

FIRE RETARDANT COATINGS OF TEXAS FIRE TEST REPORT

SCOPE OF WORK

ASTM E2768-11 TESTING ON FX LUMBER GUARD/FX LUMBER GUARD XT APPLIED TO PLYWOOD

REPORT NUMBER

103265317SAT-012 Rev1

TEST DATE

4/24/18

ISSUE DATE

4/25/18

REVISION DATE

5/8/18

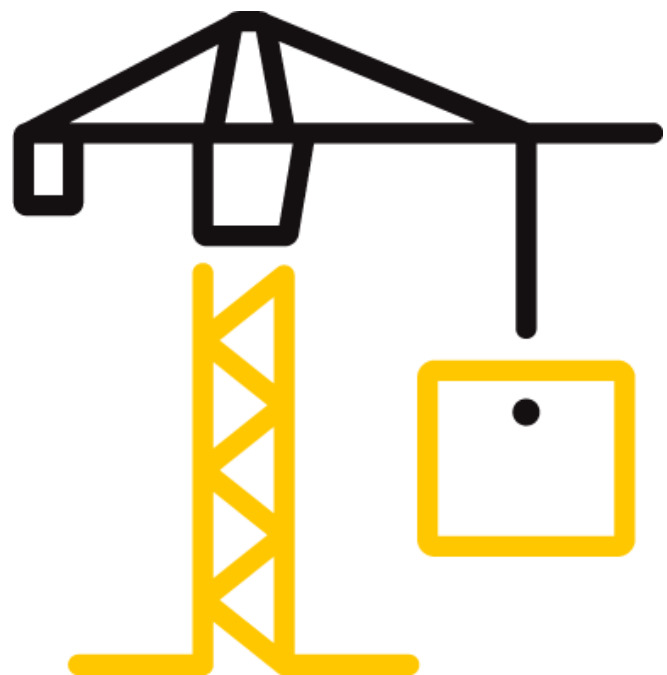
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TEST REPORT FOR FIRE RETARDANT COATINGS OF TEXAS

Report No.: 103265317SAT-012 Rev1

Date: 5/8/18

REPORT ISSUED TO

Fire Retardant Coatings of Texas

1150 Blue Mound Road West #403

Haslet, TX 76052

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Fire Retardant Coatings of Texas, 1150 Blue Mound Road West #403, Haslet, TX 76052, to evaluate the flame spread and smoke developed properties of FX Lumber Guard/FX Lumber Guard XT Applied to Plywood. Testing was conducted at the Intertek B&C test facility in Elmendorf, TX. Results obtained are tested values and were secured by using the designated test method(s). A summary of test results and the complete graphical test data is reported herein.

SECTION 2


SUMMARY OF TEST RESULTS

Specimen I.D.: FX Lumber Guard/FX Lumber Guard XT Applied to Plywood

ASTM E2768-11 Test Results

FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX	MAXIMUM FLAME FRONT
5	45	9.2 ft.

For INTERTEK B&C:

COMPLETED BY:	Joseph Martinez	REVIEWED BY:	Servando Romo
TITLE:	Technician	TITLE:	Project Engineer
SIGNATURE:		SIGNATURE:	
DATE:	5/8/18	DATE:	5/8/18

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SECTION 3

TEST METHOD

The specimen was evaluated in accordance with the following:

ASTM E2768-11, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*

SECTION 4

MATERIAL SOURCE/INSTALLATION

The samples were randomly selected, or production was witnessed, on 3/2/18 by Intertek representative Peter Vehslage, at the Fire Retardant Coatings of Texas manufacturing facility, located at 1150 Blue Mound Road West #403, Haslet, TX 76052. The specimen, identified as FX Lumber Guard/FX Lumber Guard XT Applied to Plywood, was received in good order at the Evaluation Center on 3/12/18 and given identification number SAT1803120831-001.

The subject test specimen is a traceable sample selected from the manufacturer's facility. Intertek selected the specimen and has verified the composition, manufacturing techniques and quality assurance procedures.

