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CAN/ULC-S102.2 Surface Burning Characteristics of "M-15 Matte Finish" Stretch Ceiling Fabric

A Report To:	Newmat USA 81 Mahan Street W. Babylon, NY 11704 USA
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Attention:	Larry Thoms
Submitted by:	Exova Warringtonfire North America
Report No.	12-002-570 6 Pages
Date:	August 13, 2012

ACCREDITATION To ISO/IEC 17025 for a defined Scope of Testing by the International Accreditation Service

SPECIFICATIONS OF ORDER

Determine the Flame Spread and Smoke Developed Classifications based upon triplicate testing conducted in accordance with CAN/ULC-S102.2-10, as per Exova Warringtonfire North America Quotation No. 12-002-07374 accepted July 8, 2012.

SAMPLE IDENTIFICATION (Exova sample identification number 12-002-S0570)

Stretch Ceiling Fabric identified as:
"M-15 Matte Finish"

TEST PROCEDURE

The method, designated as CAN/ULC-S102.2-10, "Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials", is designed to determine the relative burning characteristics of materials under specific test conditions. Results of less than three identical specimens are expressed in terms of Flame Spread Value (FSV) and Smoke Developed Value (SDV). Results of three or more replicate tests on identical samples produce average values expressed as Flame Spread Rating (FSR) and Smoke Developed Classification (SDC).

Although the procedure is applicable to materials, products and assemblies used in building construction for development of comparative surface spread of flame data, the test results may not reflect the relative surface burning characteristics of tested materials under all building fire conditions.

SAMPLE PREPARATION

Due to the propensity of this material to melt and drip under open flame exposure, the CAN/ULC-S102.2 (floor mounting) procedure was determined to be most appropriate, as defined by CAN/ULC-S102-10 (sections 1.2 and A1.1.2). The material was tested free-lay on the floor of the apparatus (no adhesive). Each test sample consisted of a total of 3 sections of material, each approximately 0.2 mm in thickness by 445 mm in width by 2438 mm in length. The sections were butted together to form the requisite specimen size. Since no specific definition, procedure or criteria are provided in CAN/ULC-S102.2-10 with regard to determining "constant mass" (as stated in section 6.4), each sample was conditioned at a temperature of $23 \pm 3^{\circ}\text{C}$ and a relative humidity of $50 \pm 5\%$ for a minimum period of 24 hours prior to testing. During testing, the matte surface was exposed to the test flame.

The testing was performed on: Test #1: 2012-08-13 Test #2: 2012-08-13 Test #3: 2012-08-13

SUMMARY OF TEST PROCEDURE

The tunnel is preheated to 85°C , as measured by the backwall-embedded thermocouple located 7090 mm downstream of the burner ports, and allowed to cool to 40°C , as measured by the backwall-embedded thermocouple located 4000 mm from the burners. At this time the tunnel lid is raised and the test sample is placed along the floor of the tunnel so as to form a continuous surface and then the lid is lowered.

SUMMARY OF TEST PROCEDURE (continued)

Upon ignition of the gas burners, the flame spread distance is observed and recorded every 15 seconds. Flame spread distance versus time is plotted, ignoring any flame front recessions. Calculations are based on comparison with flame spread characteristics of select red oak, determined in calibration trials and arbitrarily established as 100. If the area under the curve (A) is less than or equal to 29.7 m·min, $FSV = 1.85 \cdot A$; if greater, $FSV = 1640 / (59.4 - A)$. The Smoke Developed Value is determined by comparing the area under the obscuration curve for the test sample to that of inorganic reinforced cement board and red oak, established as 0 and 100, respectively.

TEST RESULTS

<u>SAMPLE</u>		<u>Flame Spread Value (FSV)</u>	<u>Smoke Developed Value (SDV)</u>
"M-15 Matte Finish"	Test #1	0	1
	Test #2	0	4
	Test #3	0	2
	Average:	0	2
	Rounded Average Flame Spread Rating (FSR):	0	
	Rounded Average Smoke Developed Classification (SDC):	0	

Observations of Burning Characteristics

- The samples ignited approximately 31 to 47 seconds after exposure to the test flame. Melting and shrinking of the material was observed prior to ignition.
- The flame fronts did not propagate past the base line.

Note: This is an electronic copy of the report. Signatures are on file with the original report.

Robert A. Carleton,
Fire Testing.

