

ECO BIERZO COMPOSITES, S.L. TEST REPORT

SCOPE OF WORK

REPORT OF TESTING 4MM THICK STACBOND®A2 PANELS FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: CAN/ULC S102-18, STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS AND ASSEMBLIES.

REPORT NUMBER

105962352COQ-001 R0

TEST DATE(S)

12/04/24 - 12/04/24

ISSUE DATE

12/05/24

REVISION DATE

N/A

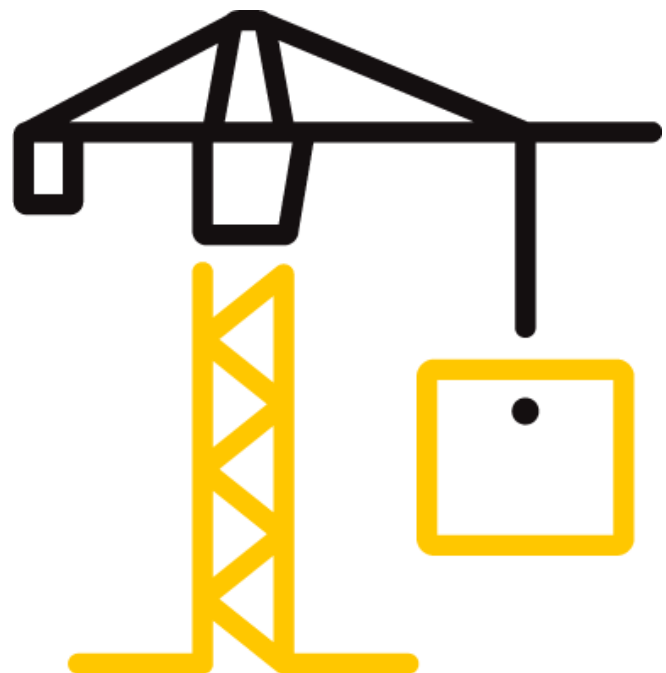
PAGES

16

DOCUMENT CONTROL NUMBER

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TEST REPORT FOR ECO BIERZO COMPOSITES, S.L.

Report No.: 105962352COQ-001 R0

Date: 12/05/24

REPORT ISSUED TO

ECO BIERZO COMPOSITE, S.L.

C/ ISAAC PRADO BODELON S/N – P.I. LA ROZADA, PARCELA 2

24516 - PARANDONES (LEÓN)

SPAIN

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Eco Bierzo Composite, S.L. C/Isaac Prado Bodelon s/n – P.I. La Rozada, Parcela 224516 - Parandones (León) Spain to perform testing in accordance with CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies., on 4mm thick STACBOND®A2 panels. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek Testing Services NA Ltd. (Intertek) test facility at 1500 Brigantine Drive Coquitlam, BC Canada.

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SECTION 2

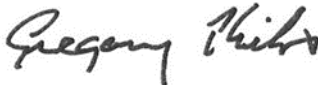
SUMMARY OF TEST RESULTS

The samples of 4mm thick STACBOND® A2 panels submitted by Eco Bierzo Composite, S.L. were tested in accordance with CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

The product test results are presented in Section 10 of this report.

For INTERTEK B&C:

COMPLETED BY:	Sean Fewer
TITLE:	Technician B&C
SIGNATURE:	
DATE:	09/27/24

REVIEWED BY:	Greg Philp
TITLE:	Reviewer- B&C
SIGNATURE:	
DATE:	09/27/24

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SECTION 3

TEST METHOD(S)

The specimens were evaluated in accordance with the following:

CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

SECTION 4

MATERIAL SOURCE/INSTALLATION

The specimens were randomly selected by Intertek B&C personnel at Eco Bierzo Composite, S.L. located at C/Isaac Prado Bodelon s/n – P.I. La Rozada, Parcela 224516 - Parandones (León) Spain. The specimens were witnessed and sampled during production and signed prior to shipment on September 2, 2024.

The product was selected in accordance with recognized independent sampling procedures and was received at the Evaluation Center on November 18, 2024 (Coquitlam ID# VAN2411181450-001).