SECTION 5

LIST OF OBSERVERS

NAME	COMPANY
Joseph Martinez	Intertek B&C
Samuel Barron	Intertek B&C

SECTION 6

TEST PROCEDURE

This report describes the results of testing conducted in accordance with ASTM E2768-11 Test for Extended Duration Surface Burning Characteristics of Building Materials; a test method for comparative surface burning behavior extended to a total of 30 minutes. This method uses the same equipment, apparatus, calibration of flame spread index and smoke develop index as test method ASTM E84. The flame spread index is calculated in accordance with ASTM E84 during the first 10 minutes and then extended by 20 minutes to a period of 30 minutes to determine the maximum flame travel from the burner centerline. This standard is based on a modification of Test Method E84 that has been used for many years in provisions in the building codes and related specifications pertaining to fire-retardant-treated wood. Such codes include the International Building Code (IBC) and International Residential Code (IRC) as well as other documents.

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“The use of supporting materials on the underside of the test specimen may lower the flame spread index from that which might be obtained if the specimen could be tested without such support. This method may not be appropriate for obtaining comparative surface burning behavior of some cellular plastic materials. 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.” – ASTM E84-18 Section 1.3

The purpose of the method is to determine the relative burning behavior of the material by observing the flame spread along the specimen for a period of 30 minutes. Flame spread and smoke density developed are reported, however, there is not necessarily a relationship between these two measurements.

SECTION 6 (Continued)

TEST PROCEDURE

It is the expressed intent of the test method to provide only comparative measurements of surface flame spread and smoke density of the tested material against measurements for select grade red oak flooring and fiber-cement board when tested under specific fire exposure conditions. The test method exposes a nominal 24-ft. (7.32-m) long by 20-in. (508-mm) wide test specimen to a controlled air flow and flaming fire exposure adjusted to produce a specific flame spread distance vs time calibration using select grade red oak flooring.

The test method does not provide information regarding heat transmission through the tested surface, the effect of aggravated flame spread behavior resulting from the proximity of combustible walls and ceilings, or the classification or definition of materials as noncombustible using flame spread index alone.

The test method has the following conditions of classification for a material or product to be classified as meeting the requirements of this standard:

- a.) The flame spread index shall be 25 or less as determined for the initial 10 minute test period.
- b.) The maximum flame front shall not progress more than 10.5-ft. (3.2-m) beyond the centerline of the burners at any time during the 30 minute test period. This is considered evidence of no significant progressive combustion in this test method.

This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or

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assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use

There were no deviations from the requirements prescribed in ASTM E2768-11.

SECTION 7

TEST SPECIMEN DESCRIPTION

MANUFACTURER*	Fire Retardant Coatings of Texas
SPECIMEN DESCRIPTION*	2 ft. x 8 ft. Plywood. Treated 576sf product used 1.729 gallons weight 16.6 square foot coverage rate 333sf per gallon. Lot/Serial# 022818-541
CONDITIONING TIME	44 days
SPECIMEN LENGTH	24 ft. (Three 8 ft. long FR treated plywood panels)
SPECIMEN WIDTH	24 in.
THICKNESS	0.76 in.
TOTAL WEIGHT	118 lbs.
COLOR	Brown
AVERAGE MOISTURE CONTENT	10.37%
SIDE TO FLAME*	Same on both sides.
ADHESIVE/COVERAGE RATE	N/A
SUPPORT USED*	Self-Supporting
MOUNTING METHOD	Standard
SUBSTRATE USED*	None
CEMENT BOARD	1/4 in. thick fiber cement board was placed on top of the sample.

*From the inspector's material description and/or instructions.

Note: Specimens were conditioned as per the requirements of Section 6.4 of ASTM E84.

