

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-19/0091  
of 15 July 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

"HIRSCH Therm 5in1 grau", "HIRSCH ThermoDrain Vlies  
5in1 grau" und "HIRSCH Therm Sockelplatte grau"

Product family  
to which the construction product belongs

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

Manufacturer

HIRSCH Porozell GmbH  
Augsburger Straße 8-10  
33378 Rheda-Wiedenbrück  
DEUTSCHLAND

Manufacturing plant

see Annex A

This European Technical Assessment  
contains

7 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 040773-00-1201

This version replaces

ETA-19/0091 issued on 17 April 2019

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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

"HIRSCH Therm 5in1 grau", "HIRSCH ThermoDrain Vlies 5in1 grau" und "HIRSCH Therm Sockelplatte grau".

Depending on the product type the expanded polystyrene foam boards have the specifications according to table 1.

Table 1 Designation and specification of the EPS-foam boards

Product type	Surface
"HIRSCH Therm 5in1 grau"	one moulded (embossed) side and one grooved side (rooved profile: waffle structure, depth $\geq 3$ mm)
"HIRSCH ThermoDrain Vlies 5in1 grau"	one moulded (embossed) side and one grooved side (rooved profile: waffle structure, depth $\geq 3$ mm; grooved side coated with a filter fleece)
"HIRSCH Therm Sockelplatte grau"	moulded (embossed) surface on both sides

From a nominal thickness of  $> 200$  mm the expanded polystyrene foam boards have a special edge treatment (shiplap, depth  $\geq 15$  mm).

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

This European Technical Assessment applies to thermal insulation boards with a nominal thickness from 60 mm to 300 mm.

The expanded polystyrene foam 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 products corresponding to this agreed data/information.

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

The expanded polystyrene foam 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 expanded polystyrene foam 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 13501-1:2007 + A1:2009

#### 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> $\lambda_D = 0,031 \text{ W/(m} \cdot \text{K)}$
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 long term water absorption by diffusion test acc. to EN 12088:2013	$\leq 3 \text{ Vol.-%}$ $\leq 5 \text{ Vol.-% (WD(V)5 acc. to EN 13163)}$
Freeze-thaw resistance test acc. to EN 12091:2013	$\leq 10 \text{ Vol.-%}^2 \text{ (FTCD10 acc. to EN 13163)}$
Water vapour diffusion resistance factor	No performance assessed
Geometrical properties thickness test acc. to EN 823:2013 length, width test acc. to EN 822:2013	tolerance $\pm 2 \text{ mm (T(2) acc. to EN 13163)}$ $\pm 0,6 \% \text{ or } \pm 3 \text{ mm}^3 \text{ (L(3) or. W(3) acc. to EN 13163)}$

<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 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.

<sup>3</sup> Whichever gives the biggest numerical tolerance

Essential characteristic	Performance
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: nominal thickness > 200 mm and ≤ 280 mm: nominal thickness > 280 mm and ≤ 300 mm:	≤ 5 % (DLT(2)5 acc. to EN 13163) ≤ 4 % ≤ 3 %
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 30 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

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 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 15 July 2021 by Deutsches Institut für Bautechnik

Frank Iffländer  
Head of Section

*beglaubigt:*  
Meyer

"HIRSCH Therm 5in1 grau", "HIRSCH ThermoDrain Vlies 5in1 grau" und "HIRSCH Therm Sockelplatte grau"

## Annex A

### Manufacturing plants

1. Hirsch Porozell GmbH  
Etrastraße 1  
74232 Abstatt  
Germany
2. Hirsch Porozell GmbH  
Seewiesen 25b  
74906 Bad Rappenau-Grombach  
Germany
3. Hirsch Porozell GmbH  
Steinenberger Straße 43  
88339 Bad Waldsee  
Germany
4. Hirsch Porozell GmbH  
Frigolittstraße 1  
96157 Ebrach  
Germany
5. Hirsch Porozell GmbH  
Wulfener Landtsraße 2  
06386 Osternienburger Land  
Germany
6. Hirsch Porozell GmbH  
Augsburger Straße 8-10  
33378 Rheda-Wiedenbrück  
Germany