

REPORT NUMBER: 3132804COQ-006(b)
ORIGINAL ISSUE DATE: March 14, 2008

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

RENDERED TO

Monoglass Inc.
922-1200 West 73rd Avenue
Vancouver, B.C. V6P 6G5

PRODUCT EVALUATED: "Monoglass" Fiberglass Spray-Applied Insulation
EVALUATION PROPERTY: Surface Burning Characteristics

Report of testing "Monoglass" fiberglass spray-applied insulation for compliance with the applicable requirements of the following criteria: ASTM E84-07b, Standard Test Method for Surface Burning Characteristics of Materials.

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TEST REPORT

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2 Introduction

Intertek Testing Services NA Ltd. (Intertek) has conducted testing for Monoglass Inc., to evaluate the surface burning characteristics of "Monoglass" fiberglass spray-applied insulation. Testing was conducted in accordance with the standard methods of ASTM E84-07a, *Standard Test Method for Surface Burning Characteristics of Materials*.

This evaluation began March 13, 2008 and was completed March 13, 2008. Testing was witnessed by Ms Kelly McDermid representing Monoglass Inc.

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 material was received at the Evaluation Center on March 13, 2008.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The sample consisted of a 1-1/2 in. thickness of fiberglass spray-applied insulation, applied to a 1/2 in. thick cement board substrate. The product was identified by the client as "Monoglass".

Upon receipt of the samples at the Intertek Coquitlam facility they were immediately tested.

Four 5 ft. panels and one 4 ft. panel 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 E84-07b.

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 E84-07b

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:

$$\text{Unrounded Smoke Developed Index} = \frac{10,000 - \text{SmokeIntegration}}{655} \times 100$$

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)

"Monoglass" Fiberglass Spray-Applied Insulation	Flame Spread	Flame Spread Classification
Run 1	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)

"Monoglass" Fiberglass Spray-Applied Insulation	Smoke Developed	Smoke Developed Classification
Run 1	0	0

(C) Observations

During the test there was no ignition of the sample. The only apparent change in the sample was the discoloring of the surface. Near the end of the test a very small amount of the sample fell off the cement board to the floor of the tunnel.

6 Conclusion

The samples of "Monoglass" fiberglass spray-applied insulation, submitted by Monoglass Inc., exhibited the following flame spread characteristics when tested in accordance with ASTM E84-07b, *Standard Test Method for Surface Burning Characteristics of Materials*.

Sample Material	Flame Spread Classification	Smoke Developed Classification
"Monoglass" Fiberglass Spray-Applied Insulation	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:



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SL/bjm

APPENDIX A

DATA SHEETS

ASTM E84-07b DATA SHEETS

ASTM E84

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Client: Monoglass Inc.
Date: 3/13/2008
Project Number: 3132804
Test Number: 3
Operator: Scott Leduc

Specimen ID: Fiberglass spray insulation referred to by the client as "Monoglass Spray Applied Insulation".

TEST RESULTS

FLAMESPREAD INDEX: 0

SMOKE DEVELOPED INDEX: 0

SPECIMEN DATA . . .

Time to Ignition (sec): 0
Time to Max FS (sec): 37
Maximum FS (feet): 0.4
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 584
Time to Max Temperature (sec): 589
Total Fuel Burned (cubic feet): 42.10

FS*Time Area (ft*min): 3.5
Smoke Area (%A*min): 0.2
Unrounded FSI: 1.8

CALIBRATION DATA . . .

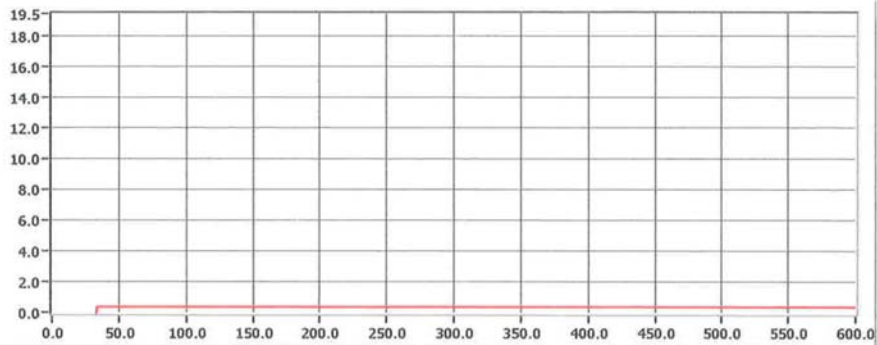
Time to Ignition of Last Red Oak (Sec): 47.0
Red Oak Smoke Area (%A*min): 65.5

ASTM E84-07b DATA SHEETS

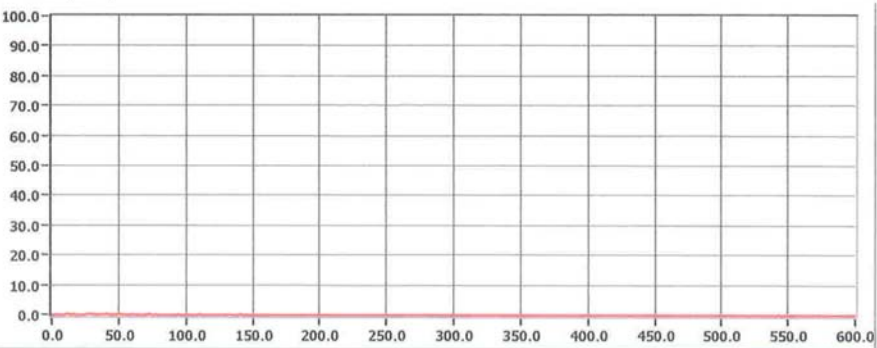
Project No: 3132804

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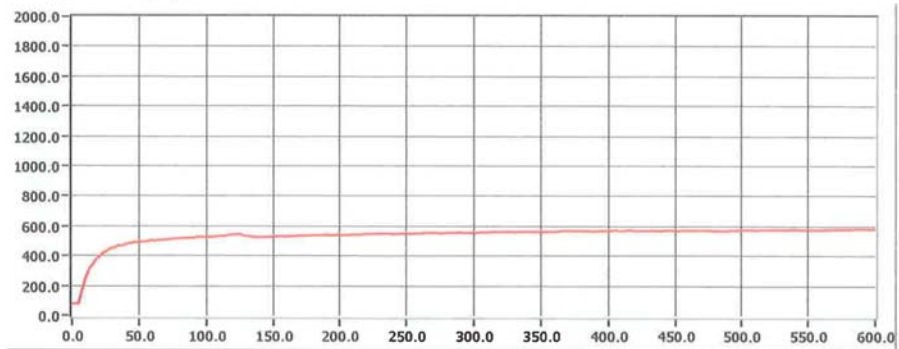
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (sec)

600

REVISION SUMMARY

DATE	PAGE	SUMMARY
March 14, 2008	--	Original Issue Date