

TEST REPORT

FOR

MIOOIM LLC
511 North 13th Street
Philadelphia, PA 19123

**Standard Test Method for
Surface Burning Characteristics of Building Materials
ASTM E84-14**

Test Report No: FH-2606_R1

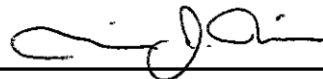
Assignment No: H-1174

Test Date: 08/28/2015

Report Date: 09/04/2015

Subject Material: FeltForms Tiles

Prepared by: _____



Michael J. Rizzo
Test Engineer

Reviewed by: _____



Robert J. Menchetti
Director, Laboratory Facilities and Testing Services

The results reported in this document apply to specific samples submitted for measurement. No responsibility is assumed for the performance of any other specimen. The laboratory's test report in no way constitutes or implies product certification, approval or endorsement by this laboratory. This report may not be reproduced, except in full, without the written approval of the laboratory.

TEST REPORT REVISION HISTORY:

DATE	SUMMARY
September 3, 2015	Original issue date. Original NGCTS report FH-2606.
September 4, 2015	Corrected reported flame spread index (pg. 3). Revised NGCTS Report FH-2606_R1

INTRODUCTION:

This report presents the results of a specimen tested in accordance with the requirements of ASTM E84-14 Standard Test Method for Surface Burning Characteristics of Building Materials. This test method is also published under the designations UL 723, NFPA 255, and UBC 8-1.

The purpose of this test method is to determine the relative behavior of the material by observing the flame spread along the specimen. Flame spread and smoke developed indices are reported. However, there is not necessarily a relationship between these two measurements.

This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled laboratory conditions. It should not alone be used for fire hazard or fire risk assessment of the materials, products, or assemblies under actual fire conditions.

TEST SPECIMEN:

The test specimen was submitted for testing to NGC Testing Services (NGCTS) directly by MIOOIM LLC of Philadelphia, PA. The test specimen was identified by the client as:

“FeltForms Tiles”

The test specimen was submitted as multiple, grey-colored acoustical tiles. The tiles had a “dimpled” (hexagonal-shaped dimples) front face, and a flat back face with double-sided adhesive strips around the face’s perimeter. The dimpled front face of each tile was exposed to the burner flames during testing. Each tile measured 24 in. by 24 in. with a nominal maximum thickness of 1-7/8 in. (nominal minimum thickness of 1/4 in).

NGCTS personnel randomly selected twelve (12) of the submitted tiles for testing. Upon selection, the (12) test specimen tiles were placed in in a conditioning room where they remained in an atmosphere of 73.4 ± 5°F and 50 ± 5% relative humidity until tested.

MOUNTING METHOD:

The (12) test specimen tiles were placed end-to-end, directly on the tunnel ledges (dimpled face exposed to the burner flames) and butted tightly together to achieve the required 24 ft. length. No additional support was required. Non-combustible, fiber-reinforced cement board (1/4 in. thick) was placed over the tiles as lid protection.

TEST RESULTS:

The test results, computed on the basis of observed flame front advance and electronic smoke density measurements are presented in the table below.

The reported flame spread and smoke developed indices, as presented below, are the computed comparison to the standard calibration materials – mineral fiber-reinforced cement board and select grade red oak flooring. The cement board is used to establish relative 0 values for flame spread and smoke developed; red oak decks are used to establish relative 100 values for flame spread and smoke developed.

Testing of materials that melt, drip, or delaminate to such a degree that the continuity of the flame front is destroyed, results in low flame spread indices that do not relate directly to indices obtained by testing materials that remain in place.

<u>TEST NO.</u>	<u>MATERIAL TESTED</u>	<u>SIDE EXPOSED</u>	<u>SUPPORT</u>	<u>CALCULATED FLAME SPREAD</u>	<u>CALCULATED SMOKE DEVELOPED</u>																
1	FeltForms Tiles	Dimpled Face	Self-Supporting	14.69	304.43																
<table border="1"> <thead> <tr> <th><u>MATERIAL TESTED</u></th> <th><u>SIDE EXPOSED</u></th> <th><u>SUPPORT</u></th> <th><u>FLAME SPREAD INDEX *</u></th> <th><u>SMOKE DEVELOPED INDEX*</u></th> </tr> </thead> <tbody> <tr> <td>RED OAK FLOORING</td> <td>FINISHED</td> <td>SELF-SUPPORTING</td> <td>100</td> <td>100</td> </tr> <tr> <td>REINFORCED CEMENT BOARD</td> <td>SYMMETRICAL</td> <td>SELF-SUPPORTING</td> <td>0</td> <td>0</td> </tr> </tbody> </table>						<u>MATERIAL TESTED</u>	<u>SIDE EXPOSED</u>	<u>SUPPORT</u>	<u>FLAME SPREAD INDEX *</u>	<u>SMOKE DEVELOPED INDEX*</u>	RED OAK FLOORING	FINISHED	SELF-SUPPORTING	100	100	REINFORCED CEMENT BOARD	SYMMETRICAL	SELF-SUPPORTING	0	0	
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1	FeltForms Tiles	Dimpled Face	Self-Supporting	15	300																
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FeltForms Tiles	
FLAME SPREAD INDEX	15
SMOKE DEVELOPED INDEX	300

