

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-116b/12

Applicant: ARMACELL GMBH, Münster

Material: Armaflex Ultima

Labeling: DI11/055-20.9 25-022
(as given by producer)

Material identification: FEF-Flexible Elastomeric Foam Tube insulation product called "Armaflex Ultima" consisting of elastomeric foam made of synthetic rubber according to EN 14304. The colour of the product is blue.
(as given)

Nominal dimensions: Internal diameter: 22 mm Insulation thickness: 25 mm Length: 2000 mm

Nominal density: ----- kg/m³

Sampling: Sent by applicant on 06.02.2012.

Goods Receipt: No. 5471

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: 24 mm Length: 2300 mm
Density: *) 88.0 kg/m³ Mass: 0.722 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	8.47	-22.6	-42.8	-32.7	20.2	0.0359
2	8.45	10.3	-8.5	0.9	18.8	0.0385
3	8.43	40.7	23.0	31.9	17.7	0.0415
4	23.7	85.4	38.9	62.2	46.5	0.0446
5	-----	-----	-----	-----	-----	-----

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

Properties of the material after conductivity-measurement up to 85.4 °C warm side: (Values at end of the test)

Density: *) 88.0 kg/m³ Mass: 0.722 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	-35	-30	-20	0	10	20	40	50	65
Thermal conductivity W/(m·K)	0.036	0.036	0.037	0.038	0.039	0.040	0.042	0.043	0.045

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, 23.03.2012

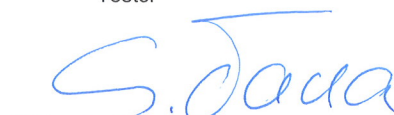
Department Specialist



Dipl.-Ing. R. Alberti



Tester



S. Tana

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.