



Approval body for construction products and types of construction

#### **Bautechnisches Prüfamt**

An institution established by the Federal and Laender Governments



## European Technical Assessment

### ETA-19/0494 of 25 November 2019

English translation prepared by DIBt - Original version in German language

#### **General Part**

Technical Assessment Body issuing the European Technical Assessment:

Trade name of the construction product

Product family to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment contains

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

Deutsches Institut für Bautechnik

"Perimeter B3000 035" and "Perimeter XB 035"

Expanded polystyrene (EPS) foam boards as thermal insulation outside the waterproofing

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5 pages which form an integral part of this assessment

EAD 040773-00-1201

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#### Specific Part

#### 1 Technical description of the product

This European Technical Assessment applies to the thermal insulation boards of expanded polystyrene (EPS) with the designations:

"Perimeter B3000 035" und "Perimeter XB 035"

This European Technical Assessment applies to thermal insulation boards with a nominal thickness from 50 mm to 300 mm.

The thermal insulation boards "Perimeter B3000 035" have a smooth surface on both sides.

The thermal Insulation boards "Perimeter XB 035" have a moulded surface on both sides.

From a nominal thickness of > 200 mm the thermal insulation boards have a special edge treatment (shiplap, depth  $\ge$  15 mm).

By a nominal thickness  $\leq$  200 mm the thermal insulation boards can have a special edge treatment (shiplap, depth  $\geq$  15 mm).

The thermal insulation boards do not contain Hexabromocyclododecane (HBCD).

The European Technical Assessment has been issued for the product on the basis of agreed data/information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed. The European Technical Assessment applies only to the products corresponding to this agreed data/information.

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

The thermal insulation boards are intended to be used as external horizontal and vertical thermal insulation of in-ground constructions outside the waterproofing (non-structural application) not constantly exposed to groundwater or to long-term backwater.

The performance according to section 3 only applies if the thermal insulation boards are installed according to the manufacture's installation instructions and if they are protected from precipitation, wetting or weathering during transport and storage before installation.

Concerning the application of the thermal insulation boards, also the respective national regulations shall be observed.

Where the thermal insulation boards are fixed by using adhesives, only such adhesions shall be used, which are suitable for this purpose. The assessment of these fixings is not subject of this European Technical Assessment.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the thermal insulation boards of at least 50 years. 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 its assessment

For sampling, conditioning and testing the provisions of the EAD No 040773-00-1201 apply.

#### 3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class E
test acc. to EN ISO 11925-2:2010	acc. to EN 13501-1:2007 + A1:2009



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#### 3.2 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity at a reference temperature of 10 °C	Declared value: <sup>1</sup>
test acc. to EN 12667:2001 in accordance with EN 13163:2012+A1:2015	$\lambda_{\rm D}$ = 0,034 W/(m·K)
Moisture conversion coefficient	No performance assessed
Water absorption	
long term water absorption by total immersion	
test acc. to EN 12087:2013 (method 2A) with deviating drip-off time of max. 10 seconds	≤ 5 Vol%
long term water absorption by diffusion test acc. to EN 12088:2013	≤ 10 Vol% (WD(V)10 acc. to EN 13163)
Freeze-thaw resistance	
test acc. to EN 12091:2013	≤ 15 Vol%² (FTCD15 acc. to EN 13163)
Water vapour diffusion resistance factor	No performance assessed
Geometrical properties	tolerance
thickness	
test acc. to EN 823:2013	± 2 mm (T(2) acc. to EN 13163)
length, width	
test acc. to EN 822:2013	± 0,6 % or ± 3 mm <sup>3</sup>
	(L(3) or. W(3) acc. to EN 13163)
Squareness on length and width	
test acc. to EN 824:2013	5 mm/m (S(5) acc. to EN 13163)
flatness	
test acc. to EN 825:2013	5 mm (P(5) acc. to EN 13163)
profiling and volume loss	no performance assessed
Deformation under specified compressive load and temperature conditions	
test acc. to EN 1605:2013	
load: 40 kPa, temperature: (70 ± 1) °C	
time: (168 ± 1) h	
nominal thickness ≤ 200 mm:	≤ 5 % (DLT(2)5 acc. to EN 13163)
nominal thickness > 200 mm:	≤ 3 %

1 The declared value is representive for at least 90 % of the production with a confidence level of 90 % and applies to the density range mentioned in section 3.

2 The water absorption after freeze-thaw cycling shall not be increased by more than 15 Vol.-% and the reduction in compressive stress at 10 % deformation of the re-dried specimens, when tested in accordance with EN 826, shall not exceed 10 % of the initial value. 3

Whichever gives the biggest numerical tolerance



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Essential characteristic	Performance
Dimensional stability under constant normal laboratory conditions	
test acc. to EN 1603:2013	DS(N)2 acc. to EN 13163
Dimensional stability under specified conditions	
test acc. to EN 1604:2013	DS(70,-)3 acc. to EN 13163
Tensile strength perpendicular to faces	No performance assessed
Bending strength	
test acc. to EN 12089:2013 (method B)	≥ 200 kPa
	(BS200 acc. to EN 13163)
Density	
test acc. to EN 1602:2013	27 kg/m <sup>3</sup> to 35 kg/m <sup>3</sup>
Compressive stress at 10 % deformation	
test acc. to EN 826:2013	≥ 150 kPa
	(CS(10)150 acc. to EN 13163)
Compressive creep	No performance assessed

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

In accordance with EAD No. 040773-00-1201, the applicable European legal act is: 1999/91/EC.

The system to be applied is:

System 3

# 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

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