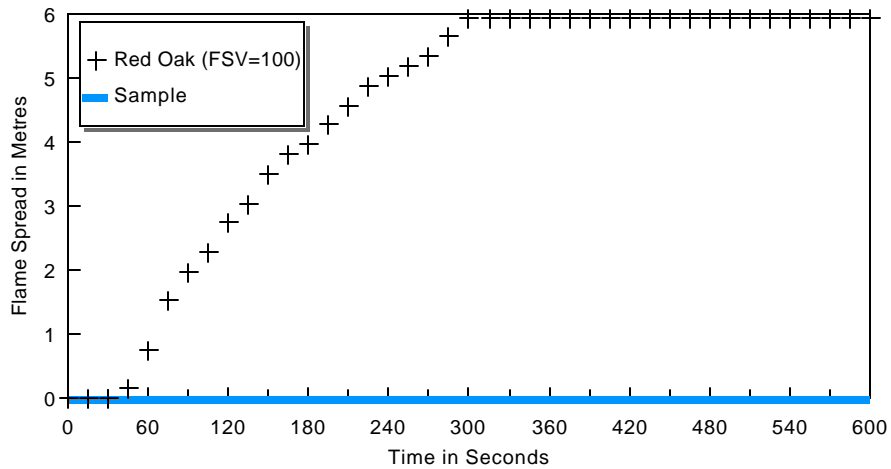
Ian Smith,
Fire Testing.

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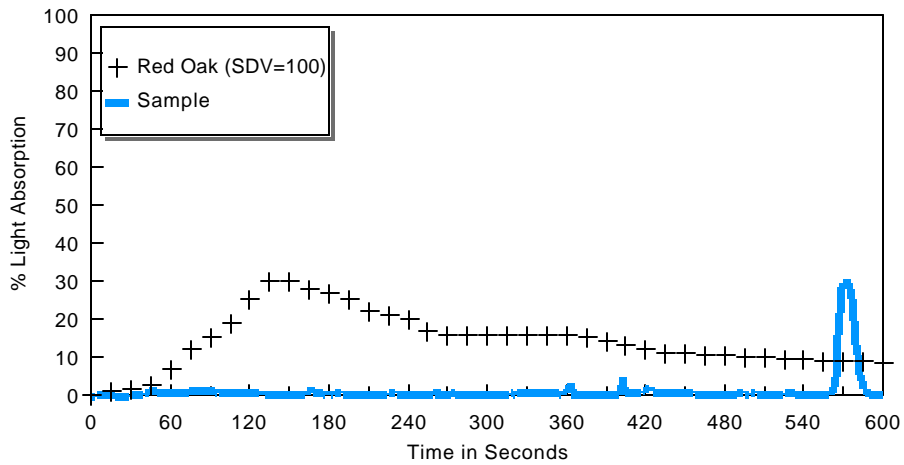
Sample: "M-15 Matte Finish"

