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-15/0345 of 10 March 2021

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	"PALUSOL 100" and "PALUSOL 104"
Product family to which the construction product belongs	Intumescent products for fire sealing and fire stopping purposes
Manufacturer	Wolman Wood and Fire Protection GmbH Dr.-Wolmann-Straße 31-33 76547 Sinzheim DEUTSCHLAND
Manufacturing plant	DL42
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, Edition May 2015
This version replaces	ETA-15/0345 issued on 28 October 2015

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Specific part

1 Technical description of the product

The subjects of this European Technical Assessment (ETA) are the mineral intumescent construction products "PALUSOL 100" and "PALUSOL 104".

If these intumescent products are exposed to high temperatures in case of fire, they expand and generate a dense foam. This foam seals joints and gaps and 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 the fire sealing and fire stopping effect of the construction products "PALUSOL 100" und "PALUSOL 104" are given in Annex 1.

The construction products "PALUSOL 100" and "PALUSOL 104" are produced in the form of boards and essentially consists of the hydrous silicate binders, an imbedded reinforcement and a finish against humidity and carbon dioxide.

This gastight protective finish consists of an epoxy resin[1] of 80 g/m^2 ± 20 g/m^2. The average permeability to carbon dioxide of the finish shall be less than 300 cm^3/(m^2 x bar x day).

The products can be delivered optionally as cuts e.g. in form of strips, panels or stampings of different shape.

Additionally the products and cuts may be equipped at the factory with a self-adhesive film or tape[1] or with a lamination[1].

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

The construction products "PALUSOL 100" and "PALUSOL 104" are assessed on the basis of EAD 350005-00-1104[2] as intumescent products for fire sealing and fire stopping purposes without specifically defined final use (IU 1).

The intumescent construction products "PALUSOL 100" and "PALUSOL 104" 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 elements and construction assemblies by expanding under the impact of high temperatures and thus restricting the spread of fire in fire resistant elements and assemblies.

The resistance to fire performance shall be determined separately for every specific final use if required.

The performances given in Section 3 are only valid if the intumescent construction products "PALUSOL 100" and "PALUSOL 104" 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 at least 25 years[3] for "PALUSOL 100" and "PALUSOL 104", if the products are used indoors in compliance with the conditions of type Z_2 e.g. in living-rooms, offices and storage rooms.

The working life indicated shall not be interpreted as a guarantee given by the producer, but as a means of choosing the right product in relation to the expected economically reasonable working life of the works.

1 Type, manufacturer and specific parameters deposited with DIBt
2 Official Journal der EU Nr. C 378/02 of 13 November 2015
3 results of long-term aging for 25 years (historical data) 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 A2-s1,d0 in accordance with EN 13501-1[4]

The standard designs of the intumescent products "PALUSOL 100" and "PALUSOL 104" in the origin variant - coated with epoxy resin but without additional equipment - meet the reaction to fire requirements of class A2-s1,d0 in accordance with EN 13501-1.

The reaction to fire performance of the intumescent construction products "PALUSOL 100" and "PALUSOL 104" with self-adhesive films or tapes or with laminations was not assessed in this ETA.

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 of dangerous substances	No dangerous substances[5]

The detailed chemical composition of the intumescent construction products "PALUSOL 100" and "PALUSOL 104" 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 the durability for the specific intended use.

The testing and assessment of the product performance shall be carried out under the climatic conditions of type Z_2 in accordance with EAD 350005-00-1104[2], clause 1.2.2.

The mineral intumescent products "PALUSOL 100" and "PALUSOL 104" and their cuts can be used under the use conditions of type Z_2 - frost-free at temperatures up to 35 °C ± 5 °C and at a relative humidity below 85% - without having to fear essential changes in the relevant fire sealing and fire stopping properties and the resulting performance.

If additional protective measures are used for the intumescent construction products "PALUSOL 100" and "PALUSOL 104" e.g. encapsulated use, watertight and gastight sealing of the cutting line, complete watertight and gastight wrapping etc. the products may also be used in areas with occasional splash water or occasional but drying condensation.

[4] 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

[5] 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)

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

In accordance with EAD No. 35 0005-00-1104[2] "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) and the following table:

Product	Intended use	characteristic	System
"PALUSOL 100" "PALUSOL 104"	Components effective in view of safety in case of fire 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 system 1 of Assessment and Verification of Constancy of performance (AVCP), as provided for in the applicable European Assessment Document

The technical details necessary for the implementation of the system for Assessment and Verification of Consistency of Performance are laid down in the control plan (confidential part of this ETA), deposited with Deutsches Institut für Bautechnik.

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ANNEX 1

CHARACTERISTICS RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS OF THE CONSTRUCTION PRODUCTS

"PALUSOL 100"

"PALUSOL 104"

Characteristic	Range and tolerance	test method
"PALUSOL® 100" with one glass fibre scrim reinforcement layer[1]		
Thickness of the board	1,9 mm ± 0,4 mm	see control plan
Expansion ratio	5,0 to 9,5	
Expansion pressure	0,95 N/mm² to 1,60 N/mm²	
"PALUSOL® 104" double thickness with one glass fibre scrim reinforcement layer[1]		
Thickness of the board	3,6 mm ± 0,6 mm	see control plan
Expansion ratio	4,5 to 9,5	
Expansion pressure	0,95 N/mm² to 1,60 N/mm²	