

Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-025a/18

Applicant: L'ISOLANTE K-FLEX S.p.A., 20877 Roncello (MB), Italien

Material: K-Flex ST (tubes with nominal thickness >25 mm)

Labeling: 02473153571P
(as given by producer)

Material identification: Tubes made of flexible elastomeric foam (FEF) according to EN 14304:2009+A1:2013
(as given)

Nominal dimensions: Internal diameter: 28 mm Insulation thickness: 30 mm Length: 2000 mm

Nominal density: ----- kg/m³

Sampling: The material was collected by staff of FIW München on 05.12.2017 in the plant Uniejów / Poland.

Goods Receipt: No. 3684

Test equipment: Test pipe with calculated end caps according to DIN EN ISO 8497:1996 Diameter 27 mm, horizontal, Length 2000 mm

Preparation: Experimental data according to EN 13467 :
Internal diameter: 27 mm Insulation thickness: 26 mm Length: 2070 mm
Density: 55.1 kg/m³

Installation according to DIN 4140: Internal diameter: 27.1 mm Insulation thickness: 26 mm Length: 2300 mm
Density: *) 53.5 kg/m³ Mass: 0.529 kg

Remarks: The insulation pipe 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	8.50	-15.5	-38.4	-27.0	22.9	0.0311
2	8.47	12.1	-8.5	1.8	20.6	0.0348
3	8.43	51.0	32.1	41.6	18.9	0.0389
4	8.41	79.0	61.2	70.1	17.8	0.0420
5	-----	-----	-----	-----	-----	-----

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

Properties of the material after conductivity-measurement up to 79 °C warm side: (Values at end of the test)

Density: *) 53.5 kg/m³ Mass: 0.529 kg Change in mass: 0.0 %

Remarks: Test period: 01.03.2018 to 21.03.2018

*) 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	0	10	20	40	50	70	---	---
Thermal conductivity W/(m·K) *)	0.031	0.035	0.036	0.037	0.039	0.040	0.042	---	---


*) according to EN ISO 13787 rounded upwards to the next 0.001 W/(m·K)

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: -----

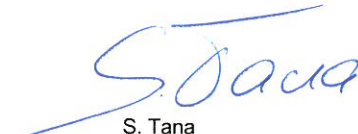
Gräfelfing, 05.06.2018

Department Specialist


Dipl.-Ing. R. Schreiner



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.