

AKUSTUS INDUSTRIES INC.

TEST REPORT

SCOPE OF WORK

REPORT OF TESTING 12MM THICK AKUSTUS PET ACOUSTIC PANELS FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: S102.2-18 STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF FLOORING, FLOOR COVERING, AND MISCELLANEOUS MATERIALS AND ASSEMBLIES.

REPORT NUMBER

G105587789COQ-001 R0

TEST DATE(S)

09/26/23 - 09/26/23

ISSUE DATE

09/27/23

PAGES

16

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TEST REPORT FOR AKUSTUS INDUSTRIES INC.

Report No.: G105587789COQ-001 R0

Date: 09/27/23

REPORT ISSUED TO

AKUSTUS INDUSTRIES INC.
518 KENT AVENUE SOUTH
VANCOUVER, BC
V5X 4V6

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Akustus Industries Inc. 518 Kent Avenue South, Vancouver, BC to perform testing in accordance with S102.2-18 Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies., on 12mm thick Akustus PET Acoustic 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.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens (where required by Certification or Accreditation bodies), or other pertinent project documentation, will be retained for the entire test record retention period.

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SECTION 2

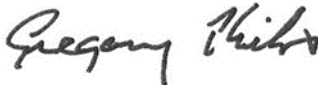
SUMMARY OF TEST RESULTS

The samples of 12mm thick Akustus PET Acoustic Panels by Akustus Industries Inc. were tested in accordance with S102.2-18 Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous 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:	09/27/23

REVIEWED BY:	Greg Philp
TITLE:	Reviewer- B&C
SIGNATURE:	
DATE:	09/27/23

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SECTION 3

TEST METHOD(S)

The specimens were evaluated in accordance with the following:

S102.2-18 Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies.

SECTION 4

MATERIAL SOURCE/INSTALLATION

Samples were submitted to Intertek directly from the client and were not independently selected for testing and Intertek accepts no responsibility for any inaccuracies provided.

SECTION 5

EQUIPMENT

ASSET #	DESCRIPTION	MODEL	CAL DUE DATE
WH2189	Photocell	Huygen 856	05/16/24
WH 2190	Smoke Opacity Meter	Huygen	05/16/24
WH 1052	Data Logger	Phidgets DAQ 2020	11/04/23
WH 2190	FS Tunnel	N/A	03/20/24

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Sean Fewer	Intertek B&C
Isaac Khoo	Akustus Industries Inc.

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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 as "12mm thick Akustus PET Acoustic Panels".

For each trial run, 444 mm wide by 7315 mm of sample material was placed on the floor of the tunnel. A layer of 6mm reinforced cement board was placed on the upper ledges of the tunnel, the tunnel lid was lowered into place, and the samples were then tested in accordance with CAN/ULC S102.2-18 at a room temperature of 20°C and 52% 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)

12mm thick Akustus PET Acoustic Panels	Flame Spread	Flame Spread Rating
Run 1	3	0
Run 2	1	
Run 3	3	

(B) Smoke Developed

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

(Classification rounded to nearest 5)

12mm thick Akustus PET Acoustic Panels	Smoke Developed	Smoke Developed Classification
Run 1	170	140
Run 2	93	
Run 4	161	

Observations

During the test runs, surface ignition occurred between 256 and 289 seconds. The flame then began to progress along the sample length until it reached the maximum flame spread. This was the case for all three test runs.

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SECTION 10

CONCLUSION

The samples of 12mm thick Akustus PET Acoustic Panels submitted by Akustus Industries Inc. exhibited the following flame spread characteristics when tested in accordance with S102.2-18 Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous 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
12mm thick Akustus PET Acoustic Panels	0	140

The conclusions of this test report may not 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 S102.2-18 DATA SHEETS

Run 1

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Standard: ULC S102.2

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Akustus
Date: 26 Sep 2023
Project Number:
Test Number: 1
Operator: Sean Fewer

Specimen ID and Description:

Akustus 12mm PET Acoustic panel
20C RH % 53

TEST RESULTS

FLAMESPREAD INDEX: 3.000
SMOKE DEVELOPED INDEX: 170.000

SPECIMEN DATA

Time to Ignition (sec): 288.623
Time to Max Flame Spread (min): 8.877
Maximum Flame Spread (mm): 0.890
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 242.430
Time to Max Temperature (sec): 598.623
Total Fuel Burned (cubic feet): 52.689

Flame Spread*Time Area (M*min): 1.823
Smoke Area (%A*min): 254.580
Unrounded FSI: 3.373
Unrounded SDI: 170.225

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 41
Calibrated Smoke Area (%A*min): 149.556

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

Tested by: S.F.

