

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-13/0496**  
**of 27 February 2023**

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

"System G+H PYROMENT-KVB2000" and  
"System G+H PYROMENT-KVB2000 HF"

Product family  
to which the construction product belongs

Intumescent products for fire sealing and fire stopping  
purposes

Manufacturer

G+H Isolierung GmbH  
Leuschner Straße 2  
97084 Würzburg  
DEUTSCHLAND

Manufacturing plant

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This European Technical Assessment  
contains

6 pages including 1 annex which forms 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 350005-00-1104, Edition May 2015

This version replaces

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## Specific Part

### 1 Technical description of the product

Object of this European Technical Assessment (ETA) are the intumescent construction products "System G+H-PYROMENT KVB2000" and "System G+H-PYROMENT KVB2000 HF".

In case of fire, exposed to high temperatures, the intumescent product expands and generates foam. This foam seals joints and gaps, closes voids and openings. Thus, the foam restricts the passage and the spread of heat, smoke, flames or any combination of these.

The construction products "System G+H-PYROMENT KVB2000" and "System G+H-PYROMENT KVB2000 HF" are tight, factory made, flexible intumescent fabrics. They consist of a glass filament fabric<sup>1</sup> with a mass per unit area of 200 g/m<sup>2</sup>, which is mechanically covered with an intumescent coating<sup>2</sup> on both sides – a layer of anthracite colour grade on the intended inner face and a layer of white colour on the intended outer face.

This reactive layer, which foams up in the event of fire, is a halogen-containing coating for "System G+H PYROMENT KVB2000" and a halogen-free one for "System G+H PYROMENT KVB2000 HF".

The flexible intumescent fabrics "System G+H-PYROMENT KVB2000" und "System G+H-PYROMENT KVB2000 HF" are produced in endless rolls and may be cut to any size and dimension at the factory or on site with appropriate tools.

The technical characteristics relevant for the fire sealing and fire stopping effects of the construction products "System G+H-PYROMENT KVB2000" und "System G+H-PYROMENT KVB2000 HF" are given in the Annex.

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

The construction products "System G+H-PYROMENT KVB2000" and "System G+H-PYROMENT KVB2000 HF" are assessed on the basis of EAD 350005-00-1104<sup>3</sup> as intumescent products for fire sealing and fire stopping purposes without defined final intended use (IU 1).

The products "System G+H-PYROMENT KVB2000" and "System G+H-PYROMENT KVB2000 HF" are intended to be used as an essential component in construction products, construction elements, assemblies, kits and special constructions which need to meet requirements concerning the safety in case of fire.

In case of fire, the product delays the heat transfer through fire resistant construction products and construction elements by expanding under the impact of high temperatures and thus restricting the spread of fire.

The performance given in section 3 is only valid, if the construction products "System G+H-PYROMENT KVB2000" und "System G+H-PYROMENT KVB2000 HF" in use considers the instructions and the conditions stated in section 3.3.

The test and assessment methods on which this European Technical Assessment is based, lead to the assumption of working life of the intumescent construction products "System G+H-PYROMENT KVB2000" und "System G+H-PYROMENT KVB2000 HF" of at least 10 years in final use.

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.

<sup>1</sup> Type, manufacturer and characteristics deposited at DIBt.

<sup>2</sup> Required quantity and chemical composition deposited at DIBt.

<sup>3</sup> Official Journal of the EU N° C 378/02 of 13/11/2015

### 3 Performance of the product and references to the methods used for this assessment

#### 3.1 Safety in case of fire (BWR 2)

##### 3.1.1 Reaction to fire

Product	Performance
"System G+H-PYROMENT KVB2000" "System G+H-PYROMENT KVB2000 HF"	class B-s3,d0 in accordance with EN 13501-1 <sup>4</sup> .

##### 3.1.2 Resistance to fire

The performance "resistance to fire" shall be determined separately for every final use and shall be classified, if required for the construction element concerned.

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

Essential characteristic	Performance
Content of dangerous substances	No dangerous substances <sup>5</sup>

The detailed chemical composition of the intumescent construction product "System G+H-PYROMENT KVB2000" and "System G+H-PYROMENT KVB2000 HF" is deposited at DIBt in written form.

#### 3.3 General aspects

The proof of durability is an integral part of assessing the basic works requirements and the performance. The following specific provisions for use shall be complied with to ensure the durability of the performance in end-use applications.

The tests and the evaluation of the fire safety performance criteria were carried out for environmental conditions of type Z1 - product intended for use in indoor conditions with high humidity (including temporary condensation) but without temperatures below 0 °C - according to EAD, section 1.2.2.

