

TEST REPORT

FOR

Tamarack Technologies, Inc.

20 Patterson Brook Road
West Wareham, MA 02576

Standard Test Method for Surface Burning Characteristics of Building Materials ASTM E84-17

Test Report No: FH-2781

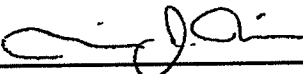
Assignment No: H-1349

Test Date: 09/22/2017

Report Date: 09/25/2017

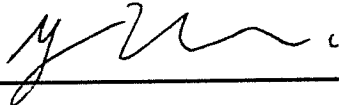
Subject Material: AAA-12902X10 Kenyon F70090C1

Prepared by: _____



Michael J. Rizzo
Senior Test Engineer

Reviewed by: _____



Robert J. Menchetti
Director, Laboratory Facilities and Testing Services

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TEST REPORT REVISION HISTORY:

DATE	SUMMARY
September 25, 2017	Original issue date. Original NGCTS report FH-2781.

INTRODUCTION:

This report presents the results of a specimen tested in accordance with the requirements of ASTM E84-17 Standard Test Method for Surface Burning Characteristics of Building Materials. This test method is also published under the designations UL 723 and NFPA 255.

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 indexes 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, directly to NGC Testing Services (NGCTS), by the client, Tamarack Technologies, Inc., of West Wareham, MA. The test specimen was identified by the client as:

AAA-12902X10 Kenyon F70090C1

The test specimen was received in good condition by NGCTS on September 13, 2017. The test specimen was selected and submitted by the client as a single roll of nominally 0.005 in. thick "100% Nylon-Urethane Coated, DWR w/UV inhibitor and FR" fabric. The submitted roll of coated nylon fabric was yellow in color and measured nominally 60 in. wide by 24 ft. long.

Upon receipt, the test specimen was placed in a conditioned environment, maintained at $73.4 \pm 5^\circ\text{F}$ and $50 \pm 5\%$ relative humidity, where it remained for 9 days until tested. Immediately prior to testing, NGCTS personnel cut a 24 in. wide section of the nylon fabric to be tested.

MOUNTING METHOD:

A continuous length of 2.0 in. hexagonal wire mesh was placed atop 1/4 in. diameter steel rods, positioned directly on the tunnel ledges and spaced at approximate 2 ft. intervals. The 24 in. wide cut section of the coated nylon fabric test specimen was free laid directly on the wire mesh (coated side exposed to the burner flames).

Non-combustible, fiber-reinforced cement board (1/4 in. thick) was placed over the back (i.e., unexposed) side of the test specimen fabric, unadhered, 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 indexes 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; the red oak flooring is used to establish relative 100 values for flame spread and smoke developed.

<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	AAA-12902X10 Kenyon F70090C1	Coated	Steel Rods and Wire	0.96	37.00
	<u>MATERIAL TESTED</u>	<u>SIDE EXPOSED</u>	<u>SUPPORT</u>	<u>FLAME SPREAD INDEX (FSI)*</u>	<u>SMOKE DEVELOPED INDEX (SDI)*</u>
	RED OAK FLOORING	FINISHED	SELF-SUPPORTING	100	100
	REINFORCED CEMENT BOARD	SYMMETRICAL	SELF-SUPPORTING	0	0
1	AAA-12902X10 Kenyon F70090C1	Coated	Steel Rods and Wire	0	35
			<u>CLASSIFICATION</u>	<u>FSI</u>	<u>SDI</u>
			CLASS A	0 - 25	0 - 450
			CLASS B	26 - 75	0 - 450
			CLASS C	76 - 200	0 - 450
	* Flame Spread / Smoke Developed Index is the result (or the average of the results of multiple tests), rounded to the nearest multiple of 5. Smoke developed results in excess of 200 are rounded to the nearest multiple of 50.				

Ignition of the test specimen fabric over the burners occurred at 00:03 (min:sec). The resulting flame spread was observed to reach a maximum distance of 0.19 ft., occurring at 00:14 (min:sec).