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SECTION 8

TEST RESULTS

TEST RESULTS	
Test Date	4/24/18
Test Operator	Joseph Martinez
Flame Spread Index (FSI)	5
Smoke Developed Index (SDI)	45
Red Oak Calibration (% * Min)	72.0

TEST DATA	
FSI (unrounded)	6.7
SDI (unrounded)	45.6
FS * Time Area (Ft * Min)	13.0
Smoke Area (% * Min)	32.8
Total Fuel Burned (Cubic Ft.)	131.23
Max Flame Front Advance (Ft.)	9.2
Time to Max Flame Front (sec)	1680
Max Temp At Exposed T/C (°F)	722
Time To Max Temp (sec)	1569

TEST OBSERVATIONS	
Transient Ignition Time	0:23
Flaking Observed	0:36
Ignition Time	2:15
Cracking Observed	3:00
Sagging Observed	28:06
After Flame	0:30
Observations After the Test	
0 – 4 ft.	The specimen was consumed.
4 – 11 ft.	The specimen was heavily charred and cracked.
11 – 17 ft.	The specimen was charred and cracked.
17 – 21 ft.	The specimen was lightly charred.
21 – 24 ft.	The specimen was heavily discolored.

SECTION 9

CONCLUSION

The specimen met the specified performance requirements.

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SECTION 10 PHOTOGRAPHS



Photo No. 1
Inspector's Initials



Photo No. 2
Exposed Surface of the Test Specimen (Pre-test)

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SECTION 10 (Continued) PHOTOGRAPHS



Photo No. 3
Unexposed Surface of the Test Specimen (Pre-test)

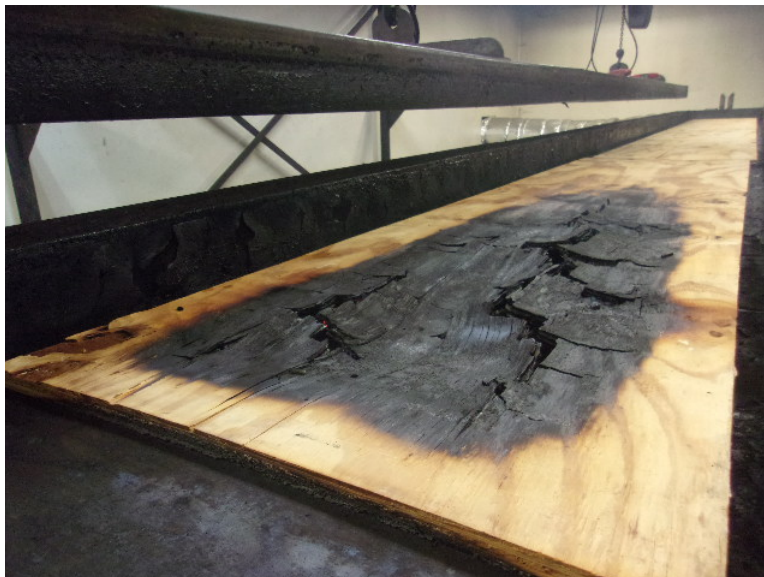


Photo No. 4
Unexposed Surface of the Test Specimen (Post-test)

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SECTION 10 (Continued) PHOTOGRAPHS



Photo No. 5
Exposed Surface of the Test Specimen (Post-test)

