

Thermal conductivity according to DIN 52613

Test report No: G.2-262a/11

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

Material: K-Flex ST

Labeling: Productioncode: 41331B Dimension: 32x35
(as given by producer)

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

Nominal dimensions: Internal diameter: 35 mm Insulation thickness: 32 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 52613 Diameter 38 mm, horizontal, Length 2000 mm

Preparation: Experimental data according to DIN 52275 part 2:
Internal diameter: ---- mm Insulation thickness: ---- mm Length: ---- mm
Density: ---- kg/m³

Installation according to DIN 52613: Internal diameter: 38 mm Insulation thickness: 30 mm Length: 2300 mm
Density: *) 50.9 kg/m³ Mass: 0.763 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	8.38	-23.6	-43.6	-33.6	20.0	0.0307
2	8.38	10.5	-7.3	1.6	17.8	0.0347
3	8.38	43.9	27.1	35.5	16.8	0.0384
4	30.7	94.3	38.0	66.2	56.3	0.0434
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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 94.3 °C warm side: (Values at end of the test)

Density: *) 50.9 kg/m³ Mass: 0.763 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)	0.031	0.032	0.033	0.035	0.036	0.037	0.040	0.041	0.043

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

R. Alberti

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Tester

S. Tana

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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.