Deutsches Institut für Bautechnik

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-16/0416 of 12 January 2017

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General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	"Intusit PU-L"
Product family to which the construction product belongs	Intumescent products for fire sealing and fire stopping purposes
Manufacturer	DOYMA GmbH & Co Industriestraße 43- 57 28876 Oyten DEUTSCHLAND
Manufacturing plant	01[1]
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

[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 "Intusit PU-L".

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 product generates only insignificant expansion pressure during reaction in case of fire.

The technical characteristics relevant for fire sealing and fire stopping effects of the construction product "Intusit PU-L" are given in Annex 1.

The construction product "Intusit PU-L" is a flexible intumescent construction product of green or light grey colour, produced in form of mats and various preformed-components (e.g. blocks, profiles, strips, cuts, stampings) with nominal densities between 185 kg/m^3 and 750 kg/m^3 (each with a tolerance in density of ± 10%). The product is made of a two-component mixture, which essentially consists of intumescent substances and a binder.

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

The construction product "Intusit PU-L" is assessed on the basis of EAD 350005-00-1104[2] as an intumescent product for fire sealing and fire stopping purposes without defined final intended use (IU 1).

The construction product "Intusit PU-L" is 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 valid, if the construction product "Intusit PU-L" in use considers the instructions and the conditions stated in section 3.3.

The test and assessment methods on which this European Technical Assessment is based, lead to the assumption of working life of the intumescent construction product "Intusit PU-L" of at least 10 years in final use.

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

[2] Official Journal of the EU N° C 378/02 of 13/11/2015

The intumescent construction product "Intusit PU-L" meets the reaction to fire requirements of class E in accordance with EN 13501-1[3].

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 for the construction element concerned.

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content and release of dangerous substances	No dangerous substances[4]

The detailed chemical composition of the intumescent construction product "Intusit PU-L" 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 relevant product performance were carried out for environmental conditions of type $Y_{2,\ (0\ °C/70\ °C)}$ (product intended for frost-protected indoor use at temperatures up to +70° C and with changing air humidity, temporary, repeated or permanent condensation but no impact of rain and no directe UV-radiation) in accordance with EOTA Technical Report 024, section 4.2.5 [5]

Result:

The intumescent construction product "Intusit PU-L" can be used under use conditions of type $Y_{2,\ (0\ °C/70\ °C)}$, 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_1 and Z_2.

Additionally the product "Intusit PU-L" was tested under specific durability conditions according to EOTA TR 024, section 4.3

- 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 for 4 weeks),
- Exposure to intimate contact to plastics (PVC, PE).

The characteristic "expansion ratio" did not change essentially due to these exposures.

[3] 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

[4] In accordance with the Regulation (EC) No 1272/2008 of 16/12/2008

[5] 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) and the following table:

Product	Intended use	characteristic	System
"Intusit PU-L"	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 AVCP procedure, 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.

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ANNEX 1

CHARACTERISTICS OF THE CONSTRUCTION PRODUCT RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECTS OF "INTUSIT PU-L"

Characteristic	**Test method**[6]	**Range of determined values and tolerances**
Density	EOTA TR 024[5], cl. 3.1.4	nominal density from 185 kg/m^3 to 750 kg/m^3 tolerance in density ±10 % for each nominal density
Expansion ratio	EOTA TR 024[5], cl. 3.1.11, method 2 (without a top-load)	at a density of 245 kg/m^3: 2,0 to 4,0 at a density of 675 kg/m^3: 4,8 to 7,5 (thickness of the samples 10 mm)

[6] Details of the test method are deposited with DIBt.