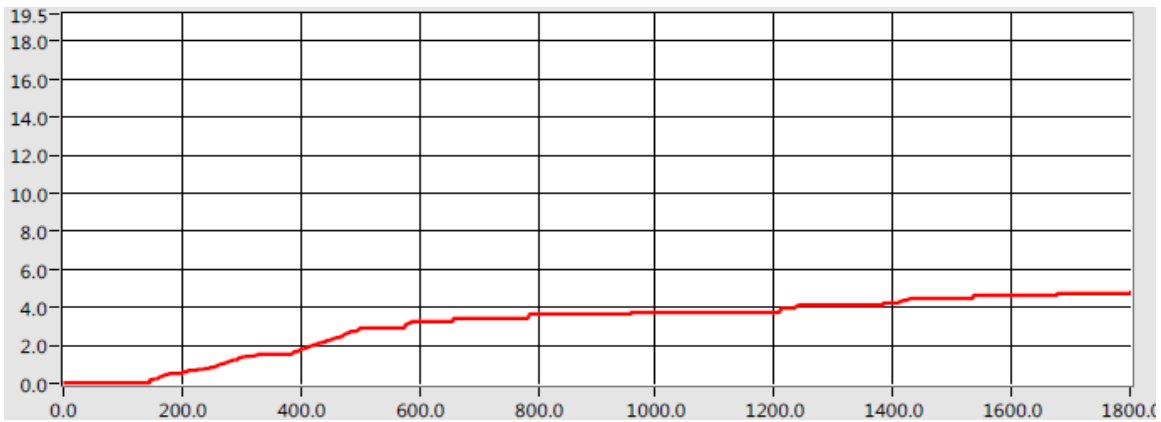
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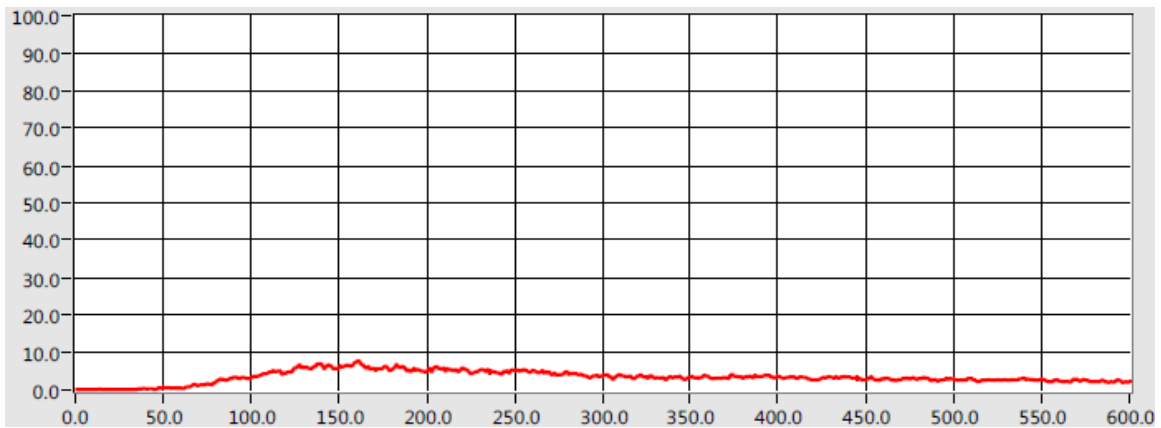
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SECTION 11

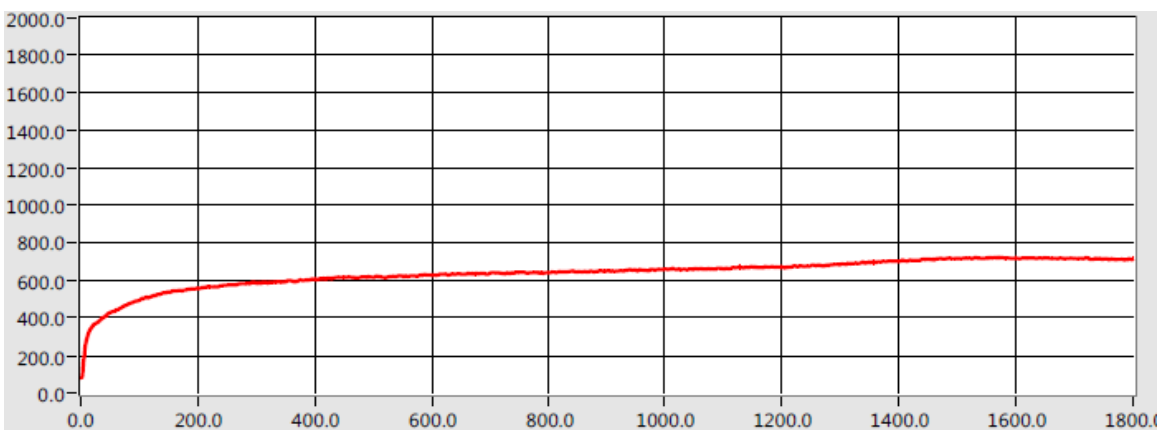
GRAPHS



Graph No. 1 - Flame Spread Distance Versus Time



Graph No. 2 - Light Obscuration Versus Time



Graph No. 3 - Tunnel Air Temperature Versus Time

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SECTION 12 REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	4/25/18	10	Original Report Issue
1	5/8/18	11	Updated Report Format, Specimen ID, and Report No to Rev1.