

CLIENT: **NCFI POLYURETHANES**
1552 Woltz Street
Mount Airy, NC 27030

Test Report No: TJ4656-1

Date: April 17, 2017

SAMPLE ID: The client identified the following test material as “23-025”

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 April 7, 2017

TESTING PERIOD: April 13, 2017

AUTHORIZATION: Signed work order 16SP102806 signed by Steven Farmer

TEST REQUESTED: Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM Designation E84-15, "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: **Flame Spread**

20

Smoke Developed

450

CLASSIFICATION: The material results in a class “A” rating. Detailed test results are presented in the subsequent pages of this report.

Prepared By



Daniel Barnett
Project Engineer

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



J. Brian McDonald
Operations Manager

PREPARATION AND CONDITIONING: The sample was submitted in three 8 foot long panels measuring 24 inches wide and approximately 1 ¾ 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 self-supporting with the foam side exposed to the burner flames. The samples were butted end to end in the test chamber, with cement board place between the lid and sample.

CLIENT: NCFI Polyurethanes **DATE:** April 13, 2017

SAMPLE: 23-025

IGNITION: 0 minutes, 08 seconds

FLAME FRONT: 5 feet maximum

TIME TO MAXIMUM SPREAD: 7 minutes, 30 seconds

TEST DURATION: 10 minutes, 00 seconds

SUMMARY: FLAME SPREAD: 20 (19.5 unrounded) **SMOKE DEVELOPED:** 450 (470 unrounded)

OBSERVATIONS:

The sample sustained ignition 8 seconds from the start of the test followed by the surface of the sample charring at 17 seconds. Cracks began to appear across the surface of the sample at 56 seconds. At 5 minutes, the sample began to sag towards the tunnel floor as it burned. The sample continued to burn after the conclusion of the test. The flames were extinguished by the attending technician.

CALIBRATION DATA:

Time to Ignition of Last Red Oak (sec):	34
Red Oak Smoke Area (%A*Min):	117.2
Total Fuel Burned (ft³)	55.0

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:

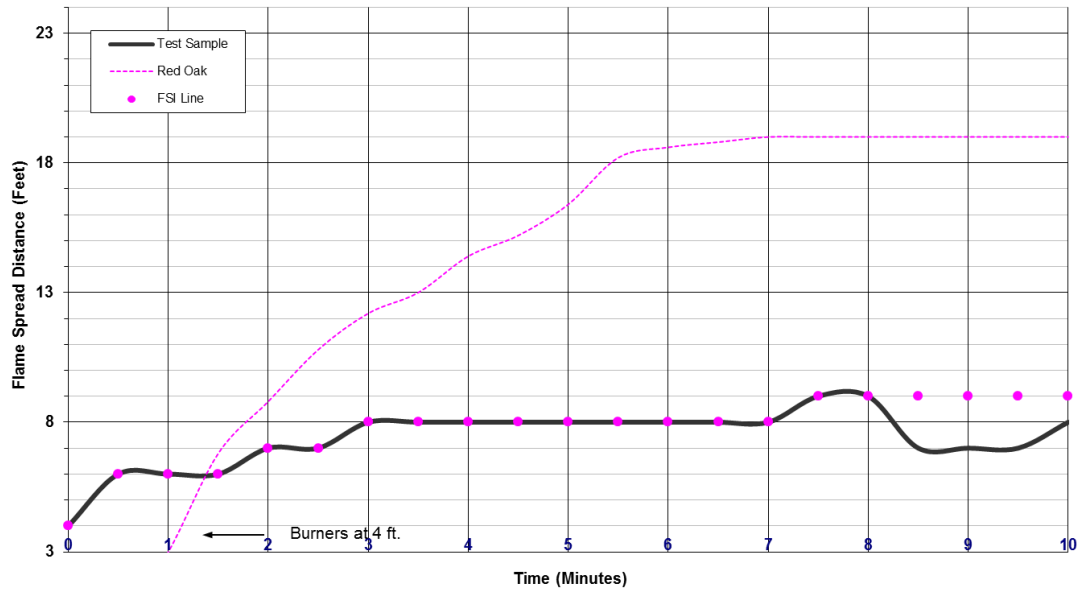
<u>NFPA CLASS</u>	<u>IBC CLASS</u>	<u>FLAME SPREAD</u>	<u>SMOKE DEVELOPED</u>
A	A	0 through 25	Less than or equal to 450
B	B	26 through 75	Less than or equal to 450
C	C	76 through 200	Less than or equal to 450