During the 10 minute test, the test specimen fabric was observed to melt, including ahead of the maximum flame front, up to a distance of 9.5 ft. from burner centerline.

ADC DRAFT (IN. H2O) 0.080
 GAS PRESS. (IN. H2O) 0.290
 GAS VOL (CF) 50.32
 BTU/CI 1010
 SHUTTER (IN.) 3.00
 TEMP. 13' BURIED 108 F

Flame Spread: 0.96
 Area under Flame Curve (ft-min): 1.87

TEST#: FH-2781 DATE: 9/22/2017

TEST METHOD: ASTM E84-17

CLIENT: Tamarack Technologies Inc.

PROJECT#: H-1349

SAMPLE: AAA-12902X10 Kenyon F70090C1

MATERIAL: (1) 24" X 24" Roll

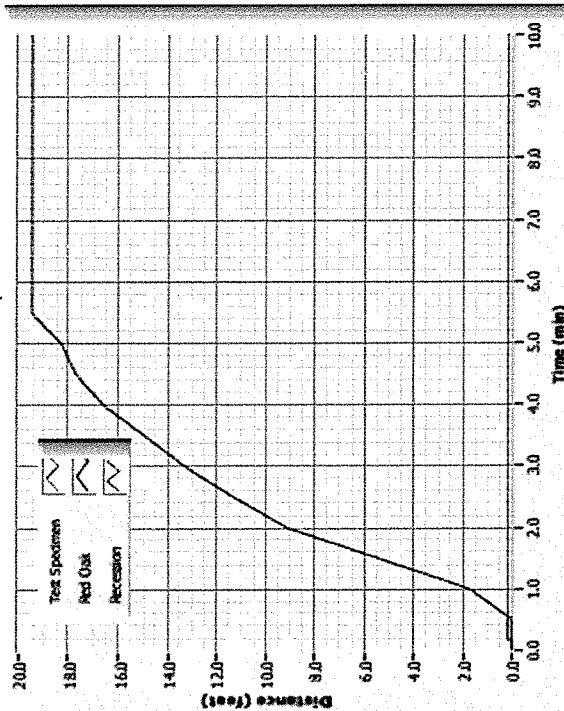
SUPPORT: Steel Rods & Wire

REMARKS: Ignition Time: 0:03

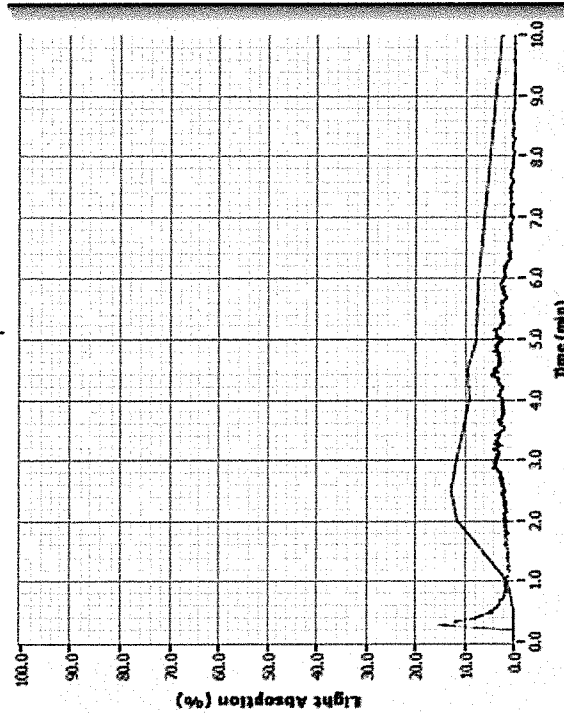
Max Flame Front: 0.19 FT. @ 0:14

Smoke Developed: 37.00
 Area under Smoke Curve (%A-min): 18.59

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.