



## Thermal conductivity according to DIN EN ISO 8497

Test report No: G.2-029a/18

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

**Material:** K-Flex Solar HT

**Labeling:** 0327142771P  
(as given by producer)

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

**Nominal dimensions:** Internal diameter: 42 mm      Insulation thickness: 19 mm      Length: 2000 mm

**Nominal density:** ---- kg/m<sup>3</sup>

**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 42 mm, horizontal, Length 2000 mm

**Preparation:** Experimental data according to EN 13467 :  
Internal diameter: 42 mm      Insulation thickness: 19 mm      Length: 1996 mm  
Density: 73.8 kg/m<sup>3</sup>

**Installation according to DIN 4140:** Internal diameter: 42 mm      Insulation thickness: 20 mm      Length: 2320 mm  
Density: \*) 69.8 kg/m<sup>3</sup>      Mass: 0.618 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	14.0	-19.9	-35.3	-27.6	15.4	0.0381
2	13.6	7.7	-10.4	-1.3	18.1	0.0390
3	13.5	49.3	32.9	41.1	16.4	0.0437
4	13.9	68.0	52.3	60.2	15.7	0.0471
5	13.8	101.1	87.7	94.4	13.4	0.0513

Uncertainty: < 3%

Thermal conductivity is calculated for temperature differences on the specimen.

Properties of the material after conductivity-measurement up to 101.1 °C warm side: (Values at end of the test)

Density: \*) 69.8 kg/m<sup>3</sup>      Mass: 0.618 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	-10	0	10	20	30	50	70	90
Thermal conductivity W/(m·K)	0.038	0.039	0.040	0.041	0.042	0.043	0.045	0.048	0.051

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, 06.06.2018

Department Specialist

*R. Hofmockel*

Robert Hofmockel, M.Sc.



Tester

*S. Tana*

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.