Test #1 of 3

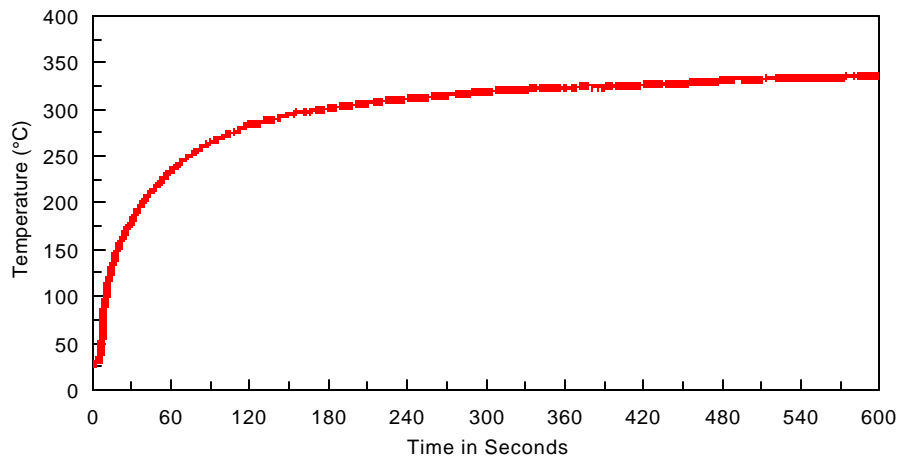
FLAME SPREAD



SMOKE DEVELOPED



TEMPERATURE



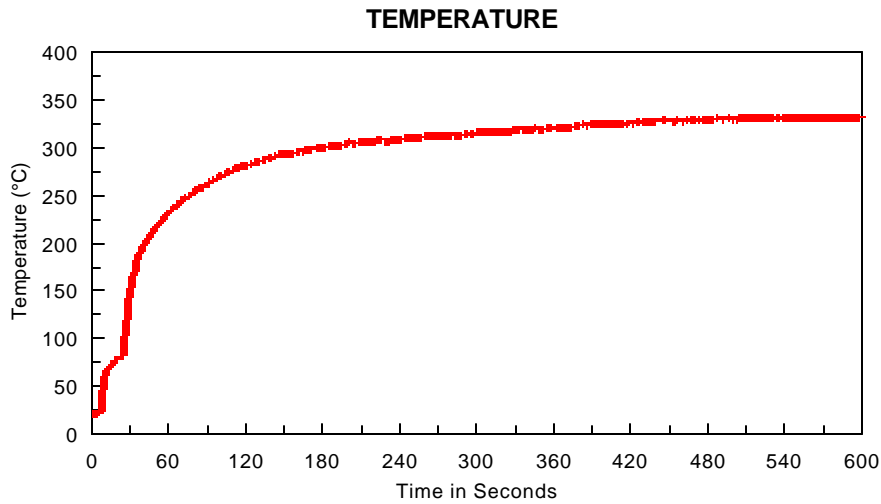
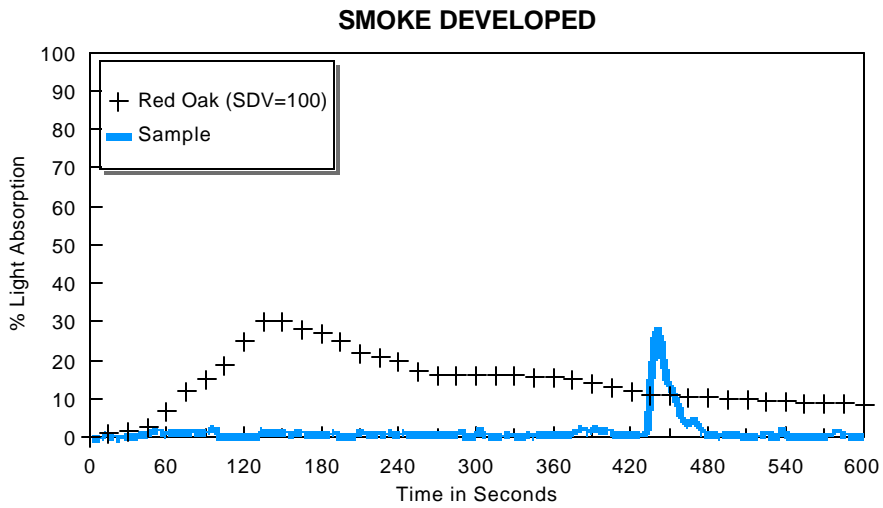
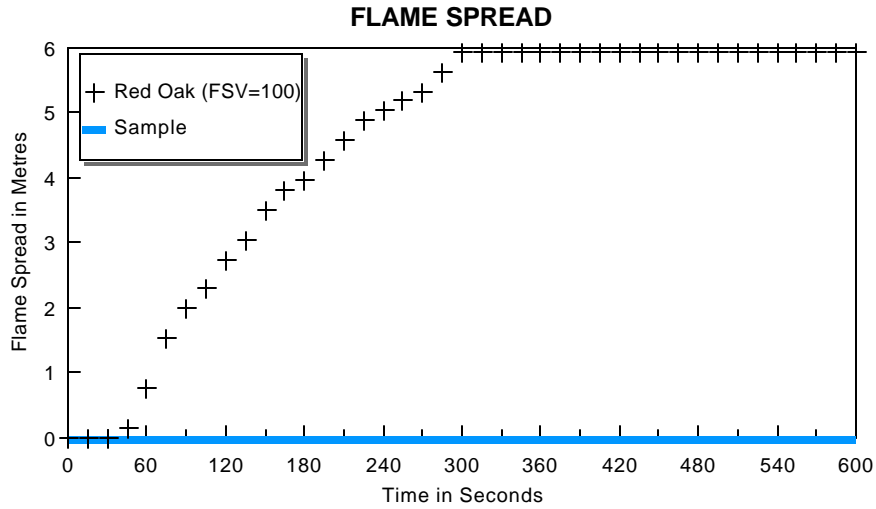
FSV
0

SDV
1

Max. Temp. (°C)
338

Sample: "M-15 Matte Finish"

