Element Materials Technology
2475 Speers Road
Oakville, ON
Canada, L6L 2X9

P: 1 905 822 4111
info.toronto.fire@element.com
element.com

CAN/ULC-S102 Surface Burning Characteristics of "FINSA FIBRACOLOUR NGR EZ NAT RAN BARN 17mm"

A Report To:	**Mercury Wood Products** 918 Edgeley Blvd Vaughan, ON, Canada L4K 4V4	**FINANCIERA MADERERA S.A.** CTRA. A CORUNA - TUI KM57 15707 SANTIAGO DE COMPOSTELA LA CORUÑA SPAIN
Phone:	+1 416-747-1163	+34 981 05 00 00
Web:	www.mercurywood.com	www.finsa.com
Email:	khumphries@mercurywood.com	f-santiago@finsa.es

Submitted by:	Element Fire Testing
Report No.	24-002-082 6 Pages
Date:	July 10, 2024

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 Flame Spread Rating and Smoke Developed Classification based upon triplicate testing conducted in accordance with CAN/ULC-S102-2018, as per Element Quotation No. 23-002-486621 RV1 dated February 16, 2024.

2.1 History of Report Revision

This is the original.

3.0 SAMPLE IDENTIFICATION

Material Identification	**"FINSA FIBRACOLOUR NGR EZ NAT RAN BARN 17mm"**
Supplied Material Description	Black Coloured MDF, veneered, lacquered and grooved
Material Thickness	17 mm
Date of Material Receipt	2024-02-29
Element Sample Identification Number	24-002-S0082
Dates of Tests	Test 1: 2024-06-11 Test 2: 2024-06-12 Test 3: 2024-06-12

4.0 TEST PROCEDURE

The method, designated as CAN/ULC-S102-2018, "*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.

5.0 SAMPLE PREPARATION

Each test specimen consisted of a total of three sections of material, each approximately 533 mm in width. Two specimens were each approximately 2845 mm in length and the third section was approximately 1626 mm in length. The sections were butted together end-to-end to create the total specimen length. Prior to testing, each specimen was conditioned to constant weight at a temperature of 23 ± 3°C and a relative humidity of 50 ± 5%. The protective film material was removed and the grooved surface was exposed during testing. At the time of test initiation, each 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 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 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). 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.

7.0 TEST RESULTS

SAMPLE: "FINSA FIBRACOLOUR NGR EZ NAT RAN BARN 17mm"

Test	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)
1	22	5.43	153	500	**131**	**229**
2	27	5.12	384	518	**99**	**213**
3	13	5.84	197	563	**171**	**170**
				Average:	134	204
				Rounded Average Flame Spread Rating **(FSR)**:	**135**	-
				Rounded Average Smoke Developed Classification **(SDC)**:	-	**205**

7.1 Observations of Burning Characteristics

The specimens ignited approximately 13 to 27 seconds after exposure to the test burner flame. Partial collapse of char material was observed in the area of direct test burner flame impingement.

8.0 RESULTS INTERPRETATION

CAN/ULC-S102 contains no performance criteria of its own. The National Building Code of Canada (NBCC) or other jurisdictional documentation should be referenced to determine the FSR and/or SDC performance criteria that is applicable to the material, for the intended application.

Francis Williams,
Technician.

Mel Garces,
Senior Technologist.

10.0 TEST CHARTS

10.1 Test 1 Charts Test 1: "FINSA FIBRACOLOUR NGR EZ NAT RAN BARN 17mm"

Chart 1. FLAME SPREAD (Specimen #1)

