

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-106a/12

Applicant: L'ISOLANTE K-FLEX S.r.L., 20040 Roncello (Mi), Italien

Material: K-FLex EC

Labeling: 22X13
(as given by producer)

Material identification: Black tube made of flexible elastomeric foam according to EN 14304:2009
(as given)

Nominal dimensions: Internal diameter: 22 mm Insulation thickness: 13 mm Length: 2000 mm

Nominal density: ---- kg/m³

Sampling: By employee of FIW München at the plant in Roncello on 12.01.2012.

Goods Receipt: No. 5407

Test equipment: Test pipe with calculated end caps according to DIN EN ISO 8497 Diameter 24 mm, horizontal, Length 2000 mm

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

Installation according to DIN 4140: Internal diameter: 24.2 mm Insulation thickness: 11 mm Length: 2300 mm
Density: *) 51.5 kg/m³ Mass: 0.145 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		Average temperature of the specimen °C	Temperature-difference of the specimen K	Thermal conductivity W/(m·K)
		Warm Side °C	Cold Side °C			
1	13.2	-14.3	-35.8	-25.1	21.5	0.0302
2	13.5	14.8	-6.2	4.3	21.0	0.0321
3	13.4	43.0	23.8	33.4	19.2	0.0360
4	13.4	75.4	58.0	66.7	17.4	0.0399
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Uncertainty: < 3% Thermal conductivity is calculated for temperature differences on the specimen.

Properties of the material after conductivity-measurement up to 75.4 °C warm side: (Values at end of the test)

Density: *) 51.5 kg/m³ Mass: 0.145 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	0	20	40	50	70	----	----
Thermal conductivity W/(m·K)	0.030	0.030	0.032	0.034	0.036	0.038	0.040	----	----

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, 20.03.2012

Department Specialist

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Tester

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