

CAN/ULC 102 Surface Burning Characteristics of "HIGH DENSITY PAPIERFLORA"

A Report To:

Design By Nature

1000 Parker Street
Vancouver, BC, Canada
V6A 2H2

Phone:

+1 778-321-8023

Attention:

Nicolas Rousseau

E-mail:

nicolas@bynaturedesign.ca

Submitted by:

Element Fire Testing

Report No.

26-002-215(A)
4 Pages

Date:

July 21, 2026

1.0 ACCREDITATION

ISO/IEC 17025 for a defined Scope of Testing by the American Association for Laboratory Accreditation (A2LA), Certificate Number: 6524.03.

2.0 SPECIFICATIONS OF ORDER

Determine the Flame Spread and Smoke Developed Values based upon a single screening test only, conducted in accordance with CAN/ULC 102:2019 (R2024), as per Element Quotation No. 26-002-700396 RV3 dated April 21, 2026.

2.1 History of Report Revision

This is the original.

3.0 SAMPLE IDENTIFICATION

Material Identification	"HIGH DENSITY PAPIERFLORA"
Supplied Material Description*	Crafted from upcycled hay, petals, and flowers on a flax base (using a food base glue), its sustainable, allergen-free and VOC free
Measured Material Thickness	1 mm
Date of Material Receipt	2026-05-22
Element Sample Identification No.	26-002-S0215-1
Test Date	2026-07-15

* The material description as supplied by the client. Element cannot always validate the accuracy of the description provided. If appreciable differences are observed between the material description and the specimen, test data may not be representative. Information or data supplied by the client can affect validity of results.

4.0 TEST PROCEDURE

The method, designated as CAN/ULC 102:2019 (R2024), "*Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies*" (formerly CAN/ULC-S102), 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). FSR and SDC are the values cited by Canadian Building codes. 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.

5.0 SAMPLE PREPARATION

The wallcovering material was adhered to a 0.25 inch (6 mm) fiberglass reinforced cement board substrate using Roman Pro-880 Ultra Clear Strippable Wallpaper Adhesive. The test specimen consisted of a total of three prepared sections of material, each approximately 21 mm in width by 2438 mm in length. The sections were butted together end-to-end to create the requisite specimen length. Prior to testing, the specimens were conditioned to constant weight at a temperature of $23 \pm 3^{\circ}\text{C}$ and a relative humidity of $50 \pm 5\%$. At the time of test initiation, the specimen was self-supporting.

6.0 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.

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 for red oak and multiplying by 100.

7.0 TEST RESULTS

SAMPLE: "HIGH DENSITY PAPIERFLORA"

Approx. Time to Ignition (s)	Maximum Flame Front Distance (m)	Time to Maximum Flame Front (s)	Maximum Air Temperature (°C)	Flame Spread Value (FSV)	Smoke Developed Value (SDV)
0	0.00	0	312	0	15

7.1 Observations of Burning Characteristics

The specimen did not ignite. Surface charring and delamination was observed in the area of test burner flame impingement.



Mateo Marra,
Project Manager - Fire Testing.



Ian Smith,
Technical Manager.

Notes: This report is related only to the sample identified and shall not be reproduced, except in full, without approval. It is covered under Element Materials Technology Canada Inc. Standard Terms and Conditions of Contract, which is accessible at www.element.com, or by calling 1-866-263-9268. In CAN/ULC 102, individual test data is reported in the form of indices (Flame Spread Value, Smoke Developed Value). As such, measurement uncertainty (MU) cannot be calculated.

9.0 TEST CHARTS

Sample: "HIGH DENSITY PAPIERFLORA"