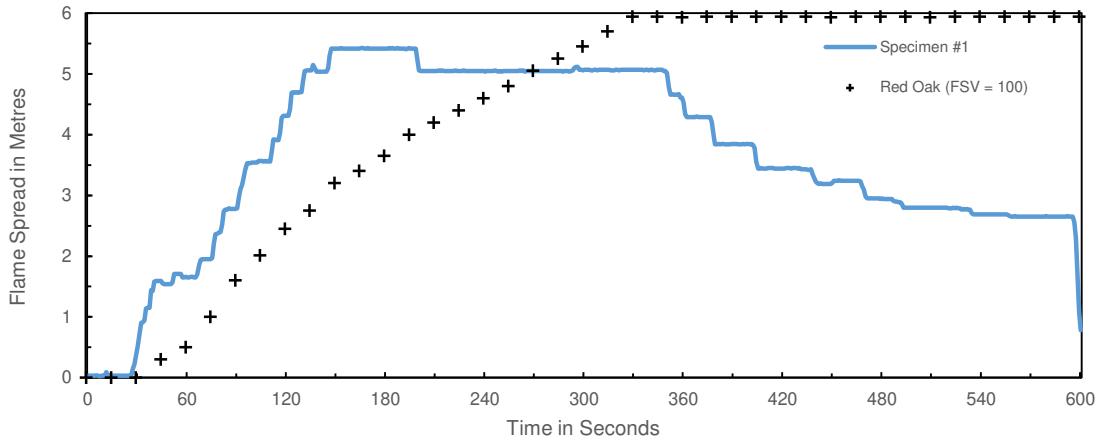


Chart 2. SMOKE DEVELOPED (Specimen #1)

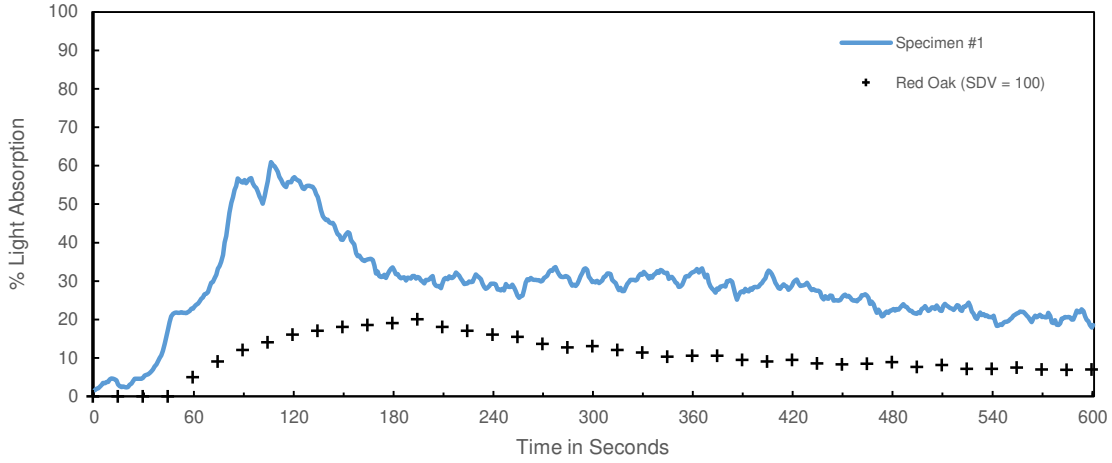
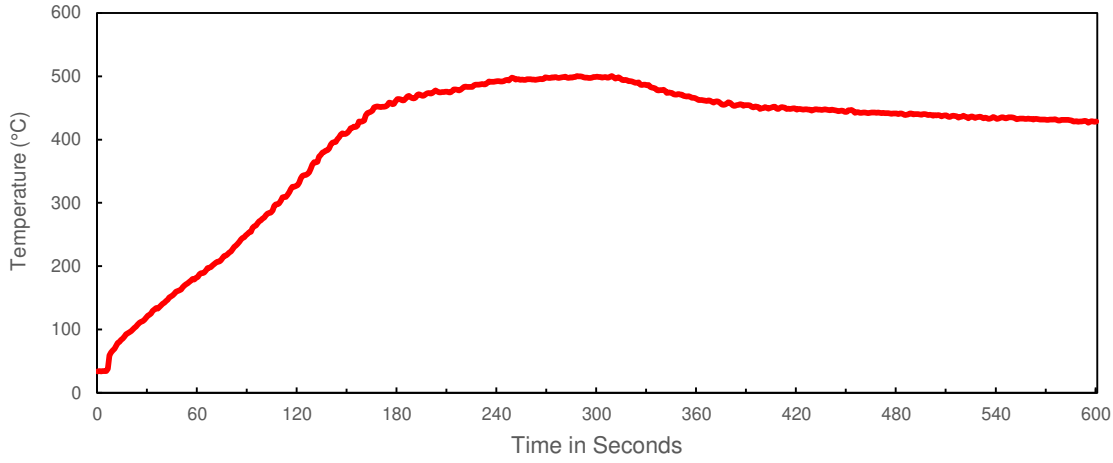


