Deutsches Institut für Bautechnik

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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-18/1153 of 7 February 2019

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General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	Armaprotect SP
Product family to which the construction product belongs	Intumescent products for fire sealing and fire stopping purposes
Manufacturer	ARMACELL GMBH Robert-Bosch-Straße 10 48153 Münster DEUTSCHLAND
Manufacturing plant	10[1]
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

[1] Address known at DIBt

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Specific Part

1 Technical description of the product

Object of this European technical assessment (ETA) is the intumescent construction product "Armaprotect SP".

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

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

The construction product "Armaprotect SP" is a flexible material produced in form of mats and processed into strips of nominal widths between 8 mm and 320 mm (tolerance in width: ± 0,5 mm) and in a range of nominal thickness between 1,0 mm and 8,0 mm (tolerance ± 10% of each nominal thickness). The intumescent strips may be equipped on one side with a self-adhesive tape[2] or with a lamination of polyester[2] foil.

The product essentially consists of intumescent substances and a binder and in final use it may contribute the resistance to fire in case of fire, when used in fire resisting construction products, kits, elements and assemblies.

The product is delivered in coils or rolls or cut into strips, mats, panels 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 "Armaprotect SP" is assessed on the basis of EAD 350005-00-1104[3] as an intumescent product for fire sealing and fire stopping purposes without specific final use (IU 1).

"Armaprotect SP" is intended to be used as essential component in, between or on construction products, assemblies, construction elements, kits and special constructions which 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 in fire resistant products and assemblies.

The performance "resistance to fire" shall be tested for the specific final use if requested.

The performance given in Section 3 is only valid if the intumescent construction product "Armaprotect SP" is used considering the remarks and the boundary conditions of clause 3.4.

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 "Armaprotect SP" of at least 10 years[4].

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.

2 type, manufacturer and specific parameters deposited with DIBt
3 EAD N° 350005-00-1104, edition May 2015 "Intumescent products for fire sealing and fire stopping purposes"
4 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 according to EN 13501-1[5]

3.1.2 Resistance to fire

The performance "Resistance to fire" shall be demonstrated separately for the intended final use if requested.

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content of dangerous substances	No dangerous substances[6]

The detailed chemical composition of the intumescent construction product "Armaprotect SP" was assessed at DIBt and is deposited with DIBt.

3.3 General aspects

The evidence of durability is part of testing the basic works requirements and the achievement of the performance assessed. The durability is only presumed, if the provisions for the intended use are considered.

The testing and the assessment of the product performance were carried out for environmental conditions of type X – product intended for use at conditions exposed to weathering (rain, UV, frost – outdoor use) - in accordance with EOTA Technical Report 024[7] (EOTA TR 024), section 4.2.3.
The testing and its assessment for climatic use conditions of type X (outdoor use) were carried out in accordance with EOTA Technical Report 024[7], clause 4.2.

Conclusion:

The intumescent construction product "Armaprotect SP" as well as cuts made from may be used under use conditions of type X (outdoor use) without having to fear essential changes in the relevant fire sealing and fire stopping properties and the resulting performance.

Additionally the product was tested under specific conditions according to EOTA TR 024, section 4.3 for

- 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 the exposure.

5 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

6 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)

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

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 the determination of the AVCP system.

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) according to the following table:

Product	Intended use	Characteristic	System
"Armaprotect SP" without /with Polyester foil or without /with self-adhesive tape	Components effective in the view of safety in case of fire (BWR) used in construction elements, kits and assemblies	Reaction to fire properties relevant fort 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 of assessment and verification of constancy of Performance (AVCP) are laid down in the control plan (confidential part of this ETA) deposited at Deutsches Institut für Bautechnik.

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ANNEX 1

CHARACTERISTICS RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS OF THE CONSTRUCTION PRODUCT "Armaprotect SP"

Characteristics	Test method[8]	Range and tolerance
Thickness of strips	TR 024, clause 3.1.2	1,0 mm to 8,0 mm Tolerance: ± 10 % of nominal thickness
Expansion ratio	TR 024, clause 3.1.11 Method 1 at 550 °C for 30 minutes with a top load	nominal thickness 1,5 mm 18,0 to 38,0 nominal thickness 7,0 mm 11,0 to 34,0
Expansion pressure	TR 024, clause 3.1.12 Method 4 at 300 °C	nominal thickness 1,5 mm ≥ 0,80 N/mm^2 nominal thickness 7,0 mm ≥ 0,40 N/mm^2

[8] Details of the test method are deposited with DIBt