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**NOTIFIED BODY No. 1434**



## TEST REPORT No. 272/T/2022

issue 1 of 2 September 2022

- 1. Description of the test item:** samples in the form of polystyrene profile  
Name: Thermal insulation profile VSThermo  
Assortment: VST 50x30, VST 56x30, VST 63x30, VST 69x30, VST 63x45, VST 63x100  
( data provided by the customer )
- 2. Reference document :**  
PN-EN 13163+A1:2015-03 *Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification*  
(EN 13163:2012+A1:2015 *Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification*)
- 3. Customer name and address:** LLC"Olis", 04213, Kyiv, Pryrichna str., 5, ap. 352, Ukraine
- 4. Producer name and address:**  
LLC"Olis", 04213, Kyiv, Pryrichna str., 5, ap. 352, Ukraine;  
Manufacturer: Hirsch Porozell, 14 December, str.8, Cherkasy 18028, Ukraine
- 5. Number and date of the customer order:** of 27 June 2022
- 6. Tested properties scope:** determination of thermal resistance and thermal conductivity at 10 °C, compressive stress at 10% deformation, long term water absorption by immersion and reaction to fire
- 7. Sampling date:**  
samples taken by Customer – Certificate sampling of products of 24 June 2022 r.
- 8. Sampling method:**  
samples taken by Customer – Certificate sampling of products of 24 June 2022 r.
- 9. Receipt date of the test item:** 29 June 2022
- 10. Additions to, deviations, or exclusions from the test method:** none

## 11. Test results

### 11.1 Determination of thermal resistance and thermal conductivity at 10 °C – test method in accordance with PN-EN 12667:2002 *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*

- test method: test with device with a guarded hot plate NETZSCH GHP 500 G (1)
- method of reducing heat loss at the edges: edge insulation, walls of the device are equipped with a refrigerating unit that maintains the temperature at the reference temperature equal to 10 °C
- type of the device: two - sample, symmetric (measurement in single - sample mode)
- position of the device: horizontal
- position of the hot side of the sample: top
- temperature of the environment surrounding the device during the test: 20,3 – 22,0 °C
- nominal thickness: 100 mm
- sample thickness: measured in the device under the load of the device plate
- samples conditioned to constant mass according to PN-EN 13163+A1:2015-03 p. 5.2
- samples density determined in accordance with PN-EN 12667:2002 p. 8.1.1.
- the date of performance of the test: 16 – 26 August 2022

sample number	production date / sample description	sample density [kg/m <sup>3</sup> ]	thickness [mm]	thermal conductivity [W/(m·K)]	thermal resistance [m <sup>2</sup> K/W]
1	25.02.2022 / VST 63x100	145,2	46,11	0,0391	1,18
2	25.02.2022 / VST 63x100	146,9	45,99	0,0391	1,18
3	25.02.2022 / VST 63x100	146,7	45,88	0,0386	1,19
4	25.02.2022 / VST 63x100	147,2	45,91	0,0391	1,17
5	13.01.2022 / VST 50x30	145,2	21,94	0,0385	0,57
6	13.01.2022 / VST 50x30	147,6	22,05	0,0388	0,57
7	7.06.2022 / VST 56x30	140,4	22,01	0,0380	0,58
8	7.06.2022 / VST 56x30	139,5	21,86	0,0381	0,57
9	10.02.2022 / VST 69x30	151,8	22,18	0,0392	0,57
10	10.02.2022 / VST 69x30	151,1	21,95	0,0386	0,57
mean values				0,0387	-
standard deviation				0,0004	-
$\lambda_{90/90}$				0,0396	-
k				2,07	-
declared values				0,040	-

Detailed test results are given in appendixes to the test report.

nominal thickness $d_N$ [mm]	$R_{90/90}$ ( $R_{90/90} = d_N / \lambda_{90/90}$ ) [m <sup>2</sup> K/W]	declared values of thermal resistance $R_D$ [m <sup>2</sup> K/W]
30	0,76	0,75
100	2,53	2,50

