Deutsches Institut für Bautechnik

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment

ETA-13/0269 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 SM 30+AF
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	1
This European Technical Assessment contains	11 pages including 6 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	ETA-13/0269 issued on 9 April 2013

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Specific part

1 Technical description of the kit

The joint filling system Litaflex SM 30+AF is a kit consisting of a sealing element – depending on the designs the types Litaflex-Faltelement and Litaflex-Fugenblock are differentiated - and the adhesive litaflex-Kleber 800.

The sealing elements consist of mineral foam boards which are glued together and a lamination or a covering with an aluminium foil or a PE foil.

The maximum lateral stretching capability of the joint filling system Litaflex SM 30+AF is 7.4 %.

Detailed technical descriptions of the sealing elements Litaflex-Faltelement and Litaflex-Fugenblock are given in Annex A.

Details of the product composition are 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 SM 30+AF 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 SM 30+AF 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 SM 30+AF 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

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	**Performance**
Air permeability	No performance assessed
Water permeability	No performance assessed
Content, emission and/or release of dangerous substances	
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.[1)]
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	

[1)] 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 SM 30+AF 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_2: intended for use at temperatures below 0°C, but with no exposure to rain nor UV.

Type Z_1: intended for use in internal conditions with humidity equal to or higher than 85 % RH, excluding temperatures below 0 °C.

Type Z_2: 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.

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
Litaflex-Faltelement Rex Industrie-Produkte Graf von Rex GmbH 74541 Vellberg Germany	Construction Litaflex-Faltelement consists of one or more mineral foam boards of the type Litaflex SM 30 which are glued together. The foam boards are one-sided covered with an aluminium foil with a thickness of 0.05 mm. The chemical composition is deposited with Deutsches Institut für Bautechnik. Dimensions Thickness: 10 mm to 35 mm Height 200 mm or 250 mm Length 1000 mm Reaction to fire classification in accordance with EN 13501-1 Class B-s1,d0
Litaflex-Fugenblock Rex Industrie-Produkte Graf von Rex GmbH 74541 Vellberg Germany	Construction Litaflex-Fugenblock consists of several mineral foam boards of the type "Litaflex SM 30" which are glued together. The block of the glued foam boards is covered at two opposing sides with an aluminium foil, thickness 0.05 mm. The whole block is covered with a PE foil, thickness 0.1 mm. The chemical composition is deposited with Deutsches Institut für Bautechnik. Dimensions Width: 75 mm to 230 mm Height: 90 mm or 140 mm or 190 mm Length: 1000 mm Reaction to fire classification in accordance with EN 13501-1 Class B-s1,d0
litaflex-Kleber 800 Rex Industrie-Produkte Graf von Rex GmbH 74541 Vellberg Germany	The chemical composition is deposited with Deutsches Institut für Bautechnik. Reaction to fire classification in accordance with EN 13501-1 Class E for end use conditions

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2 Fire-resistance of the joint filling system Litaflex SM 30+AF

2.1 Building components with a fire separating function

The joint filling system Litaflex SM 30+AF 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 kg/m³ ± 20 %
- thickness $c_W \geq 100$ mm or 150 mm or 200 mm (see Annexes B 2 and B 3)

Rigid floors

- made of concrete or reinforced concrete with a density of 2400 kg/m³ ± 20 %
- thickness $c_D \geq 100$ mm or 150 mm or 200 mm (see Annexes B 2 and B 3)

