

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-17/0655**  
**of 18 October 2017**

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

HA-FPF-S (HauffAccessories fire protection fabrics single)  
HA-FPF-D (HauffAccessories fire protection fabrics double)  
HA-FPF-AB (HauffAccessories fire protection adhesive  
backed)

Product family  
to which the construction product belongs

Intumescent products for fire sealing and fire stoppiing  
purposes

Manufacturer

Hauff-Technik GmbH & Co. KG  
Robert-Bosch-Straße 9  
89568 Hermaringen  
DEUTSCHLAND

Manufacturing plant

"Werk A"<sup>1</sup>

This European Technical Assessment  
contains

7 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

<sup>1</sup> Address known at DIBt

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## Specific Part

### 1 Technical description of the product

Object of this European Technical Assessment (ETA) are the intumescent construction products "HA-FPF-S" (HauffAccessories fire protection fabrics single), "HA-FPF-D" (HauffAccessories fire protection fabrics double) and "HA-FPF-AB" (HauffAccessories fire protection fabrics adhesive backed).

In case of fire, exposed to high temperatures, these intumescent products expand and generate 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 intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" are factory made flexible intumescent fire protective fabrics.

The intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" are tight and tear-proofed fabrics, which consist of a glass filament web<sup>2</sup> mechanically covered with an intumescent coating<sup>3</sup> on at least one side.

The flexible intumescent fabric "HA-FPF-S" is a glass filament web<sup>2</sup> mechanically covered with the intumescent coating compound<sup>3</sup> on one side and on the other side it is covered with a coating of Polyurethan<sup>3</sup> pigmented optionally in the colour grades grey, red, black or white. The intumescent fabric is produced of nominal thickness between 0,6 mm and 2,2 mm (tolerance of thickness  $\pm 10\%$  for each nominal thickness).

The flexible intumescent fabric "HA-FPF-D" is a glass filament web<sup>2</sup> mechanically covered with the intumescent coating compound<sup>3</sup> on both sides. It is produced of a nominal thickness of 1,4 mm (tolerance of thickness  $\pm 10\%$ ).

The flexible intumescent fabric "HA-FPF-AB" is a glass filament web<sup>2</sup> mechanically covered with the intumescent coating compound<sup>3</sup> on one side and on the other side or on customer's demand on the coated side it is equipped with a self-adhesive foil<sup>2</sup>. The intumescent fabric is produced of nominal thickness between 0,6 mm and 2,2 mm (tolerance of thickness  $\pm 10\%$  for each nominal thickness).

The flexible intumescent fabrics "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" are produced as endless rolls, cut at factory and delivered in the standard lengths of 10 m or 20 m.

The products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" may also be delivered as intumescent strips, mats, cuts and stamps (bands, blocks, pads) of any dimension on demand.

The technical characteristics relevant for fire sealing and fire stopping effects of the construction products are given in Annex 1.

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

The intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" are assessed on the basis of EAD 350005-00-1104<sup>4</sup> as intumescent products for fire sealing and fire stopping purposes without a defined final use (IU 1).

These construction products are intended to be used as essential components in construction products, construction elements, kits and special assemblies which need to meet requirements concerning the safety in case of fire.

<sup>2</sup> Type, manufacturer and characteristics deposited with the DIBt.

<sup>3</sup> Chemical composition and required quantity and composition deposited with the DIBt

<sup>4</sup> Official Journal of the EU N° C 378/02 of 13/11/2015

In case of fire, the products delay the heat transfer through fire resistant construction products, construction elements and structures 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 "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" are used in accordance with the instructions and the conditions stated in section 3.3.

The tests and assessment methods on which this European Technical Assessment is based, lead to the assumption of working life of the intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" in final use of at least 10 years<sup>5</sup>.

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 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

Essential characteristic	Performance
"HA-FPF-S" free standing and on mineral substrates (with a density $\geq 800 \text{ kg/m}^3$ ) and on substrates of class A1 according to EN 13501-1	Class C-s1,d0 in accordance with EN 13501-1
"HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB"	Class E in accordance with EN 13501-1

The intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" meet the reaction to fire requirements of class E in accordance with EN 13501-1<sup>6</sup>.

The intumescent fabric "HA-FPF-S" meets the reaction to fire requirements of class C-s1,d0 in accordance with DIN EN 13501-1<sup>6</sup> for nominal thicknesses between 0,6 mm and 2,2 mm free standing or on mineral substrates (with a density  $\geq 800 \text{ kg/m}^3$ ) and on substrates of class A1 according to EN 13501-1.

##### 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.

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

Essential characteristic	Performance
Content and release of dangerous substances	No dangerous substances <sup>7</sup>

The detailed chemical composition of the intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" was assessed by DIBt and is deposited with DIBt.

