

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

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European Technical Assessment

ETA-20/0567
of 26 April 2021

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

"Flaton-flex A+SKL" fire protective joint filler

Product family
to which the construction product belongs

Linear joint and gap seals

Manufacturer

Rex Industrie-Produkte
Graf von Rex GmbH
Großaltdorf Straße 59
74541 Vellberg
DEUTSCHLAND

Manufacturing plant

Rex Industrie-Produkte
Graf von Rex GmbH
Großaltdorfer Straße 59
74541 Vellberg
DEUTSCHLAND

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

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Specific Part

1 Technical description of the kit

Object of this European Technical Assessment (ETA) is the joint filler kit "Flaton-flex A+SKL" for executing linear joint and gap seals.

The joint filler kit "Flaton-flex A+SKL" consists at least of the factory-made intumescent sealing strip "Flaton-flex-A" laminated on one side with a self-adhesive tape (SKL)¹, and the installation guide.

When indicated, a backing of PE-joint cord¹ and/or an additional finish of silicone-sealant¹ may be integrated.²

The joint filler "Flaton-flex-A" is a flexible, intumescent material applied on a glass fibre mat¹ as support. It is produced of nominal thicknesses of 1,5 mm and 2 mm and with a lamination on one side of double-sided self-adhesive tape "SKL" (self-adhesive laminate). The mats will be cut into strips of a nominal width of 30 mm.

The specific parameter of "Flaton-flex-A" equipped on one side with a double-sided self-adhesive tape "SKL" are given in Annex A.

The joint filler "Flaton-flex A+SKL" is traded in rolls of a standard length of ca. 15 m.

The maximum lateral stretching capability and the shear strain capacity of the executed joint filler "Flaton-flex A+SKL" are limited to 7,5 %.

The detailed description of the components and the chemical composition of the intumescent material "Flaton-flex-A" are deposited with Deutsches Institut für Bautechnik.

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

The joint filler kit "Flaton-flex-A+SKL" will be assessed in accordance with the European Assessment Document (EAD) N° 350141-00-1106³.

The joint filler kit "Flaton-flex-A+SKL" is intended to be used in horizontal and vertical linear non-movement joints up to a width of 10 mm (structural joints as stepped joints and linear butt joints) between massive, fire resistant rigid walls and floors with a fire-separating function (density $\geq 650 \text{ kg/m}^3$) made of construction materials classified as class A1 or A2-s1,d0 in accordance with EN 13501-1.

The joint filler "Flaton-flex A+SKL" is intended to maintain or reinstate the fire resistance performance of building components with a fire-separating function where they are interrupted or separated by joints. The incorporated product "Flaton-flex A+SKL" is not intended for load transmission.

The fire resistance of construction elements equipped with the joint filler "Flaton-flex A+SKL" is presented in Annex B for different types of incorporation.

The performance given in section 3 is only valid if the joint filler "Flaton-flex A+SKL" is used in compliance with

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

¹ Component concerning type, manufacturer and specific parameters deposited at DIBt.

² The tests for resistance to fire also enclose these variants.

³ Official Journal of the EU N° C 435/07 of 12 December 2017; p. 159; EAD N° 350141-00-1106 „Linear joint and gap seals“

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of working life of the construction product "Flaton-flex A+SKL" at in-door use conditions of ca. 25 years and of at least 10 years at roofed or protected out-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 kit/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	class C-s1,d0 in accordance with EN 13501-1, NPD*
Resistance to fire	classes EI in accordance with EN 13501-2, see Annex B

* application with a backing of PE joint-cord or/and an additional finish of silicone-sealant

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content of dangerous substances	no dangerous substances ⁴

The detailed chemical composition of the components of the joint filler "Flaton-flex A+SKL" was assessed by DIBt and is deposited with the DIBt. The composition of the product has to relate to the deposition.

3.3 Safety and accessibility in use (BWR 4)

No performance determined (NPD)

3.4 Protection against noise (BWR 5)

No performance determined (NPD)

3.5 Energy economy and heat retention (BWR 6)

No performance determined (NPD)

3.6 Sustainable use of natural resources (BWR 7)

No performance determined (NPD)

3.7 General aspects

The evidence of durability is part of testing the basic works requirements and the achievement of the performance assessed.

