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Testing, calibrating, advising

CAN/ULC-S102 Surface Burning Characteristics of "Novelio® Nature Flair Baltic Blue" Wall Covering

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Submitted by:	Exova Warringtonfire North America
Report No.	17-002-018 6 Pages
Date:	January 26, 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 Classifications based upon triplicate testing conducted in accordance with CAN/ULC-S102-10, as per Exova Warringtonfire North America Quotation No. 16-002-472,442 dated December 28, 2016.

SAMPLE IDENTIFICATION (Exova sample identification number 17-002-S0018)

Coated glass fibre wall covering material, adhered to a cement board substrate, identified as:
"Novelio® Nature Flair Baltic Blue"

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 0.3 mm thick wallcovering material was adhered to a 6 mm thick, fiberglass reinforced cement board substrate using Shurstik 111 Wallcovering Adhesive. Each test specimen consisted of a total of 3 panel sections, each approximately 533 mm in width by 2438 mm in length. The sections were butted together to form the requisite specimen length. Prior to testing, the sections were conditioned to a constant mass at a temperature of $23 \pm 3^\circ\text{C}$ and a relative humidity of $50 \pm 5\%$. During testing, the specimens were self-supporting.

The testing was performed on: Test #1: 2017-01-23 Test #2: 2017-01-23 Test #3: 2017-01-23

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, $FSV = 1.85 \cdot AT$; 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)
"Novelio® Nature Flair Baltic Blue"	Test #1	12	22
	Test #2	10	20
	Test #3	5	6
	Average:	9	16

Rounded Average Flame Spread Rating (FSR): **10**

Rounded Average Smoke Developed Classification (SDC): **15**

Observations of Burning Characteristics

- The test specimens ignited approximately 10 to 16 seconds after exposure to the test flame.
- The flame fronts advanced to a maximum distance of 0.8, 0.6, and 0.3 metres at approximately 150, 60, and 64 seconds into each respective test.



Robert A. Carleton,
Technologist.



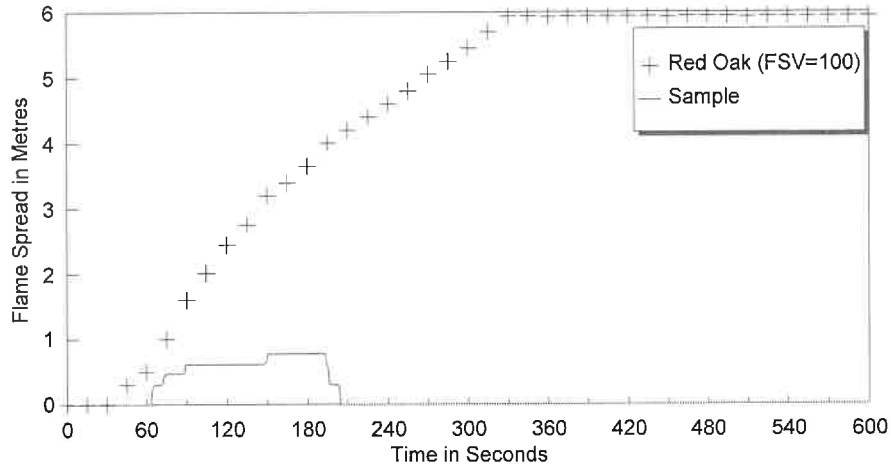
Ian Smith,
Technical Manager.

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.

