

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

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ETA-20/0686
of 30 March 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-Fugendichtung (fire protective joint filler)

Product family
to which the construction product belongs

Fire protective products - 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
Großaltdorf Straße 59
74541 Vellberg
DEUTSCHLAND

This European Technical Assessment
contains

9 pages including 4 pages 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 product

Object of this European technical assessment (ETA) is the kit "Flaton-Fugendichtung" joint filler for executing linear joint and gap seals.

The joint filler kit "Flaton-Fugendichtung" consists at least of an intumescent, factory-made, compressible multi-layers strip, 8 mm thick, the adhesive "RexFix 1000" or the sealant "Sikaflex PRO-2" and the installation guide.

The joint filler strip "Flaton-Fugendichtung" consists of the intumescent material "Flaton VPG 12 Brandschutzpappe", ca. 2,5 mm thick, and of a strip of compressible foamed melamine resin¹, ca. 5 mm thick. The both components stick together by a double-sided self-adhesive tape¹. The factory-made, multi-layers strips are available as strips of a width of 40 mm and a length of ca. 1000 mm.

The description of the components and the characteristics of the intumescent material "Flaton VPG 12" Brandschutzpappe are given in Annex A.

The maximum lateral stretching stress and the shear strain of the joint filler "Flaton-Fugendichtung" are limited to 7,5 %.

The detailed description of the components and the chemical composition of the intumescent material "Flaton VPG 12" Brandschutzpappe 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-Fugendichtung" will be assessed in accordance with the European Assessment Document (EAD) N° 350141-00-1106².

The joint filler kit "Flaton-Fugendichtung" is intended to seal horizontal and vertical linear non-movement joints (structural joints as stepped joints and linear butt joints) up to a width of 10 mm between massive fire-resistant walls and floors (density $\geq 650 \text{ kg/m}^3$) with a fire-separating function in case of fire.

The joint filler "Flaton-Fugendichtung" 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-Fugendichtung" is not intended for load transmission.

The fire resistance of the joint filler "Flaton-Fugendichtung" for different types of incorporation between construction elements is presented in Annex B.

The performance given in section 3 are only valid if the joint seal 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 ETA is based, lead to an assumption of a working life in final use of the joint filler "Flaton-Fugendichtung" at in-door use conditions of ca. 25 years and of at least 10 years at roofed out-door conditions.

¹ Type, manufacturer and characteristics deposited.

² 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 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 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 B-s1,d0 in accordance with EN 13501-1
Resistance to fire	Classes EI in accordance with EN 13501-2 see Annex B

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content of dangerous substances	no dangerous substances ³

The chemical composition of the components of the joint filler "Flaton-Fugendichtung" 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

3.4 Protection against noise (BWR 5)

No performance determined

3.5 Energy economy and heat retention (BWR 6)

No performance determined

3.6 Sustainable use of natural resources (BWR 7)

No performance determined

3.7 General aspects

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

In accordance with EAD 350141-00-1106², the joint filler "Flaton-Fugendichtung" 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: 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.

Type Z₁: in-door use at changing relative humidity equal to or higher than 85 % RH, but no temperatures below 0 °C.

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 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 given in section 5.

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)

It is assumed, that additionally applied, flexible tops on the visible surface of the incorporated joint filler "Flaton-Fugendichtung" sealants as e.g. silicon or acrylic sealants - which are not object of this ETA – do not reduce essentially the effectivity in case of fire (foaming in case of fire, resistance to fire). The assessed reaction to fire class is not valid in this case.

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

In accordance with EAD N° 350141-00-1106² the applicable European legal act is: 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	Intended use	Level(s) or class(es) - resistance to fire - reaction to fire	AVCP-System
"Flaton-Fugendichtung"	For sealing joints between fire-resistant separating building elements	all	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 the system 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 filler kit "Flaton-Fugendichtung" may be installed and a description or graphic presentation of the proper installation.

