INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.
třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic
Testing Laboratory No. 1004
accredited by ČIA according to ČSN EN ISO/IEC 17025:2018

ACCREDITED LABORATORY TEST REPORT ref. No. 415600117-01

Client:	Purpoint Kft. VAT: HU14915543
Address:	XXVI. utca 23, 1172 Budapest, Maďarsko
Sample:	PURENIT – PIR RIGID FOAM SANDWICHPANEL
Sample received on:	May 25, 2021
Report elaborated by:	Petra Povolná
Place and date of issue:	Zlín, June 14, 2021

Ing. Jiří Samsonek, Ph.D.
Head of Accredited Testing Laboratory

Description and identification of samples:

Table No. I - Sample description and identification

ITC's identification number	Sample identification by client	Description of submitted sample
415600117/1	PURENIT – PIR RIGID FOAM SANDWICHPANEL	6 specimens about dimensions (60 x 60x 50) mm prepared by client

Sampling method:
The test sample was collected and supplied to the laboratory by the client. The laboratory is not responsible for this way of sampling.

Specification:
Compressive strength and deformation

Testing method used:
Compression strength according to ČSN EN 826

Conditions test:
6 test specimens (60 x 60 x 50) mm, initial compression 250 Pa, compression rate 0.1 d (thickness) per minute = 5 mm / min, temperature (23 ± 2) ° C and relative humidity (50 ± 5) %, tested on May 26, 2021

The laboratory is not responsible for information received from customer, which could have influence on the validity of the results. Further information required by the standard/standards and not given in this Test Report are available at a request at the Laboratory.

Place of performance tests
The test was performed in the workplace no.2: Třída Tomáše Bati 5264, areal Svit, Building No. 113, 760 01 Zlín

Test result:
The test results are given in the following table:

Table No. II – PURENIT – PIR RIGID FOAM SANDWICHPANEL, ref.No. 415600117/1

Characteristics measured	Unit	Separate values	Test results	Uncertainty[1)]
Compressive strength σ_m	MPa	12.8; 12.3; 12.8; 13.2; 13.0; 12.5	12.8	0.4
Deformation ε_m	%	10.5; 9.0; 10.5; 10.4; 10.1; 10.6	10.1	0.5

1) Expanded uncertainty for coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%

Ing. Jiří Růžička
Head of Building Products and Materials Testing Laboratory

Institut pro testování a certifikaci, a. s.
Divize CSI – Centrum stavebního inženýrství
pracoviště Zlín, K Cihelně 304, 764 32 Zlín - Louky

Testing laboratory of physical properties of materials, structures and buildings – Zlín
Testing laboratory No. 1007.1, accredited by the CAI according to ČSN EN ISO/IEC 17025:2018

Test Report No. 208/21

of thermal resistance, thermal conductivity and thermal transmittance according to CSN EN 12667

Order No.: **415600114**

No. of Pages: **3**
No. of Copies: **3**
Copy No.: **1**

Client: **Purpoint Kft.**
XXVI. utca 23
1172 Budapest
Hungary

VAT: **HU14915543**

Manufacturer: **See client**

Subject of test:	**Sandwich panel with PIR insulating foam**
Test result:	**See table of evaluated results in chapture 8**

Date of sample receipt: 29. 4. 2021
Date of testing: 3. 5. 2021 – 4. 5. 2021
Test carried out by: Building Thermal Engineering Laboratory

Technical laboratory head: **Ing. Nizar Al-Hajjar** .....
Head of Testing
Laboratory No. 1007.1: **Ing. Petra Hrdinová** .....

The accredited testing laboratory declares that the test results only apply to the subject of these tests and they do not represent a product approval or certificate. Without a written consent of the testing laboratory, the certificate may only be reproduced unabbreviated.

