

TEST REPORT

Intertek

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EVALUATION CENTER
Intertek Testing Services NA Ltd.
1500 Brigantine Drive
Coquitlam, B.C. V3K 7C1

RENDERED TO

READY ACOUSTICS LLC
P.O. BOX 626
ELK RIVER, MN 55330

PRODUCT EVALUATED: Fabric Covered Fiberglass Insulation
EVALUATION PROPERTY: Surface Burning Characteristics

Report of Testing Fabric Covered Fiberglass Insulation for compliance with the applicable requirements of the following criteria: ASTM E84-06a, Standard Test Method for Surface Burning Characteristics of Materials.

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2 Introduction

Intertek Testing Services NA Ltd. (Intertek) has conducted testing for Ready Acoustics LLC, to evaluate the surface burning characteristics of two thicknesses of fabric covered fiberglass insulation panels. Testing was conducted in accordance with the standard methods of ASTM E84-06a, *Standard Test Method for Surface Burning Characteristics of Materials*. This evaluation began November 22, 2007 and was completed November 22, 2007.

3 Test Samples

3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client and were not independently selected for testing. The sample materials were received at the Evaluation Center on September 27, 2007.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

Both types of sample panels consisted of a 100% polyester fabric covering and a dense fiberglass batt core. The first sample type (Run 1) had a nominal thickness of 2 in. and was identified by the client as "RT422 panel". The second sample type (Run 2) had a nominal thickness of 4 in. and was identified by the client as "RT424 panel". Both sample types measured 24 in. wide by 48 in. long.

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.

For each trial run, six 4 ft. panels were placed on the upper ledge of the flame spread tunnel and butted together to form the required 24 ft. sample length. 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 ASTM E84-06a.

4 Testing and Evaluation Methods

4.1. TEST STANDARD

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 asbestos-cement board.

(A) Flame Spread Classification:

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. This information is plotted on a graph (flame spread curve).

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).

Calculations: ASTM E84-06a

According to the test standard, the flame spread classification is equal to $\frac{4900}{195 - A_T}$

when A_t is the total area beneath the flame spread curve, if this area exceeds 97.5 minute feet. If the area beneath the curve is less than or equal to 97.5 minute feet the classification becomes $0.515 \times A_t$.

(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.

Calculations:

Unrounded Smoke Developed Index = $\frac{10,000 - \text{SmokeIntegration}}{744} \times 100$

5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS

(A) Flame Spread

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

2 in. Thick Fabric Covered Fiberglass Insulation "RT422" Panel	Flame Spread	Flame Spread Classification
Run 1	1	0

4 in. Thick Fabric Covered Fiberglass Insulation "RT424" Panel	Flame Spread	Flame Spread Classification
Run 2	2	0

(B) Smoke Developed

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

2 in. Thick Fabric Covered Fiberglass Insulation "RT422" Panel	Smoke Developed	Smoke Developed Classification
Run 1	1	0

4 in. Thick Fabric Covered Fiberglass Insulation "RT424" Panel	Smoke Developed	Smoke Developed Classification
Run 1	1	0

(C) Observations

During the tests, the fabric quickly melted where it was exposed to the flame and ignited as it dripped to the floor. The flame front did not progress and there were no other visible changes to the product. After the tests, it was apparent that the material on the entire length of the product had melted to the floor of the tunnel but had burned only where it was exposed to the flame.

6 Conclusion

The two thicknesses of fabric covered fibreglass insulation, submitted by Ready Acoustics LLC, exhibited the following flame spread characteristics when tested in accordance with ASTM E84-06a, *Standard Test Method for Surface Burning Characteristics of Materials*.

Sample Material	Flame Spread Classification	Smoke Developed Classification
2 in. Thick Fabric Covered Fiberglass Insulation "RT422" Panel	0	0
4 in. Thick Fabric Covered Fiberglass Insulation "RT424" Panel	0	0

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.

INTERTEK TESTING SERVICES NA LTD.