Reviewed by: gf

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CAN/ULC S102.2-18 DATA SHEETS

Run 1

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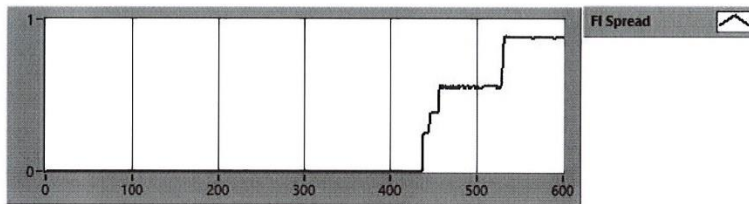
Client: Akustus

Project Number:

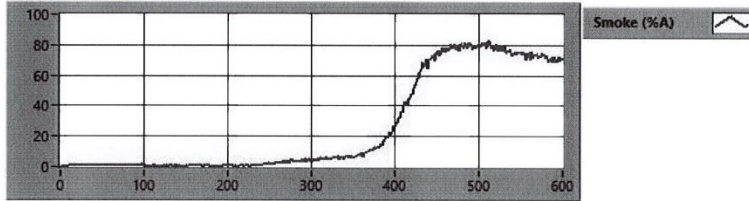
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Test Standard: ULC S102.2

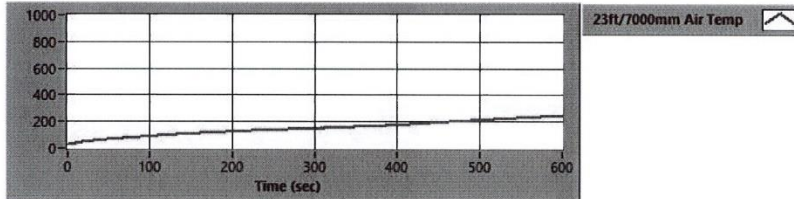
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Tested by: S.F.

Reviewed by: [Signature]

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CAN/ULC S102.2-18 DATA SHEETS

Run 2

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Standard: ULC S102.2

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Akustus
Date: 26 Sep 2023
Project Number:
Test Number: 2
Operator: Sean Fewer

Specimen ID and Description:

Akustus 12mm PET Acoustic Panel

TEST RESULTS

FLAMESPREAD INDEX: 1.000
SMOKE DEVELOPED INDEX: 93.000

SPECIMEN DATA

Time to Ignition (sec): 273.811
Time to Max Flame Spread (min): 8.630
Maximum Flame Spread (mm): 0.310
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 217.250
Time to Max Temperature (sec): 598.810
Total Fuel Burned (cubic feet): 52.692

Flame Spread*Time Area (M*min): 0.425
Smoke Area (%A*min): 139.462
Unrounded FSI: 0.787
Unrounded SDI: 93.251

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 41
Calibrated Smoke Area (%A*min): 149.556

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

Tested by: S.F.

Reviewed by: gp

TEST REPORT FOR AKUSTUS INDUSTRIES INC.

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CAN/ULC S102.2-18 DATA SHEETS

Run 2

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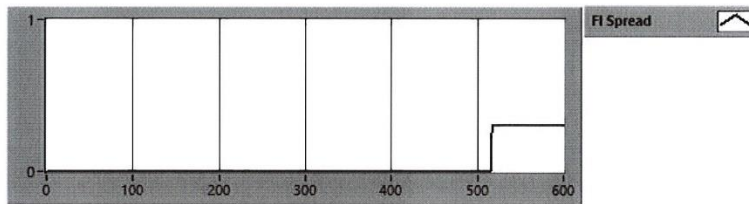
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Project Number:

