

TEST REPORT

FOR

Sustainable Flooring, Inc.

5403 Western Avenue, Unit C
Boulder, CO 80301

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

Test Report No: FH-2597-B

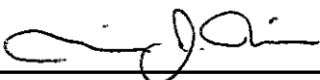
Assignment No: H-1168

Test Date: 07/24/2015

Report Date: 06/06/2016

Subject Material: "Fire Treated Textura Wood - Jungle Mix" and "Fire Treated Textura Wood - Walnut"
Decorative Wall Panels

Prepared by: _____



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TEST REPORT REVISION HISTORY:

DATE	SUMMARY
June 6, 2016	Original issue date. Original NGCTS report FH-2597-B.

INTRODUCTION:

This report presents the results of specimens 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 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 SAMPLES:

Two test samples were submitted for testing to NGC Testing Services (NGCTS). The submitted test samples were identified* by the client as:

“Fire Treated Textura Wood – Jungle Mix”

“Fire Treated Textura Wood – Walnut”

The test samples were received in good condition by NGCTS on July 22, 2015. Upon receipt of the test samples, they were placed in a conditioning room where they remained in an atmosphere of $73.4 \pm 5^{\circ}\text{F}$ and $50 \pm 5\%$ relative humidity until tested.

Each test sample type was submitted as two boxes of decorative engineered wall panels (6 panels per box). All submitted wall panels consisted of a solid hardwood panel face adhered to birch plywood backing. The “Jungle Mix” panels measured nominally 12 in. wide by 60 in. long with a variable, total thickness of 7/32 to 9/32 in. The “Walnut” panels measured nominally 13.5 in. wide by 53.5 in. long with a variable, total thickness of 1/4 to 3/8 in.

For each test sample type, ten wall panels were randomly selected and assembled for testing by NGCTS personnel. Immediately prior to testing, the selected wall panels were cut to the required size and inserted into one another (two panels wide without attachment) to produce total sample sizes, for each test sample type, of nominally 24 in. wide by 24 ft. long.

*Test samples were originally tested (FH-2597) under the product names “Fire Treated Hecolo” and “Fire Treated Walnut”, respectively.

MOUNTING METHOD:

For each test, a series of 1/4 in. diameter steel rods were placed directly on the tunnel ledges, spaced approximately 24 in. on center. The respective test sample was laid directly on the steel rods with the wall panel faces exposed to the burner flames. Non-combustible, fiber-reinforced cement board (1/4 in. thick) was placed over the test sample 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 tables 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; the red oak flooring is used to establish relative 100 values for flame spread and smoke developed.

The use of supporting materials on the underside of test samples may lower the flame spread index from those which might be obtained if the samples could be tested without such support.

<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	Fire Treated Textura Wood - Jungle Mix	Face	Steel Rods	65.84	405.84	
2	Fire Treated Textura Wood - Walnut	Face	Steel Rods	46.90	474.39	
<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	
1	Fire Treated Textura Wood - Jungle Mix	Face	Steel Rods	65	400	
2	Fire Treated Textura Wood - Walnut	Face	Steel Rods	45	450	
			<u>CLASSIFICATION</u>	<u>FSI</u>	<u>SDI</u>	
* 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.			CLASS A or I	0 - 25	0 - 450	
			CLASS B or II	26 - 75	0 - 450	
			CLASS C or III	76 - 200	0 - 450	

Test Sample	Flame Spread Index (FSI)	Smoke Developed Index (SDI)
“Fire Treated Textura Wood – Jungle Mix”	65	400
“Fire Treated Textura Wood – Walnut”	45	450

ADC DRAFT (IN. H₂O) 0.080
GAS PRESS. (IN. H₂O) 0.284
GAS VOL (CF) 49.47
BTU/cf 1010
SHUTTER (IN.) 3.00
TEMP. 13' BURIED 108 F