SECTION 5

EQUIPMENT

ASSET #	DESCRIPTION	MODEL	CAL DUE DATE
WH2189	Photocell	Huygen 856	05/15/25
WH 2190	Smoke Opacity Meter	Huygen	05/15/25
WH 1052	Data Logger	Phidgets DAQ 2020	11/06/25
	FS Tunnel (S102)	N/A	12/11/24

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Sean Fewer	Intertek B&C

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SECTION 7

TEST CALCULATIONS

The results of the tests are expressed by indexes, which compare the characteristics of the sample under tests relative to that of select grade red oak flooring and inorganic-cement board.

(A) Flame Spread Rating:

This index relates to the rate of progression of a flame along a sample in the 7620 mm tunnel. A natural gas flame is applied to the front of the sample at the start of the test and drawn along the sample by a draft kept constant for the duration of the test. An observer notes the progression of the flame front relative to time.

The test apparatus is calibrated such that the flame front for red oak flooring passes out the end of the tunnel in five minutes, thirty seconds (plus or minus 15 seconds).

(B) Smoke Developed:

A photocell is used to measure the amount of light, which is obscured by the smoke passing down the tunnel duct. When the smoke from a burning sample obscures the light beam, the output from the photocell decreases. This decrease with time is recorded and compared to the results obtained for red oak, which is defined to be 100.

SECTION 8

TEST SPECIMEN DESCRIPTION

Upon receipt of the samples at the Intertek Coquitlam laboratory they were placed in a conditioning room where they remained in an atmosphere of $23 \pm 3^{\circ}\text{C}$ ($73.4 \pm 5^{\circ}\text{F}$) and $50 \pm 5\%$ relative humidity.

The sample material was identified by the client as 4mm thick STACBOND®A2 panels. Each panel measured 4mm thick by 600mm wide by various lengths and was described as Composite panels with a A2 core.

For each trial run, 610mm wide by 7315 mm of sample material were placed on the upper ledge of the flame spread tunnel to form the required 7315mm sample length. A layer of 6 mm. reinforced cement board was placed over top of the sample material, the tunnel lid was lowered into place, and the samples were then tested in accordance with CAN/ULC S102-18. at a room temperature of 21°C and 54% humidity.

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SECTION 9**TEST RESULTS****(A) Flame Spread**

The resultant flame spread ratings are as follows:

(Rating rounded to nearest 5)

4mm thick STACBOND®A2 panels	Flame Spread	Flame Spread Rating
Run 1	0	0
Run 3	0	
Run 3	0	

(B) Smoke Developed

The areas beneath the smoke developed curve and the related classifications are as follows:

(Classification rounded to nearest 5)

4mm thick STACBOND®A2 panels	Smoke Developed	Smoke Developed Classification
Run 1	15	15
Run 2	16	
Run 3	11	

Observations

During the test runs, surface ignition occurred between 143 and 152 seconds; there was no visible flame travel. This was the case for all three test runs.

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SECTION 10**CONCLUSION**

The samples of 4mm thick STACBOND®A2 panels submitted Eco Bierzo Composite, S.L. exhibited the following flame spread characteristics when tested in accordance with CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

A series of three test runs of material was conducted to conform to the requirements of the National Building Code of Canada.

Sample Material	Flame Spread Rating	Smoke Developed Classification
4mm thick STACBOND®A2 panels	0	15

The conclusions of this test report may be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

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TEST DATA (6 PAGES)

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CAN/ULC S102-18 DATA SHEETS

Run 1

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Standard: ULC S102

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Eco Bierzo
Date: 04 Dec 2024
Project Number: 105962352
Test Number: 1
Operator: Sean Fewer

Specimen ID and Description:

Composite Panel with A2 core
21c 54 rh

TEST RESULTS

FLAMESPREAD INDEX: 0.000
SMOKE DEVELOPED INDEX: 15.000

SPECIMEN DATA

Time to Ignition (sec): 152.417
Time to Max Flame Spread (min): 0.000
Maximum Flame Spread (mm): 0.000
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 261.411
Time to Max Temperature (sec): 592.417
Total Fuel Burned (cubic feet): 41.946

Flame Spread*Time Area (M*min): 0.000
Smoke Area (%A*min): 21.370
Unrounded FSI: 0.000
Unrounded SDI: 14.503

