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CAN/ULC-S102 Surface Burning Characteristics of "ezoBord 9 mm (Green)"

A Report To:	**iVekter Inc.** 1625 Drew Rd. Mississauga, Ontario L5S 1J5
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Report No.	17-002-005(D) 4 Pages
Date:	January 25, 2017

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 Values based upon triplicate tests conducted in accordance with CAN/ULC-S102-10, as per Exova Warringtonfire North America Quotation No. 16-002-468,771 dated December 5, 2016.

SAMPLE IDENTIFICATION (Exova sample identification number 17-002-S0005-4)

Insulation material, approximately 9 mm in thickness, described as, "9 mm polyester acoustic sheet", identified as: "ezoBord (9 mm Green)"

TEST PROCEDURE

The method, designated as CAN/ULC-S102-10, "Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies", is designed to determine the relative surface 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

The test specimen consisted of a total of 4 sections of material, each approximately 533 mm in width by 1829 mm in length. The sections were butted together to form the requisite specimen length. Prior to testing, the specimen sections were conditioned to constant mass at a temperature of 23 ± 3°C and a relative humidity of 50 ± 5%. During testing, the specimen was self-supporting.

The testing was performed on: Test #1: 2017-01-19 Test #2: 2017-01-20 Test #3: 2017-01-20

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 ledges of the tunnel so as to form a continuous ceiling 7315 mm long, 305 mm above the floor. The lid is then lowered into place.

SUMMARY OF TEST PROCEDURE (continued)

Upon ignition of the gas burners, the flame spread distance is observed and recorded every second. Flame spread distance versus time is plotted. Calculations ignore all flame front recessions and the Flame Spread Values (FSV) are determined by calculating the total area under the curve for each test sample. If the total area under the curve (AT) is less than or equal to 29.7 m·min, FSV = 1.85·AT; if greater, FSV = 1640/(59.4-AT).

Smoke Developed Values (SDV) are determined by comparing the area under the obscuration curve for each test sample to that of inorganic reinforced cement board and red oak, established as 0 and 100, respectively. Each Smoke Developed Value is determined by dividing the total area under the obscuration curve by that of red oak and multiplying by 100.

TEST RESULTS

SAMPLE		Flame Spread Value (FSV)	Smoke Developed Value (SDV)
"ezoBord (9 mm Green)"	Test #1	14	299
	Test #2	26	357
	Test #3	23	316
	Average:	21	324

Rounded Average Flame Spread Rating (FSR): **20**

Rounded Average Smoke Developed Classification (SDC): **325**

Observations of Burning Characteristics

- The specimens ignited approximately 18 to 23 seconds after exposure to the test flame. Melting and flaming dripping behavior was observed. Material that dripped to the floor of the apparatus also ignited.

- The flame fronts propagated to maximum distances of 1.7, 2.9, and 1.8 metres at approximately 587, 577 and 244 seconds in to each respective test.

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

Robert A, Carleton,
Technologist

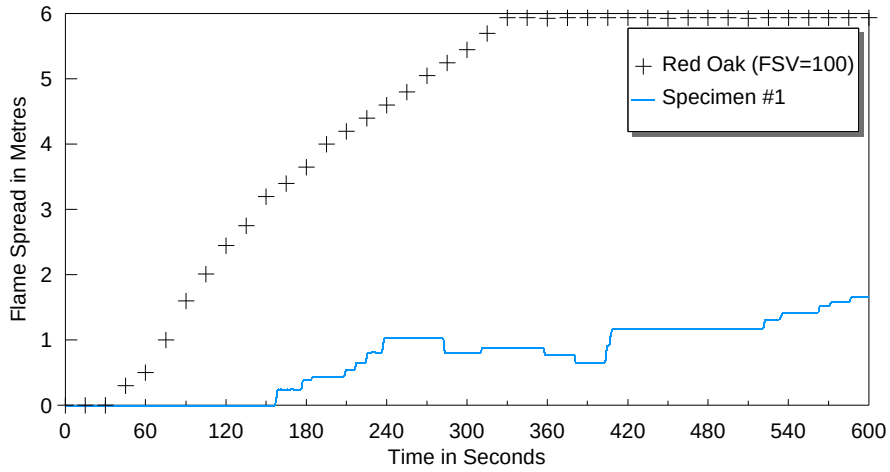
Ian Smith,
Technical Manager.

