

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-233a/12

Applicant: L'ISOLANTE K-FLEX S.r.L., 20877 Roncello (MB), Italien

Material: K-FLEX Solar HT

Labeling: 9x35
(as given by producer)

Material identification: Insulation tube made of flexible elastomeric foam according to EN 14304:2009.
(as given) Colour: black

Nominal dimensions: Internal diameter: 35 mm Insulation thickness: 9 mm Length: 2000 mm

Nominal density: ----- kg/m³

Sampling: Sent by applicant on 05.06.2012.

Goods Receipt: No. 6080

Test equipment: Test pipe with calculated end caps according to DIN EN ISO 8497 Diameter 34 mm, horizontal, Length 2000 mm

Preparation: Experimental data according to EN 13467 :
Internal diameter: ---- mm Insulation thickness: ---- mm Length: ---- mm
Density: 51.3 kg/m³

Installation according to DIN 4140 Internal diameter: 34.1 mm Insulation thickness: 9 mm Length: 2285 mm
Density: *) 90.2 kg/m³ Mass: 0.253 kg

Remarks: The insulation tube was built on the test pipe in state of delivery.

Experimental data:

Test No	Heat flow rate W	Temperature of the specimen		Average temperature of the specimen °C	Temperature-difference of the specimen K	Thermal conductivity W/(m·K)
		Warm Side °C	Cold Side °C			
1	20.3	-15.6	-34.7	-25.2	19.1	0.0335
2	20.3	16.2	-1.9	7.2	18.1	0.0371
3	20.2	37.9	20.2	29.1	17.7	0.0386
4	20.2	56.3	39.0	47.7	17.3	0.0402
5	19.9	86.5	71.6	79.1	14.9	0.0434

Uncertainty: < 3% Thermal conductivity is calculated for temperature differences on the specimen.

Properties of the material after conductivity-measurement up to 86.5 °C warm side: (Values at end of the test)

Density: *) 90.2 kg/m³ Mass: 0.253 kg Change in mass: 0.0 %

Remarks:

*) The given values of the density refer to the insulation of the specimens installed on the test pipe without facings.

Results:

Mean temperature °C	-30	-20	-10	0	10	20	40	50	80
Thermal conductivity W/(m·K) *)	0.034	0.035	0.035	0.036	0.037	0.038	0.040	0.041	0.044

*) according to EN ISO 13787 rounded upwards to the next 0.001 W/(m·K)

These thermal conductivity values refer to the material in a dry state installed as pipe insulation and are related to the mean temperature of the specimen. ($\lambda_{Lab,R}$ as specified in the guidelines VDI-2055)

Final remarks: -----

Gräfelfing, 31.07.2012

Department Specialist

R. Alberti
Dipl.-Ing. R. Alberti



Tester

W. Moosburger
W. Moosburger

Test results only refer to test objects.

The prior written consent of our Institute is required for any publication or reference concerning parts of this report.