

RECUTECH S.R.O. TEST REPORT

SCOPE OF WORK

REPORT OF TESTING 20-MICRON THICK FOIL POLYETHER BLOCK AMID BY RECUTECH FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: UL 723 (2018), STANDARD TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

REPORT NUMBER

105361598COQ-001 R1

TEST DATE(S)

05/31/23

ISSUE DATE

05/31/23

PAGES

11

DOCUMENT CONTROL NUMBER

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TEST REPORT FOR RECUTECH S.R.O.

Report No.: 105361598COQ-001 R1

Date: 05/31/23

REPORT ISSUED TO

**RECUTECH S.R.O.
FÁBLOVKA 592
POLABINY 533 52 PARDUBICE
THE CZECH REPUBLIC**

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by RECUTECH s.r.o. Fáblovka 592 Polabiny 533 52 Pardubice, The Czech Republic to perform testing in accordance with UL 723 (2018), Test Method for Surface Burning Characteristics of Building Materials on their 20-micron thick foil polyether block amid by RECUTECH. 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 in Coquitlam, BC Canada.

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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

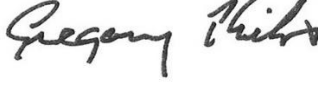
SUMMARY OF TEST RESULTS

The samples of 20-micron thick foil polyether block amid by RECUTECH submitted by RECUTECH s.r.o. were tested in accordance with UL 723 (2018), Test Method for Surface Burning Characteristics of Building Materials

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: | 05/31/23 |

| | |
|---------------------|---|
| REVIEWED BY: | Greg Philp |
| TITLE: | Senior Technician – B&C |
| SIGNATURE: |  |
| DATE: | 05/31/23 |

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SECTION 3

TEST METHOD(S)

The specimens were evaluated in accordance with the following:

with UL 723 (2018), Test Method for Surface Burning Characteristics of Building Materials.

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.

The test material was received at the test facility on May 15, 2023 (Coquitlam ID# VAN2305151221-001).

SECTION 5

EQUIPMENT

| ASSET # | DESCRIPTION | MODEL | CAL DUE DATE |
|---------|---------------------|----------------------|--------------|
| WH 2189 | 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 |
| | FS Tunnel | N/A | 11/17/23 |

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 Index:

This index relates to the rate of progression of a flame along a sample in the 25 foot 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 heptane, 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 20-micron thick foil polyether block amid by RECUTECH. The samples measured 24 in. wide by 24 ft. long.

For this trial run, 24 in. wide by 24 ft. length of sample material was placed on the upper ledge of the flame spread tunnel. The sample material was supported by $\frac{1}{4}$ in. steel rods spaced every 24 in. and 20 ga. 2 in x 2 in galvanized steel netting spanning the upper ledge of the flame spread tunnel. A layer of 6 mm. reinforced cement board was placed over top of the samples, the tunnel lid was lowered into place, and the samples were then tested in accordance with UL 723 (2018), Test Method for Surface Burning Characteristics of Building Materials at a room temperature of 68 °F and 55% humidity.

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

The resultant flame spread Indexes are as follows:
(Indexes rounded to nearest 5)

| Sample Material | Flame Spread | Flame Spread Index |
|---|--------------|--------------------|
| 20-micron thick foil polyether block amid by RECUTECH | 8 | 10 |

(B) Smoke Developed

The areas beneath the smoke developed curve and the related indexes are as follows:
(For smoke developed indexes 200 or more, index is rounded to the nearest 50. For smoke developed indexes less than 200, index is rounded to nearest 5)

| Sample Material | Smoke Developed | Smoked Developed Index |
|---|-----------------|------------------------|
| 20-micron thick foil polyether block amid by RECUTECH | 15 | 15 |

(C) Observations

During the test, the sample surface ignited at approximately 5 seconds; the flame began to progress along the sample until it reached the maximum flame spread.

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COMMENTARY ON CLASSIFICATION

Neither ASTM E84 nor UL 723 include classification criteria for the results obtained from testing. The International Building Code® (IBC), NFPA 101: Life Safety Code® (NFPA 101), and NFPA 5000: Building Construction and Safety Code® (NFPA 5000) all describe a set of classification criteria required for interior wall and ceiling finish materials based on Flame Spread Index and Smoke Developed Index when tested in accordance with ASTM E84 or UL 723. The classification criteria for all three model codes is the same:

| Class | Flame Spread Index | Smoke Developed Index |
|-------|--------------------|-----------------------|
| A | 0-25 | 0-450 |
| B | 26-75 | 0-450 |
| C | 76-200 | 0-450 |

Note that classification under this scheme for interior wall and ceiling finishes does not strictly apply to all products or materials tested in accordance with ASTM E84 or UL 723 because not all products or materials are recommended or suitable for use as interior wall or ceiling finish materials in buildings, regardless of the surface burning characteristics. Consult with the product manufacturer and the local authority having jurisdiction (AHJ) regarding specific applications of a given product or material.

