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CAN/ULC-S102 Surface Burning Characteristics of "JM04" Wall Covering

A Report To:	Fidelity Industries Inc. 559 Route 23 Wayne, NJ 07470 USA
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Submitted by:	Exova Warringtonfire North America
Report No.	16-002-123(B) 4 Pages
Date:	March 9, 2016

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 a single test conducted in accordance with CAN/ULC-S102-10, as per Fidelity Industries Inc. reference Purchase Order No. CAN/ULC-S102 and Exova Warringtonfire North America Quotation No. 16-002-412278 accepted February 22, 2016.

SAMPLE IDENTIFICATION (Exova sample identification number 16-002-S0123-2)

Wallcovering material described as, "NW fabric backed vinyl wallcovering", and identified as: "JM04"

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 vinyl wallcovering material was adhered to a 6 mm thick fiberglass reinforced cement board substrate using Roberts Multi 3300 adhesive. The test specimen consisted of a total of 3 sections, each approximately 7 mm in total thickness (including substrate) by 533 mm in width by 2438 mm in length. The sections were butted together during testing to form the requisite specimen length. Prior to testing, the sections were conditioned to constant weight at a temperature of $23 \pm 3^\circ\text{C}$ and a relative humidity of $50 \pm 5\%$. During testing, the specimen was self-supporting.

The testing was performed on: 2016-03-08

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 Value (FSV) is determined by calculating the total area under the curve for the 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, $FSV = 1640 / (59.4 - AT)$.

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. The Smoke Developed Value (SDV) is determined by dividing the total area under the obscuration curve by that of red oak and multiplying by 100.

TEST RESULTS

<u>SAMPLE</u>	<u>Flame Spread Value (FSV)</u>	<u>Smoke Developed Value (SDV)</u>
"JM04"	10	5

Observations of Burning Characteristics

- The specimen ignited approximately 122 seconds after exposure to the test flame. Blistering and charring was observed prior to ignition.
- The flame front propagated to a maximum distance of 1.2 metres at approximately 476 seconds.

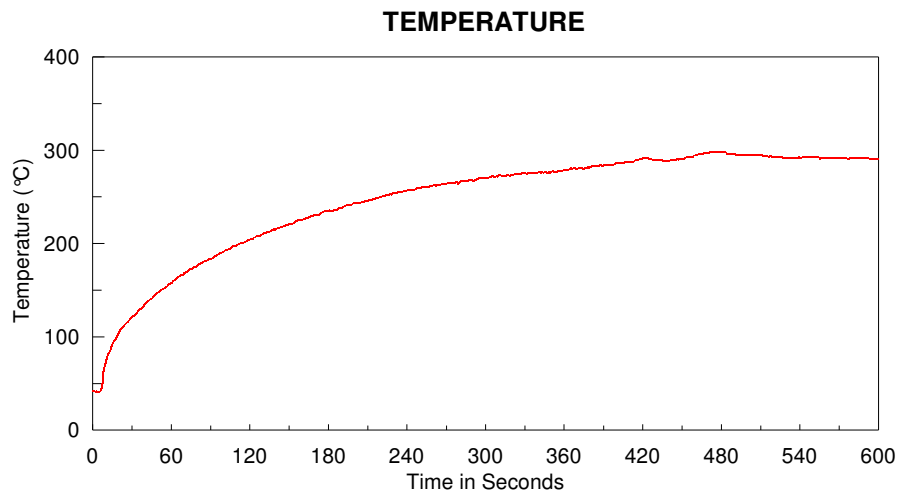
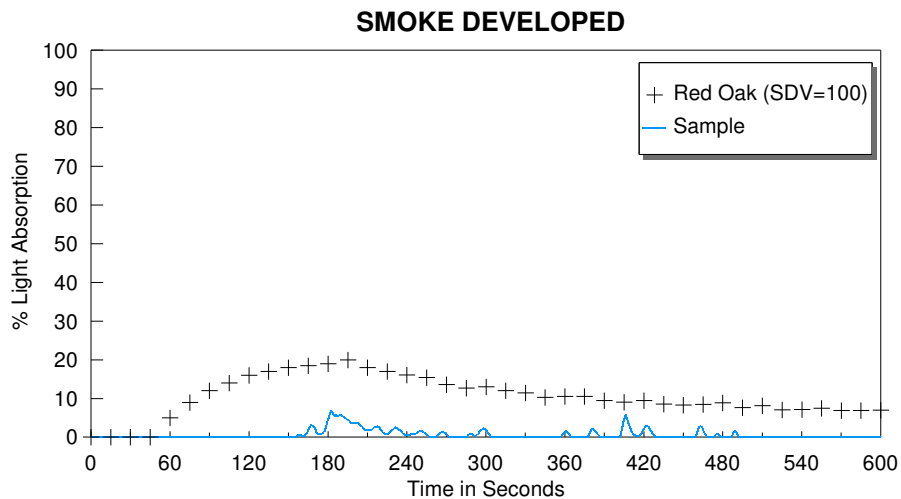
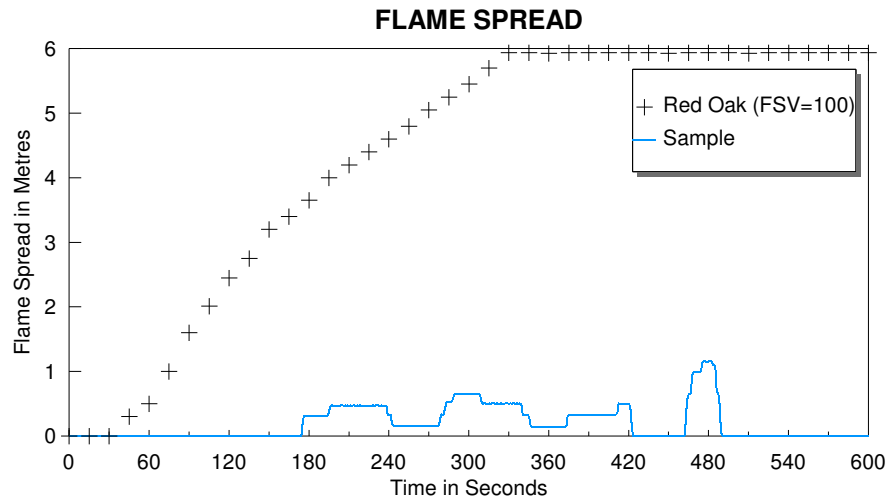
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Robert A. Carleton,
Technologist.

Ian Smith,
Technical Manager.

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Sample: "JM04"

**FSV**
10**SDV**
5**Max. Temp. (°C)**
299