

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-263a/11

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

Material: K-Flex ST

Labeling: (as given by producer) Productioncode: 423131B Dimension 25x42

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

Nominal dimensions: Internal diameter: 42 mm Insulation thickness: 25 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: 44 mm Insulation thickness: 24 mm Length: 2300 mm
Density: *) 52.0 kg/m³ Mass: 0.602 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	11.1	-21.2	-44.1	-32.7	22.9	0.0284
2	12.9	13.6	-10.2	1.7	23.8	0.0324
3	11.6	54.6	35.1	44.9	19.5	0.0376
4	35.5	95.3	40.2	67.8	55.1	0.0412
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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 95.3 °C warm side: (Values at end of the test)

Density: *) 52.0 kg/m³ Mass: 0.602 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	70
Thermal conductivity W/(m·K)	0.029	0.030	0.031	0.032	0.034	0.035	0.037	0.039	0.041

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, 25.11.2011

Department Specialist

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Tester

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