

TEST REPORT

REPORT NUMBER: 102728974MID-001
ORIGINAL ISSUE DATE: September 21, 2016
REVISED DATE: N/A

EVALUATION CENTER
Intertek
8431 Murphy Drive
Middleton, WI 53562, USA

RENDERED TO
K-Flex USA LLC
100 Nomaco Dr.
Youngsville, NC 27596
Biju Thomas
Biju.thomas@kflexusa.com

PRODUCT EVALUATED: K-FLEX XPE-2.0
EVALUATION PROPERTY: UL 94 -TEST FOR FLAMMABILITY OF
PLASTIC MATERIALS FOR PARTS IN DEVICES AND APPLIANCES

Report of Testing K-FLEX XPE-2.0 for compliance with the applicable requirements of the following criteria: UL 94 - 2016 TEST FOR FLAMMABILITY OF PLASTIC MATERIALS FOR PARTS IN DEVICES AND APPLIANCES, Section 12: Horizontal Burning Foamed Material Test

"This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program."

1 Table of Contents

1	TABLE OF CONTENTS	2
2	INTRODUCTION.....	3
3	TEST SAMPLES	3
3.1.	SAMPLE SELECTION	3
3.2.	SAMPLE AND ASSEMBLY DESCRIPTION.....	3
4	TESTING AND EVALUATION METHODS	3
4.1.	TEST STANDARD	3
5	TESTING AND EVALUATION RESULTS	4
5.1.	RESULTS AND OBSERVATIONS.....	4
5.2.	EXAMINATION OF RESULTS	4
6	CONCLUSION	5

2 Introduction

Intertek has conducted testing for K-Flex USA LLC on K-FLEX XPE-2.0 to evaluate Flammability of Plastic Materials for Parts in Devices and Appliances. Testing was conducted in accordance with UL-94-2016 Section 12: Horizontal Burning Foamed Material Test. This evaluation began September 21, 2016 and was completed September 21, 2016.

3 Test Samples

3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client. Samples were not independently selected for testing. Samples were received at the Evaluation Center on September 7, 2016.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

Sample Name: K-FLEX XPE-2.0

Sample Description: Twenty 50mm x 150mm x 4.2mm samples of K-Flex XPE2.0 samples were provided by the client.

Five specimens (numbers 1 through 5) were conditioned for at least 48 hours at a temperature of $23 \pm 2^{\circ}\text{C}$ and a relative humidity of $50 \pm 5\%$ prior to testing and five specimens (numbers 6 through 10) were conditioned in a circulating air oven for a duration of 168 hours at $70 \pm 1^{\circ}\text{C}$ and then cooled in a desiccator, over anhydrous calcium chloride, for at least 4 hours at room temperature prior to testing.

4 Testing and Evaluation Methods

4.1. TEST STANDARD

Testing is conducted in accordance with Section 12- Horizontal Burning Foamed Material Test.

This test is intended to be performed on foamed plastic materials used for parts in devices and appliances in non-structural applications. This test does not cover foamed plastics for use as materials for building construction or finishing. Materials shall be classed HBF, HF-1, or HF-2, on the basis of test results.

MATERIALS CLASSIFIED HBF – Materials classified HBF shall:

- a) Not have any specimens with a burning rate exceeding 40 mm per minute over a 100 mm span, or
 - b) Have each specimen cease to burn before flaming or glowing reaches the 125 mm gauge mark.
-

If only one specimen from a set of five specimens does not comply with the above requirements, another set of five specimens, subjected to the same conditioning, shall be tested. All specimens from this second set of specimens shall comply with the above requirements for the material in that thickness and density to be classed HBF.

MATERIALS CLASSIFIED HF-1 and HF-2 – Materials classified HF-1 and HF-2 shall be in compliance with table below.

MATERIAL CLASSIFICATION TABLE for HF-1 and HF-2

CRITERIA CONDITIONS	94HF-1	94HF-2
Afterflame time	4/5 is ≤ 2 sec.	4/5 is ≤ 2 sec.
Afterglow time for each individual specimen	1/5 is ≤ 10 sec.	1/5 is ≤ 10 sec.
Cotton indicator ignited by flaming particles or drops	No	Yes
Damaged length for each individual specimen	< 60mm	< 60mm
Notes: 4/5-Four out of a set of five specimens. 1/5- One out of a set of five specimens.		

5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS

Specimen	Burned > 60 mm (Y/N)	After flame Time (sec.)	Afterglow Time (sec)	Damaged Length (mm)	Did Cotton Swatch Ignite?	Did flame Reach 25mm (Y/N)
1	N	0.0	0.0	4	N	N
2	N	0.0	0.0	9	N	N
3	N	0.0	0.0	8	N	N
4	N	0.0	0.0	5	N	N
5	N	0.0	0.0	7	N	N
6 (ov)	N	0.0	0.0	6	N	N
7 (ov)	N	0.0	0.0	5	N	N
8 (ov)	N	0.0	0.0	8	N	N
9 (ov)	N	0.0	0.0	6	N	N
10 (ov)	N	0.0	0.0	8	N	N
Average		0.0	0.0	6.6		

OV = Oven conditioned at 70 ± 1°C for 7 days

Observations: Sample self-extinguished after flame was removed

OV = Oven conditioned at 70 ± 1°C for 7 days

5.2. EXAMINATION OF RESULTS

This Sample passed the criteria for UL 94 HBF. Classification achieved UL 94 HF-1.

6 Conclusion

Intertek has conducted testing for K-Flex USA LLC on K-FLEX XPE-2.0 of Plastic Materials for Parts in Devices and Appliances. Testing was conducted in accordance with UL-94-2016, Section 12: Horizontal Burning Foamed Material Test.

This sample passed the criteria for UL 94 HBF. Classification achieved UL 94 HF-1.

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

INTERTEK

Reported by: _____
Leroy Shetler
Lab Technician III, Verification Center

Reviewed by: _____
Sandy Osborne
Lab Technician I, Verification Center

REVISION SUMMARY

DATE	SUMMARY
September 21, 2016	Date of Original Report
