



INSTITUTE FOR TESTING AND CERTIFICATION, INC.

třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic

TEST REPORT

Reference No. 75 35 01742/ 2019

Applicant : Zavod Logicroof PIR LLC
Vostochny promuzel 21
390 047 Ryazan
Russia

Product PIR boards GTM/GTM,
brand name: TechnoNICOL

Manufacturer : Zavod Logicroof PIR LLC
Vostochny promuzel 21
390 047 Ryazan
Russia

Elaborated by : Milan Kovář 

Issued on : 18th November 2019



Jiří Heš

Representative of Notified Body No. 1023



1. Introduction

This report was elaborated on the basis of the application No. 753501742, registered on 02/05/2019 and tests results carried out by the notified testing laboratory in accordance with the procedure mentioned in the article 1.4 of the Annex V to the Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011, as amended, laying down harmonised conditions for the marketing of construction products („CPR“).

2. Assessment and verification of constancy of performance according to Regulation (EU) No 305/2011 of the European Parliament and of the Council, as amended

Thermal insulation PIR boards as construction products are assessed on the basis of relevant clauses of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9th March 2011 laying down harmonised conditions for marketing of construction products and repealing Council Directive 89/106/EEC as amended (called „CPR“)

2.1 System of assessment and verification of constancy of performance (AVCP)

The submitted product is assessed pursuant to system of AVCP 3 (3 + 3) of the CPR (Annex V).

The type testing (testing) was carried out according to Annex ZA of the standard ČSN EN 13165+A2 (EN 13165:2012+A2:2016).

Remark: European standards after their becoming available are subsequently adopted as national standards. All the Czech standards ČSN EN..., cited in this report were issued with the same number as the European standards designated with equal requirements.

2.2 Indicators specifying essential requirements

The type testing was conducted by the notified body (the notified test laboratory) in the the following range of relevant properties of Table ZA.3.2 (of the ČSN EN 13165+A2) required by the manufacturer:

- Reaction to fire (the manufacturer has required E class) according to Art. 4.2.6 and 5 of ČSN EN 13165+A2
 - ignitability – surface and edge exposure according to ČSN EN ISO 11925-2
 - classification according to ČSN EN 13501-1
- Thermal resistance and thermal conductivity according to Art. 4.2.1, 5 and Annex C (Fixed increment procedure) of ČSN EN 13165+A2, ČSN EN 12667 (mean temperature: 10° C)
- Thickness according to Art. 4.2.3 and 5 of ČSN EN 13165+A2, ČSN EN 823 /load: 50 Pa/



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- Compressive strength or compressive stress at 10% deformation according to Art. 4.3.4 and 5 of ČSN EN 13165+A2, to ČSN EN 826

The other characteristics (tasks for notified testing laboratory, given in Table ZA.3.2) have not required and declared by the manufacturer.

Release of dangerous substances have not been determined because of absence of corresponding test standards and requirements.

2.3 Product specification

The thermal insulation boards of PIR, with facing on both board surfaces, for buildings.

Used blowing agent: pentane (n-pentane/isopentane mixture)

Facing specification: Glass tissue with mineral coating (mineral binder based on acrylic resins, with the addition of calcium carbonate, polyvinyl acetate.

Declared reaction to fire class: E

Apparent density of PIR board: $(35 \pm 5) \text{ kg/m}^3$

Board thicknesses: 20 to 150 mm

Fire retardant: yes (4%).

2.4 Sampling place and number of samples taken

The sampling of the test samples has been carried out by the manufacturer on the basis of clause C.2.2 of ČSN EN 13172:2012 and clause 5.1 and C.5. of ČSN EN 13165+A2 and Notified Body representative's requirements.

