

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-20/0005**  
**of 29 September 2020**

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

"BACHL EPS PerimeterDuo"

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

Karl Bachl Kunststoffverarbeitung GmbH & Co. KG  
Deching 3  
94133 Röhrnbach  
DEUTSCHLAND

see Annex A

7 pages including 1 annex 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 designation “BACHL EPS PerimeterDuo”.

This European Technical Assessment applies to thermal insulation boards with a nominal thickness from 40 mm to 200 mm.

The thermal insulation boards “BACHL EPS PerimeterDuo” have a grooved surface on both sides (profile depth: 3 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 product 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 manufacturer'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 test acc. to EN ISO 11925-2:2010	Class E acc. to EN 13501-1:2018

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

Essential characteristic	Performance
Thermal conductivity at a reference temperature of 10 °C test acc. to EN 12667:2001 in accordance with EN 13163:2012+A1:2015	Declared value: <sup>1</sup> $\lambda_D = 0,034 \text{ W/(m} \cdot \text{K)}$
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 nominal thickness < 60 mm: nominal thickness $\geq 60 \text{ mm}$ und $\leq 200 \text{ mm}$ : long term water absorption by diffusion test acc. to EN 12088:2013 nominal thickness < 60 mm: nominal thickness $\geq 60 \text{ mm}$ und $\leq 200 \text{ mm}$ :	    $\leq 5 \text{ Vol.-%}$ $\leq 3 \text{ Vol.-%}$  $\leq 10 \text{ Vol.-% (WD(V)10 acc. to EN 13163)}$ $\leq 5 \text{ Vol.-% (WD(V)5 acc. to EN 13163)}$
Freeze-thaw resistance test acc. to EN 12091:2013 nominal thickness < 60 mm: nominal thickness $\geq 60 \text{ mm}$ und $\leq 200 \text{ mm}$ :	  $\leq 15 \text{ Vol.-%}^2 \text{ (FTCD15 acc. to EN 13163)}$ $\leq 10 \text{ Vol.-%}^3 \text{ (FTCD10 acc. to EN 13163)}$
Water vapour diffusion resistance factor	No performance assessed

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

<sup>2</sup> 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.

<sup>3</sup> The water absorption after freeze-thaw cycling shall not be increased by more than 10 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.

Essential characteristic	Performance
Geometrical properties thickness test acc. to EN 823:2013 length, width test acc. to EN 822:2013  Squareness on length and width test acc. to EN 824:2013 flatness test acc. to EN 825:2013 profiling and volume loss	tolerance  $\pm 2$ mm (T(2) acc. to EN 13163)  $\pm 0,6$ % or $\pm 3$ mm <sup>4</sup> (L(3) or. W(3) acc. to EN 13163)  5 mm/m (S(5) acc. to EN 13163)  5 mm (P(5) acc. to EN 13163)  no performance assessed
Deformation under specified compressive load and temperature conditions test acc. to EN 1605:2013 load: 40 kPa, temperature: $(70 \pm 1)$ °C time: $(168 \pm 1)$ h	$\leq 5$ % (DLT(2)5 acc. to EN 13163)
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)	$\geq 200$ kPa (BS200 acc. to EN 13163)
Density test acc. to EN 1602:2013	30 kg/m <sup>3</sup> to 33 kg/m <sup>3</sup>
Compressive stress at 10 % deformation test acc. to EN 826:2013	$\geq 200$ kPa (CS(10)200 acc. to EN 13163)
Compressive creep	No performance assessed

<sup>4</sup> Whichever gives the biggest numerical tolerance.

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 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.

Issued in Berlin on 29 September 2020 by Deutsches Institut für Bautechnik

Frank Iffländer  
Head of Section

*beglaubigt:*  
Meyer

"BACHL EPS PerimeterDuo"

## Annex A

### Manufacturing plants

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2. KARL BACHL Kunststoffverarbeitung GmbH & Co.KG  
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