Acoustical Surfaces, Inc.
SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS
123 Columbia Court North • Suite 201 • Chaska, MN 55318
(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121
Email: sales@acousticalsurfaces.com
Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problems

February 21, 2013

Our Reference: SV19452/13CA09185

Subject: Report Of Surface Burning Characteristics Tests On Samples

This is a Report summarizing the results of a test conducted under the Commercial Inspection and Testing Services (CITS) program of UL LLC (UL) identified as Assignment NO. 13CA09185

GENERAL:

The results relate only to items tested.

METHOD:

Each test was conducted in accordance with Standard ANSI/UL723, Tenth Edition, dated September 13, 2010, "Test for Surface Burning Characteristics of Building Materials", (ASTM E84-11).

The test determines the Surface Burning Characteristics of the material, specifically the flame spread and smoke developed indices when exposed to fire.

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The maximum distance the flame travels along the length of the sample from the end of the igniting flame is determined by observation. The Flame Spread Index of the material is derived by plotting the progression of the flame front on a time-distance basis, ignoring any flame front recession, and using the equations described below:

A. $CFS = 0.515\ A_T$ when A_T is less than or equal to 97.5 minute-foot.

B. $CFS = 4900/(195-A_T)$ when A_T is greater than 97.5 minute-foot.

Where A_T = total area under the time distance curve expressed in minute-foot.

The Smoke Developed Index (SDI) is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of photoelectric equipment operating across the furnace flue pipe. A curve is developed by plotting the values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for the material tested as a percentage of the area under the curve for untreated red oak.

The CSD is expressed as:

$CSD = (A_m/A_{ro}) \times 100$

Where:

CSD = Calculated Smoke Developed
A_m = The area under the curve for the test material.
A_{ro} = The area under the curve for untreated red oak.

SAMPLES:

The white barrier sample utilized in this investigation was neither prepared nor selected by a Laboratories' representative such that no verification of composition can be provided.

Sample Description

Test No.	System
1	TBC Class A MLV

Each test sample was supported by 2 in. hexagonal poultry netting supported by 1/4 in. diameter steel rods spaced 2 ft apart.

RESULTS:

The results are tabulated below are considered applicable only to the specific samples tested.

Data sheets and graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

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Table 1: Test Summary

Test No.	Test Code	Sample Description	CFS Calculated Flame Spread	FSI Flame Spread Index	CSD Calculated Smoke Developed	SDI Smoke Developed Index
1	02201313	TBC Class A MLV	11.26	10	51.9	50

The Classification Marking of UL on the product is the only method provided by UL to identify products which have been produced under its Classification and Follow-Up Service. No use of a Classification Marking has been authorized as a result of this investigation.

Since the anticipated work has been completed, we have instructed our Accounting Department to terminate the investigation and invoice you for the charges incurred to date.

Should you have any questions, please contact the undersigned.

Very truly yours

James Smith (ext. 42666)
Staff Engineering Associate
Fire Protection Division

Reviewed by:

Randall Laymon (ext. 42687)
Senior Staff Engineer
Fire Protection Division

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Project:	13CA09185	File:	SV19452	TestCode:	02201313
Tested by:	SCOTT KNIGHTON	Engineer:	JAMES SMITH	Date:	2013-02-20

TEST METHOD: The test was conducted in accordance with UL 723, Tenth Edition.

Test Duration	10 minutes	Test No.: 1	Hot Test: No
Mounting:	Rods & Wire	Test Type: CITS	Burn-Out Required: No

Test Sample: TBC Class A MLV

FLAME SPREAD RESULTS

Flame Spread Data

Distance (Feet)		Time (Sec)
Ignition		54
0.5		70
1		76
1.5		80
2		82
2.5		84

Calulated Flame Spread (CFS): 11.26
Flame Spread Index (FSI): 10

Time to Ignition (sec): 54
Maximun Flame Spread (ft): 2.5
Area Under the Flame Spread Curve (ft.-min): 21.9

SMOKE RESULTS

Calculated Smoke Developed (CSD): 51.9
Smoke Developed Index (SDI): 0

Area Under the Smoke Curve (Obs-min.): 41.76
Area Under Red Oak Curve (Obs-min.): 0.45