### 11.2 Determination of compressive stress at 10% deformation – test method in accordance with PN-EN 826:2013-07 *Thermal insulating products for building applications – Determination of compression behaviour*

- samples conditioned according to PN-EN 826:2013-07 p.6.4
- surface treatment: with grinding
- test conditions: 22,1 °C / 50 % relative humidity
- the date of performance of the test: 18 July 2022

production date sample description	sample number	compressive stress at 10 % strain [kPa]	mean value [kPa]	standard deviation [kPa]
7.06.2022 VST 56x30	1 2 3 4 5	2027,3 2011,0 2087,1 1989,5 2015,0	2026,0	36,8
13.01.2022 VST 50x30	1 2 3 4 5	2099,5 1991,3 2029,3 1952,8 2200,8	2054,7	98,0
10.02.2022 VST 69x30	1 2 3 4 5	1895,6 1960,6 2011,1 1956,6 1973,4	1959,5	41,7
25.02.2022 VST 63x100	1 2 3	2071,3 2117,1 2032,4	2073,6	42,4

Detailed test results are given in appendixes to the test report.

### 11.3 Determination of long term water absorption by immersion method - test procedure according to EN 12087:2013 *Thermal insulation products for building applications - Determination of long term water absorption by immersion (method 2A)*

- samples conditioned according to PN-EN 12087:2013-07 p.6.4
- date of testing: 21 July – 18 August 2022

production date sample description	sample number	sample dimension [mm]	absorption [% (V/V)]	mean value [% (V/V)]	standard deviation [% (V/V)]
13.01.2022 VST 50x30	1 2 3	200,7 x 50,3 x 35,7 200,1 x 50,3 x 35,4 200,7 x 50,3 x 35,4	0,36 0,32 0,33	0,34	0,02
7.06.2022 VST 56x30	1 2 3	200,1 x 56,0 x 30,5 199,8 x 56,0 x 30,8 200,9 x 56,1 x 30,6	0,41 0,40 0,33	0,38	0,04
10.02.2022 VST 69x30	1 2 3	201,4 x 69,4 x 31,1 200,3 x 69,3 x 30,8 200,7 x 69,4 x 31,0	0,33 0,25 0,19	0,26	0,07
25.02.2022 VST 63x100	1 2 3	201,1 x 100,3 x 63,6 200,4 x 100,4 x 63,8 199,5 x 100,6 x 63,3	0,31 0,26 0,26	0,28	0,03

#### 11.4 Determination of reaction to fire – test method in accordance with PN-EN ISO 11925-2:2020-09 Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test

- sample size: 250 x 90 x 31 mm
- samples conditioned to constant mass according to PN- EN ISO 11925-2:2020-09 p. 6
- exposure conditions: surface and edge exposure
- flame application time: 15 s
- the date of performance of the test: 13 July 2022

parameter	surface exposure					
	lengthwise			crosswise		
	1	2	3	1	2	3
occurrence of ignition, +/-	+	+	+	+	+	+
whether flame reaches 150 mm, +/-	-	-	-	-	-	-
time to reach 150 mm [s]	-	-	-	-	-	-
presence of flaming droplets/particles and ignition of the filter paper, +/-	-	-	-	-	-	-

badane cechy	edge exposure					
	lengthwise			crosswise		
	1	2	3	1	2	3
occurrence of ignition, +/-	+	+	+	+	+	+
whether flame reaches 150 mm, +/-	-	-	-	-	-	-
time to reach 150 mm [s]	-	-	-	-	-	-
presence of flaming droplets/particles and ignition of the filter paper, +/-	-	-	-	-	-	-

#### 12. Statement of conformity:

Not apply.

#### 13. Notes

No phenomena that could affect the obtained results were observed.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

**Test report  
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**Test report  
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