Deutsches Institut für Bautechnik

DIBt

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

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European Technical Assessment

ETA-15/0350 of 26 October 2015

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	"TECNOFLAME"
Product family to which the construction product belongs	Intumescent products for fire sealing and fire stopping purposes
Manufacturer	MARVON s.r.l. Via Gargnà 6 25078 Vestone (Brescia) ITALIEN
Manufacturing plant	Vestone BS (Italy)
This European Technical Assessment contains	6 pages including 1 annex 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	European Assessment Document (EAD) 350005-00-1104 "Intumescent products for fire sealing and fire stopping purposes"

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Specific Part

1 Technical description of the product

Object of this European technical assessment is the intumescent construction product "TECNOFLAME" and its variations.

This European Technical Assessment (ETA) is valid for "TECNOFLAME" with and without glass fibre scrim reinforcement, for "TECNOFLAME" equipped with or without an additional lamination or a self-adhesive tape and for small-sized cuts made of "TECNOFLAME".

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

The technical characteristics relevant for fire sealing and fire stopping effect of the construction product "TECNOFLAME" are given in Annex 1.

The construction product "TECNOFLAME" is a flexible material produced in the form of strips, profiles and small sized cuts. The product essentially consists of intumescent substances and a binder and may contain a glass fibre scrim reinforcement with a mass per unit area of 60 g/m^2[1].

The construction product "TECNOFLAME" is produced at the factory in widths up to 60 mm (tolerance ± 0,5 mm) and in a range of nominal thickness between 1,5 mm to 6,0 mm (tolerance ± 0,3 mm).

Additionally the intumescent strips and profiles "TECNOFLAME" may be equipped on one side with a self-adhesive tape[1] for fixing on the substrate or with a coloured lamination of PVC- foil[1].

The product is delivered in rolls (standard length 100 m) or as defined cuts in form of strips, profiles or cut-outs of different shape.

The product may be cut on-site.

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

The construction product "TECNOFLAME" is assessed on the basis of EAD 350005-00-1104 as an intumescent product for fire sealing and fire stopping purposes without defined final use (IU 1).

The construction product "TECNOFLAME" is intended to be used as an essential component in, between or on construction products, assemblies, construction elements, 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 performances given in Section 3 are only valid if the product "TECNOFLAME" is used in accordance with the instructions and the conditions of use stated in section 3.3.

The test and assessment methods on which this European Technical Assessment is based, lead to the assumption of a working life of the intumescent construction product "TECNOFLAME" of at least 10 years[2].

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.

1 type, manufacturer and specific parameters deposited with DIBt
2 results of long-term aging (natural-aging) available

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

3.1 Safety in case of fire (BWR 2)

3.1.1 Reaction to fire

Essential characteristic	Performance
Reaction to fire	Class E in accordance with EN 13501-1[3]

The intumescent product "TECNOFLAME" in the origin variations with and without glass fibre scrim reinforcement meets the reaction to fire requirements of class E in accordance with EN 13501-1.

3.1.2 Resistance to fire

The resistance to fire performance 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

The detailed chemical composition of the intumescent construction product "TECNOFLAME" was assessed by DIBt and is deposited with DIBt.

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 durability for the specific intended use.

The testing and assessment of the product performance was carried out under the environmental conditions of type Z_1 in accordance with EOTA Technical Report 024[4], section 4.2.

Result:

The intumescent product "TECNOFLAME" in all described variations and cuts of these can be used under the use conditions of type Z_1 (indoor use at temperatures between 0 °C and 40°C and alternating humidity with temporary condensation) without having to fear essential changes in the relevant fire sealing and fire stopping properties and the resulting performance.

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

In accordance with EAD No. 35 0005-01-1104 "Intumescent products for fire sealing and fire stopping purposes", the applicable European legal act is: EC Decision 1999/454/EC of 22 June 1999, amended by EC Decision 2001/596/EC of 8 January 2001

The system to be applied is: system 1

See Regulation (EU) N° 305/2011 Annex V in conjunction with Article 65 (2).

See the following table:

[3] 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

[4] EOTA TR 024 — Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and products; amended version July 2009

Product	Intended use	characteristic	System
"TECNOFLAME" with/without glass fibre scrim; with/without self-adhesive tape or lamination; cuts of all variations	Components effective in view of safety in case of fire (BWR 2) used in construction elements, kits and 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 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 26 October 2015 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe
Head of Department

beglaubigt:
Dr.-Ing. Dierke

ANNEX 1

CHARACTERISTICS RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS

Characteristic	Test method	Range and tolerance*
Thickness	TR 024[4], cl. 3.1.2	1,5 mm to 6,0 mm Tolerance ± 10 %
"TECNOFLAME" without glass fibre scrim and without any additional equipment		
Expansion ratio	TR 024[4], cl. 3.1.11 Method 1 at 450°C for 30 minutes with a top-load	5,5 to 9,5
Expansion pressure	TR 024[4], cl. 3.1.12 Method 4 at 300°C	0,20 N/mm^2 to 0,90 N/mm^2
"TECNOFLAME" with glass fibre scrim and without any additional equipment		
Expansion ratio	TR 024[4], cl. 3.1.11 Method 1 at 450°C for 30 minutes with a top-load	5,5 to 9,5
Expansion pressure	TR 024[4], cl. 3.1.12 Method 4 at 300°C	0,30 N/mm^2 to 0,90 N/mm^2
"TECNOFLAME" without glass fibre scrim, additionally equipped with self-adhesive tape		
Expansion ratio	TR 024[4], cl. 3.1.11 Method 1 at 450°C for 30 minutes with a top-load	5,7 to 8,5
Expansion pressure	TR 024[4], cl. 3.1.12 Method 4 at 300°C	0,20 N/mm^2 to 1,30 N/mm^2
"TECNOFLAME" with glass fibre scrim, additionally equipped with self-adhesive tape		
Expansion ratio	TR 024[4], cl. 3.1.11 Method 1 at 450°C for 30 minutes with a top-load	5,0 to 7,5
Expansion pressure	TR 024[4], cl. 3.1.12 Method 4 at 300°C	0,30 N/mm^2 to 1,40 N/mm^2

* The determination of the characteristics was carried out with samples of a thickness of 2 mm and of 6 mm