Chart 3. TEMPERATURE (Specimen #1)



Flame Spread Value (FSV)	Smoke Developed Value (SDV)	Maximum Air Temperature (°C)
131	**229**	500

10.2 Test 2 Charts

Test 2: "FINSA FIBRACOLOUR NGR EZ NAT RAN BARN 17mm"

Chart 4. FLAME SPREAD (Specimen #2)

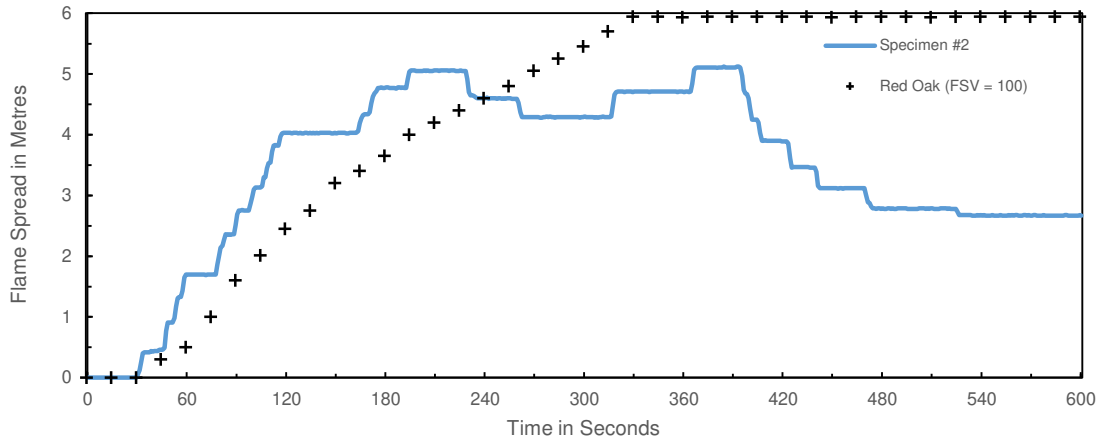


Chart 5. SMOKE DEVELOPED (Specimen #2)

