

**Thermal conductivity tests of loose-fill material
OCC "Ecowool Kulta"**

Report No 11-40/EI/916-5

Issued: 18.06.2019

Customer and Contractor:

Customer:

Werrowool OÜ

Tsooru mnt 31, Antsla, Võrumaa 66404

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

Contractor:

TalTech, Department of Energy Technology

Laboratory of Fuel and Air Emission Analysis

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

Remark: the report can not be partly reproduced without authorization from laboratory

1. General information about the samples and analysis

Sample material	OCC
Standard of sample producing	Not determined
Laboratory's ID number	19-377
Date of receiving samples	06.06.2019
Date of measurements	11.06.2019
Operator	G. Kuldma
Standard of analysis	EVS-EN 12667:2001
Sample conditioning temperature	22±1 °C
Instrument – heat flow meter	LaserComp FOX-304 (SN10061202)
The instrument is calibrated on 06.06.2019 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)	
Orientation of instrument	Horizontal, hot side below
Mass of sample material in sample holder	0.350 kg
Dimensions of sample holder	0.289m x 0.289m x 0.1m
Laboratory's temperature	22±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). Sample was prepared according to customer suggestion: shaken and twirled in closed box and transferred to sample holder followed by slight press. Material density was chosen as 45 kg/m³.

1. Results

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

Material	Density*	Average temperature*	Temperature difference*	Thickness*	Heat flux*, q	Thermal conductivity, λ	Thermal resistance*, R
	kg/m ³	°C	K	mm	W/m ²	W/(m·K)	m ² ·K/W
Composite-cellulose mixture Ecwool	40	10.0	40.0	0.1	15.62	0.0394	2.384

Remarks:

- Results are issued as an average of five parallel measurements
- Results are valid only for samples you brought on 06.06.2019
- Parameters marked with * are out of the accreditation scope

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EN ISO/IEC 17025
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