



TALLINNA TEHNIKAÜLIKOOL
TALLINN UNIVERSITY OF TECHNOLOGY

ENERGIATEHNOLOOGIA INSTITUUT – DEPARTMENT OF ENERGY TECHNOLOGY

Thermal Conductivity Test of „Tselluvill mixture“

Test report 11-40/EI/790-3

Issued: 09.05.2018

Customer and contractor:

Customer:

Werrowool OÜ

Tsooru mnt 31, Antsla, Võrumaa 66404

Contact person: Juhan Peedimaa, 5036117, info@tselluvill.ee

Contractor:

TUT Department of Energy Technology

Laboratory of Fuel and Air Emission Analysis

Ehitajate tee 5, Tallinn, 19086

Contact person: Mari Sulg, 620 3916, mari.sulg@ttu.ee

Department of Energy Technology of TUT is having accreditation on fields of heat engineering and air emission measurements (certificate L028)

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1. General information about the sample and analysis

Sample material	"Tselluvill Ecowool mixture"
Sample description and remarks	Loose-fill insulation material
Standard of the sample	Not determined
Laboratory's ID number	18-355
Date of receiving sample	03.05.2018
Date of measurement	08.05.2018
Operator	Gert Kuldma, gert.kuldma@ttu.ee
Standard of analysis	EVS-EN 12667:2001
Sample conditioning temperature	23 ± 1 °C
Instrument – heat flow meter	LaserComp FOX 304 (SN10061 202)
The instrument is calibrated on 07.04.18 with EPS standard specimen, which is calibrated on 18.04.2016, certification test no #16031216. Source of certification: TA Instruments. Expiration date of calibration: 17.04.2021. Thermal conductivity of standard specimen at 10.0 °C is 0.03223 W/(m·K)	
Dimensions of sample holder	0.289m x 0.289m x 0.1 m
Mass of sample material	0.2506 kg
Orientation of instrument	Horizontal, hot side below
Laboratory's temperature	23 ± 1 °C

2. Procedure

Thermal conductivity, λ (W/(m·K)), measurement was carried out according to the standard EVS-EN 12667 – 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.

No change of weight was detected during measurement (weighted before and after the test). Density is chosen according to customer preferences: 30 kg/m³.

3. Results

Expanded measurement uncertainty: ±3% (k=2; U=95%)

Density	Average temperature	Temperature difference, ΔT	Thickness	Heat flux, q	Thermal conductivity, λ	Thermal resistance, R
kg/m ³	°C	K	m	W/m ²	W/(m·K)	m ² ·K/W
30	10.0	40.0	0.1	15.54	0.0392	2.575

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