OBSERVATIONS:

Ignition of the test specimen tiles was noted at 00:07 (min:sec). A maximum flame front advancement of 3.74 ft. occurred at 09:13 (min:sec). The test specimen tiles were observed to melt and drip to the tunnel floor, including well ahead of the maximum flame front. Burning of the melted material occurred on the tunnel floor, contributing to the recorded maximum flame front.

ADC DRAFT (IN. H2O) 0.080
 GAS PRESS. (IN. H2O) 0.286
 GAS VOL (CF) 50.07
 BTU/cf 1010
 SHUTTER (IN.) 3.00
 TEMP. 13' BURIED 109 F

Flame Spread: 14.69
 Area under Flame Curve (ft-min): 28.52

TEST#: PH-2606 DATE: 8/28/2015

TEST METHOD: ASTM E84-14

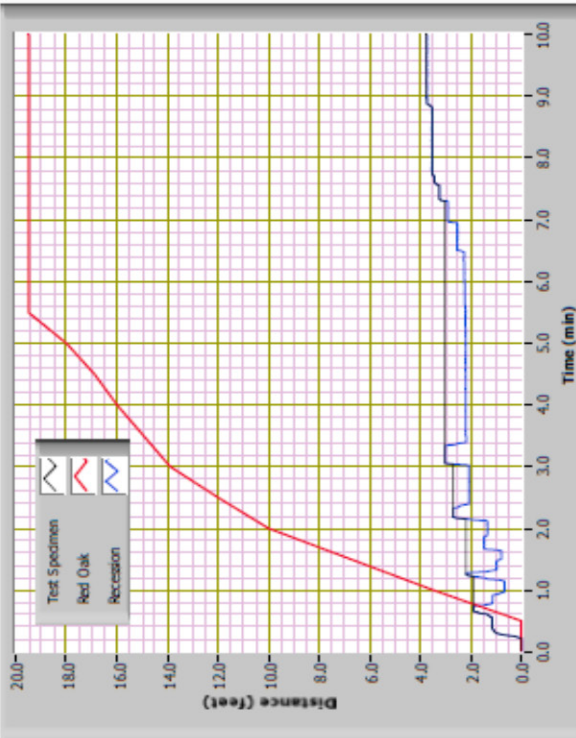
CLIENT: MIOOIM LLC

PROJECT#: H-1174

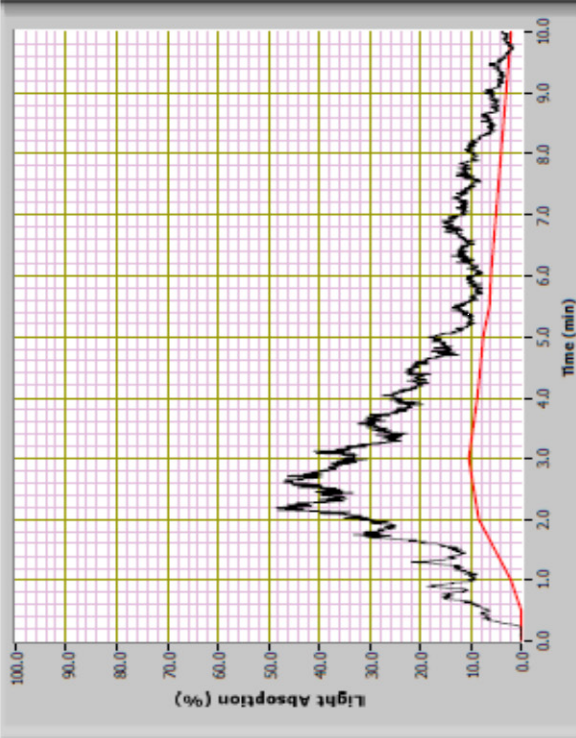
SAMPLE: FeltForms Tiles
 MATERIAL: (12) 2' x 2' Tiles
 SUPPORT: Self-supporting
 REMARKS: Ignition Time: 0:07
 Max Flame Front: 3.74 FT. @ 9:13
 Test sample material melted, including well ahead of the flame front, and dripped to the tunnel floor. Some burning occurred on the tunnel floor.

Smoke Developed: 304.43
 Area under Smoke Curve (%A-min): 156.42

Flame Spread



Smoke Developed



The following data sheet is an actual printout of the computerized data system which monitors the tunnel furnace. The sheet contains all calibration and specimen data needed to calculate the test results.