In accordance with EAD 350141-00-1106³, clause 2.1 the joint filler "Flaton-flex A+SKL" can be used under the following final use conditions, without having to fear essential changes in the properties relevant for the fire protective effect and the resulting performance:

Type Y₁: use at temperatures below 0 °C with occasional exposure to UV radiation, but no exposure to rain (roofed).

Type Y₂: use at temperatures also below 0 °C, but no exposure to rain or UV.

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

- Type Z₁: in-door use at changing relative humidity equal to or higher than 85 % RH, but no temperatures below 0 °C (frost-protected).
- Type Z₂: in-door use at a relative humidity lower than 85 % RH, but no temperatures below 0 °C (dry, frost-protected).

The durability under final use conditions - roofed out-door conditions for at least 10 years and at in-door 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 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD N° 350141-00-1106³ the applicable European legal act is: 1999/454/EC⁵.

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,

to apply as given in the following table:

Product	Intended use	Level(s) or class(es)	System
"Flaton-flex A+SKL"	for sealing joints between fire-resistant separating building elements	all - resistance to fire - reaction to fire	1

5 Technical details necessary for the implementation of the system for the Assessment and verification of constancy of performance, as provided for in the applicable European Assessment Document

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 the 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 filler kit "Flaton-flex A+SKL" may be installed and a description or graphic presentation of the proper installation.

Issued in Berlin on 26 April 2021 by Deutsches Institut für Bautechnik

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beglaubigt:
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⁵ Decision of the Commission N° 1999/454/EC of 22 June 1999, see Official Journal 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 L 209/33 of 2/8/2001, p. 2

Description of the kit "Flaton-flex A+SKL"

1. Properties relevant for the fire protective effects of the intumescent component "Flaton-flex A" with self-adhesive lamination on one side

characteristic	value and tolerance	test method and test conditions
mass per unit area	thickness 1,5 mm: 1,4 kg/m ² to 1,9 kg/m ² thickness 2,0 mm: 2,0 kg/m ² ± 0,2 kg/m ²	see control plan
loss of mass at a certain temperature (at 450 °C)	48,0 ± 5 %	
exoansion ratio	13,0 to 19,0	
expansion pressure	thickness 1,5 mm: 1,2 N/mm ² to 2,4 N/mm ² thickness 2,0 mm: 1,6 N/mm ² to 2,6 N/mm ²	
reaction to fire	class C-s1,d0 in accordance with EN 13501-1	

2. Double-faced self-adhesive tape

Polyacrylic adhesive on a layer of paper mat; thickness: 0,16 mm to 0,18 mm

3. PE-cord backing of ø 12 mm*

Flexible grey round section profile of compressible Polyethylene-foam with closed cellular structure

characteristic	value and tolerance
diameter mm	13 ± 1
density kg/m ³	23 ± 5

* not mandatory component; only when intended

"Flaton-flex A+SKL"

Description of the components of the kit

Annex A

Fire-separating elements

The joint filling kit "Flaton-flex A+SKL" is intended to seal linear joints between massive construction elements as walls and ceilings of a minimum density of $650 \pm 200 \text{ kg/m}^3$ made of cellular concrete, concrete, reinforced concrete, masonry, hollow block brickwork.

