

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-003a/05

Applicant: UNION FOAM S.p.A., Bellusco (MI)/Italien

Material: Eurobatex

Labeling: 34/13
(as given by producer)

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

Nominal dimensions: Internal diameter: 34 mm Insulation thickness: 13 mm Length: 2000 mm
Nominal density: ----- kg/m³

Sampling: by authorized agent of the testing institute at the plant in Bellusco/Italy on 17th November 2004.

Test equipment: Test pipe with calculated end caps according to DIN EN ISO 8497 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 4140: Internal diameter: 38 mm Insulation thickness: 12 mm Length: 2300 mm
Density: *) 50.7 kg/m³ Mass: 0.221 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	3.29	-24.9	-28.6	-26.8	3.7	0.0333
2	15.4	11.4	-5.3	3.0	16.7	0.0350
3	15.2	38.8	23.7	31.3	15.1	0.0375
4	15.2	60.7	45.1	52.9	15.6	0.0392
5	15.1	79.4	64.7	72.1	14.7	0.0402

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

Properties of the material after conductivity-measurement up to 79.4 °C warm side: (Values at end of the test)

Density: *) 50.7 kg/m³ Mass: 0.221 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	60	70	---
Thermal conductivity W/(m·K)	0.033	0.034	0.035	0.037	0.038	0.039	0.039	0.040	---

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, 25.01.05

Department Specialist

R. Alberti
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Tester

W. Moosburger
W. Moosburger

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.