

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

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Laender Governments



European Technical Assessment

ETA-17/0816
of 29 November 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

Brandschutzgewebe DBU
Brandschutzgewebe DBU selbstklebend
Brandschutzgewebe DBU Vlies
Brandschutzgewebe DBU doppelt
Brandschutzmasse DBU Dispersion
Brandschutzmasse DBU Spachtel

Product family
to which the construction product belongs

Intumescent products for fire sealing and fire stopping
purposes

Manufacturer

Adolf Würth GmbH & Co. KG
Reinhold-Würth-Straße 12-17
74653 Künzelsau
DEUTSCHLAND

Manufacturing plant

Werk 14¹

This European Technical Assessment
contains

8 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

¹ Address known at DIBt

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Specific Part

1 Technical description of the product

Object of this European Technical Assessment (ETA) are the intumescent construction products "Brandschutzgewebe DBU" and the modifications "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies" and the products "Brandschutzmasse DBU Dispersion" and "Brandschutzspachtel DBU Spachtel".

In case of fire, exposed to high temperatures, these intumescent products expand and generate 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 construction products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies" are factory made flexible intumescent fabrics.

The construction product "Brandschutzmasse DBU Dispersion" is produced as a liquid coating in the colour grades anthracite, black and red, easy to spread by brush or by sprayer.

The construction product "Brandschutzspachtel DBU Spachtel" is a viscos, intumescent putty.

The products "Brandschutzmasse DBU Dispersion" and "Brandschutzspachtel DBU Spachtel" essentially consist of intumescent substances and a binder. They harden when applied on a substrate and form intumescent layers which react in case of fire at higher temperatures by foaming.

The construction products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt" und "Brandschutzgewebe DBU Vlies" are tight and tearproof intumescent fabrics, which consist of a glass filament fabric² mechanically covered with the intumescent coating "Brandschutzmasse DBU Dispersion" on at least one side.

The flexible intumescent fabric "Brandschutzgewebe DBU" consist of the glass filament fabric² mechanically covered with "Brandschutzmasse DBU Dispersion" on one side. The other side it is covered with a coating of Polyurethan² pigmented optionally in the colour grades grey, red, black or white. The product "Brandschutzgewebe DBU" is produced in a range of nominal thickness between 0,6 mm and 2,2 mm (tolerance $\pm 10\%$ for each nominal thickness).

The flexible intumescent fabric "Brandschutzgewebe DBU selbstklebend" consist of the glass filament fabric² mechanically covered with "Brandschutzmasse DBU Dispersion" on one side and equipped with an acrylic self-adhesive foil² on the other side, or on customers request even on the reactive side. It is produced in a range of nominal thickness between 0,6 mm and 2,2 mm (tolerance $\pm 10\%$ for each nominal thickness).

The flexible intumescent fabric "Brandschutzgewebe DBU doppelt" consist of the glass filament fabric² mechanically covered with "Brandschutzmasse DBU Dispersion" on both sides. It is produced of nominal thickness of 1,4 mm (tolerance in thickness $\pm 10\%$).

² Type, manufacturer and characteristics deposited at DIBt.

The flexible intumescent fabric "Brandschutzgewebe DBU Vlies" consist of the glass filament fabric² mechanically covered with "Brandschutzmasse DBU Dispersion" and additionally reinforced with a fibre glass scrim² on one side. The other side is mechanically coated with a grey pigmented layer of Polyurethan². It is produced of a nominal thickness between 1,5 mm and 1,8 mm (tolerance in thickness $\pm 10\%$).

The flexible intumescent fabrics "Brandschutzgewebe DBU" and the modifications "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies" are supplied as endless rolls, cut at factory and delivered in the standard length of 10 m or 20 m.

The products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt" und "Brandschutzgewebe DBU Vlies" also may be delivered as intumescent strips, mats, cuts and stamps (bands, blocks, pads) of any dimension.

The intumescent coating "Brandschutzmasse DBU Dispersion" and the intumescent putty "Brandschutzspachtel DBU Spachtel" are delivered in pails and containers of different capacity; the intumescent putty "Brandschutzspachtel DBU Spachtel" is also delivered in cartridges.

The technical characteristics relevant for fire sealing and fire stopping effects of the construction products are given in Annex 1.

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

The construction products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies", "Brandschutzmasse DBU Dispersion" and "Brandschutzspachtel DBU Spachtel" are assessed on the basis of EAD 350005-00-1104³ as intumescent products for fire sealing and fire stopping purposes without a defined final use (IU 1).

These construction products are intended to be used as essential components in construction products, construction elements, kits and special assemblies which need to meet requirements concerning the safety in case of fire.

In case of fire, the products delay 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 products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies", "Brandschutzmasse DBU Dispersion" and "Brandschutzspachtel DBU Spachtel" are used in accordance with 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 products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies" and the products "Brandschutzmasse DBU Dispersion" and "Brandschutzspachtel DBU Spachtel" in final use of at least 10 years⁴.

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

⁴ results of long-term aging (historical data) are available (natural-aging for 10 years)

English translation prepared by DIBt

If the construction products "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt", "Brandschutzgewebe DBU Vlies" and the products "Brandschutzmasse DBU Dispersion" and "Brandschutzspachtel DBU Spachtel" are intended to be exposed to specific media or use conditions, further tests shall be done.

