

K-FLEX MALAYSIA SDN BHD

TEST REPORT

SCOPE OF WORK

CROSS LINKED CLOSED CELL POLYOLEFIN FOAM INSULATION

REPORT NUMBER

190505001SHF-002

TEST DATE(S)

2019-05-05 - 2019-06-20

ISSUE DATE

2019-06-20

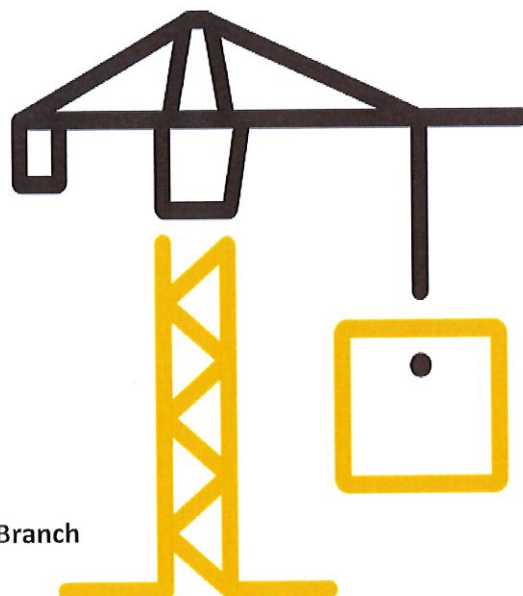
PAGES

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DOCUMENT CONTROL NUMBER

LFT-APAC-SHF-OP-10k(May 1, 2019)

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Test Report

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Test Report

Issue Date: 2019-06-20 Intertek Report No. 190505001SHF-002

Applicant: K-FLEX MALAYSIA SDN BHD

Address: Lot 2752 JALAN RALA NONG, TAMAN KLANG JAYA, 41200 KLANG, SELANGOR D. E., MALAYSIA

Attn: Andy Goh

Test Type : Performance test, samples provided by the applicant.

Product Information

Product Name	CROSS LINKED CLOSED CELL POLYOLEFIN FOAM INSULATION	Brand	/
Sample Description	Good Condition	Sample Amount	1 package
		Received Date	2019-04-28
Sample ID	Model	Specification	
S190505001SHF.001	K-FLEX K-PROTECT	13mm TK	

Test Methods And Standards

Test Standard	ISO 16000-3:2011; ISO 16000-6:2011; ISO 16000-9:2006; ISO 16000-11:2006
Specification Standard	/
Test Conclusion	The samples were tested according to the above standards, and the results are shown in the following page.

Note:

1.This report relates specifically to the sample(s) that were drawn and provided by the applicant or their nominated third party. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and/or shipment and only relate to the sample(s) as received and tested.

Report Authorized



 Name: Flora Fan Name: Nicole Shi

Title: Reviewer Title: Project Engineer

Test Report

Issue Date: 2019-06-20

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Test Items, Method and Results:

Test Item: Volatile organic compounds content analysis

Test Method:

With reference to ISO 16000-3:2011, ISO 16000-6:2011, ISO 16000-9:2006 and ISO 16000-11:2006.

The sample was tested in the emission test chamber. After defined times, samples of the chamber air were collected on sorbent tubes (Tenax TA & DNPH Cartridge). VOCs were detected by Automatic Thermal Desorption-Gas Chromatography /Mass Spectrometric (ATD-GC/MS). Formaldehyde and other Carbonyl Compound Was Identified And Quantified By DNPH Derivitization And Detected By High Performance Liquid Chromatography-Diode-Array Detector (HPLC/DAD).

Test condition:

Test chamber: 0.06 m³

Loading factor: 1.0 m²/m³

Supply air temper: 23°C±1°C

Supply air humidity: 50%±5% R.H.

Air exchange rate: 1.0 h⁻¹

Sampling: Tenax TA & DNPH cartridge

Test Result:

No.	Compound Name	CAS Number	Chamber Concentration after 28days (µg/m ³)	Detection Limit (µg/m ³)
1	Individual VOC Compound	/	ND	2
2	TVOC**	/	ND	20
3	Formaldehyde*	50-00-0	ND	5

Remark:

1. TVOC = Total volatile organic compounds. Substances in the range of C6 to C16.
2. * = indicates compound identified and quantified by DNPH derivitization and HPLC/DAD analysis
3. ** = Denotes quantified using the Relative Response Factor to toluene for the compound
4. ND=Not detected(less than the detection limit)
5. Test location: Central Chemical Lab of Intertek Testing Services Ltd., Wuxi
Address: No. 8, Fubei Road, Xishan Economic Development Zone, Wuxi, China

Test Report

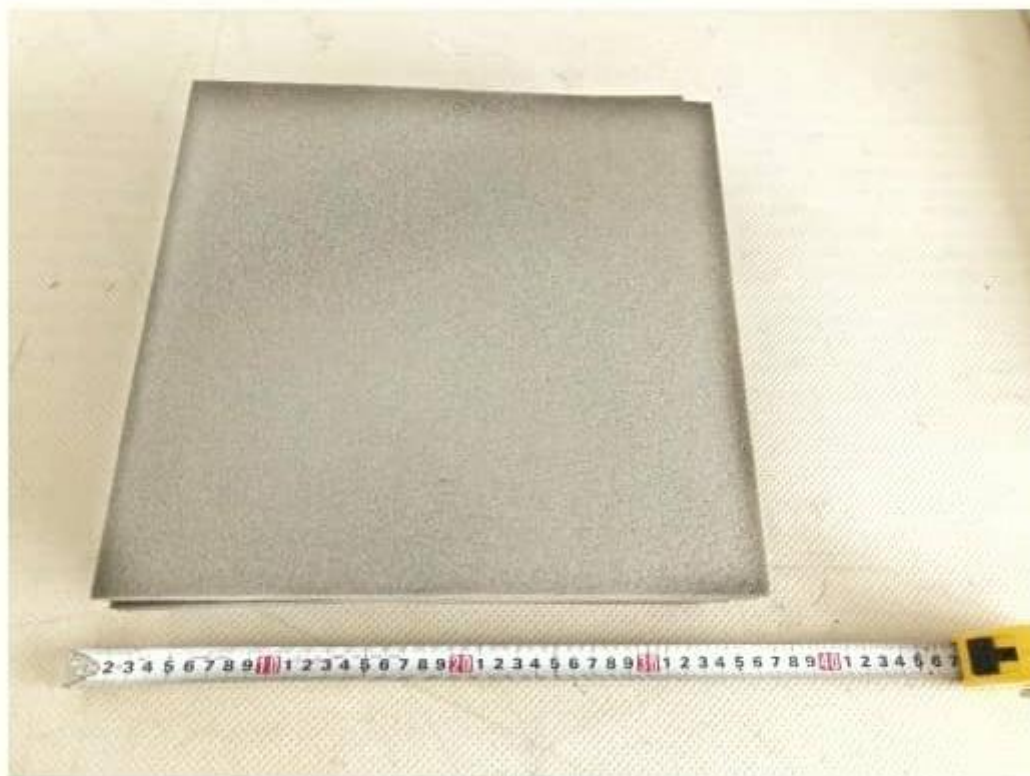
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Test Photo:



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Revision:

NO.	Date	Changes	Author	Reviewer
190505001SHF-002	2019-06-20	First issue	Nicole Shi	Flora Fan