

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-13/0270**  
**of 26 March 2018**

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

Joint filling system Litaflex-Vario

Product family  
to which the construction product belongs

Kit for use in linear joint and gap seals

Manufacturer

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

Manufacturing plant

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This European Technical Assessment  
contains

10 pages including 5 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

This version replaces

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**European Technical Assessment  
ETA-13/0270**

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## Specific part

### 1 Technical description of the kit

The joint filling system Litaflex-Vario is a kit consisting of the sealing element Litaflex-Vario and the adhesive litaflex-Kleber 800.

The sealing element consists of mineral foam boards which are glued together, two layers of an intumescent material and an outer covering with an aluminium foil.

The maximum lateral stretching capability of the joint filling system Litaflex-Vario is 20 mm.

Detailed technical descriptions of the sealing element Litaflex-Vario are given in Annex A.

Details of the product composition is deposited with Deutsches Institut für Bautechnik.

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

The joint filling system Litaflex-Vario is intended to be used in horizontal and vertical linear non-movement joints (structural joints as linear butt joints) between fire resistant rigid walls and floors with a fire-separating function.

The joint filling system 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.

Resistance to fire of the joint filling system Litaflex-Vario is given in Annex B.

The performances given in section 3 are only valid if the joint filling system 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 to the assumption of a working life of the joint filling system Litaflex-Vario of at least 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.

### 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	Classes in accordance with EN 13501-1 See Annex A
Resistance to fire	Classes in accordance with EN 13501-2 See Annex B

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### 3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Air permeability	No performance assessed
Water permeability	No performance assessed
<b>Content, emission and/or release of dangerous substances</b>	
Substance(s) classified as EU-cat. Carc. 1A/1B in accordance with Regulation (EC) No 1272/2008.	The product does not contain these dangerous substances used. <sup>1)</sup>
Substance(s) classified as EU-cat. Muta. 1A/1B in accordance with Regulation (EC) No 1272/2008.	
Substance(s) classified as EU-cat. Acute Tox. 1, 2 and/or 3; EU-cat. Repr. 1A/1B; EU-cat. STOT SE 1 and/or STOT RE 1, in accordance with Regulation (EC) No 1272/2008.	
SVOC and VOC	The emission of dangerous substances was not assessed. No performance assessed
Use scenarios regarding BWR 3 in accordance with EOTA TR 034: IA 1, IA 2	

<sup>1)</sup> The assessment is based on a detailed manufacturer's product declaration.

### 3.3 Safety and accessibility in use (BWR 4)

No performance assessed

### 3.4 Protection against noise (BWR 5)

No performance assessed

### 3.5 Energy economy and heat retention (BWR 6)

No performance assessed

### 3.6 General aspects of durability and serviceability

The verification of durability and serviceability are part of testing the essential characteristics.

The joint filling system Litaflex-Vario may be used in end-use application with the conditions of the following use categories, with no essential changes in its fire protective property to be expected:

Type Y<sub>2</sub>: intended for use at temperatures below 0°C, but with no exposure to rain nor UV.

Type Z<sub>1</sub>: intended for use in internal conditions with humidity equal to or higher than 85 % RH, excluding temperatures below 0 °C.

Type Z<sub>2</sub>: intended for use in internal conditions with humidity lower than 85 % RH, excluding temperatures below 0°C.

Durability is only ensured if the specifications of the intended use according to Annex B and the manufacturer's instructions in section 5 are taken into account.

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

In accordance with EAD No. 351000-01-1105, the applicable European legal act is: 1999/454/EC.

The system to be applied is: 1.

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**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 the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 26 March 2018 by Deutsches Institut für Bautechnik

Prof. Hoppe  
Head of Department

*beglaubigt:*  
von Hoerschelmann

**1 Components and properties**

Table 1

Component	Description / Properties
<p>Litaflex-Vario Rex Industrie-Produkte Graf von Rex GmbH 74541 Vellberg Germany</p>	<p><u>Construction</u> Litaflex-Vario consists of one or more mineral foam boards of the type "Litaflex SM 30" which are glued together. The thickness of the boards or the glued boards depends on the thickness of the element. The chemical composition is deposited with Deutsches Institut für Bautechnik. Two layers of the intumescent material "Brandschutzpappe flaton VPG 12" (without lamination), nominal thickness 2,5 mm, shall be arranged between the two layers of the foam boards. The chemical composition and the special properties (e. g. expansion ratio, expansion pressure and loss of mass on heating) are deposited with Deutsches Institut für Bautechnik. The two foam boards are covered with an aluminium foil with a thickness of 0.05 mm.</p> <p><u>Dimensions</u> Thickness: 30 mm to 120 mm Height 125 mm Length 1000 mm</p> <p><u>Reaction to fire classification in accordance with EN 13501-1</u> Class C-s1,d0</p>
<p>litaflex-Kleber 800 Rex Industrie-Produkte Graf von Rex GmbH 74541 Vellberg Germany</p>	<p>The chemical composition is deposited with Deutsches Institut für Bautechnik. <u>Reaction to fire classification in accordance with EN 13501-1</u> Class E for end use conditions</p>