Test #2 of 3



FSV
0

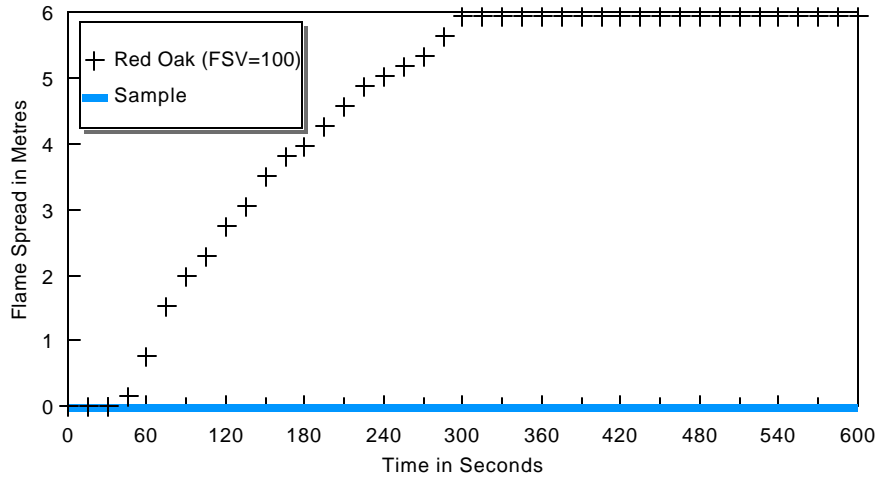
SDV
4

Max. Temp. (°C)
336

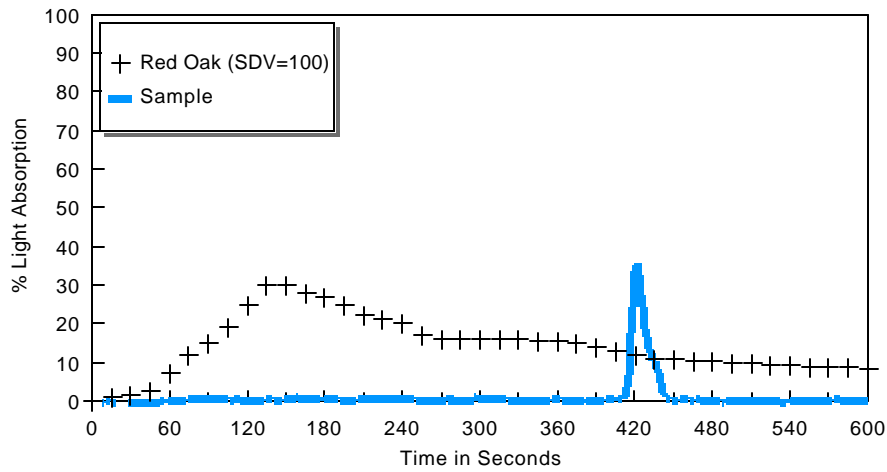
Sample: "M-15 Matte Finish"

Test #3 of 3

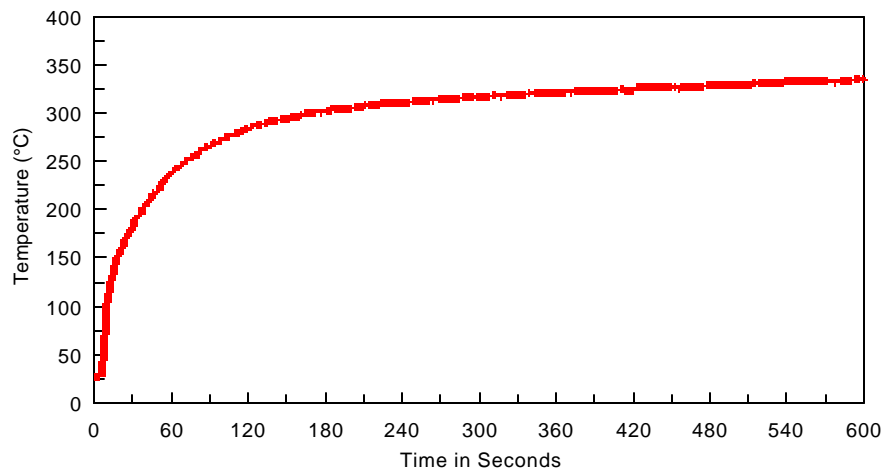
FLAME SPREAD



SMOKE DEVELOPED



TEMPERATURE



FSV

0

SDV

2

Max. Temp. (°C)

336