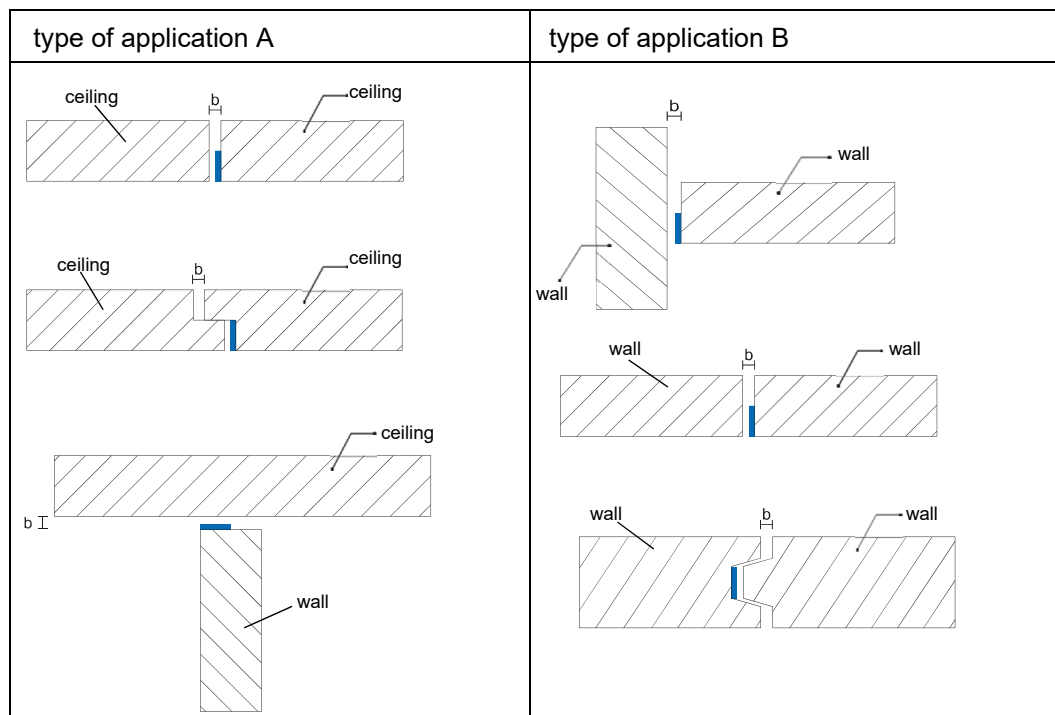
The joint filling kit "Flaton-flex A+SKL" can be used to close linear joints up to a width of maximum 10 mm (b).

Walls and ceilings with fire separating function shall have a minimum thickness 100 mm for massive vertical loadbearing elements and 150 mm for massive horizontal load bearing elements. (see annex B).

The fire separating element itself has to show the same class of resistance to fire according to EN 13501-2 as required with the joint seal.

The joint filling kit "Flaton-flex A+SKL" can be used for the following types of application

- in horizontal joints between fire resistant walls or between walls and ceilings with fire-separating function (type of application A)
- in vertical joints between fire resistant walls with fire-separating function (type of application B)



Legend: ■ b width of the joint
"Flaton-flex A+SKL"

"Flaton-flex A+SKL"

Intended Use

Information for execution concerning the tested resistance to fire
- construction elements -

Annex B 1

Classification of the resistance to fire

Table B.1 Tested versions of joints of a width ≤ 10 mm in wall constructions
of a thickness ≤ 100 mm (vertical joints)
executed with the joint filler kit "Flaton-flex A+SKL"

nominal thickness of the joint filler and type of application	Classification in accordance with EN 13501-2
1,5 mm without any backing	EI 120-V-X-F-W 10
1,5 mm with PE-cord backing	EI 120-V-X-F-W 10
2,0 mm without any backing	EI 180-V-X-F-W 10

Table B.2 Tested versions of joints of a width ≤ 10 mm in ceiling constructions
of a thickness ≤ 150 mm (horizontal joints)
executed with the joint filler kit "Flaton-flex A+SKL"

nominal thickness of the joint filler and type of application	Classification in accordance with EN 13501-2
1,5 mm without any backing	EI 120-H-X-F-W 10
1,5 mm with PE-cord backing	EI 90-H-X-F-W 10
2,0 mm without any backing	EI 120-H-X-F-W 10

"Flaton-flex A+SKL"

Intended use
Data for design relating to the tested resistance to fire

Annex B 2

List of References

- | | |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 ISO 11925-2:2020-07 | Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2010) |
| 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 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 |

"Flaton-flex A+SKL"

List of reference documents

Annex C