details of chemical composition are deposited with DIBt

³ Type, manufacturer and parameters, details on their processing and chemical composition are deposited with DIBt;

English translation prepared by DIBt

The performances given in Section 3 are only valid if the fire sealing kit is used in compliance with

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

The verification and assessment methods on which this European Technical Assessment is based lead to an assumption of working life of the incorporated joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon" of ca. 25 years if used under in-door conditions.

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 Safety in case of fire - BWR 2

Essential characteristic	Performance
Reaction to fire of the sealant "HBT-ISIFLEX Fugensilikon"	class E in accordance with EN 13501-1
Resistance to fire of the kit "HBT-ISIFLEX-Brandschutzsilikon" – vertical linear joints – Horizontal linear joints – Connection joints between massive mineral elements and steel elements	class EI in accordance with EN 13501-2, (see Annex B) class EI or E (see Annex B)

3.2 Hygiene, Gesundheit und Umweltschutz - BWR 3

Essential characteristic	Performance
Content of dangerous substances	No dangerous substances ⁴

The detailed chemical composition of the components of the joint sealing kit "HBT-ISIFLEX Brandschutzsilikon" was assessed by DIBt and is deposited with the DIBt. The composition of the product has to relate to the deposition.

3.3 General aspects

The assessment of durability is part of testing the product concerning the basic works requirements and the achievement of the performance assessed.

In accordance with EAD 350141-00-1106¹ clause 2.1 the joint sealing kit "HBT-ISIFLEX Brandschutzsilikon" can be used under the following final use conditions, without any significant changes to the properties relevant to the fire protection effect and the resulting performance:

Type Z₁: for use at indoor conditions with changing humidity equal to or higher than 85% RH (occasional condensation that dries off again), but no temperatures below 0 °C (no frost), no UV-radiation, no rain or running water.

The assumption concerning durability under final use conditions for ca 25 years is only ensured, if the specifications of intended use are considered according to Annex B and the manufacturer's instructions in accordance with section 5.

⁴ 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

English translation prepared by DIBt

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

In accordance with EAD No. 350141-00-1106¹, the applicable European legal act is: 1999/454/EC⁵.

The system of assessment and verification of constancy of performance (AVCP) (see Annex V of the decision and Article 65 Paragraph 2 to Regulation (EU) N° 305/2011) is

System 1

as given in the following table:

Product	Intended use	Level(s) or class(es)	AVCP-System
"HBT-ISIFLEX Brandschutzsilikon"	sealing of joints between fire-resistant separating building elements and between massive and steel elements in case of fire	all resistance to fire reaction to fire	1

5 Technical details necessary for the implementation of the system 1 for Assessment and Verification of Constancy of Performance (AVCP) in accordance with the EAD

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.

The manufacturer shall provide a declaration of performance and installation instructions on every construction kit according to this ETA containing at least the information on type, properties (minimum thickness, density) and resistance to fire of the building elements with fire-separating function in which the fire protective joint sealing kit "HBT-ISIFLEX Brandschutzsilikon" may be installed as fire protective joint, and a description or picture of the proper installation of the kit.

Issued in Berlin on 23 January 2023 by Deutsches Institut für Bautechnik

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Head of Section

beglaubigt:
Dr.-Ing. Dierke

⁵ Decision of the Commission N° 1999/454/EC of 22 June 1999, published in the Official Journal of the EU N° L 178/52 of 14 July 1999, p. 3, as amended by Decision of the Commission N° 2001/596/EC of 8 January 2001; published in the Official Journal N° L 209/33 of 2 August 2001, p. 2

Description of the fire protective joint sealing kit "HBT-ISIFLEX Brandschutzsilikon"

Essential characteristics of the components

1. "HBT-ISIFLEX Fugensilikon" white or grey, delivered in cartridges

characteristic	parameter and tolerance	Test method and test conditions
Density at ca. 20 °C	1,4 g/ml ± 10 %	See control plan
Loss of mass at a certain temperature (test temperature 550°C)	48,0 ± 5 %	
Reaction to fire acc. to EN 13501-1	class E	

2. ISIFLEX PE Fugenschnur

characteristic	parameter and tolerance	Test method
Diameter of the cord [mm]	6, 8, 10, 13, 15, 20, 25, 30,40	EN 14405-1 venier calipers
Density	20 g/cm ³ to 35 g/cm ³	EN ISO 2811-1
Reaction to fire	class E	EN 13501-1

3. ASP Primer* for priming the joint edges

characteristic	parameter and tolerance	Test method
Density at ca. 20 °C	1,16 g/cm ³ ± 10 %	EN ISO 2811-1?
Reaction to fire	Class E	EN 13501-1

4. Smoothing agent ASP Finish* for smoothing the joint surface

characteristic	parameter and tolerance	Test method
Density at ca. 20 °C	1,3 g/ml ± 0,2 g/ml	EN ISO 2811-1
Reaction to fire	Class E	EN 13501-1

5. Mineral wool WLS 035 as backing material /mineral wool board cuttings for securing the position *

characteristic	parameter and tolerance	Test method
Density	130 kg/m ³ to 160 kg/m ³	EN 13162
Melting point	≥ 1000 °C	DIN 4102-17
Reaction to fire	class A1	EN 13501-1

* optional; not mandatory component of the kit; only if intended or requested

Fire protective joint seal "HBT-ISIFLEX-Brandschutzsilikon"	Annex A
Anlagenbeschreibung	

English translation prepared by DIBt

Fire-separating elements

The kit "HBT-ISIFLEX-Brandschutzsilikon" is intended to seal linear joints between massive construction elements as walls and ceilings with a minimum raw density of 600 kg/m³ made of normal concrete, aerated concrete, reinforced concrete, prestressed concrete, hollow blocks or masonry.

