Polish to English translation

Katowice, 15 April 2025

Łukasiewicz Warszawski Instytut Technologiczny

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"IZOLACJA"
Construction Materials Laboratory

PCA Polskie Centrum Akredytacji BADANIA AB 008

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REPORT No. 70/25/125/M-2/$\lambda_{HFM\ I}$ ON THERMAL PROPERTIES OF BUILDING PRODUCTS AND MATERIALS – DETERMINATION OF THERMAL RESISTANCE USING THE HEAT FLUX SENSOR METHOD – PRODUCTS WITH HIGH AND MEDIUM THERMAL RESISTANCE according to PN-EN 12667:2002

(number of pages: 3)

1. Description and identification of the tested item:
   As declared by the client:
   Product sample: SOLVO SO-02 PVC-U panels for external walls according to PN-EN 13245-2:2009/AC:2010,
   manufactured by: Profile VOX sp. z o.o. Sp. k.,
   ul. Gdyńska 143, 62-004 Czerwonak, Poland.
   The following items were supplied for testing:
   - 1 undamaged sample measuring approximately (300 x 300 x 56) mm, consisting of three layers of tightly adhering panels.

2. Name and address of the client:
   Profile VOX sp. z o.o., Sp. k., ul. Gdyńska 143, 62-004 Czerwonak, Poland

3. Order No. and date: Order No. 70/25 dated 17 Jan. 2025

4. Product sample ~~collection~~/delivery date: 27 March 2025

5. Testing date: 07 Apr. 2025 ÷ 10 Apr. 2025

6. Product sample collection/delivery procedure:
   Product sample collected and delivered to Łukasiewicz-WIT "IZOLACJA" Construction Materials Laboratory by the client. No data on product sampling.

7. Seasoning routine:
   The test sample was conditioned to constant weight at (23 ± 2)°C and (50 ± 5)% relative humidity.

8. Test results:

No.	Property	Test results
1	**2**	**3**
1.	Sample thickness, m	0.0572
2.	Mass of seasoned material tested, g	2111
3.	Relative change in weight during seasoning	0.00
4.	Relative change in weight during testing	0.00
5.	Change in thickness (and volume) during testing, mm (mm^3)	0.0 (0.0)
6.	Mean sample temperature difference during testing, K	20.0
7.	Mean test temperature, °C	10.0
8.	Ambient temperature surrounding the testing instrument during the test, °C	21
9.	Density of the heat flux passing through the sample during testing, W/m^2	27.02
10.	Thermal resistance, R, $m^2 \cdot K/W$	0.740
11.	Thermal conductivity coefficient, λ, W/m·K	0.0771
12.	Uncertainty (U) of measurement of the thermal conductivity coefficient, λ, W/m·K (The reported uncertainty is an expanded uncertainty with a confidence level of approximately 95% and coverage factor k=2)	0.0038

9. Other observations: none.

10. Additional information:
    - The test was carried out at "IZOLACJA" Construction Materials Laboratory.
    - Test sample thickness: measured in the apparatus under a load of 300 Pa.
    - Calculated thermal resistance for one layer of panels is 1/3 of the measured resistance, i.e. 0.247 $m^2 \cdot K/W$.
    - Measurements taken using a Netzsch HFM 446M device – measuring section dimensions: (102 x 102) mm, buffer section dimension: (305 x 305).
    - Date of last calibration of the heat flux sensors: 25 March 2025.
    - Calibrated using CRM IRMM-440 (Joint Research Center IRMM, Institute for Reference Materials and Measurements, Geel, Belgium):
      CRM IRMM-440 thermal resistance at 10ºC: R_{10}= 1.066 $m^2 \cdot K/W$.
      CRM IRMM-440 certification date: March 2000.
    - Type of device: single-sample, symmetrical.
    - Device orientation: horizontal.
    - Hot sample side position: bottom.
    - Edge heat loss reduction method: edge insulation.

11. Deviation or variation in the test method: none.

Tested by: Bogdan Kuźnik

Report by:
Adam Bielak

Authorised by: mgr Ewelina Kaputa-Kuc
Manager of the "IZOLACJA" Construction Materials Laboratory
/signed electronically/

Remarks:

1. The report is the property of the client.
2. The test results given in the Report refer to the tested samples of the product.
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