Note: This report and service are covered under Exova Canada Inc. Standard Terms and Conditions of Contract which may be found on the Exova website (www.exova.com), or by calling 1-866-263-9268.

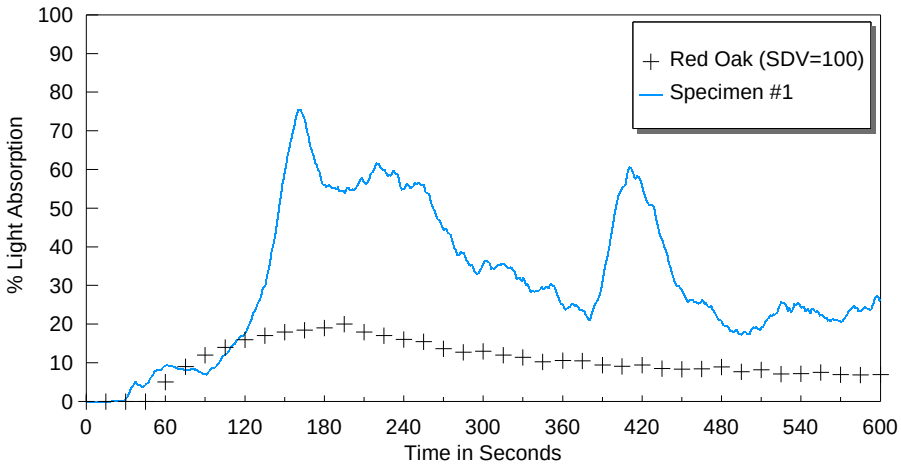
Sample: "ezoBord (9 mm Green)"