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
"Brandschutzmasse DBU Dispersion" layers of a thickness of 1 mm to 2 mm on metal substrates (melting point > 1000 °C) and on classified substrates of class A1	Class B-s1,d0 in accordance with EN 13501-1 ⁵
"Brandschutzgewebe DBU" free standing, on mineral substrates (density ≥ 800 kg/m ³) and on classified substrates of class A1	Class C-s1,d0 in accordance with EN 13501-1 ⁵
"Brandschutzgewebe DBU" (layers <1 mm or > 2 mm), "Brandschutzmasse DBU Spachtel", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt" and "Brandschutzgewebe DBU Vlies"	Class E in accordance with EN 13501-1 ⁵

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 ⁶

The detailed chemical composition of the intumescent construction products "Brandschutzmasse DBU Dispersion", "Brandschutzmasse DBU Spachtel", "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutzgewebe DBU doppelt" and "Brandschutzgewebe DBU Vlies" 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 of the performance for the intended use.

The testing and the assessment of the product performance concerning fire protection were carried out for environmental conditions of type X – product intended for use at conditions exposed to weathering (rain, UV, frost) - in accordance with EOTA Technical Report 024⁷ (EOTA TR 024), section 4.2.3.

⁵ DIN 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

⁶ In accordance with the Regulation (EC) No 1272/2008 of the European Parliament and the Council of 16 December 2008 (published in the OJ of the EU N° L353 of 31/12/2008)

⁷ 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

Result:

The intumescent construction products "Brandschutzmasse DBU Dispersion", "Brandschutzmasse DBU Spachtel", "Brandschutzgewebe DBU", "Brandschutzgewebe DBU selbstklebend", "Brandschutz-gewebe DBU doppelt" and "Brandschutzgewebe DBU Vlies" and cuts of them can be used under use conditions of type X (out-door use), 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 Y₁, Y₂, Z₁ and Z₂.

Supplementary the product was tested under specific 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 and permanent condensation) for 4 weeks
- Intimate contact to plastics (PVC, PE).

The characteristics "expansion ratio" and "expansion pressure" did not change essentially due to these specific exposures.

For the intumescent fabrics "Brandschutzgewebe DBU" and "Brandschutzgewebe DBU Vlies" the tear strength and the elongation at rupture were determined according to EN ISO 10319⁸:

"Brandschutzgewebe DBU"			
Thickness of the fabric		ca. 1,6 mm	ca. 0,6 mm
Ultimate elongation in %	longitudinal	3,6	4,2
	transverse	4,4	4,5
Ultimate tensile strength in kN/m	longitudinal	56,0	60,7
	transverse	34,5	41,4
"Brandschutzgewebe DBU Vlies"			
Thickness of the fabric		ca. 1,6 mm	
Ultimate elongation in %	longitudinal	7,2	
	transverse	7,7	
Ultimate tensile strength in kN/m	longitudinal	141,8	
	transverse	48,8	

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 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 consistency 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
"Brandschutzgewebe DBU" "Brandschutzgewebe DBU selbstklebend" "Brandschutzgewebe DBU doppelt" "Brandschutzgewebe DBU Vlies" "Brandschutzmasse DBU Dispersion" "Brandschutzmasse DBU Spachtel"	Components effective in view of safety in case of fire (BWR 2) used in construction products, construction elements, kits and specific 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 29 November 2017 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe
Head of Department

beglaubigt:
Dr.-Ing. Dierke

CHARACTERISTICS RELEVANT FOR THE FIRE SEALING AND FIRE STOPPING EFFECT OF THE CONSTRUCTION PRODUCTS "BRANDSCHUTZMASSE DBU DISPERSION", "BRANDSCHUTZMASSE DBU SPACHTEL", "BRANDSCHUTZGEWEBE DBU", "BRANDSCHUTZGEWEBE DBU SELBSTKLEBEND", "BRANDSCHUTZGEWEBE DBU DOPPELT" UND "BRANDSCHUTZGEWEBE DBU VLIES"

Characteristic	Test method ⁹	Range and tolerance
"Brandschutzmasse DBU Dispersion" (coating), "Brandschutzmasse DBU Spachtel" (putty)		
Density	EOTA TR 024 ⁷ , cl. 3.1.4	coating: 1200 kg/m ³ ± 10 % putty: 1300 kg/m ³ ± 10 %
Expansion ratio	EOTA TR 024 ⁷ , cl. 3.1.11 method 1 with a top load	Thickness 2 mm 15 to 26,5
Expansion pressure	EOTA TR 024 ⁷ , cl. 3.1.12, method 4	Thickness 2 mm 1,00 N/mm ² to 1,90 N/mm ²
Coated fabrics		
"Brandschutzgewebe DBU"		
Expansion ratio	EOTA TR 024 ⁷ , cl. 3.1.11 method 1 with a top load	Thickness 2 mm 15,5 to 22,0
Expansion pressure	EOTA TR 024 ⁷ , cl. 3.1.12 method 4	Thickness 2 mm 1,00 N/mm ² to 1,65 N/mm ²
"Brandschutzgewebe DBU Vlies"		
Expansion ratio	EOTA TR 024 ⁷ , cl. 3.1.11 method 1 with a top load	Thickness 1,6 mm 12,5 to 16,0
Expansion pressure	EOTA TR 024 ⁷ , cl. 3.1.12 method 4	1,30 N/mm ² to 1,80 N/mm ²
"Brandschutzgewebe DBU selbstklebend"		
Expansion ratio	EOTA TR 024 ⁷ , cl. 3.1.11 cl. 3.1.11 method 1 with a top load	Thickness 1,6 mm 15,5 bis 22,0
Expansion pressure	EOTA TR 024 ⁷ , cl. 3.1.12 method 4	1,00 N/mm ² to 1,65 N/mm ²
"Brandschutzgewebe DBU doppelt"		
Expansion ratio	EOTA TR 024 ⁷ , cl. 3.1.11 method 1 with a top load	Thickness 1,4 mm 16,5 to 24,0
Expansion pressure	EOTA TR 024 ⁷ , cl. 3.1.12 method 4	1,50 N/mm ² to 2,00 N/mm ²

⁹ Details of the test method deposited with at DIBt