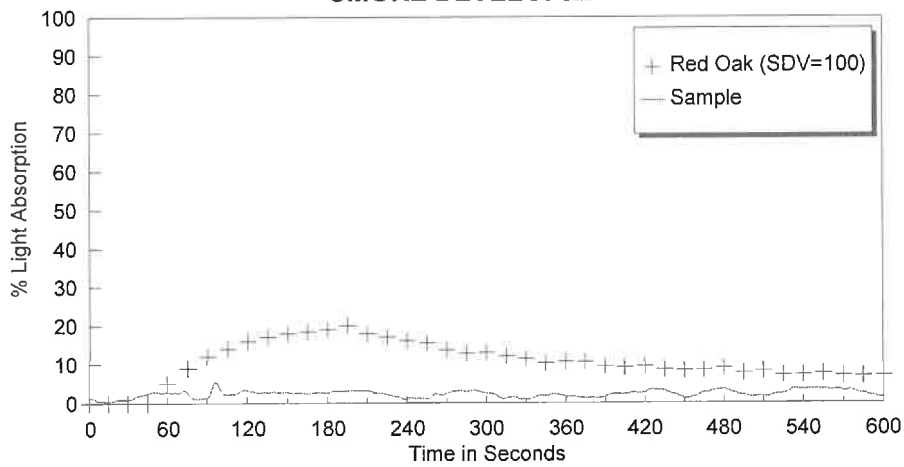
Sample: "Novelio® Nature Flair Baltic Blue"