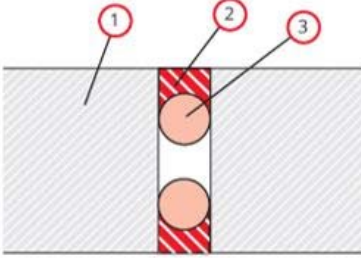
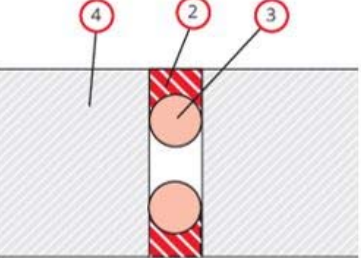
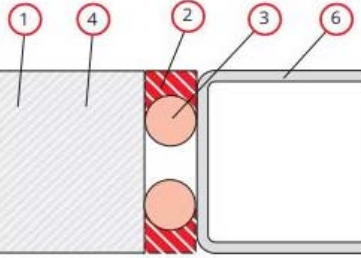
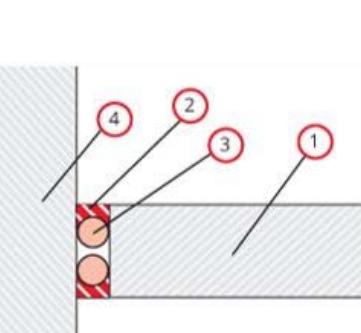
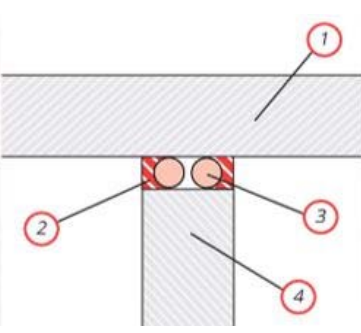
The fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon" is proven for sealing horizontal linear joints in massive ceiling elements, for sealing vertical linear joints between massive wall elements as well as for sealing joints between massive walls and ceilings as well as for sealing joints between massive concrete elements and steel elements. The specifications apply to joint widths from 10 mm to 40 mm with joint depths up to the corresponding joint width in each case (40 mm joint width - 40 mm filling depth).

The joint seal itself does not serve to transfer the load.

The minimum thickness of the fire separating elements (walls, ceiling/floor elements) has to be at least of 100 mm.

The fire separating elements themselves have to satisfy the respective required fire resistance class according to EN 13501 2.

The limitation of mechanically induced movements shall be complied with as described in section 1 of the European Technical Assessment (ETA).t

setup for ceilings	setup for walls	setup concrete – metal element
		
<p>cross-section horizontal joint between ceiling- or floor elements</p>	<p>plan view vertikal joint between wall elements</p>	<p>plan view vertical joint connection between concrete and steel elements</p>
		
<p>cross-section horizontal joint between wall and ceiling/floor elements</p>	<p>cross-section horizontal joint between ceiling/floor and wall elements</p>	

Legend:

1 massive ceiling; 2 joint sealing "HBT-ISIFLEX-Fugensilikon"; 3 joint filling cord, 4 massive wall; 6 steel element

<p>Fire protective joint seal "HBT-ISIFLEX-Brandschutzsilikon"</p>	<p>Annex B1</p>
<p>Anlagenbeschreibung</p>	

Classification of the tested construction elements concerning resistance to fire

Table B.1 Tested vertical joint constructions (walls), joint closed on both sides
executed with the fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon"

Joint width/depth	Classification in accordance with EN 13501-2
10 mm	EI 120-V-X
20 mm	EI 120-V-X
30 mm	EI 180-V-X
40 mm	EI 240-V-X

Table B.2 Tested horizontal joint constructions (ceilings/floors), joint closed on both sides
executed with the fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon"

Joint width/depth	Classification in accordance with EN 13501-2
10 mm	EI 120-H-X
20 mm	EI 120-H-X
30 mm	EI 120-H-X
40 mm	EI 180-H-X

Table B.3 Tested linear vertical connection between concrete wall and steel element
executed with the fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon"

Type of joint	Classification in accordance with EN 13501-2
Vertical connection joint filled Width 20 mm, depth 20 mm	EI 30-V-X E 240-V-X

Fire protective joint seal "HBT-ISIFLEX-Brandschutzsilikon"

Anlagenbeschreibung

Annex B2

List of References

EN 1363-1:2012-10	Fire resistance tests – Part 1: General requirements
EN 1366-4:2021-05	Fire resistance tests for service installations – Part 4: Linear joint seals
EN ISO 2811-1:2016-08	Paints and varnishes - Determination of density - Part 1: Pycnometer method
EN ISO 11925-2:2020-07	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
EN 13162:2012+A1:2015	Thermal insulation products for buildings – Factory made mineral wool (MW) products – Specification
EN 13501-1:2019-05	Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests
EN 13501-2:2016-12	Fire classification of construction products and building elements – Part 2: Classification using data from resistance tests, excluding ventilation services
EN 13823:2020-09	Reaction to fire tests for building products - Building products exposed to the thermal attack by a single burning item, excluding floorings
EN ISO 14405-1:2017-07	Geometrical product specifications (GPS) - Dimensional tolerancing - Part 1: Linear sizes
EN 15882-4:2012-07	Extended application of results from fire resistance tests for service installations – Part 4: Linear joint seals
DIN 4102-17:2017-12	Fire behaviour of building materials and building components – Part 17: Melting point of mineral wool insulating materials – Terms and definitions, requirements and test

Fire protective joint sealing kit "HBT-ISIFLEX-Brandschutzsilikon"

List of References

ANNEX C