Joint filling system Litaflex-Vario

**Components and properties**

**Annex A**

**2 Fire-resistance of the joint filling system Litaflex-Vario**

**2.1 Building components with a fire separating function**

The joint filling system Litaflex-Vario is intended to be used between the following separating building components:

Rigid walls

- made of masonry, concrete or reinforced concrete with a density of  $2400 \text{ kg/m}^3 \pm 20 \%$
- thickness  $c_w \geq 150 \text{ mm}$  (see Annex B 2)

Rigid floors

- made of concrete or reinforced concrete with a density of  $2400 \text{ kg/m}^3 \pm 20 \%$
- thickness  $c_D \geq 150 \text{ mm}$  (see Annex B 2)

The separating building elements shall be classified in accordance with EN 13501-2 for the corresponding fire resistance period.

**2.2 Application**

According to the schematic representation of table 2, the joint filling system Litaflex-Vario is intended to be used

- in horizontal joints between fire-resistant separating floors or between walls abutting a floor (A)
- in vertical joints between fire-resistant separating walls (B).

Table 2

Application (A)	Application (B)

- c Thickness of the building component (rigid floor  $c_D$  or rigid wall  $c_w$ )
- b Width of the joint in accordance with annex B 2

Details on the joint filling system Litaflex-Vario and information on the dimension of the construction product are given in the annex B 2.

Joint filling system Litaflex-Vario

**Resistance to fire of the joint filling system**

- Information on the building components and overview of the applications -

Annex B 1

### 2.3 Classification of the joint filling system Litaflex-Vario

Table 3 provides an overview of the joint filling systems installed in fire-resistant rigid walls and rigid floors (application A and B according to Annex B 1, table 2).

Table 3 (dimensions in mm)

Thickness of the building element c	Joint width b	Sealing element			Classification of the resistance to fire
		Thickness*	Height	Length	
150	20	30	125	1000	EI 120-V-M100-F-W 20 EI 120-H-M100-F-W 20
	30	40			EI 120-V-M066-F-W 30 EI 120-H-M066-F-W 30
	40	50			EI 120-V-M050-F-W 40 EI 120-H-M050-F-W 40
	50	60			EI 120-V-M040-F-W 50 EI 120-H-M040-F-W 50
	60	70			EI 120-V-M033-F-W 60 EI 120-H-M033-F-W 60
	70	80			EI 120-V-M029-F-W 70 EI 120-H-M029-F-W 70
	80	95			EI 120-V-M025-F-W 80 EI 120-H-M025-F-W 80
	90	110			EI 120-V-M022-F-W 90 EI 120-H-M022-F-W 90
	100	120			EI 120-V-M020-F-W 100 EI 120-H-M020-F-W 100

\* uncompressed

Joint filling system Litaflex-Vario

Resistance to fire of the joint filling system Litaflex-Vario  
- Classification -

Annex B 2



## 2.5 Description of the tested application

The joints in which the sealing elements are installed are to be cleaned of any contamination (e. g. loose debris, dirt or remains of installation foams).

When cutting the sealing elements must not be damaged.

The inside surfaces of the building element are coated with the adhesive litaflex-Kleber 800. Using two installation plates, the sealing elements are pre-compressed to a thickness of 10 mm smaller than the joint width and are inserted into the joint. The butt joined sealing elements are completely glued together on their front sides by using litaflex-Kleber 800.

The joint shall be installed completely as described above.

The ETA is issued under the assumption that the installation of the construction product is in accordance with the manufacturer's installation instructions.

Joint filling system Litaflex-Vario

**Resistance to fire of the joint filling system**  
- Description of the tested application -

Annex **B 3**

**Standards**

- EN 13501-1 Fire classification of construction products and building elements, part 1: Classification using data from reaction to fire tests
- EN 13501-2 Fire classification of construction products and building elements, part 2: Classification using data from fire resistance tests, excluding ventilation services
- EN 1363-1 Fire resistance tests – Part 1: General requirements
- EN 1366-4 Fire resistance tests for service installations – Part 4: Linear joint seals
- EN 13823 Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item
- EN ISO 11925-2 Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2010)

**Other documents**

- EAD 350141-00-1106 Fire Stopping and fire sealing products - Linear joint and gap seals
- TR 034 General BWR 3 Checklist for EADs/ETAs - Dangerous substances (October 2015)

Joint filling system Litaflex-Vario

**List of documents referred to**

Annex C