Tested and
Reported by:



Scott Leduc, EIT
Technician – Construction Products Testing

Reviewed by:



Michael van Geyn, A.Sc.T.
Manager – Fire Testing & Technical Programs

SL/bjm

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APPENDIX A

DATA SHEETS

ASTM E84-06a DATA SHEETS
RUN 1 – 2 in. Thick Fabric Covered Fiberglass Insulation "RT422" Panel

ASTM E84

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Client: Ready Acoustics LLC
Date: 11/22/2007
Project Number: 3134326
Test Number: 1
Operator: Scott Leduc

Specimen ID: Fabric covered insulation panels

TEST RESULTS

FLAMESPREAD INDEX: 0
SMOKE DEVELOPED INDEX: 0

SPECIMEN DATA . . .

Time to Ignition (sec): 1
Time to Max FS (sec): 122
Maximum FS (feet): 0.3
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 562
Time to Max Temperature (sec): 540
Total Fuel Burned (cubic feet): 42.10

FS*Time Area (ft*min): 2.7
Smoke Area (%A*min): 0.8
Unrounded FSI: 1.4

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 0.0
Red Oak Smoke Area (%A*min): 66.8

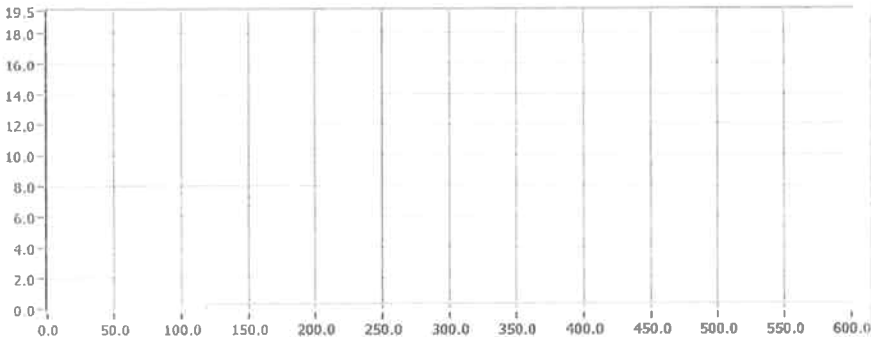
ASTM E84-06a DATA SHEETS

RUN 1 – 2 in. Thick Fabric Covered Fiberglass Insulation "RT422" Panel

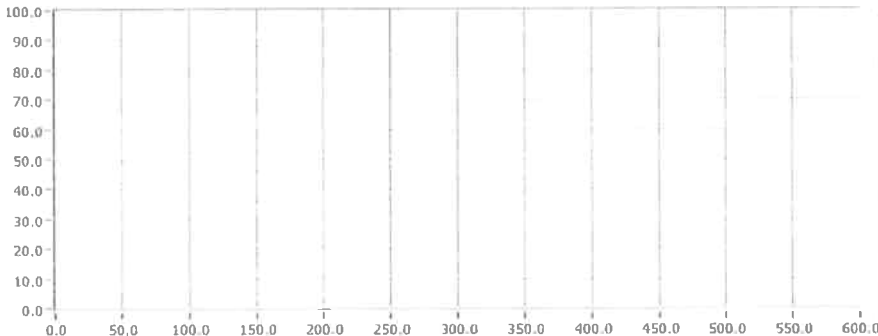
Project No: 3134326

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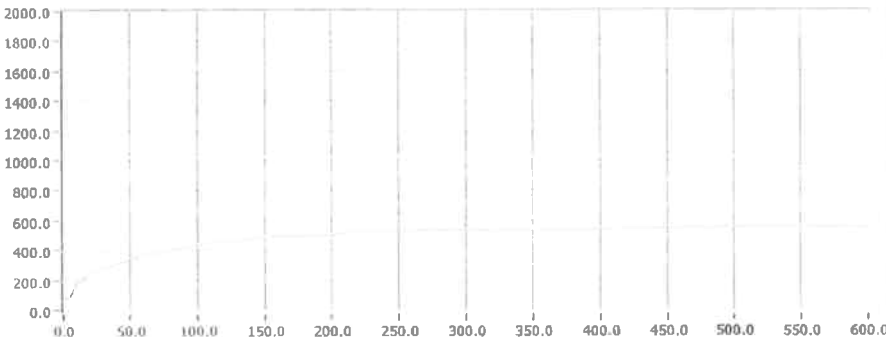
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (sec)

600

ASTM E84-06a DATA SHEETS
RUN 2 – 4 in. Thick Fabric Covered Fiberglass Insulation "RT424" Panel

ASTM E84

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Client: Ready Acoustics LLC
Date: 11/22/2007
Project Number: 3134326
Test Number: 2
Operator: Scott Leduc

Specimen ID: 4 in. thick fabric covered insulation panels

TEST RESULTS

FLAMESPREAD INDEX: 0
SMOKE DEVELOPED INDEX: 0

SPECIMEN DATA . . .