Test #1 of 3

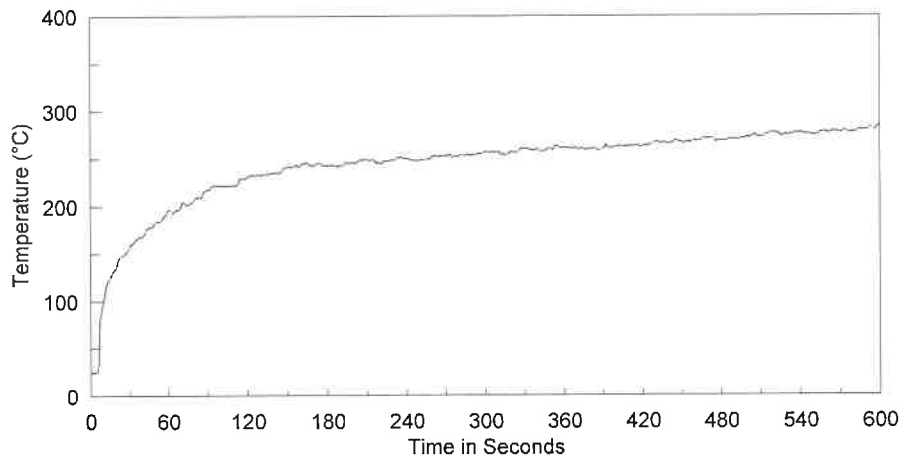
FLAME SPREAD



SMOKE DEVELOPED



TEMPERATURE



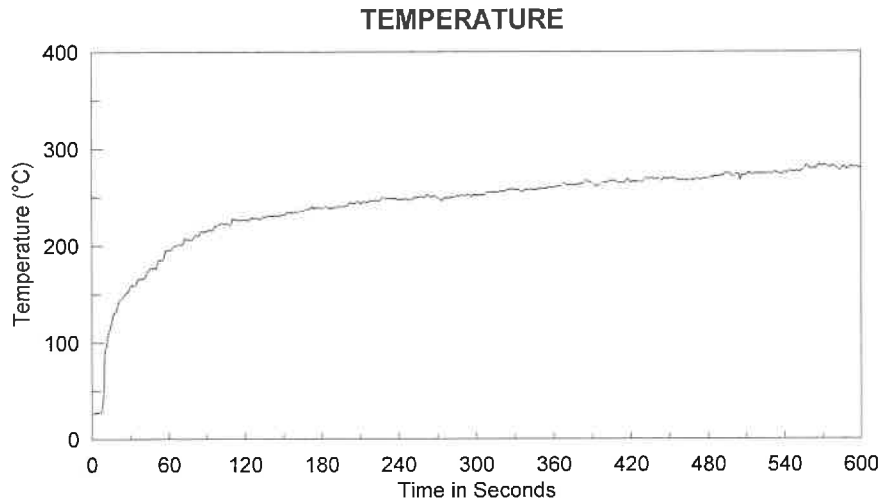
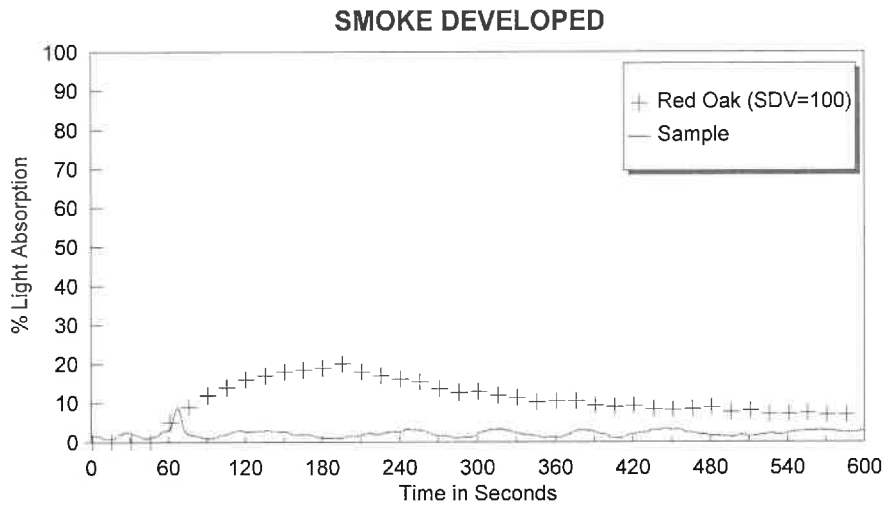
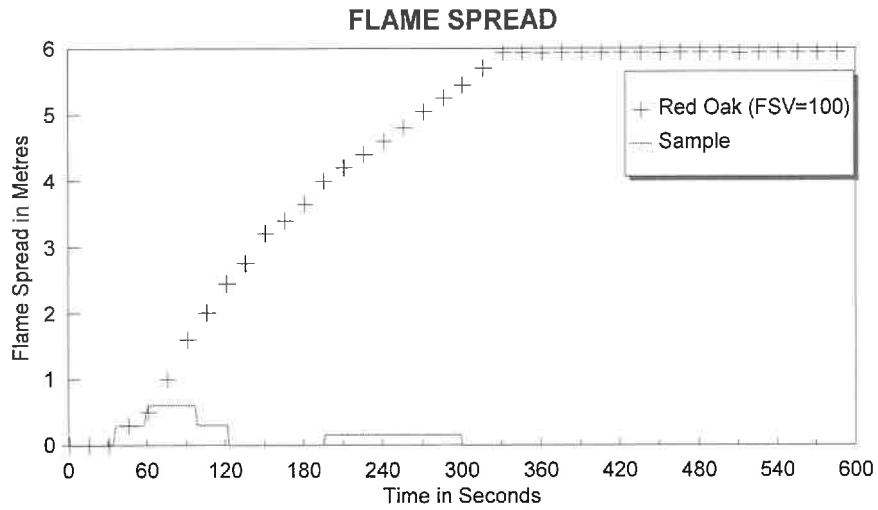
FSV
12

SDV
22

Max. Temp. (°C)
284

Sample: "Novelio® Nature Flair Baltic Blue"