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 41
Calibrated Smoke Area (%A*min): 147.351

15 point Heptane average for E84-19b
5 point Red Oak average for S102

Tested by: SF

Reviewed by: SF

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CAN/ULC S102-18 DATA SHEETS

Run 1

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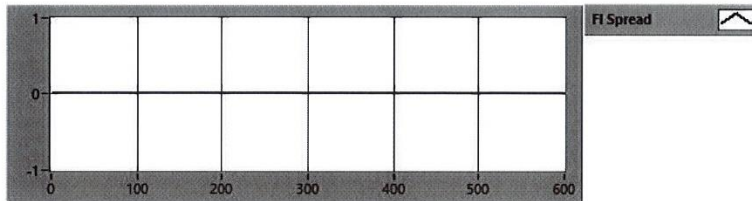
Client: Eco Bierzo

Project Number: 105962352

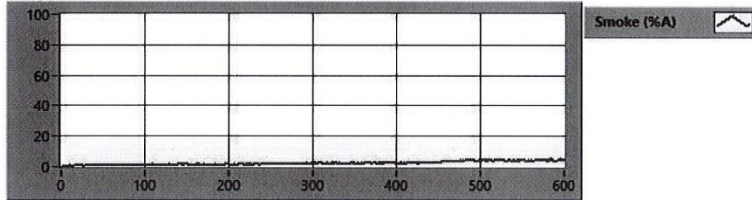
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Test Standard: ULC S102

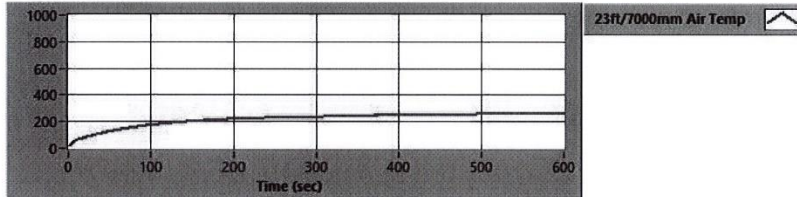
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Tested by: SF.

Reviewed by: gp

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CAN/ULC S102-18 DATA SHEETS

Run 2

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Standard: ULC S102

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Eco Bierzo
Date: 04 Dec 2024
Project Number: 105962352
Test Number: 2
Operator: Sean Fewer

Specimen ID and Description:

Composite panel with A2 core

21c 54rh

TEST RESULTS

FLAMESPREAD INDEX: 0.000
SMOKE DEVELOPED INDEX: 16.000

SPECIMEN DATA

Time to Ignition (sec): 0.000
Time to Max Flame Spread (min): 0.000
Maximum Flame Spread (mm): 0.000
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 257.170
Time to Max Temperature (sec): 597.270
Total Fuel Burned (cubic feet): 42.376

Flame Spread*Time Area (M*min): 0.000
Smoke Area (%A*min): 23.988
Unrounded FSI: 0.000
Unrounded SDI: 16.279

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 41
Calibrated Smoke Area (%A*min): 147.351

15 point Heptane average for E84-19b
5 point Red Oak average for S102

Tested by: SF

Reviewed by: gp

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CAN/ULC S102-18 DATA SHEETS

Run 2

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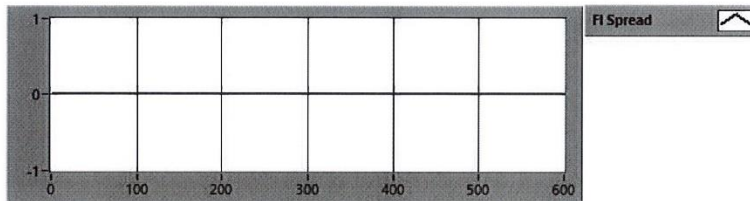
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Project Number: 105962352

