

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-16/0099**  
**of 9 June 2016**

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

Fi-Block® Epoxy

Product family  
to which the construction product belongs

Intumescent products for fire sealing and fire stopping  
purposes

Manufacturer/Manufacturing plant

SEKISUI CHEMICAL CO., LTD.  
2-4-4 Nishitemme, Kita-ku  
OSAKA 530-8565  
JAPAN

Representative in Europe

SEKISUI CHEMICAL GmbH  
Königsallee 106  
40215 Düsseldorf  
DEUTSCHLAND

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

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## Specific Part

### 1 Technical description of the product

Object of this European Technical Assessment (ETA) is the intumescent construction product "Fi-Block<sup>®</sup> Epoxy".

The European Technical Assessment is valid for the construction product "Fi-Block<sup>®</sup> Epoxy" in form of strips and sheets with or without single-sided self-adhesive tape<sup>1</sup> or lamination (Polyester unwoven cloth, PVC film, aluminum foil, glass cloth reinforced aluminum foil)<sup>1</sup> and for cuts from it.

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 technical characteristics relevant for fire sealing and fire stopping effects of the construction product "Fi-Block<sup>®</sup> Epoxy" are given in Annex 1.

The construction product "Fi-Block<sup>®</sup> Epoxy" is a flexible intumescent product in form of strips and sheets, produced with or without a self-adhesive tape or lamination. The product essentially consists of intumescent substances and a binder. "Fi-Block<sup>®</sup> Epoxy" is of anthracite colour, but other colours (e.g. white) are available and are also covered by this ETA.

The construction product "Fi-Block<sup>®</sup> Epoxy" is produced at the factory in sheets of a maximum width of 1000 mm, a standard length of 1300 mm and nominal thicknesses between 1 mm and 2 mm (each nominal thickness with a tolerance of  $\pm 25\%$ ). The product is cut into several nominal widths (each nominal width with a tolerance of  $\pm 10\%$ ) at least of a width of 5 mm. Cuts of user-defined dimensions are possible on request.

The fixing of the product on the substrate is done by the single-sided self-adhesive tape or may be carried out mechanically or by using a suitable adhesive, which is not part of this ETA.

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

The construction product "Fi-Block<sup>®</sup> Epoxy" is assessed on the basis of EAD 350005-00-1104<sup>2</sup> as an intumescent product for fire sealing and fire stopping purposes without defined final intended use (IU 1).

The construction product "Fi-Block<sup>®</sup> Epoxy" and its versions with a self-adhesive tape or a lamination 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 applicable, if the construction product "Fi-Block<sup>®</sup> Epoxy" in use considers 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 product "Fi-Block<sup>®</sup> Epoxy" of at least 10 years in final use.

<sup>1</sup> type, manufacturer and specific parameters deposited at DIBt  
<sup>2</sup> Official Journal of the EU N° C 378/02 of 13/11/2015

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
Reaction to fire	Class E in accordance with EN 13501-1 <sup>3</sup>

The intumescent construction product "Fi-Block<sup>®</sup> Epoxy" and its versions with a self-adhesive tape or a lamination on one side meets the reaction to fire requirements of class E in accordance with EN 13501-1<sup>3</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.

#### 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 "Fi-Block<sup>®</sup> Epoxy" and its versions 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 for use shall be complied with to ensure the durability of the performance.

The testing and the assessment of the product performance were carried out for environmental conditions of type Z<sub>1</sub> (in-door use at temperatures between 0 °C and +40 °C and alternating humidity with temporary condensation) in accordance with EOTA TR 024, section 4.2.<sup>4</sup>

Result:

The intumescent construction product "Fi-Block<sup>®</sup> Epoxy" can be used under use conditions of type Z<sub>1</sub>, 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 Z<sub>2</sub> (dry, frost-protected use conditions).

<sup>3</sup> EN 13501-1 Fire classification of construction products and building elements, Part 1 Classification using test data from reaction to fire tests and A1:2009

<sup>4</sup> EOTA TR 024 Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and products; amended version July 2009

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**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 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
"Fi-Block® Epoxy" strips and sheets with/without self-adhesive tape or lamination	Components effective in view of safety in case of fire (BWR 2) 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 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 9. June 2016 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe  
Head of Department

*beglaubigt:*  
Dr.-Ing. Dierke

"Fi-Block<sup>®</sup> Epoxy"

ANNEX 1

**CHARACTERISTICS OF THE CONSTRUCTION PRODUCT "Fi-Block<sup>®</sup> -Epoxy" RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS**

characteristic	Test method	Range of determined values and tolerances
Thickness	EOTA TR 024, cl. 3.1.2.1	1,0 mm to 2,0 mm, Tolerance: each with $\pm 25 \%$
Expansion ratio	EOTA TR 024, cl. 3.1.11 Method 1 at 600 °C for 30 minutes with a top load	1,0 mm: 11,5 to 16,0 2,0 mm: 12,5 to 16,5
Expansion pressure	EOTA TR 024 <sup>6</sup> , cl. 3.1.12 Method 4 at 350 °C	0,30 N/mm <sup>2</sup> to 0,60 N/mm <sup>2</sup>

The chemical reaction starts at approximately 200 °C