Date: 5. 5. 2021

1. TEST SPECIFICATION

On the basis of the order dated 15. 4. 2021 and the Order No. 415600114, testing laboratory of physical properties of materials, structures and buildings No. 1007.1,ITC a.s., division CSI, workplace Zlin, carried out for the client Purpoint Kft., XXVI. utca 23, 1172 Budapest, Hungary, a thermal resistance and thermal conductivity test of sandwich panel with PIR insulating foam according to standard CSN EN 12 667. The tests were carried out in the corresponding speces of the testing laboratory, address: K Cihelně 304, 764 32 Zlín – Louky, Czech republic.

2. DESCRIPTION OF THE SUBJECT OF TESTING

The test was carried out according to CSN EN 12 667: "*Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance"* by guarded hot plate method at a stabilized heat flow. The purpose of the test is to determine the thermal transmittance U_p from the measured value of thermal resitance R supplied specimens of the product and equivalent thermal conductivity λ, at mean temperature of approx. t_{str} = 10 ˚C. The test includes determining the area mass of the given product material m_s in kg/m^2.

3. DESCRIPTION OF TESTED MATERIAL

The client delivered 2 test specimens of sandwich panels of (500 x 500 x 59,8) mm size. The specimens are marked as: No. 081-1/21 and No. 081-2/21.
Sample composition by the manufacturer:
- Purenit 20,0 mm
- PIR pěna 19,8 mm, 32 kg/m^3
- Purenit 20,0 mm

Note The testing laboratory is not responsible for the accuracy of the technical data, specifications and the test specimen information supplied by the client.

Specimen condition at the cceptance: Without apparent defects.

4. TESTING REGULATIONS AND TESTING EQUIPMENT USED

4.1 Regulations

- Testing regulation	CSN EN 12667
- Related regulation	CSN 73 0540-3

4.2 Testing equipment

- Plate apparatus P 51 (measured area 0,09007 m^2)	Z 07 1003
- P 51 Measuring set – Temperature; electric current-Heater resistance	M 07 1059
- Plate apparatus P 50 (measured area 0,09007 m^2)	Z 07 1001
- P 50 Measuring set – Temperature; electric current-Heater resistance	M 07 1055
- Dryer STE-39/III	Z 07 1005
- TSCALE scales	M 07 1150
- Steel coiling measure	M 07 1104
- Thickness gauge	M 07 1073
- Digital thickness gauge	M 07 1148

5. DEVIATIONS FROM TEST PROCEDURES

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6. NON-STANDARDIZED METHODS USED

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7. MEASUREMENT RESULTS

Mean air temperature in the laboratory during the measurement: 22,0 ˚C
Mean relative air humidity in the laboratory: 48 %
Measuring area: 0,09007 m^2

Table of Measured Values

Specimen No.	Thick-ness d	Area mass m_s	Heat flow of measured area P	Mean temper-ature t_m	Surface temperature difference Δ_t	Thermal resistance R	Thermal conductivity λ
	mm	kg/m^2	W	˚C	K	m^2·K/W	W/(m·K)
081-1/21	59,8	22,7	0,6352	10,02	10,318	1,4630	0,04088
081-2/21	59,8	23,6	0,6397	10,03	10,380	1,4616	0,04091

Note 1 Measurements were carried out at pressure 250 Pa.

Note 2 Test specimen No. 081-1/21 was measured by plate apparatus P 50 and test specimen No. 081-2/21 was measured by plate apparatus P 51.

8. Evaluation

Table of Evaluated Results

Technical regulation	Test method	Specimen No.	Thermal conductivity λ_{10} [W/(m·K)]	Thermal resistance R [m^2·K/W]	Thermal transmittance U_p W/(m^2·K)
ČSN 73 0540-3	ČSN EN 12667	081-1/21	0,0409	1,463	0,61
		081-2/21	0,0409	1,462	0,61

Extended measurement uncertainty of thermal resistance $u_{(R)}$ = 3,5%.

Responsible for the test and report elaborated by: Petr Pokorný

..... Test report end.....