Test #1 of 3

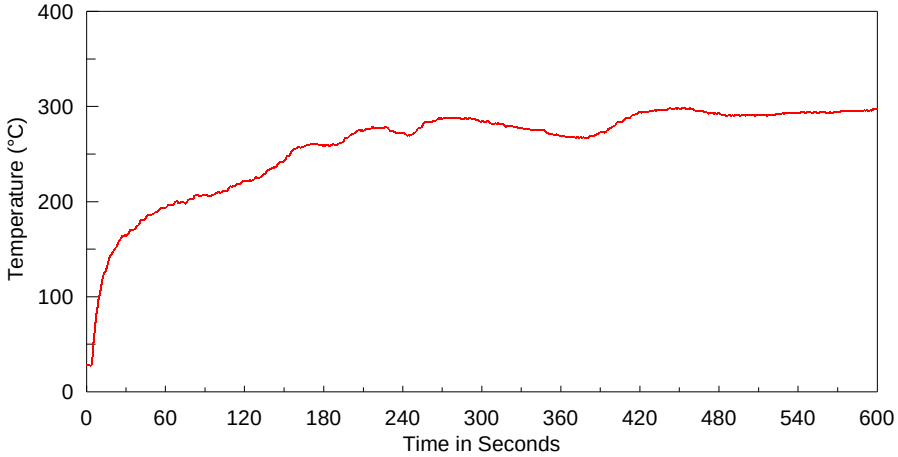
FLAME SPREAD



SMOKE DEVELOPED



TEMPERATURE

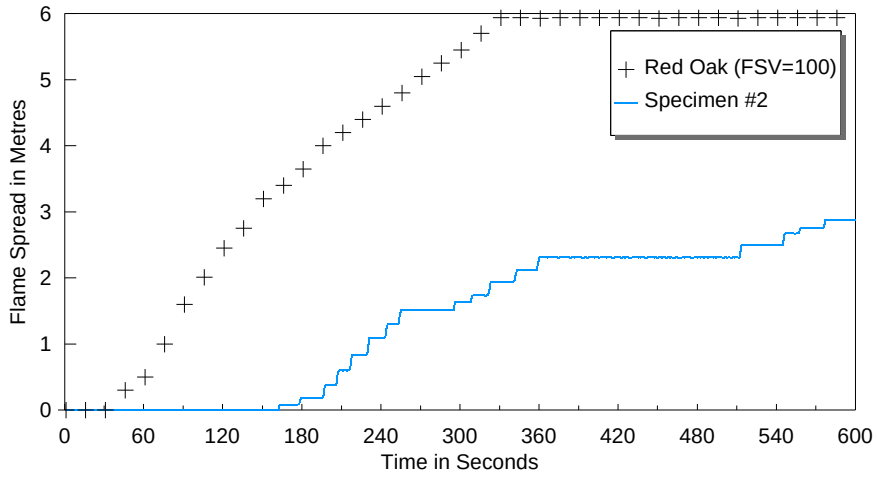


FSV	SDV	Max. Temp. (°C)
14	299	298

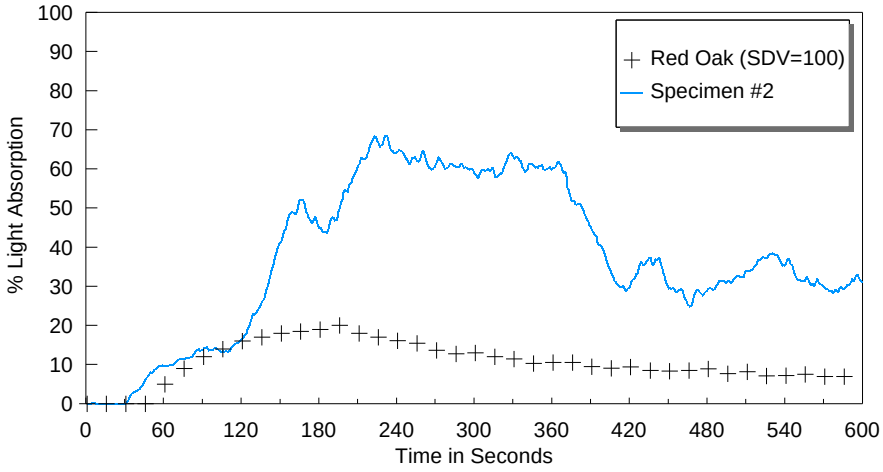
Sample: "ezoBord (9 mm Green)"

Test #2 of 3

FLAME SPREAD



SMOKE DEVELOPED



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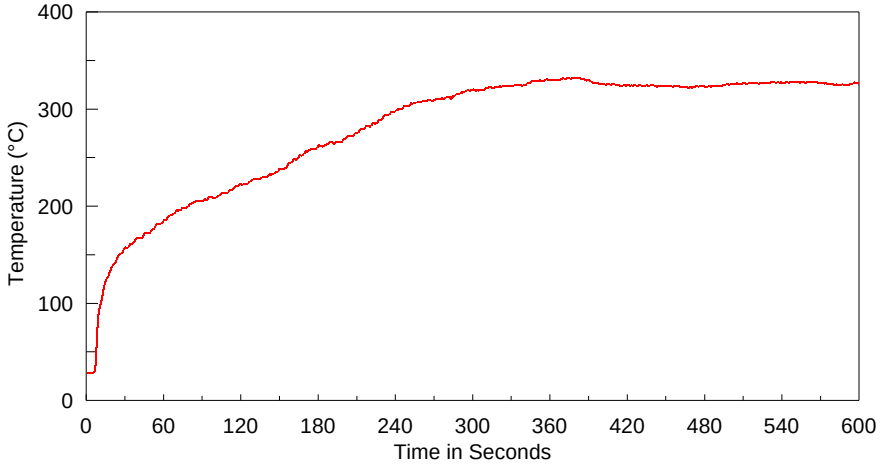
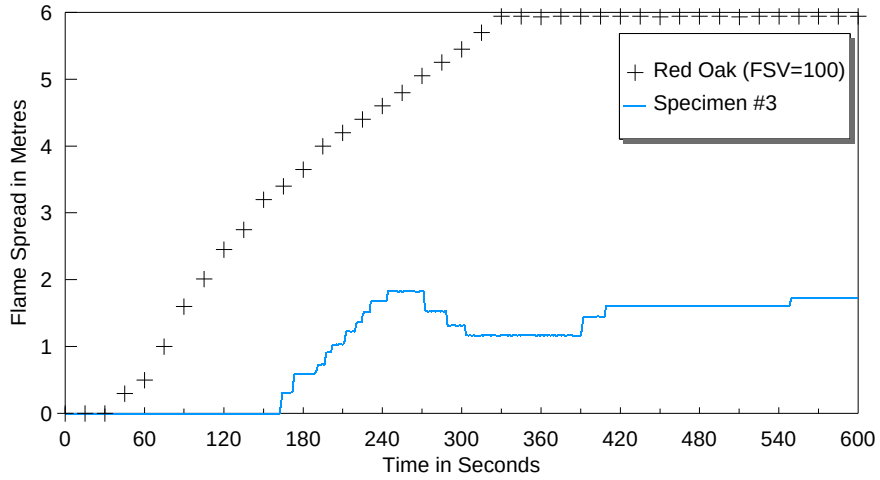


