

CERTIFIED TRANSLATION FROM THE POLISH LANGUAGE

(-) [logo] ITH ®

Building Research Institute

00-611 Warsaw, 1 Filtrowa St., tel. 22 8250471, fax 22 8255286

Testing of thermal conductivity and the heat transfer coefficient
in PERFEKT MATA products made from extruded polystyrene foam XPS,
ordered by F.P.H.U Plastechnobud Ewa Kuczmierczyk

Paper No. 02738/15/Z00NF
(LFS02-02738/15/Z00NF)

Warsaw, December 2015




Building Research Institute

TESTING LABORATORIES accredited by the Polish Accreditation
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THERMAL PHYSICS, SANITARY SYSTEMS AND ENVIRONMENT DEPARTMENT
THERMAL PHYSICS, SANITARY SYSTEMS AND ENVIRONMENT LABORATORY

TEST REPORT NO. LFS02-02738/15/Z00NF

Customer: FPHU Plastechnobud Kuczmierczyk Ewa
Customer's address: Działkowa 7, 43-330 Wilamowice, Stara Wieś

Information concerning the object of testing

Object of testing: designation, description, state and identification:	Construction materials and products – PERFEKT MATA from extruded polystyrene foam (XPS), board 3 mm thick
Object of testing received on:	25.11.2015
Object of testing acceptance report No.:	LFS00-02738/15/Z00NF
Object of testing acceptance procedure:	Acceptance procedure in accordance with the PZ ZLB 18 Procedure
Other information relating to the object of testing:	The customer delivered the material for testing in the form of mats. Samples of the dimensions 300x300 mm were cut. Photos of the sample surface are shown in Annex No. 1

Information relating to testing

Testing commencement date: 16.12.2015
Testing completion date: 17.12.2015

☐ Test method

Determination of heat transfer coefficient λ in the conditions of determined heat flow was carried out with one-sample plate-type system with thermal flux density sensor, according to the PN-EN 12664:2002 standard.

The measurements were taken at the mean temperature of the sample of 10°C, temperature difference along the thickness of the sample - 20K and the heat flow from the bottom to the top; sample dimensions: 300x300 mm.

Additional information relating to the testing is included in Annex No. 2.

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02-656 Warsaw / 21 Ksawerów St. / tel. 22 843 14 71 / fax 22 843 29 31 / KRS [National Court Register] 0000158785 / Regon [National Business Registry No.]

000063650 / NIP [Tax ID No.] 525 000 93 58 /

PKO S.A. Warsaw Branch / 11 Nowogrodzka St. / 00-513 Warsaw / a/c 77124059181111000049134568 / www.itb.pl / instytut@itb.pl



[Handwritten signature]

☐ **Test results**

The results of heat transfer coefficient testing are shown in table 1, and the results of calculations and declared value of the heat transfer coefficient is shown in table 2.

Markings of the sample by the laboratory	*) Heat transfer coefficient (W/(m·K))
1/ LFS02-02738/15/Z00NF	0.0271
2/ LFS02-02738/15/Z00NF	0.0271
3/ LFS02-02738/15/Z00NF	0.0271
4/ LFS02-02738/15/Z00NF	0.0270
5/ LFS02-02738/15/Z00NF	0.0268
*Expanded measurement uncertainty calculated with the use of coefficient $k=2$ corresponding to the confidence level ca. 95% is 3%, according to the Uncertainty Card LF-2/08	

Table 2

λ_m	0.02703 W/(m·K)
S_λ	0.000132 W/(m·K)
k_5	2.74
$\lambda_{90/90}$	0.02739
λ_D	0.028 W/(m·K)

The value of thermal conductivity for the mat 3 mm thick equals 0.10 (m²·K)/W.

Responsible for testing
Aldona Wasilewska, MSc Eng.

Title, full name

(-) Aldona Wasilewska

signature

The report authorised by
Barbara Pietruszka, DSc

Title, full name

(-) [signature]

signature

Warsaw, 29.12.2015

Research Laboratory declares that the test results relate only to the tested sample. Without a written consent of the Research Laboratory, this Report may only be reproduced in its entirety.

The test report shall not be deemed to replace any documents required for the marketing purpose and making building products available.