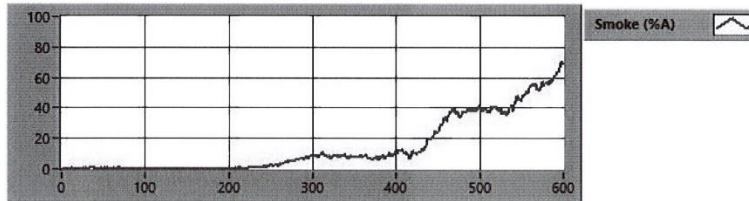
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Test Standard: ULC S102.2

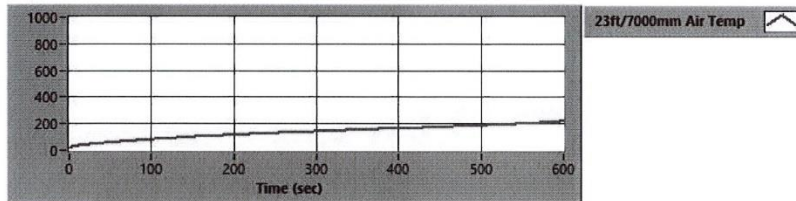
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Tested by: S.F.

Reviewed by: [Signature]

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CAN/ULC S102.2-18 DATA SHEETS

Run 3

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Standard: ULC S102.2

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Akustus
Date: 26 Sep 2023
Project Number:
Test Number: 3
Operator: Sean Fewer

Specimen ID and Description:

Akustus 12mm PET Acoustic panel

TEST RESULTS

FLAMESPREAD INDEX: 3.000
SMOKE DEVELOPED INDEX: 161.000

SPECIMEN DATA

Time to Ignition (sec): 255.769
Time to Max Flame Spread (min): 8.196
Maximum Flame Spread (mm): 0.700
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 223.400
Time to Max Temperature (sec): 598.770
Total Fuel Burned (cubic feet): 52.598

Flame Spread*Time Area (M*min): 1.669
Smoke Area (%A*min): 240.375
Unrounded FSI: 3.088
Unrounded SDI: 160.726

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 41
Calibrated Smoke Area (%A*min): 149.556

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

Tested by: SF

Reviewed by: SP

TEST REPORT FOR AKUSTUS INDUSTRIES INC.

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CAN/ULC S102-18 DATA SHEETS

Run 3

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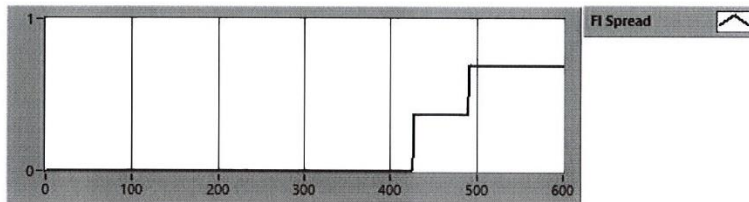
Client: Akustus

Project Number:

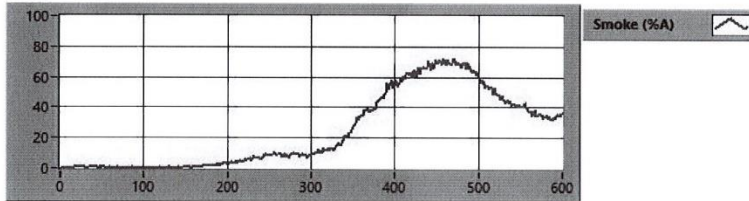
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Test Standard: ULC S102.2

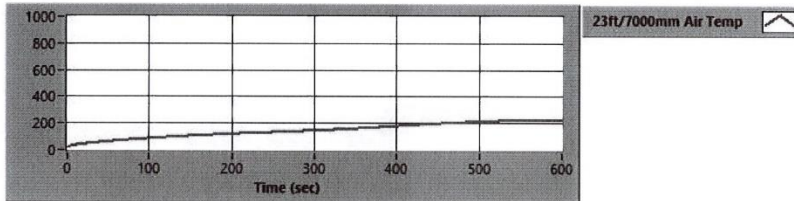
FLAME SPREAD



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	09/27/23	N/A	Original Report Issue