

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-087b/06

Applicant: ARMACELL INDIA, PUNE

Material: Class O Armaflex

Labeling: 19-048
(as given by producer)

Material identification: Insulation tube of closed cell flexible foam on the basis of synthetic rubber, colour: black
(as given)

Nominal dimensions: Internal diameter: 48 mm Insulation thickness: 19 mm Length: ----- mm

Nominal density: ----- kg/m³

Sampling: Sent by applicant on 19 June 2006.

Test equipment: Test pipe with calculated end caps according to DIN EN ISO 8497 Diameter 48 mm, horizontal, Length 2000 mm

Preparation: Experimental data according to DIN 52275 part 2:
Internal diameter: 48 mm Insulation thickness: 17 mm Length: 1960 mm
Density: ----- kg/m³

Installation according to DIN 4140: Internal diameter: 48 mm Insulation thickness: 17 mm Length: 2250 mm
Density: *) 58.0 kg/m³ Mass: 0.458 kg

Remarks:-----

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	11.9	4.4	-10.0	-2.8	14.4	0.0341
2	11.9	19.7	5.8	12.8	13.9	0.0358
3	11.9	49.2	36.0	42.6	13.2	0.0397
4	-----	-----	-----	-----	-----	-----
5	-----	-----	-----	-----	-----	-----

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

Properties of the material after conductivity-measurement up to 49.2 °C warm side: (Values at end of the test)

Density: *) 58.0 kg/m³ Mass: 0.458 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	-10	0	10	20	30	40	----	----	----
Thermal conductivity W/(m·K)	0.033	0.034	0.036	0.037	0.038	0.039	----	----	----

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, 03.07.06

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Tester

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