



Instytut Techniki Budowlanej (Building Research Institute)

00-611 Warszawa, ul. Filtrowa 1, phone 22 8250471, fax 22 8255286

**Test-based determination of thermal conductivity
of FB-300 Kerradeco PVC-UE profiles, requested by
PROFILE vox Sp. z o.o. Sp. k.**

**Job number: 02732/15/Z00NF
(LFS00-02732/15/Z00NF)**

Warsaw, December 2015



Instytut Techniki Budowlanej
[Building Research Institute]
GROUP OF TESTING LABORATORIES
 accredited by the Polish Center of Accreditation
 accreditation certificate no. AB 023.....



DEPARTMENT OF THERMAL PHYSICS, SANITARY SYSTEMS AND ENVIRONMENT
Laboratory of Thermal Physics, Sanitary Systems and Environment

TEST REPORT NO. LFS00-02732/15/Z00NF

Customer: Profile VOX sp. z o.o. sp. k.
Customer's address: 62-004 Czerwonak ul. Gdyńska 143

Information on the tested item

Tested item: name, description, condition and identification Building materials and products – samples of profiles made of PVC-UE, trade name: FB-300 Kerradeco

Tested item received on: 12 Nov. 2015

Tested item receipt report no.: LFS00-02732/15/Z00NF

Item receipt procedure: Receipt procedure in accordance with Procedure PZ ZLB 18

Other information about the tested item: The customer delivered 5 samples of profiles made of PVC-UE with the size of (300x300x9) mm, marked FB-300 in EU. For additional information about the tested samples see the Receipt Report.

Information on the tests

Test start date 26 Nov. 2015
Test completion date 27 Nov. 2015

Test method

Thermal conductivity λ was determined in conditions of steady-state thermal conduction using a single-sample plate apparatus with heat flux density sensors, in accordance with PN-EN 12664:2002. Measurements were taken on 3 samples at an average sample temperature of 10°C, temperature difference for the samples thickness of 20 K, and upward heat movement.

For additional information about the test see Annex No. 1.

Laboratory of Thermal Physics, Sanitary Systems and Environment

Warszawa | ul. Ksawerów 21 | phone (22) 56 64 276 | fax (22) 566 42 76 |

00-611 Warszawa | ul. Filtrowa 1 | phone 22 825 04 71 | fax 22 825 52 86 | Manager: phone 22 825 28 85 | 22 825 13 03 | fax 22 825 77 30
 02-656 Warszawa | ul. Ksawerów 21 | phone 22 843 14 71 | fax 22 843 29 31 | National Court Register (KRS): 0000158785 |
 Regon: 000063650 | Tax ID (NIP): 525 000 93 58 | PKO S.A. O/Warszawa | ul. Nowogrodzka 11 | 00-513 Warszawa |
 Bank account no. 77124059181111000049134568 | www.itb.pl | instytut@itb.pl

TEST REPORT NO. LFS00-02732/15/Z00NF

 Test results

The results of measuring thermal conductivity and thermal resistance are presented in Table 1, while results of calculations of the thermal conductivity's declared value, λ_D , are presented in Table 2.

Table 1

Sample mark in laboratory	Thermal conductivity W/(m·K)	Thermal resistance (m ² ·K)/W
1/LFS00-02732/15/Z00NF	0.0645	0.1395
2/LFS00-02732/15/Z00NF	0.0643	0.1400
3/LFS00-02732/15/Z00NF	0.0645	0.1395

Expanded measurement uncertainty of determining thermal conductivity, calculated using coefficient $k = 2$, which corresponds to a confidence level of ca. 95% is 3%, according to the Uncertainty chart LF-2/08

Table 2

λ_m	0.06444 W/(m·K)
S_λ	0.000144 W/(m·K)
k_3	4.26
$\lambda_{90/90}$	0.06505 W/(m·K)
λ_D	0.065 W/(m·K)

Opinion – outside the scope of accreditation

On the basis of tests, the heat resistance of 9 mm thick FB-300 Kerradeco PVC-UE profiles is 0.14 (m²·K)/W. For ceramics, the coefficient $\lambda_m = 0.4$ W/(m·K), given ceramics thickness $Y = 56$ mm. Similarly, for Styrofoam $\lambda_m = 0.04$ W/(m·K), given Styrofoam thickness $X = 5.6$ mm.

Person responsible for test

Report approved by

mgr inż. Aldona Wasilewska
Title, full namedr Barbara Pietruszka
Title, full name

Signature

Signature

Warsaw, 2 December 2015

The Testing Laboratory declares that the test results apply only to the tested item. Without written permission of the Testing Laboratory this Report may not be copied, except in full.

The test report does not replace documents required for the placing or making available on the market of construction products.

TEST REPORT NO. LFS00-02732/15/Z00NF

Annex no. 1

Additional information about the test, required by section 9 of PN-EN 12664:2002:

Method of loss reduction on edges: closed measuring cell with heat insulated walls

Heat flux density flowing through the sample: the plate apparatus used in tests calculates and presents the thermal conductivity value of the tested sample, without presenting the heat flux density in the test results

Calibration of apparatus with heat flux sensors:

- expiry date for the last calibration: 29 Feb. 2016
- calibration standard description and no. **IRMM-440** sample no. **2**
- calibration standard certification date: 2000
- calibration standard expiry date: indefinite

Information about vapor barrier coating: none

Testing sample flatness:



Samples determined as rigid, in accordance with section A.2.13 of PN-EN 12564:2002, i.e. flatness cannot be ensured by pressure from the measurement apparatus plates – analysis in Test Chart No. LFS00-02732/15/Z00NF

List of derogations from the test procedure described in PN EN 12664:2002 – not applicable.

Notes: none.