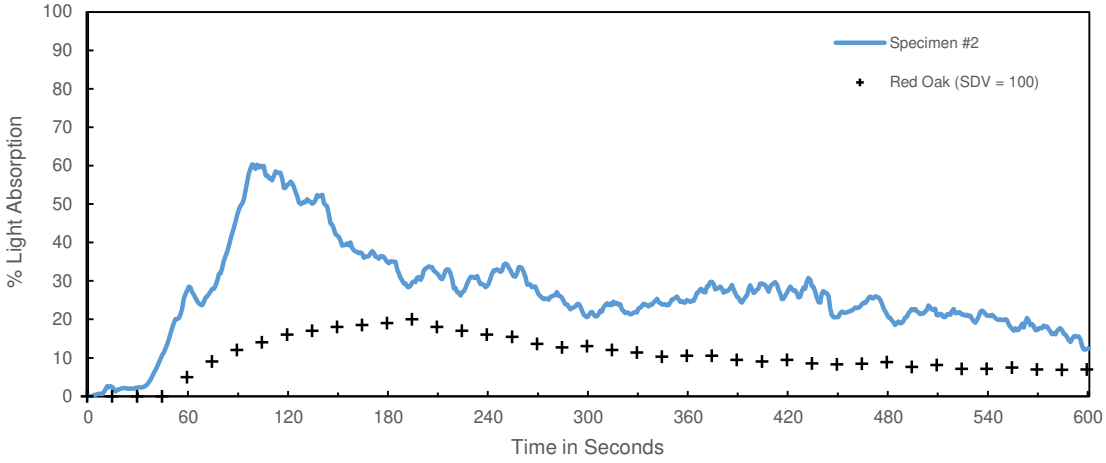
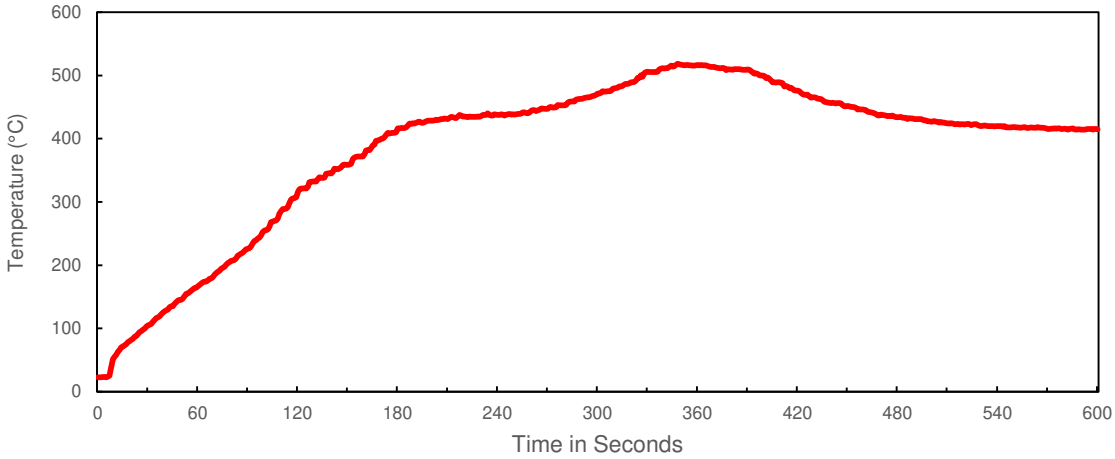


Chart 6. TEMPERATURE (Specimen #2)



Flame Spread Value (FSV)	Smoke Developed Value (SDV)	Maximum Air Temperature (°C)
99	**213**	518

10.3 Test 3 Charts

Test 3: "FINSA FIBRACOLOUR NGR EZ NAT RAN BARN 17mm"

Chart 7. FLAME SPREAD (Specimen #3)

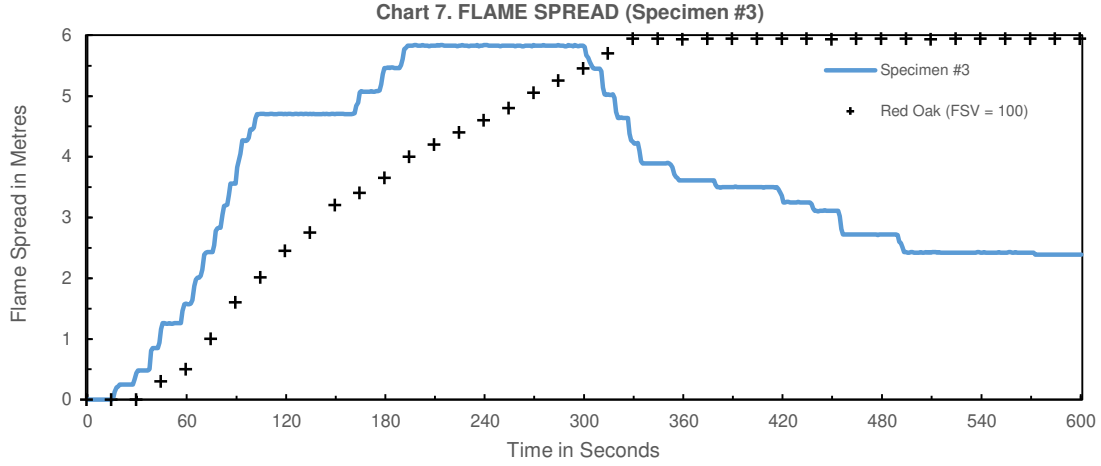


Chart 8. SMOKE DEVELOPED (Specimen #3)