Aldona Wasilewska

Annex No. 1

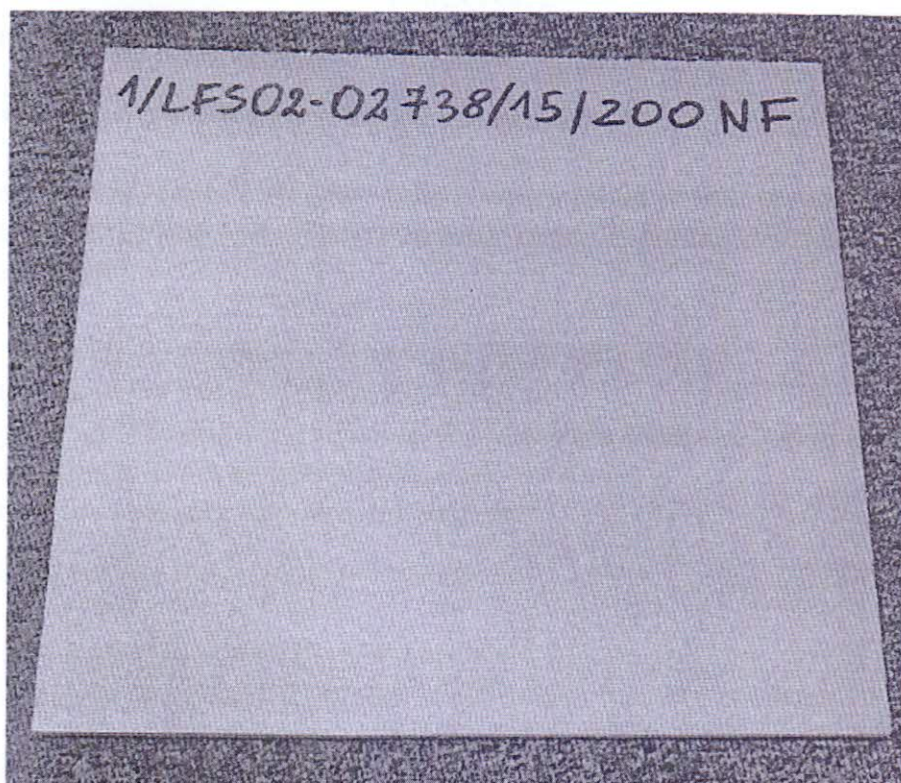


Fig. 1 Photo of the sample – face

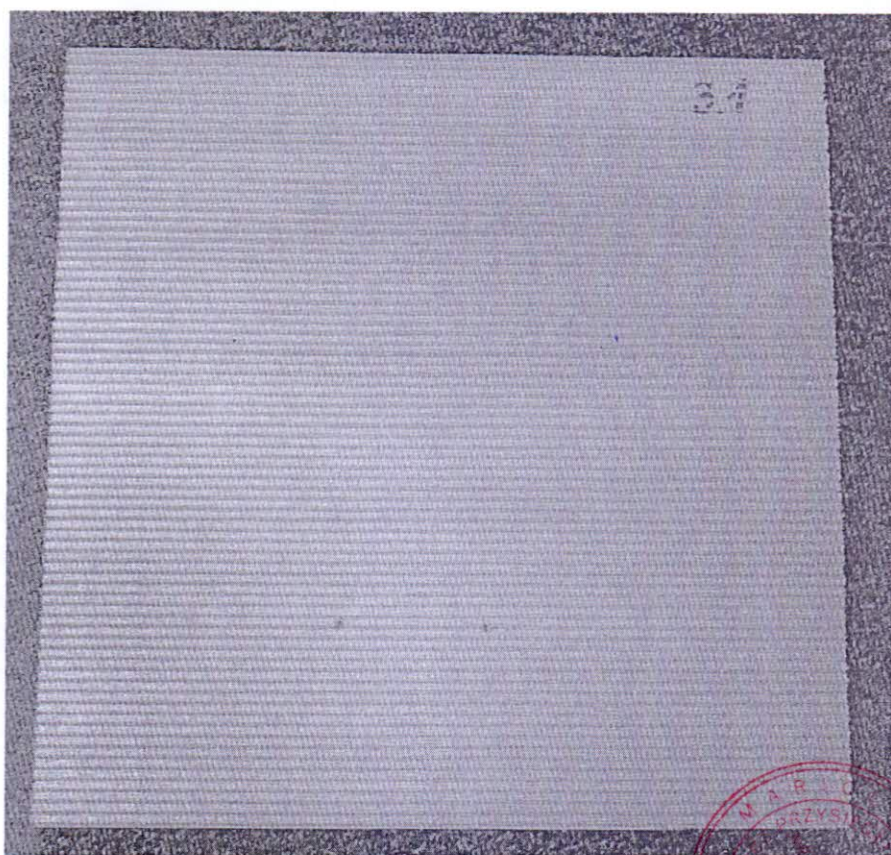


Fig. 2 Photo of the sample – back

Red circular stamp: WARSZAWA, PRZYSIŁA, MAROS, JEZYKA, SG/02/12/11, K, ANIELSKIEGO, 1, TUMIŁŁO.
Blue ink signature: Paweł Aniel

Annex No. 2**Additional information relating to testing, required under section 9 of the PN-EN 12664:2002 standard:**

The method of reduction of the edge losses: closed test chamber with the thermally insulated walls.

Heat flux density in the sample: the plate-type system applied in testing calculates and provides the value of the heat transfer coefficient in the tested sample without providing results of testing of the heat flux density.

Calibration of the plate-type system with thermal flux density sensor:

- validity date of the last calibration: 29.02.2016
- description and the number of the reference standard **IRMM-440** sample No. 2
- date of certification of the reference standard: 2000
- validity of the reference standard: indefinitely

Information about steam-tight coating: not present

Checking of the sample flatness: the samples yield to straightening pressure of the testing apparatus, which ensures flatness of samples while measurements were being taken.

List of deviations from the testing procedure is described in: PN EN 12664:2002 not applicable

Remarks: none

I, the undersigned Mariola Maroszek, Duly Sworn Translator of the English Language, appointed by the Minister of Justice by virtue of the letter No DO-V-0191-1236/05 of July 14, 2005 and entered in the Register of Sworn Translators under the No. TP/1270/05, hereby certify that the above text is a true and complete translation of the original document presented to me in the Polish language.

*Witness my hand this twenty-third day of January
two thousand and sixteen /23.01.2016/.*

Fee collected pursuant to the Regulation of Minister of Justice of Jan. 24, 2005. (Journal of Laws No. 15 of 2005, entry 131, § 2 item 2 point 1a).

**SWORN TRANSLATOR
OF THE ENGLISH LANGUAGE**
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