Chart 1. FLAME SPREAD

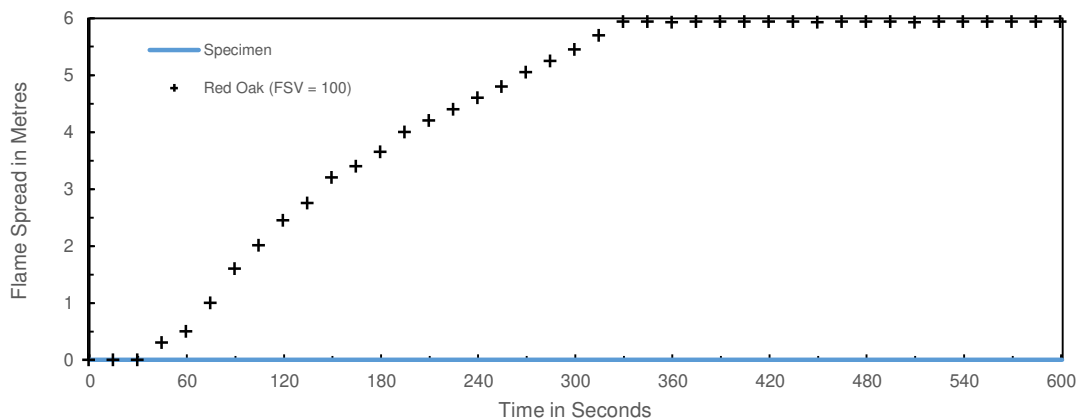


Chart 2. SMOKE DEVELOPED

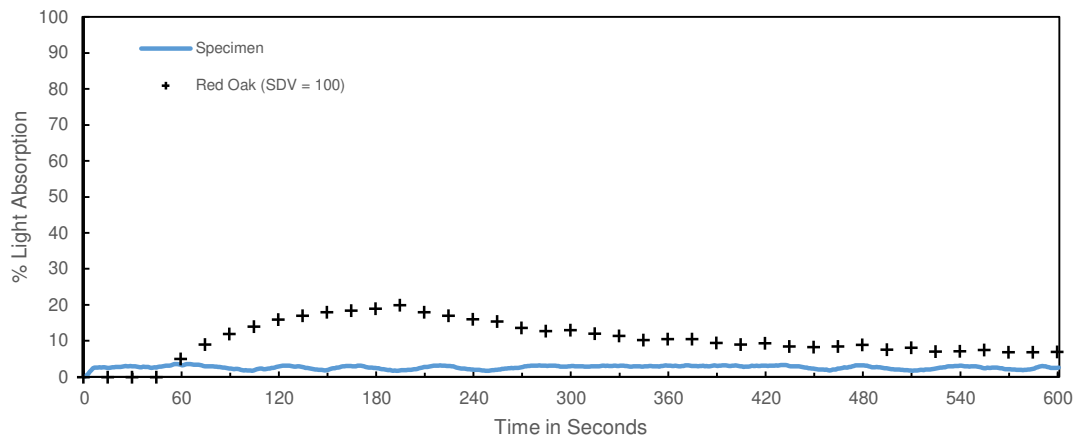
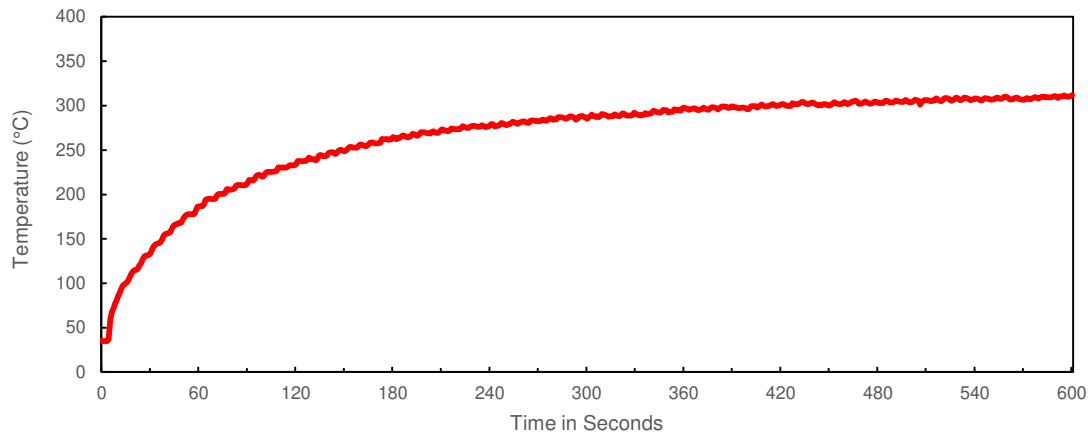


Chart 3. TEMPERATURE



Flame Spread Value (FSV)	Smoke Developed Value (SDV)	Maximum Air Temperature (°C)
0	15	312