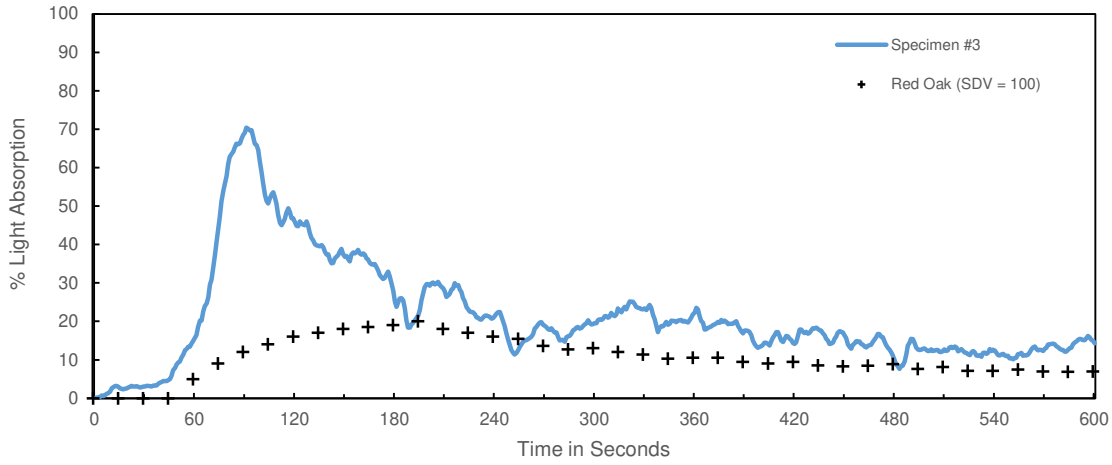
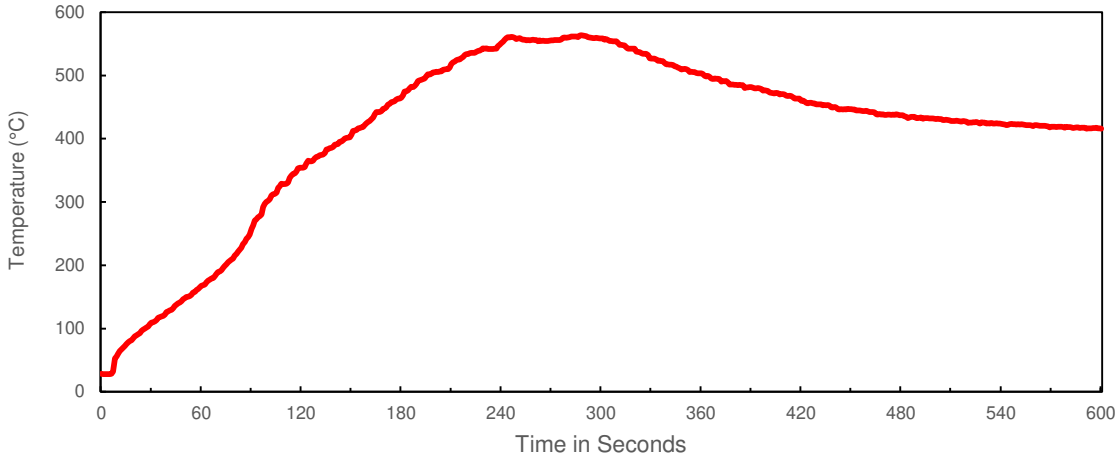


Chart 9. TEMPERATURE (Specimen #3)



Flame Spread Value (FSV)	Smoke Developed Value (SDV)	Maximum Air Temperature (°C)
171	**170**	563