FSV	SDV	Max. Temp. (°C)
26	357	333

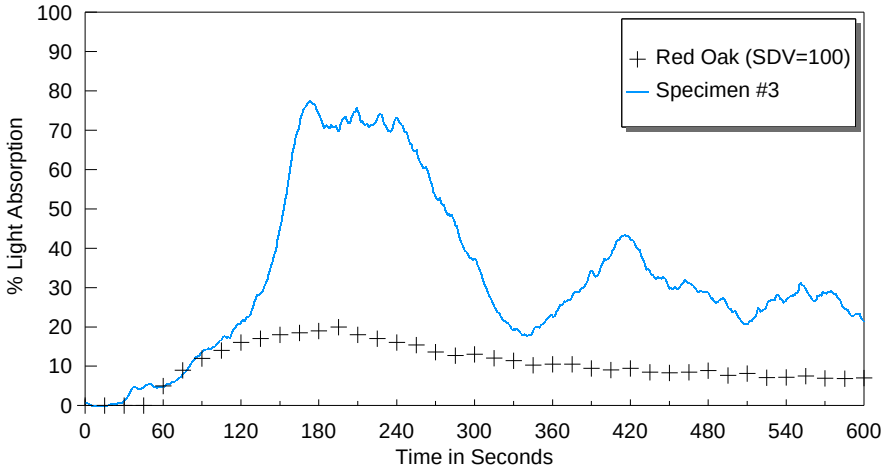
Sample: "ezoBord (9 mm Green)"

Test #3 of 3

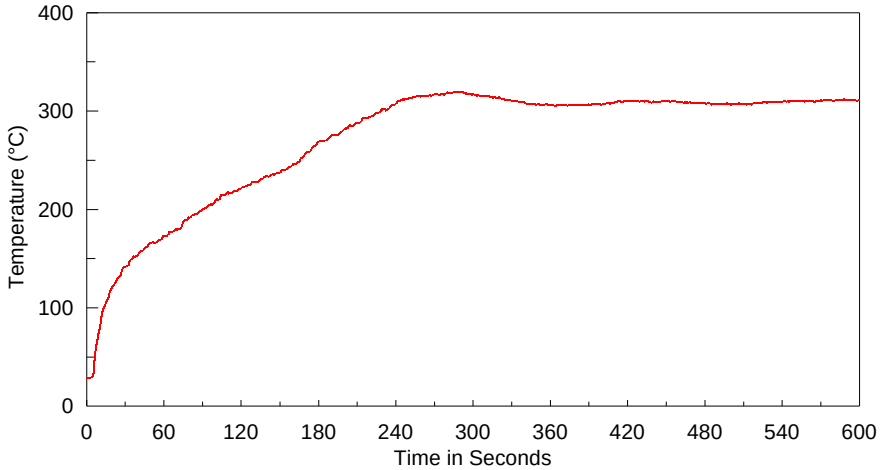
FLAME SPREAD



SMOKE DEVELOPED



TEMPERATURE



FSV	SDV	Max. Temp. (°C)
23	316	319