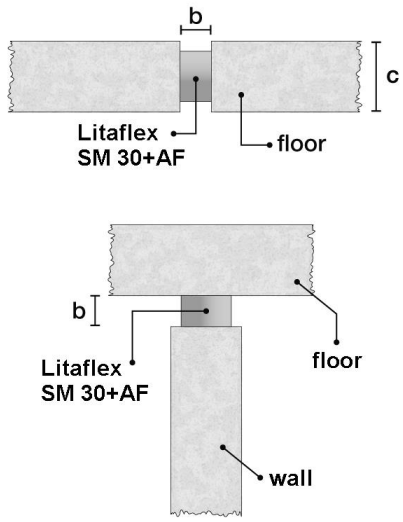
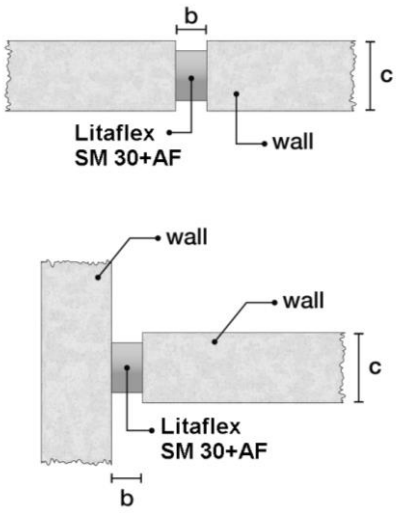
The separating building elements shall be classified in accordance with EN 13501-2 for the corresponding fire resistance period.

2.2 Application

According to the schematic representation of table 2, the joint filling system Litaflex SM 30+AF 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 annexes B 2 and B 3

Details on the joint filling system using the sealing elements Litaflex-Faltelement or Litaflex-Fugenblock and information on the dimension of the sealing elements are given in the annexes B 2 and B 3.

Joint filling system Litaflex SM 30+AF	Annex **B 1**
Resistance to fire of the joint filling system - Information on the building components and overview of the applications -	

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2.3 Classification of the joint filling system using the sealing element Litaflex-Faltelement

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	
100	10-15	10	200	1000	EI 90-V-X-W 10 to 50
	15-20	15			
	20-30	20			
	30-40	25			
	40-45	30			
	45-50	35			
100	45-50	35	200	1000	EI 120-V-X-W 50
150	10-15	10	250	1000	EI 120-V-X-W 10 to 50 EI 120-H-X-W 10 to 50
	15-20	15			
	20-30	20			
	30-40	25			
	40-45	30			
	45-50	35			

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2.4 Classification of the joint filling system using the sealing element Litaflex-Fugenblock

Table 4 provides an overview of the joint seals installed in fire-resistant rigid walls and rigid floors (application A and B according to Annex B 1, table 2).

Table 4 (dimensions in mm)

Thickness of the building element c	Joint width b	Sealing element			Classification of the resistance to fire
		Width	Height	Length	
100	50-60	75	90	1000	EI 90-V-X-W 50 to 100
	60-70	85			
	70-80	95			
	80-90	110			
	90-100	120			
150	50-60	75	140	1000	EI 120-V-X-W 50 to 200 EI 120-H-X-W 50 to 200
	60-70	85			
	70-80	95			
	80-90	110			
	90-100	120			
	100-110	130			
	110-120	145			
	120-130	155			
	130-140	170			
	140-150	180			
	150-160	190			
	160-170	205			
	170-180	215			
	180-190	225			
	190-200	230			
200	110-120	145	190	1000	EI 120-V-X-W 110 to 200 EI 120-H-X-W 110 to 200
	120-130	155			
	130-140	170			
	140-150	180			
	150-160	190			
	160-170	205			
	170-180	215			
	180-190	225			
	190-200	230			

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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. Particular care should be taken to ensure that the factory-applied PE foil wrapping Litaflex-Fugenblock will not be cut except at the cutting edges.

Using an installation plate, the sealing elements Litaflex-Faltelement are folded with the covered side towards the outside and inserted into the joint. Using litaflex-Kleber 800, the butt joined sealing elements are completely glued together on their front sides.

Using e.g. a wooden board, the sealing elements Litaflex-Fugenblock are pre-compressed to a thickness of 20 mm smaller than the joint width for about 10 seconds under a load of about 40 kg. The PE foil is removed at the ends of the element. The sealing elements are inserted into the joint by using two installation plates so that the sides of the sealing elements covered with the aluminium foil are arranged at the inside surfaces of the building element. The butt joined sealing elements are completely glued together on the front sides (i. e. cutting edges) by using litaflex-Kleber 800. Care shall be taken to ensure that the sealing element is completely covered with the PE foil except at the front sides.

The joint shall be installed completely as described above.

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

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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)