Flame Spread: 65.84
Area under Flame Curve (ft-min): 120.58

TEST#: FH-2597-1 DATE: 7/24/2015

TEST METHOD: ASTM E84-14

CLIENT: Sustainable Flooring

PROJECT#: H-1168

SAMPLE: Fire Treated Textura Wood - Jungle Mix

MATERIAL: 12" x 60" panels

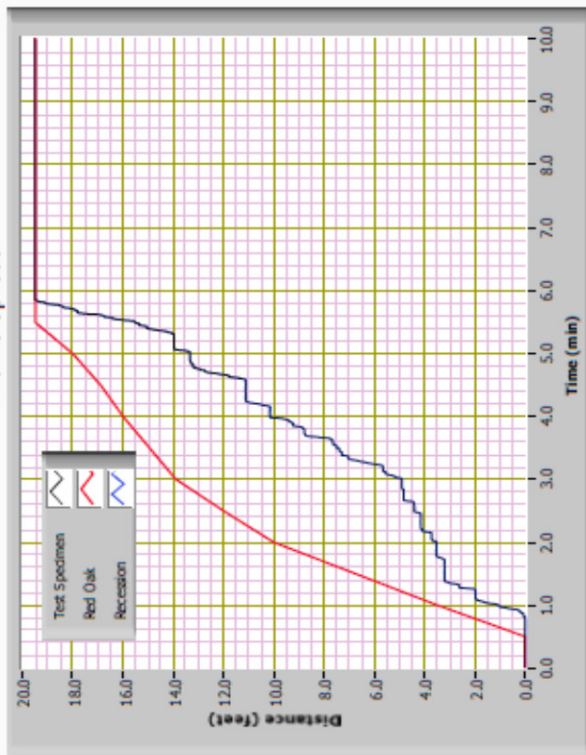
SUPPORT: Self-Supporting

REMARKS: Ignition Time: 0:37

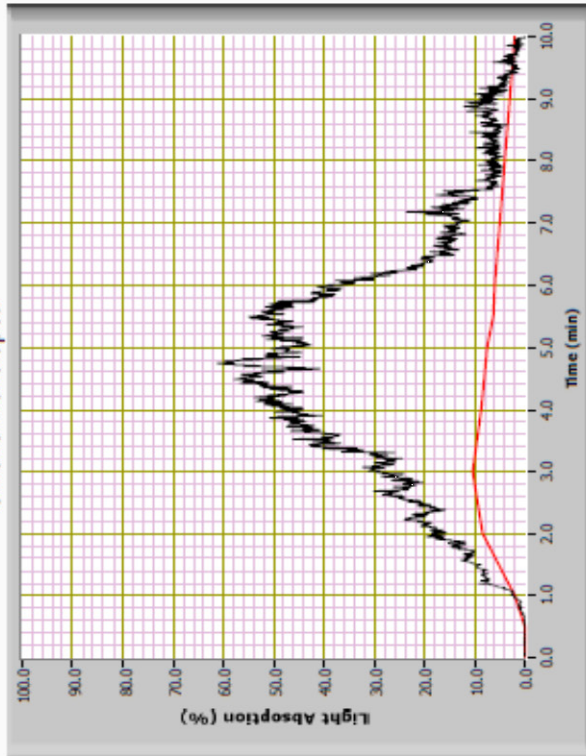
Max Flame Front: 19.50 FT. @ 5:51

Smoke Developed: 405.84
Area under Smoke Curve (%A-min): 208.52

Flame Spread



Smoke Developed



The following data sheets are actual printouts of the computerized data system which monitors the tunnel furnace. The sheets contain all calibration and specimen data needed to calculate the test results.

TEST#: FH-2597-2 DATE: 7/24/2015

TEST METHOD: ASTM E84-14

CLIENT: Sustainable Flooring

PROJECT#: H-1168

SAMPLE: Fire Treated Textura Wood - Walnut

MATERIAL: 13.5" X 53.5" panels

SUPPORT: Self-supporting

REMARKS: Ignition Time: 0:25

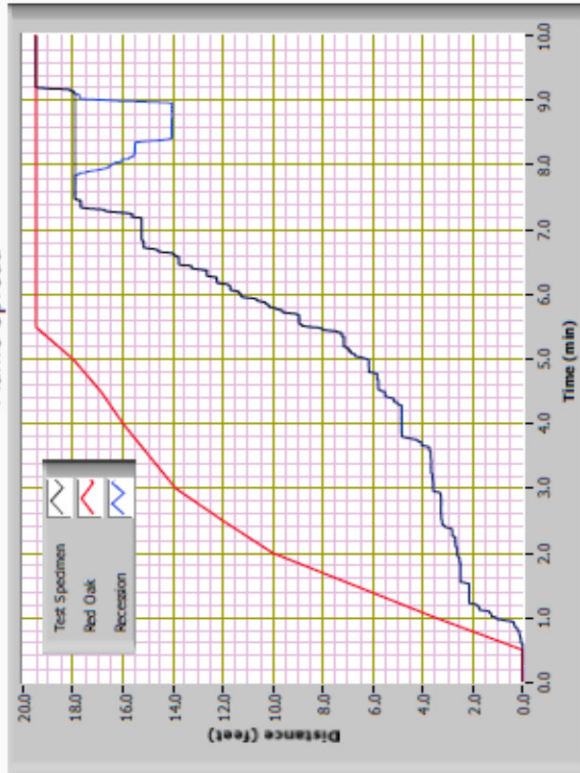
Max Flame Front: 19.50 FT. @ 9:13

ADC DRAFT (IN. H₂O) 0.080
GAS PRESS. (IN. H₂O) 0.284
GAS VOL (CF) 49.96
BTU/cf 1009
SHUTTER (IN.) 3.00
TEMP. 13' BURIED 109 F

Flame Spread: 46.90
Area under Flame Curve (ft-min): 91.06

Smoke Developed: 474.39
Area under Smoke Curve (%A-min): 243.74

Flame Spread



Smoke Developed

