REPORT

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Determination of thermal conductivity

(1 appendix)

Sampling

The client selected and delivered the Moniflex-TR samples for testing. They arrived at SP in undamaged condition on 26th July 2010.

Preparation for testing

The material was conditioned at 23±2 °C and 50±5 % RH until equilibrium conditions were reached.

Test method

The thermal conductivity of the material was measured in accordance with EN 12667.

Test results

Sample	Nominal thickness, mm	Thermal conductivity (λ10), W/(m·K)	Thermal resistance, m²K/W
Moniflex-TR	20	0,0543	0,36
	20	0,0538	0,36

Note that the measured values shown above apply only to the specific sample pieces tested (described in more detail in Appendix 1). The appendix also gives details of uncertainty of measurement and the date of testing.

Comments

The material for testing consisted of crosswise adhesively bonded layers of pleated di-acetate films. This means that both sides of the material are uneven, with about 5 mm between the peaks and troughs of the material. The measured values are applicable to an arrangement in which Moniflex-TR is contained between flat surface materials.

As the thermal conductivity of this material varies with its thickness, the values given in this report apply only for the tested material thickness of 20 mm. Thicker pieces (one or more sheets in contact) would give higher values of thermal conductivity.

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Test results

Client	Isoflex AB
Product	Moniflex-TR, nominal thickness 20 mm
Test preparation	Conditioning to equilibrium at 23±2 °C and 50±5 % RH
Date of testing	2010-08-19—28
Test data	**Apparatus:** HFM 89 heat flux measuring equipment (single-specimen symmetrical configuration), with double heat flow meters (600 x 600 mm). Most recently calibrated 2010-01-22, using IRMM 440 F66d reference sheet, with λ = 0,0304 W/(m·K). **Heat flow:** vertical, downwards **Average temperature:** 10±0,3 °C **Ambient temperature:** 10 °C
Uncertainty of measurement	The uncertainty of measurement of thermal conductivity was estimated as ±2 %.

Sample	Moniflex-TR, 20 mm	Moniflex-TR, 20 mm
Test equipment	HFM89	HFM89
Size of specimen* at 250 Pa, mm	19,4	19,4
Specimen area, mm x mm	600 x 600	600 x 600
Specimen thickness when tested, mm	19,4	19,4
Specimen density, kg/m³	13,5	13,7
Mass change during testing	0,006	0,010
Temperature difference across the specimen, °C	14,1	14,2
Density of heat-flow, W/m²	38,6	38,3
Thermal conductivity, W/(m·K)	0,0543	0,0538
Thermal resistance, m²K/W	0,357	0,361

* Minimum thickness at any point of the measurement area.