Result:

The intumescent construction products "System G+H-PYROMENT KVB2000" and "System G+H-PYROMENT KVB2000 HF" as well as cuts made from them can be used permanently under use conditions according to type Z<sub>1</sub> in interior rooms with high humidity without any significant changes in the relevant fire sealing and fire stopping properties and the resulting performance being expected. This assessment includes the unrestricted use indoors under conditions of type Z<sub>2</sub> (relative humidity between 50 % and 85 % and temperatures between +5 °C ± 5 °C and 35 °C ± 5 °C).

In addition, the following additional evidence of the resistance of the product "System G+H-PYROMENT KVB2000" under special conditions was provided in accordance with EOTA TR 024, Section 4.3:

- Exposure to a constant temperature of 80 °C for 40 days,
- Exposure to solvents (tested with butyl acetate, butanol, solvent naphtha and fuel oil)
- Exposure to intimate contact to plastics (PVC, PE).

The characteristics "expansion ratio" and "expansion pressure" did not change essentially due to these exposures.

<sup>4</sup> EN 13501-1:2010 Fire classification of construction products and building elements, Part 1 Classification using test data from reaction to fire tests and A1:2009

<sup>5</sup> In accordance with the Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 (published in the Official Journal of the EU N° L 353 of 31/12/2008, p 1)

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If the building products "System G+H PYROMENT KVB2000" or "System G+H PYROMENT KVB2000 HF" are intended to be exposed to special stress conditions, further verification is required.

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

According to European Assessment Document EAD No. 350005-00-1104, May 2015 the following legal basis applies:

Commission Decision No. 1999/454/EC of 22 June 1999 (OJ L 178, 14 July 1999, p. 42), as amended by Commission Decision No. 2001/596/EC of 8 January 2001 (OJ L 209, 2 August 2001, p. 33).

According to this, system 1 for the assessment and verification of constancy of performance (AVCP) (see Annex V in conjunction with Article 65(2) of Regulation (EU) No 305/2011) applies according to the following table.

Product	Intended use	characteristic	System
"System G+H-PYROMENT KVB2000" "System G+H-PYROMENT KVB2000 HF"	Components effective in view of safety in case of fire used in construction products, construction elements, kits and special assemblies	reaction to fire, properties relevant for the fire sealing and fire stopping effect	1

**5 Technical details necessary for the implementation of the procedure for assessment and verification of constancy of performance (AVCP) system 1, as provided for in the applicable European Assessment Document**

The technical details necessary for the implementation of the system 1 for assessment and verification of constancy of performance are laid down in the control plan (confidential part of this ETA) deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 27 February 2023 by Deutsches Institut für Bautechnik

Otto Fechner  
Head of Section

*beglaubigt:*  
Dr-Ing. Dierke

## ANNEX

### CHARACTERISTICS OF THE CONSTRUCTION PRODUCT RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS OF

#### "G+H PYROMENT-KVB2000" and "G+H PYROMENT-KVB2000 HF"

Characteristic	Test method <sup>6</sup>	Range of determined values/tolerances*
<b>"G+H PYROMENT-KVB2000"</b>		
thickness of the coated fabric	EOTA TR 024, cl. 1.2.2.1	1,0 mm ± 0,2 mm
Mass per unit area	TR 024, cl. 1.2.5	1200 g/m <sup>2</sup> ± 10 %
Loss of mass at a certain temperature	TR 024, cl. 1.2.8 (tested at 400 °C for 30 minutes)	53,0 % ± 5 %
Expansion ratio	TR 024, cl. 1.2.11 (tested at 400°C for 30 minutes without a top-load on specimen 0,9 mm thick)	58,0 to 94,0
The product "G+H PYROMENT-KVB2000" does not develop/create remarkable expansion pressure		
<b>"G+H PYROMENT-KVB2000 HF"</b>		
thickness of the coated fabric	EOTA TR 024, cl. 1.2.2.1	1,0 mm ± 0,2 mm
Mass per unit area	TR 024, cl. 1.2.5	1290 g/m <sup>2</sup> ± 10 %
Loss of mass at a certain temperature	TR 024, cl. 1.2.8 (tested at 400 °C for 30 minutes)	46,5 % ± 5 %
Expansion ratio	TR 024, cl. 1.2.11 (tested at 400°C for 30 minutes without a top-load on specimen 0,9 mm thick)	58,0 to 94,0
Expansion pressure	TR 024, cl. 1.2.12 (tested at 300 °C)	0,15 N/mm <sup>2</sup> to 0,25 N/mm <sup>2</sup>

<sup>6</sup> Details of the test method are deposited with DIBt