Issued in Berlin on 30 March 2021 by Deutsches Institut für Bautechnik

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Head of the section

beglaubigt:
Dr.-Ing. Dierke

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)

Description of the construction product

1. Properties relevant for the fire protective effects of the intumescent component "Flaton VPG 12" Brandschutzpappe

characteristic	value and tolerance	test method and test conditions
"Flaton VPG 12" product without any lamination		
nominal thickness	2,5 mm \pm 0,5 mm	see control plan
mass per unit area	1,77 kg/m ² \pm 0,25 kg/m ²	
loss of mass at higher temperature	5,5 % to 12,5 % (at 300 °C for 20 minutes)	
expansion ratio	4,8 to 11,5 (at 300 °C for 20 minutes with a top load)	
expansion pressure	0,6 N/mm ² to 1,0 N/mm ²	
reaction to fire	class E	

2. Double-faced self-adhesive tape

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

3. Melamine resin foam-strips

Flexible, open-cell foam of melamine resin, colour: grey/white

characteristic	value and tolerance	test method
density	8,0 kg/m ³ \pm 2,5 kg/m ³	EN ISO 845
tensile strength	> 100 kPa	ISO 1798

"Flaton-Fugendichtung" (fire protective joint filler)

Product description

Annex A

Fire-separating elements

The joint filling kit "Flaton-Fugendichtung" 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.

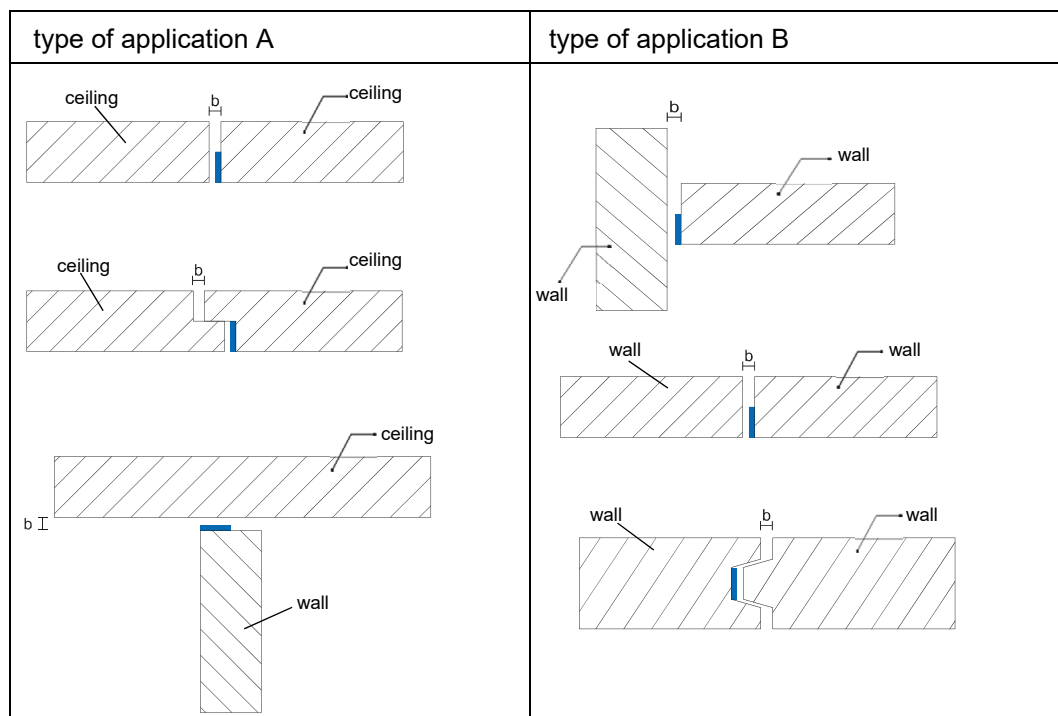
The joint filling kit "Flaton-Fugendichtung" can be used to close linear joints up to a width of maximum 10 mm (b).

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 table B1 and B2, annex B).


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

The joint filling kit "Flaton-Fugendichtung" 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
 fire protective joint filler "Flaton-Fugendichtung"

"Flaton-Fugendichtung" (fire protective joint filler)

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 wall constructions relating to type of application B
executed with the joint filler "Flaton-Fugendichtung"

tested joint	classification in accordance with EN 13501-2
1000 mm x 40 mm x 8 mm	EI 180-V-X-F-W 10

Table B.2 tested versions of ceiling constructions relating to type of application A
executed with the joint filler "Flaton-Fugendichtung"

tested joint	classification in accordance with EN 13501-2
1000 mm x 40 mm x 8 mm	EI 180-H-X-F-W 10

"Flaton-Fugendichtung" (fire protective joint filler)

Intended use

Data for design relating to the proved 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-Fugendichtung" (fire protective joint filler)

List of reference documents

Annex C