Test #2 of 3



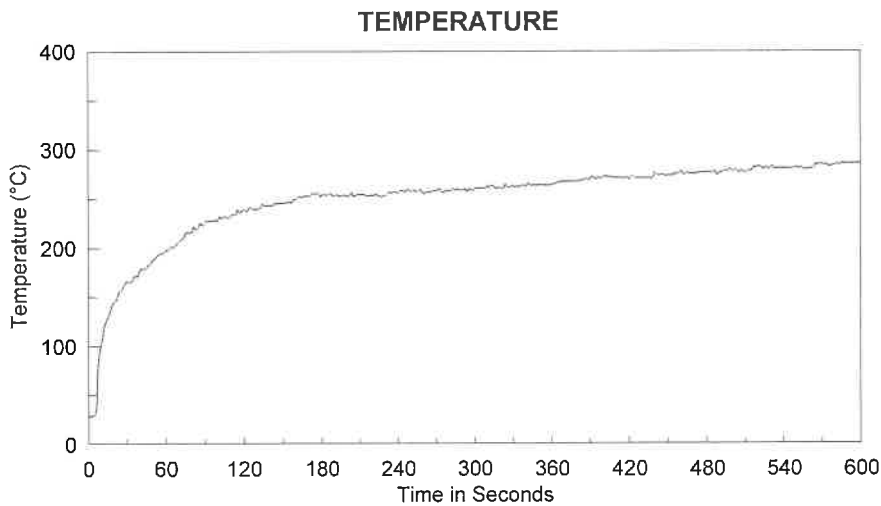
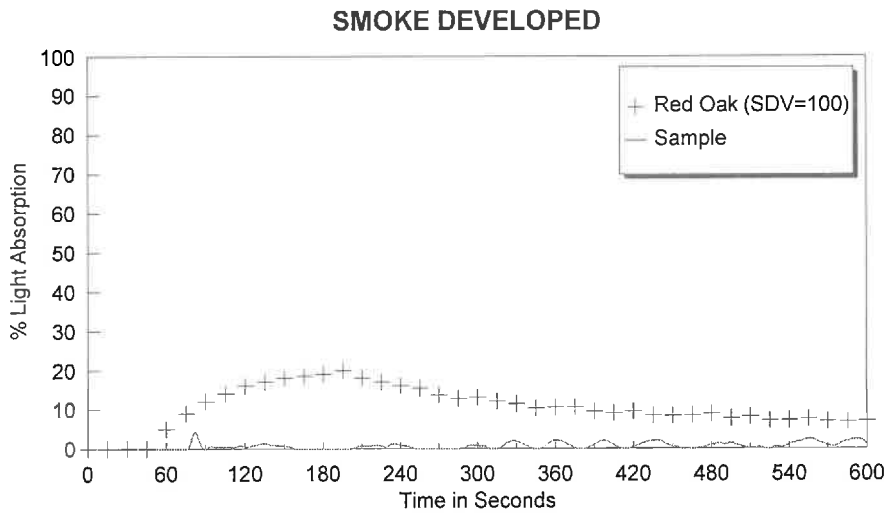
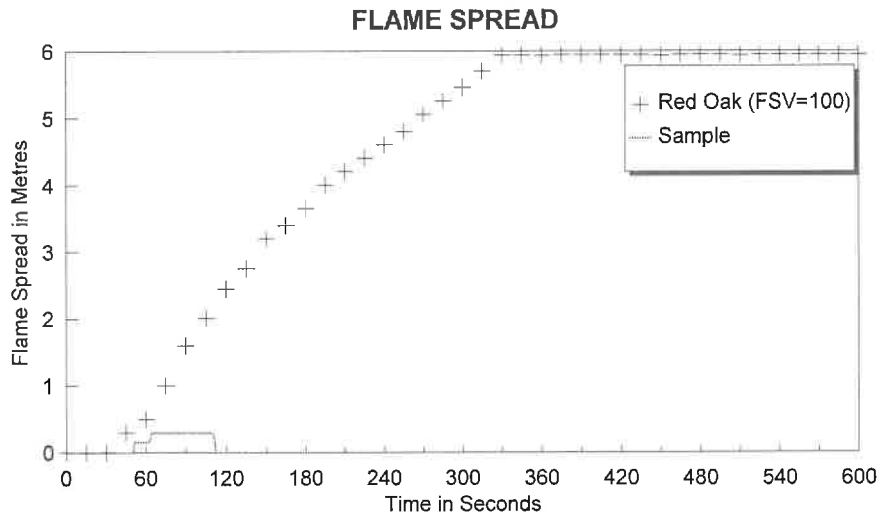
FSV
10

SDV
20

Max. Temp. (°C)
284

Sample: "Novelio® Nature Flair Baltic Blue"

Test #3 of 3



FSV
5

SDV
6

Max. Temp. (°C)
286