

TEST REPORT NO. RTE11273/98

TUPLER OY

DETERMINATION OF THE THERMAL
CONDUCTIVITY OF THE MATERIAL TUPLEX

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Order: Letter 11 March 1998, Jukka Tamminen

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Task: **Determination of the thermal conductivity of the material
TUPLEX**

- 1. Sample:** The customer supplied VTT's Building Technology the material that was needed in the tests. The material was cut 400x400 mm² in size. The sample was received on 17 March 1998.
- 2. Preconditioning of the specimens:**
The specimens were kept at the temperature of ~ +23 °C before the testing.
- 3. Test method:** The apparent thermal conductivity of the specimen was measured at the mean temperature of ~ +10 °C according to the standard ISO 8301 (1991): "Thermal insulation: Determination of steady-state thermal transmittance and related properties - Heat flow meter apparatus".
- 4. Measurements:** For the measurements it were built about 50 mm in thickness specimens by setting samples one on the other. During the measurements the specimens were in the horizontal position and the direction of the heat flow was vertical.
- 5. Measurement dates:** The tests were carried out during 17 - 31 March 1998.
- 6. Results:** The test results are presented in the table one.

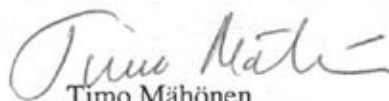
Table 1. The results of the apparent thermal conductivity measurements of the material TUPLEX.

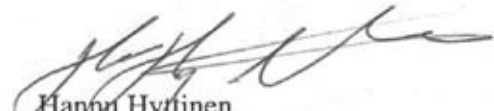
Material	Volume-weight (kg/m ³)	Temperature difference (K)	Mean temperature (°C)	Heat flow density (W/m ²)	Apparent thermal conductivity (W/m·K)
Tuplex 1	50	18.2	10.4	13.2	0.0363
2	50	18.2	10.4	13.2	0.0363
3	50	18.2	10.4	13.2	0.0363
ka	-	-	-	-	0.0363

The approximated uncertainty of the thermal conductivity measurements is $\pm 3\%$.

The test results are valid only the specimens delivered to VTT.

Espoo 7 September 1998


Timo Mähönen
Senior Research Scientist


Hanna Hyttinen
Research Engineer

Appendices: -

Distribution: Customer Original
VTT Original