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European Technical Assessment Body
for construction products



European Technical Assessment

ETA-24/0760
of 8 November 2024

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General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

"Rezillo"

Product family
to which the construction product belongs

Thermal insulation board made of pressed rigid
polyurethane foam

Manufacturer

Unilin Insulation
Waregemstraat 112
8792 DESSELGEM
BELGIEN

Manufacturing plant

Unilin Insulation
Waregemstraat 112
8792 DESSELGEM
BELGIEN

This European Technical Assessment
contains

5 pages 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

040419-00-1201

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Specific part

1 Technical description of the product

This European Technical Assessment applies to the thermal insulation boards made of pressed rigid polyurethane foam with smooth, rigid surfaces and without additional coating, designated as "Rezillo", hereinafter referred to as thermal insulation boards.

The polyurethane (PU) rigid foam is made of ground PU residual materials (milling and cutting waste) generated during production and free from impurities.

Residual materials resulting from the production of PU foam blocks and strips laminated with a mineral fleece or aluminium are used for the thermal insulation boards.

The European Technical Assessment has been issued for the products 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 polyurethane (PU) thermal insulation boards are intended to be used as thermal insulation in buildings and construction applications, including floors, walls and roofs, for construction elements with no contact to water and soil.

The performance according to section 3 only applies if the thermal insulation board is installed according to the manufacturer's installation instructions and if they are protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation.

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 25 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 040419-00-1201 "Thermal insulation board made of pressed rigid polyurethane foam" apply.

3.1 Safety in case of fire (BWR 2)

| Essential characteristic | Performance |
|--|---|
| Reaction to fire test acc. to EN ISO 11925-2:2010 (for $20 \text{ mm} \leq d \leq 80 \text{ mm}$) | Class E acc. to EN 13501-1: 2007+A1:2009 |

3.2 Energy economy and heat retention (BWR 6)

| Essential characteristic | Performance |
|---|---|
| <p>Thermal conductivity test acc. to EN 12667:2001</p> <p>20 mm < d ≤ 40 mm 40 mm < d ≤ 60 mm 60 mm < d ≤ 80 mm</p> <p>Conversion of humidity acc. to EN ISO 10456:2007 + AC:2009 mass-related moisture content at 23 °C/50 % rel. humidity mass-related moisture content at 23 °C/80 % rel. humidity mass-related moisture conversion coefficient moisture conversion factor (23 °C/ 50 % rel. humidity to 23 °C/ 80 % rel. humidity)</p> | <p>Declared value of the thermal conductivity^{a)}</p> <p>$\lambda_{D (23/50)} = 0.083 \text{ W/(m} \cdot \text{K)}$ $\lambda_{D (23/50)} = 0.085 \text{ W/(m} \cdot \text{K)}$ $\lambda_{D (23/50)} = 0.088 \text{ W/(m} \cdot \text{K)}$</p> <p>$u_{23/50} = 0.017$ $u_{23/80} = 0.028$</p> <p>$f_u = 2.86$ $F_{m (23/50-23/80)} = 1.03$</p> |
| <p>Compressive strength test acc. to EN 826:2013</p> | <p>≥ 7100 kPa</p> |
| <p>Water absorption test acc. to EN 1609:2013 (by short term, partial immersion)</p> | <p>$W_p \leq 0.5 \text{ kg/m}^2$</p> |
| <p>Hygroscopic sorption properties</p> | <p>No performance assessed</p> |
| <p>Water vapour diffusion resistance coefficient</p> | <p>$\mu = 8$</p> |
| <p>Dimensional stability</p> | <p>No performance assessed</p> |
| <p>Tensile strength perpendicular to faces test acc. to EN 1607:2013</p> | <p>≥ 800 kPa</p> |
| <p>Density test acc. to EN 1602:2013</p> | <p>510 kg/m³ to 590 kg/m³</p> |
| <p>Nominal thickness test acc. to EN 823:2013 Deviation</p> | <p>20 mm to 80 mm $\pm 1 \text{ mm}$</p> |
| <p>Nominal length test acc. to EN 822:2013 Deviation</p> | <p>≤ 6000 mm $\pm 8 \text{ mm}$</p> |
| <p>Nominal width test acc. to EN 822:2013 Deviation</p> | <p>≤ 1350 mm $\pm 5 \text{ mm}$</p> |

| Essential characteristic | Performance |
|--|---------------------------|
| Squareness test acc. to EN 824:2013 Deviation | $S_b \leq 2 \text{ mm/m}$ |
| Flatness test acc. to EN 825:2013 Deviation | $\leq 2 \text{ mm}$ |
| Bending strength | No performance assessed |
| Shear strength | No performance assessed |
| Deformation under specified compressive load and temperature conditions | No performance assessed |
| Compressive creep | No performance assessed |
| Flatness after one-sided wetting | No performance assessed |
| Water absorption (by long term immersion) | No performance assessed |
| a) Declared value of the thermal conductivity for a moisture content of the insulation material at 23 °C and 50 % relative humidity, representative for at least 90 % of the production with a confidence level of 90 %. | |

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. 040419-00-1201 "Thermal insulation board made of pressed rigid polyurethane foam" the applicable European legal act is: 1999/91/EC.

The system to be applied is: system 3

In addition, with regard to reaction to fire the applicable European legal act is (for products covered by this European Assessment Document): 2001/596/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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