

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-255a/11

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

Material: K-Flex EC

Labeling: Productioncode: 20131B Dimension: 19x42
(as given by producer)

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

Nominal dimensions: Internal diameter: 42 mm Insulation thickness: 19 mm Length: 2000 mm

Nominal density: ----- kg/m³

Sampling: By CSI S.p.A. in the plant at Roncello on 06.09.2011.

Goods Receipt: No. 4907

Test equipment: Test pipe with calculated end caps according to DIN EN ISO 8497 Diameter 42 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: 42.5 mm Insulation thickness: 18 mm Length: 2295 mm
Density: *) 50.2 kg/m³ Mass: 0.396 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	13.5	-17.2	-40.0	-28.6	22.8	0.0279
2	13.4	11.3	-9.7	0.8	21.0	0.0310
3	13.4	44.0	24.1	34.1	19.9	0.0336
4	13.4	78.2	59.7	69.0	18.5	0.0387
5	-----	-----	-----	-----	-----	-----

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

Properties of the material after conductivity-measurement up to 78.2 °C warm side: (Values at end of the test)

Density: *) 50.2 kg/m³ Mass: 0.396 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)	0.028	0.029	0.031	0.033	0.035	0.036	0.038	----	----

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, 10.02.2012

Department Specialist

R. Alberti

Dipl.-Ing. R. Alberti



Tester

S. Tana

S. Tana