

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-17/0818  
of 9 November 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

"ZZ 70-A", "ZZ-70-B", "ZZ 70-C". "ZZ 70-D"

Product family  
to which the construction product belongs

Intumescent products for fire sealing and fire stopping  
purposes

Manufacturer

Karl Zimmermann GmbH  
Marconistraße 7-9  
50769 Köln  
DEUTSCHLAND

Manufacturing plant

Werk 6<sup>1</sup>

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

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 are the intumescent construction products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" and small-sized cuts of them.

In case of fire exposed to high temperatures, the intumescent products expand and generate 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 products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" are given in Annex 1.

The intumescent construction products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" are flexible products produced in form of strips, profiles and small-sized pieces cut from mats. The products essentially consist of intumescent substances and a binder.

The construction product "ZZ 70-A" is made of an intumescent mat.

The construction product "ZZ 70-B" is made of an intumescent mat, which is reinforced with a glass fibre scrim (mass per unit area of the reinforcement is ca. 60 g/m<sup>2</sup>).

The construction product "ZZ 70-C" is made of an intumescent mat, additionally equipped on one side with a self-adhesive tape<sup>2</sup> for fixing on the substrate or with a coloured lamination of PVC- foil<sup>2</sup>.

The construction product "ZZ 70-D" consists of the intumescent mat reinforced with the glass fibre scrim and is additionally equipped on one side with a self-adhesive tape<sup>2</sup> for fixing on the substrate or with a coloured lamination of PVC- foil<sup>2</sup>.

The intumescent construction products are produced and cut at the factory in a nominal thickness between 1,5 mm to 6,0 mm (tolerance in thickness  $\pm 0,3$  mm) and in widths up to 60 mm (tolerance  $\pm 0,5$  mm). Finally the products "ZZ 70-C" and "ZZ 70-D" are equipped on one side with the self-adhesive tape or with a coloured lamination of PVC- foil<sup>2</sup> as described above.

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

The intumescent construction products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" may be cut if required.

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

The construction products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" are assessed on the basis of EAD 350005-00-1104<sup>3</sup> as an intumescent product for fire sealing and fire stopping purposes without defined final use (IU 1).

The construction products are 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.

<sup>2</sup> type, manufacturer and specific parameters deposited with DIBt  
<sup>3</sup> Official Journal of the EU N° C 378/02 of 13 November 2015

The performances given in Section 3 are only valid if the products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" are 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 products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" of at least 10 years<sup>4</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 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 <sup>5</sup>

##### 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 <sup>6</sup>

The detailed chemical composition of the intumescent construction products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" and "ZZ 70-D" 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<sub>1</sub> in accordance with EOTA Technical Report 024<sup>7</sup>, section 4.2.

Result:

The intumescent products "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" AND "ZZ 70-D" and cuts of them can be used under the use conditions of type Z<sub>1</sub> - intended for use at internal conditions with high humidity (inclusive alternating humidity with temporary condensation), excluding temperatures below 0 °C - without having to fear essential changes in the relevant fire sealing and fire stopping properties and the resulting performance.

<sup>4</sup> results of long-term aging (natural-aging for 10 years) are available

<sup>5</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>6</sup> In accordance with the Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008

<sup>7</sup> EOTA TR 024 Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and products; amended version July 2009

English translation prepared by DIBt

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

In accordance with the European Assessment Document EAD No 350005-00-1104 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) is the legal basis for AVCP.

So system 1 applies for the assessment and verification of constancy of performance (AVCP). See Annex V in conjunction with Article 65 (2) of the Regulation (EU) N° 305/2011 and the following table:

Product	Intended use	characteristic	System
"ZZ 70-A", "ZZ 70-B", "ZZ 70-C" "ZZ 70-D" and cuts of these modifications	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 9 November 2017 by Deutsches Institut für Bautechnik

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*beglaubigt:*  
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## Annex 1

### CHARACTERISTICS RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS OF THE CONSTRUCTION PRODUCTS "ZZ 70-A", "ZZ 70-B", "ZZ 70-C" AND "ZZ 70-D"

Characteristic	Test method <sup>1</sup>	Range and tolerance*
nominal thickness	TR 024, cl. 3.1.2	1,5 mm to 6,0 mm Tolerance $\pm 0,3$ mm
<b>"ZZ 70-A"</b> without glass fibre scrim and without any additional equipment		
Expansion ratio	TR 024, 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, cl. 3.1.12 Method 4 at 300 °C	0,20 N/mm <sup>2</sup> to 0,90 N/mm <sup>2</sup>
<b>"ZZ 70-B"</b> with glass fibre scrim but without any additional equipment		
Expansion ratio	TR 024, 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, cl. 3.1.12 Method 4 at 300 °C	0,30 N/mm <sup>2</sup> to 0,90 N/mm <sup>2</sup>
<b>"ZZ 70-C"</b> without glass fibre scrim, additionally equipped with self-adhesive tape on one side		
Expansion ratio	TR 024, 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, cl. 3.1.12 Method 4 at 300 °C	0,20 N/mm <sup>2</sup> to 1,30 N/mm <sup>2</sup>
<b>"ZZ 70-D"</b> with glass fibre scrim, additionally equipped with self-adhesive tape on one side		
Expansion ratio	TR 024, 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, cl. 3.1.12 Method 4 at 300 °C	0,30 N/mm <sup>2</sup> to 1,40 N/mm <sup>2</sup>

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

<sup>1</sup> Details of the test method deposited with DIBt