The sampling is documented:

- Sampling record, elaborated by the manufacturer on 21/06/2019
- Sampling record, elaborated by the manufacturer on 17/09/2019

The number of the samples sent was as follows:

- PIR board GTM/GTM, 1 pc of (600 x 600 x 20) mm
- PIR board GTM/GTM, 1 pc of (600 x 600 x 60) mm
- PIR board GTM/GTM, 1 pc of (600 x 600 x 100) mm
- PIR board GTM/GTM, 1 pc of (600 x 600 x 150) mm
- PIR boards GTM/GTM, 3 pcs of (1200 x 600 x 20) mm
- PIR boards GTM/GTM, 3 pcs of (1200 x 600 x 60) mm



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- PIR boards GTM/GTM, 3 pcs of (1200 x 600 x 100) mm
- PIR boards GTM/GTM, 3 pcs of (1200 x 600 x 150) mm

The samples were received and registered under the registration numbers: 75 35 01742/1, 75 35 01742/2, 75 35 01742/3, 75 35 01742/4, on 26th June 2019 and under the registration numbers: 75 35 01742/5, 75 35 01742/6, 75 35 01742/7, 75 35 01742/8, on 14th October 2019.

2.5 Place and date of testing

- Institut pro testování a certifikaci (ITC), a.s., Accredited laboratory No. 1004, NB (Notified Body) No. 1023 Zlín (October-November 2019)
- Centrum stavebního inženýrství (CSI), a.s. / Institut pro testování a certifikaci (ITC), a.s. CSI division - Centrum stavebního inženýrství Prague, Accredited laboratory No.1007.4, NB 1390 (June-July 2019)

2.6 Test results

The test results are shown in Tables 1 to 5.



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Table 1 – Test results

Characteristic (Property)	Measu- ring unit	Determined value			
		1 ^{a)}	2 ^{a)}	3 ^{a)}	4 ^{a)}
Reaction to fire -Ignitability	-	E class			
Initial thermal conductivity	$W.m^{-1}.K^{-1}$	0.0202 (d_N : 20 mm)	0.0190 (d_N : 60 mm)	0.0191 (d_N : 100 mm)	0.0190 (d_N : 150 mm)
Thermal conductivity after Normality test	$W.m^{-1}.K^{-1}$	0.0232 (d_N : 20 mm)	0.0208 (d_N : 60 mm)	0.0198 (d_N : 100 mm)	0.0200 (d_N : 150 mm)
Thermal conductivity after aging („aged value“)	$W.m^{-1}.K^{-1}$	0.0260 (d_N : 20 mm)	0.0248 (d_N : 60 mm)	0.0239 (d_N : 100 mm)	0.0228 (d_N : 150 mm)
Thermal resistance after aging („aged value“) (calculated value for nominal thickness d_N)	$m^2.K.W^{-1}$	0.769 (d_N : 20 mm)	1.119 (d_N : 60 mm)	4.184 (d_N : 100 mm)	6.579 (d_N : 150 mm)
Thickness (d) - Nominal thickness $d_D= 20$ mm - Nominal thickness $d_D= 60$ mm Nominal thickness $d_D= 100$ mm Nominal thickness $d_D= 150$ mm	mm	20 60 97 149	20 60 97 150	20 60 97 149	20 60 97 150
Compressive stress at 10% deformation	kPa	197 (d_N : 20 mm)	200 (d_N : 60 mm)	168 (d_N : 100 mm)	252 (d_N : 150 mm)

^{a)} – 1, 2, 3, 4 – different dates of the manufacture (except test samples for thermal conductivity measurements)



3. NB 1023 Conclusions

Notified Body NB 1023 has carried out the testing in accordance with the paragraph 1.4 of Annex V to the Regulation (EU) No 305/2011, as amended for the product specified in the Art. 2.3 of this Report **and concluded that**

all requirements of this paragraph of the above Regulation and the relevant harmonized standard have been met and this report may be issued as a basis for affixing CE marking to these products.

This Report is applicable only to products identically marked and named, such as those which were the subject to testing, provided that the products characteristics have not been changed or no significant changes in their production (materials, technology, manufacturing equipment, etc.) have been done.