<sup>5</sup> results of long-term aging (historical data) are available (natural-aging for 10 years, free weathering)

<sup>6</sup> EN 13501-1 Fire classification of construction products and building elements, Part 1 and A1:2009 Classification using test data from reaction to fire tests

<sup>7</sup> In accordance with the Regulation (EC) No 1272/2008 of the European Parliament and the Council of 16 December 2008 (published in the OJ of the EU N° L353 of 31/12/2008)

### 3.3 General aspects

Durability testing shall be an integral part of assessing the basic works and performance requirements. The following specific provisions shall be complied with to ensure the durability of the performance for the intended use.

The testing and the assessment of the product performance criteria were carried out in accordance with EOTA Technical Report 024 (EOTA TR 024)<sup>8</sup>, section 4.2.3, for environmental conditions of type X - product intended for use at conditions exposed to weathering (rain, UV, frost).

Result:

The intumescent construction products "HA-FPF-S", "HA-FPF-D" and "HA-FPF-AB" can be used under use conditions of type X (out-door use), without having to fear essential changes in the relevant fire sealing and fire stopping properties and the resulting performance. This assessment includes the in-door use under use conditions of type Y<sub>1</sub>, Y<sub>2</sub>, Z<sub>1</sub> and Z<sub>2</sub>.

Supplementary the product was tested under specific conditions of durability according to EOTA TR 024, section 4.3<sup>8</sup>

- Exposure to a constant temperature of 80 °C for 40 days,
- Exposure to solvents (tested with Butylacetat, Butanol, solvent naphtha and fuel)
- Subsequent over-painting (tested with coatings on the basis of acryl dispersion, alkyd resin, polyurethanacryl and epoxide resin),
- Exposure to permanent wetness (water immersion and permanent condensation) for 4 weeks
- Exposure to intimate contact to plastics (PVC, PE).

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

For the intumescent fabric "HA-FPF-S" the tear strength and the elongation at rupture were determined according to EN ISO 10319<sup>9</sup>:

"HA-FPF-S" (HauffAccessories fire protection fabrics single)			
Total thickness of the fabric		ca. 1,6 mm	ca. 0,6 mm
Ultimate elongation in %	longitudinal	3,6	4,2
	transverse	4,4	4,5
Ultimate tensile strength in kN/m	longitudinal	56,0	60,7
	transverse	34,5	41,4

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

In accordance with the Decision of the commission N° 1999/454/EC of 22 June 1999 (OJ of the EU L 178 of 14 July 1999, p 42), amended by EC Decision 2001/596/EC of 8 January 2001 (OJ of the EU L 209 of 2 August 2001, p 33) system 1 applies for the assessment and verification of consistency of performance (AVCP).

See Annex V in conjunction with Article 65 (2) of the Regulation (EU) N° 305/2011 and the following table:

<sup>8</sup> EOTA TR 024 Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and products; amended version July 2009

<sup>9</sup> EN ISO 10319:2008 Geosynthetics; Wide-width tensile test

Product	Intended use	characteristic	System
"HA-FPF-S" "HA-FPF-D" "HA-FPF-AB"	Components effective in view of safety in case of fire used in construction products, construction elements, kits and specific assemblies	reaction to fire, properties relevant for the fire sealing and fire stopping effect	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 1 for Assessment and Verification of Consistency of Performance are laid down in the confidential part of the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 18 October 2017 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe  
Head of Department

*beglaubigt:*  
Dr.-Ing. Dierke

**CHARACTERISTICS RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECT OF THE CONSTRUCTION PRODUCTS "HA-FPF-S", "HA-FPF-D" AND "HA-FPF-AB"**

Characteristic	Test method <sup>10</sup>	Range and tolerance
Intumescent fabric "HA-FPF-S" (HauffAccessories fire protection fabrics single)		
Expansion ratio	EOTA TR 024 <sup>8</sup> , cl. 3.1.11 method 1 at 550 °C for 30 minutes with a top load	Thickness 2 mm 15,5 to 22,0
Expansion pressure	EOTA TR 024 <sup>8</sup> , cl. 3.1.12 method 4 at 300 °C	Thickness 2 mm 1,00 N/mm <sup>2</sup> to 1,65 N/mm <sup>2</sup>
Intumescent fabric "HA-FPF-D" (HauffAccessories fire protection fabrics double)		
Expansion ratio	EOTA TR 024 <sup>8</sup> , cl. 3.1.11 method 1 at 550 °C for 30 minutes with a top load	Thickness 1,4 mm 16,5 bis 24,0
Expansion pressure	EOTA TR 024 <sup>8</sup> , cl. 3.1.12 method 4 at 300 °C	1,50 N/mm <sup>2</sup> bis 2,00 N/mm <sup>2</sup>
Intumescent fabric "HA-FPF-AB" (HauffAccessories fire protection fabrics adhesive backed)		
Expansion ratio	EOTA TR 024 <sup>8</sup> , cl. 3.1.11 method 1 at 550 °C for 30 minutes with a top load	Thickness 1,6 mm 15,5 bis 22,0
Expansion pressure	EOTA TR 024 <sup>8</sup> , cl. 3.1.12 method 4 at 300 °C	1,00 N/mm <sup>2</sup> bis 1,65 N/mm <sup>2</sup>

<sup>10</sup> Details of the test method deposited with at DIBt