Time to Ignition (sec): 1
Time to Max FS (sec): 150
Maximum FS (feet): 0.3
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 589
Time to Max Temperature (sec): 600
Total Fuel Burned (cubic feet): 42.10

FS*Time Area (ft*min): 2.9
Smoke Area (%A*min): 0.6
Unrounded FSI: 1.5

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 0.0
Red Oak Smoke Area (%A*min): 66.8

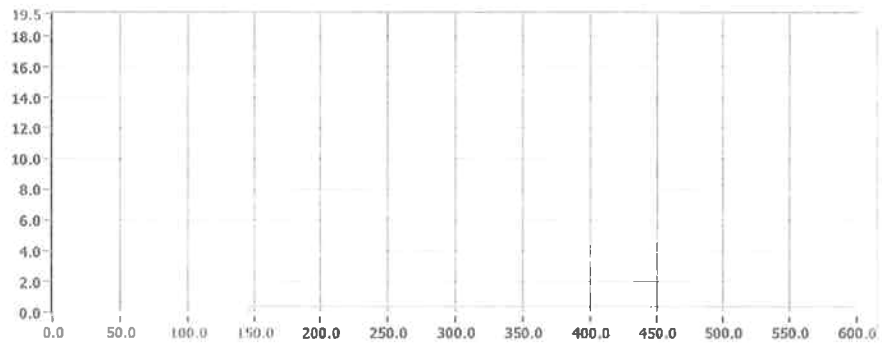
ASTM E84-06a DATA SHEETS

RUN 2 – 4 in. Thick Fabric Covered Fiberglass Insulation "RT424" Panel

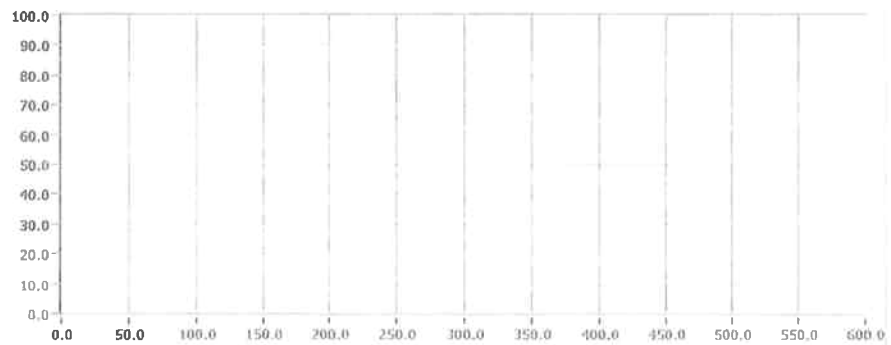
Project No: 3134326

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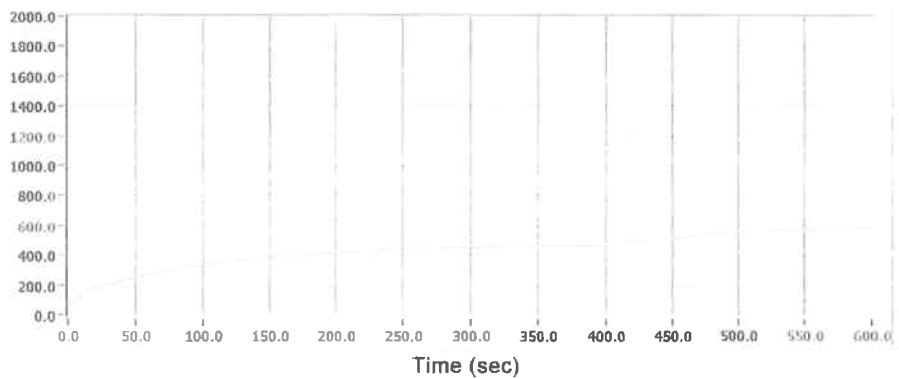
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (sec)

600