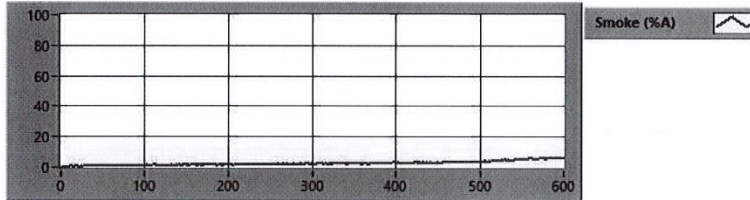
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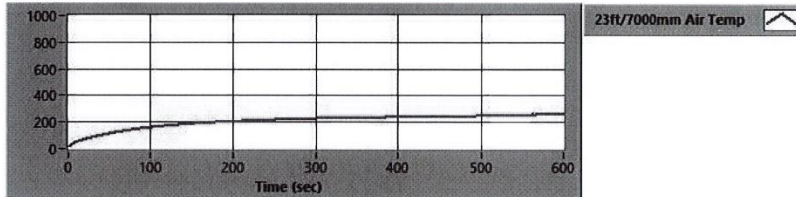
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Tested by: SE

Reviewed by: gp

TEST REPORT FOR ECO BIERZO COMPOSITES, S.L.

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CAN/ULC S102-18 DATA SHEETS

Run 3

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Standard: ULC S102

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Eco Bierzo
Date: 04 Dec 2024
Project Number: 105962352
Test Number: 3
Operator: Sean Fewer

Specimen ID and Description:

Composite Panel with A2 core

20c 54 rh

TEST RESULTS

FLAMESPREAD INDEX: 0.000
SMOKE DEVELOPED INDEX: 11.000

SPECIMEN DATA

Time to Ignition (sec): 143.111
Time to Max Flame Spread (min): 0.000
Maximum Flame Spread (mm): 0.000
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 254.786
Time to Max Temperature (sec): 597.111
Total Fuel Burned (cubic feet): 42.183

Flame Spread*Time Area (M*min): 0.000
Smoke Area (%A*min): 16.471
Unrounded FSI: 0.000
Unrounded SDI: 11.178

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 41
Calibrated Smoke Area (%A*min): 147.351

15 point Heptane average for E84-19b
5 point Red Oak average for S102

Tested by: SF

Reviewed by: gf

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CAN/ULC S102-18 DATA SHEETS

Run 3

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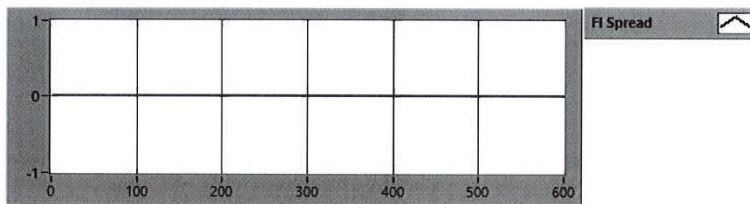
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Project Number: 105962352

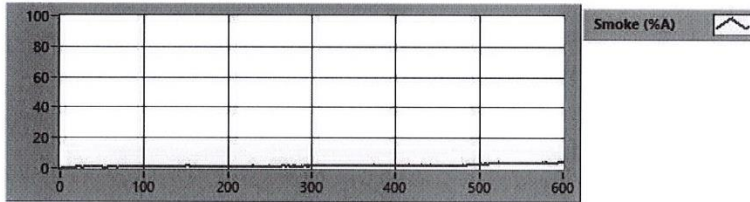
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Test Standard: ULC S102

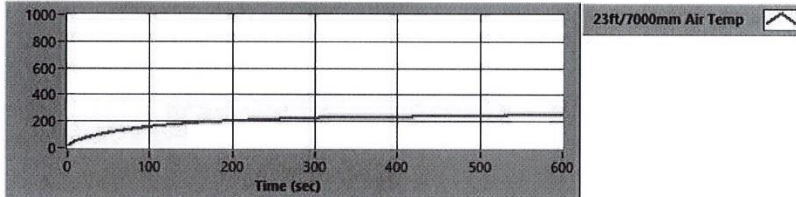
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Tested by: SF

Reviewed by: SP

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SECTION 12

PHOTOGRAPHS



Photo No. 1
Pre-Test



Photo No. 2
Post Test

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SECTION 13

REVISION LOG

REVISION #	DATE	SECTION	REVISION
0	12/05/24	N/A	Original Report Issue