Post-Test Observations

Discoloration (Feet From Burner): 24
Char (Feet From Burner): 10.5

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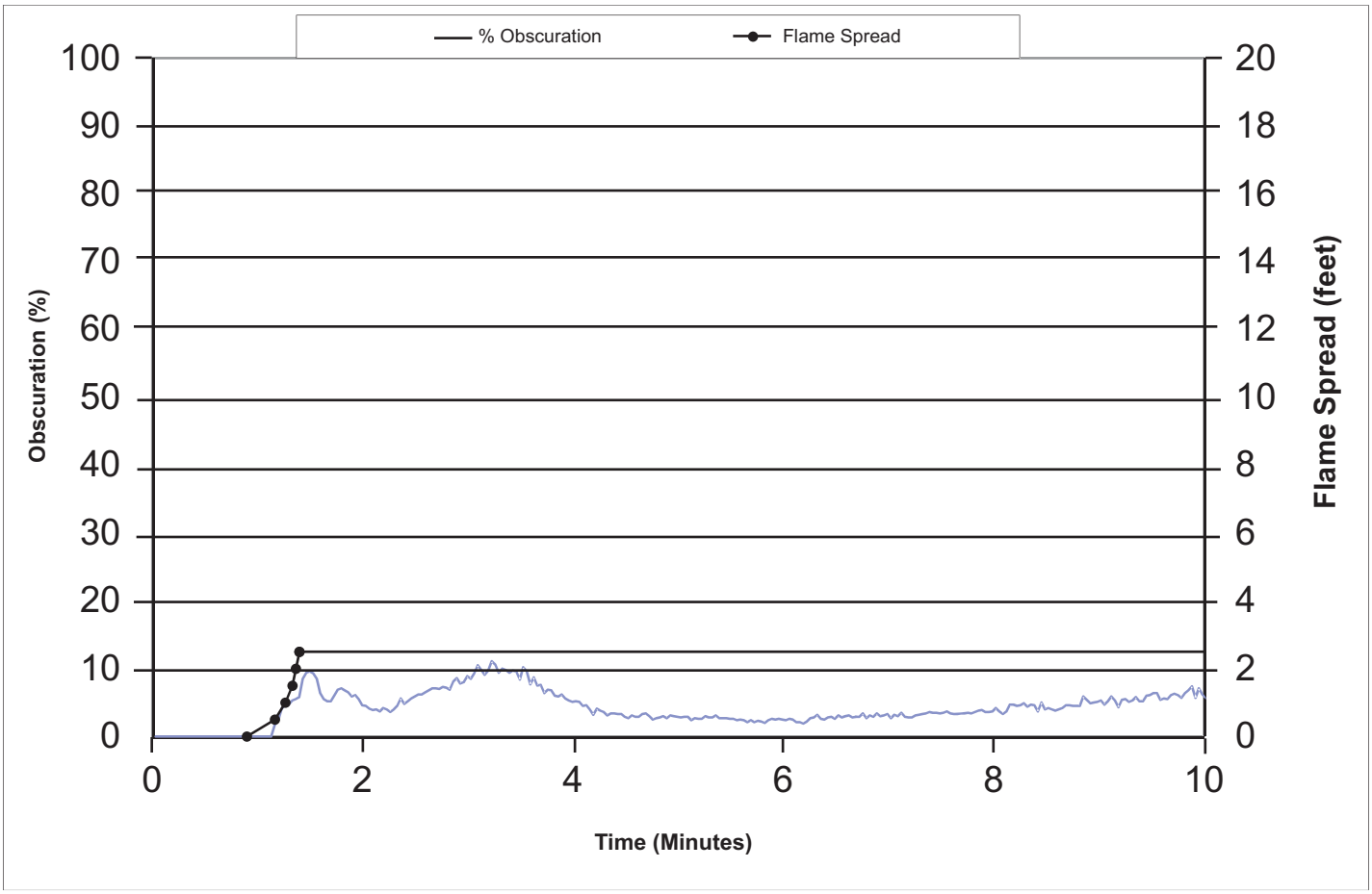
Flame Spread / Smoke Results

TBC Class A MLV



Test Num.: 1
SV19452 / 13CA09185
02201313

Flame Spread Index: 10
Smoke Developed Index: 50
Max. Flame Spread (ft.): 2.5