BUILDING CODES CITED:

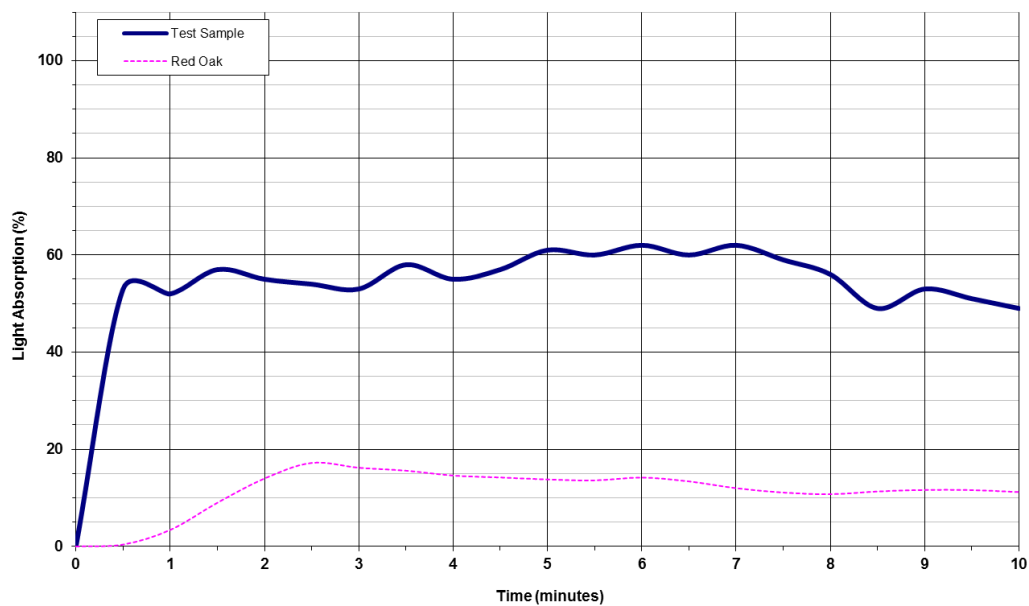
1. National Fire Protection Association, ANSI/NFPA No. 101, "Life Safety Code", 2006 Edition.
2. International Building Code, 2006 Edition, Chapter 8, Interior Finishes, Section 803.

Graphical Data

Flame Spread Chart

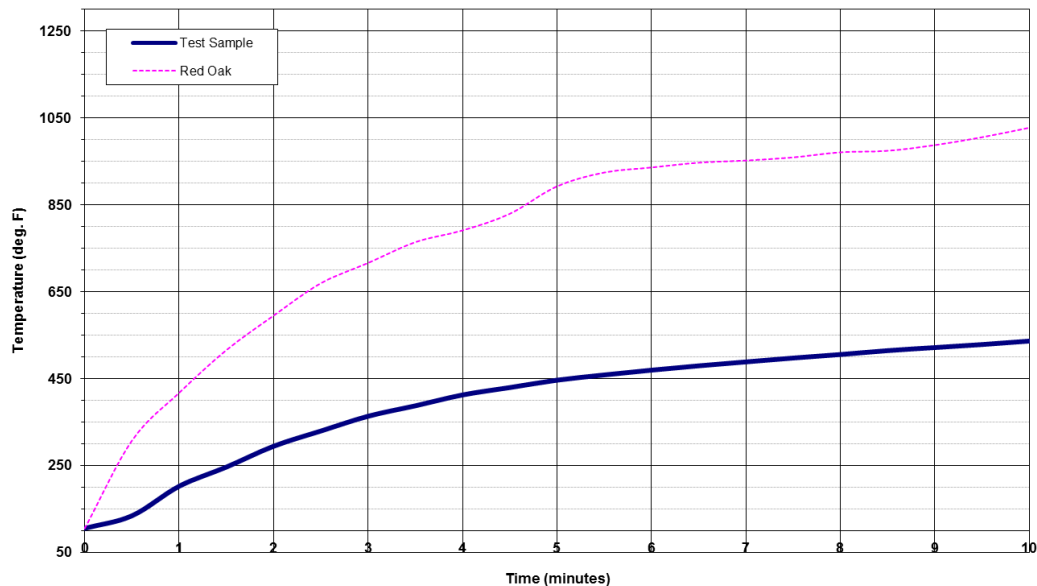


Smoke Developed Chart



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Temperature - Time Curve



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Post Test Images



*****END OF TEST REPORT*****

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