4. A list of documents used to elaborate the Test Report

- Application No. 753501742 for assessment of CE-marked construction products, registered 02/05/2019
- Application No. 753501742 for assessment of CE-marked construction products, registered 15/11/2019 (corrected application)
- ČSN EN 13165+A2:2016 Tepelně izolační výrobky pro budovy – Průmyslově vyráběné výrobky z tvrdé polyuretanové pěny (PU) – Specifikace (Thermal insulation products for buildings – Factory made rigid polyurethane foam (PU) products – Specification)
- ČSN EN 13172 (72 7211):2012: Tepelně izolační výrobky – Hodnocení shody (Thermal insulation products – Evaluation of conformity)
- Test report of Accredited laboratory, reference No. 753501742-01, elaborated by ITC, a.s., Accredited laboratory No. 1004 Zlín, on 07/11/2019
- Test report of Accredited laboratory, reference No. 753501742-02, elaborated by ITC, a.s., Accredited laboratory No. 1004 Zlín, on 15/11/2019
- Test report No.19/420/T020, elaborated by Institut pro testování a certifikaci (ITC), a.s. CSI division - Centrum stavebního inženýrství, Prague, Accredited laboratory No.1007.4, on 16/09/2019
- Classification Report using Results of Reaction to Fire No. 753501742K/2019, from 15/11/2019
- Sampling record, elaborated by the manufacturer on 21/06/2019
- Sampling record, elaborated by the manufacturer on 17/09/2019
- Technical description of the product –e-mail messages from 29/03/2019 and 03/04/2019

**Annex 1 - Ignitability tests results**

Table 2 – Ignitability results of board thickness of 20 mm (surface exposure)

Characteristic	Surface exposure test – lengthwise direction (characteristic for individual test specimens)	Surface exposure test – crosswise direction (characteristic for individual test specimens)
Ignition of the test specimen Yes/No	Yes, Yes, Yes, Yes, Yes	Yes, Yes, Yes, Yes, Yes
Flame reaching of a mark in distance of 150 mm Yes/No	No, No, No, No, No	No, No, No, No, No
Burning time to reach 150 mm (s)	-, -, -, -, -	-, -, -, -, -
Ignition of the filter paper	No, No, No, No, No	No, No, No, No, No

Table 3 – Ignitability results of board thickness of 20 mm (edge exposure)

Characteristic	Edge exposure test – lengthwise direction (characteristic for individual test specimens)	Edge exposure test – crosswise direction (characteristic for individual test specimens)
Ignition of the test specimen Yes/No	Yes, Yes, Yes, Yes, Yes	Yes, Yes, Yes, Yes, Yes
Flame reaching of a mark in distance of 150 mm Yes/No	No, No, No, No, No	No, No, No, No, No
Burning time to reach 150 mm (s)	-, -, -, -, -	-, -, -, -, -
Ignition of the filter paper	No, No, No, No, No	No, No, No, No, No



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Table 4 – Ignitability results of board thickness of 60 mm (surface exposure)

Characteristic	Surface exposure test – lengthwise direction (characteristic for individual test specimens)	Surface exposure test – crosswise direction (characteristic for individual test specimens)
Ignition of the test specimen Yes/No	Yes, Yes, Yes, Yes, Yes	Yes, Yes, Yes, Yes, Yes
Flame reaching of a mark in distance of 150 mm Yes/No	No, No, No, No, No	No, No, No, No, No
Burning time to reach 150 mm (s)	-, -, -, -, -	-, -, -, -, -
Ignition of the filter paper	No, No, No, No, No	No, No, No, No, No

Table 5 – Ignitability results of board thickness of 60 mm (edge exposure)

Characteristic	Edge exposure test – lengthwise direction (characteristic for individual test specimens)	Edge exposure test – crosswise direction (characteristic for individual test specimens)
Ignition of the test specimen Yes/No	Yes, Yes, Yes, Yes, Yes	Yes, Yes, Yes, Yes, Yes
Flame reaching of a mark in distance of 150 mm Yes/No	No, No, No, No, No	No, No, No, No, No
Burning time to reach 150 mm (s)	-, -, -, -, -	-, -, -, -, -
Ignition of the filter paper	No, No, No, No, No	No, No, No, No, No