SECTION 10

CONCLUSION

The sample 20-micron thick foil polyether block amid by RECUTECH submitted by RECUTECH s.r.o. exhibited the following flame spread characteristics when tested in accordance with UL 723 (2018), Test Method for Surface Burning Characteristics of Building Materials and therefore meets UL 723 class A.

| Sample Material | Flame Spread Index | Smoke Developed Index |
|---|--------------------|-----------------------|
| 20-micron thick foil polyether block amid by RECUTECH | 10 | 15 |

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.



Total Quality. Assured.

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1500 Brigantine Drive
Coquitlam, BC V3K 7C1

Telephone: 604-520-3321
www.intertek.com/building

SECTION 11

TEST DATA (2 PAGES)

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UL 723 DATA SHEETS

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Standard: ASTM E84/UL723

Lab ID: Intertek Coquitlam Fire Laboratory
Client: Recutech
Date: 31 May 2023
Project Number: 105404096
Test Number: 1
Operator: Sean Fewer

Specimen ID and Description:

20 micron thick foil polyether block amid core filter material
Room temp 19C RH % 56

TEST RESULTS

FLAMESPREAD INDEX: 10.000
SMOKE DEVELOPED INDEX: 15.000

SPECIMEN DATA

Time to Ignition (sec): 4.906
Time to Max Flame Spread (min): 0.332
Maximum Flame Spread (ft): 1.700
Time to 527 C / 980 F (sec): 0.000
Max Temperature (deg F or C as per test standard): 440.618
Time to Max Temperature (sec): 585.906
Total Fuel Burned (cubic feet): 51.280

Flame Spread*Time Area (M*min): 16.489
Smoke Area (%A*min): 10.043
Unrounded FSI: 8.492
Unrounded SDI: 15.116

CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 47
Calibrated Smoke Area (%A*min): 66.439

15 point Heptane average for E84
5 point Red Oak average for S102

Tested by: S.F.

Reviewed by: SF

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UL 723 DATA SHEETS

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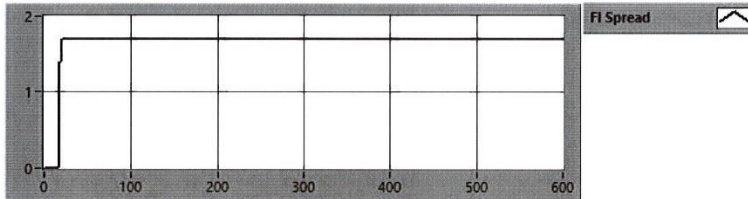
Client: Recutech

Project Number: 105404096

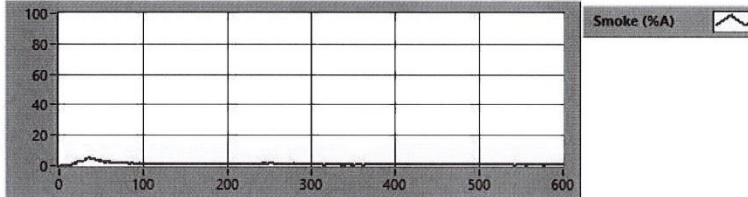
Test Number: 1

Test Standard: ASTM E84/UL723

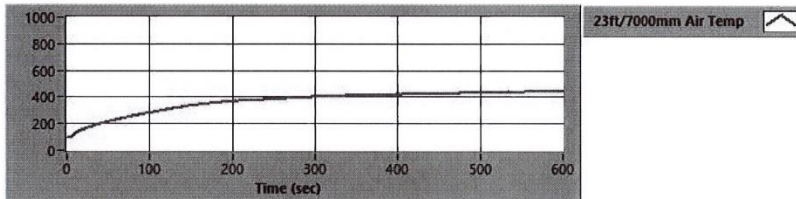
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Tested by: SF

Reviewed by: ep

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SECTION 12

PHOTOGRAPHS



Photo No. 1
Pre-Test



Photo No. 2
Post Test



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Coquitlam, BC V3K 7C1

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SECTION 13

REVISION LOG

| REVISION # | DATE | PAGES | REVISION |
|------------|----------|-------------|------------------------------------|
| 0 | 05/31/23 | N/A | Original Report Issue |
| 1 | 06/05/23 | 1,2,3,5,6,7 | Corrected Address and Product Name |