

CLIENT: ELEMENT MATERIALS TECHNOLOGY
Attn: Jason Sheen
662 Cromwell Ave
St. Paul, MN 55114

Test Report No: TJ1188

Date: April 10, 2013

SAMPLE ID: The Client submitted and identified the following test material as **"Bamboo Decking"**.

SAMPLING DETAIL: Test samples were submitted to the laboratory directly by the client. No special sampling conditions or sample preparation were observed by QAI.

DATE OF RECEIPT: Samples were received at QAI facilities on March 26, 2013

TESTING PERIOD: April 3, 2013

AUTHORIZATION: Purchase Order ESP011573PO-2

TEST REQUESTED: Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM Designation E84-12, "Standard Method of Test for Surface Burning Characteristics of Building Materials". The foregoing test procedure is comparable to UL 723, ANSI/NFPA No. 255, and UBC No. 8-1.

TEST RESULTS:	<u>Flame Spread</u>	<u>Smoke Developed</u>
	10	40

Detailed test results are presented in the subsequent pages of this report

Prepared By



David Bauchmoyer
Fire Test Technician

**Signed for and on behalf of
QAI Laboratories, Inc.**



J. Brian McDonald
Operations Manager



PREPARATION AND CONDITIONING: The sample was submitted and tested in 32 panels put together to measure 24 feet long 24 inches wide and approximately 0.8 inches thick. The sample material was placed into conditioning at 73°F (±5°F) and 50% (±5%) relative humidity until day of testing.

E 84 TEST DATA SHEET:

MOUNTING METHOD: The sample was supported during testing by 2" hexagonal mesh poultry netting running the length of the test chamber and ¼" round metal rods placed at 2' intervals across the width of the test chamber.

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SAMPLE: Bamboo Deck Boards

IGNITION: 1 minutes, 23 seconds

FLAME FRONT: 4 feet maximum

TIME TO MAXIMUM SPREAD: 8 minutes, 30 seconds

TEST DURATION: 10 minutes, 00 seconds

SUMMARY: FLAME SPREAD: 10 (10.1 unrounded) **SMOKE DEVELOPED:** 40 (40 unrounded)

OBSERVATIONS:

In the first 40 seconds of the test, the test sample displayed audible cracking of wood. At 55 seconds, charring was noted. Sustained ignition of sample occurred at 1 minute and 23 seconds into test. Material displayed slow and steady flame propagation down sample and minimal smoke output. There as after flame noted at conclusion of test which was extinguished by technicians.

CALIBRATION DATA:

Time to Ignition of Last Red Oak (sec):	57
Red Oak Smoke Area (%A*Min):	111
Maximum Temperature (°F):	572
Time to Maximum Temperature (min:sec):	10:00
Total Fuel Burned (ft³)	58.47

SUMMARY OF ASTM E84 RESULTS:

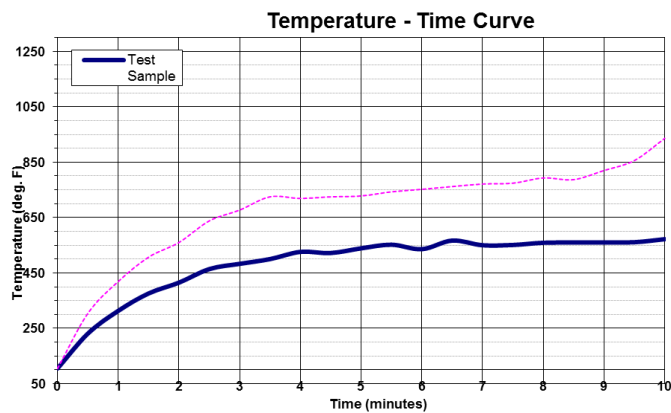
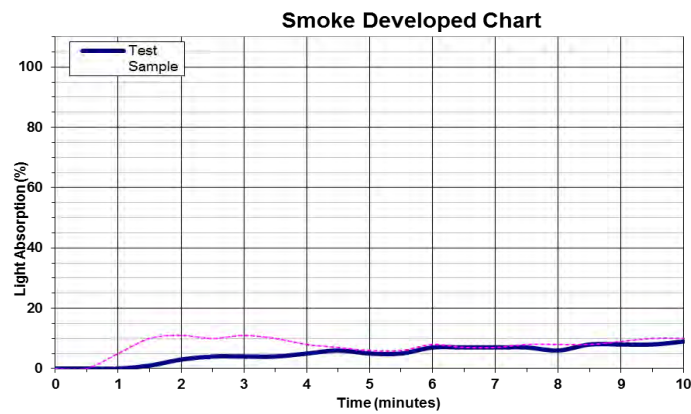
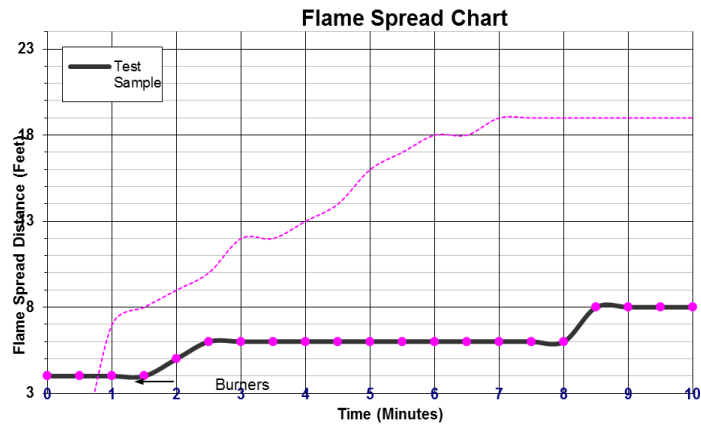
Because of the possible variations in reproducibility, the results are adjusted to the nearest figure divisible by 5. Smoke Density values over 200 are rounded to the nearest figure divisible by 50.

In order to obtain the Flame Spread Classification, the above results should be compared to the following table:

<u>NFPA CLASS</u>	<u>IBC CLASS</u>	<u>FLAME SPREAD</u>	<u>SMOKE DEVELOPED</u>
A	A	0 through 25	Less than or equal to 450
B	B	26 through 75	Less than or equal to 450
C	C	76 through 200	Less than or equal to 450

BUILDING CODES CITED:

1. National Fire Protection Association, ANSI/NFPA No. 101, "Life Safety Code", 2006 Edition.
2. International Building Code, 2006 Edition, Chapter 8, Interior Finishes, Section 803.



END OF REPORT

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