

# TEST REPORT

The Intertek logo consists of the word "Intertek" in a white, sans-serif font, centered within a dark blue rounded rectangular background.

**REPORT NUMBER: 100593800Q-003**  
ORIGINAL ISSUE DATE: December 28, 2011

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

## RENDERED TO

**Radial Engineering Ltd**  
**1588 Kebet Way**  
**Port Coquitlam BC**  
**V3C 5M5**

PRODUCT EVALUATED: Wall Panels  
EVALUATION PROPERTY: Surface Burning Characteristics

**Report of Testing of Paintable Acoustic Wall Panels for compliance with the applicable requirements of the following criteria: ASTM E84-11b, *Standard Test Method for Surface Burning Characteristics of Materials.***

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## 2 Introduction

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Intertek Testing Services NA Ltd. (Intertek) has conducted testing for Radial Engineering Ltd., to evaluate the surface burning characteristics of paintable series acoustic wall panels. Testing was conducted in accordance with the standard methods of ASTM E84-11b, *Standard Test Method for Surface Burning Characteristics of Materials*.

This evaluation began December 28, 2011 and was completed the same day.

## 3 Test Samples

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### 3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client and were not independently selected for testing. The sample panels were received at the Evaluation Center on December 20, 2011.

### 3.2. SAMPLE AND ASSEMBLY 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 product was identified as P102 2448 09 Paintable Series Acoustic Wall Panels and measured  $1 \frac{3}{4}$  in thick by 24 in wide by 4 ft long.

For this trial run, six 4 ft. panels were placed on the upper ledge of the flame spread tunnel with the stone side oriented towards the flame 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 E84-11b.

## 4 Testing and Evaluation Methods

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### 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).

#### (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.

## 5 Testing and Evaluation Results

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### 5.1. RESULTS AND OBSERVATIONS

#### (A) Flame Spread

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

<b>P102 2448 09 Paintable Acoustic Wall Panels</b>	<b>Flame Spread</b>	<b>Flame Spread Classification</b>
Run 1	11	10

#### (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)

<b>P102 2448 09 Paintable Acoustic Wall Panels</b>	<b>Smoke Developed</b>	<b>Smoke Developed Classification</b>
Run 1	4	5

#### (C) Observations

During the tests, the sample surface ignited at approximately 20 seconds; the flame began to progress along the sample until it reached the maximum flame spread.

## 6 Conclusion

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The samples of P102 2448 09 Paintable Series Acoustic Wall Panels, submitted by Radial Engineering Ltd., exhibited the following flame spread characteristics when tested in accordance with ASTM E84-11b, *Standard Test Method for Surface Burning Characteristics of Materials*.

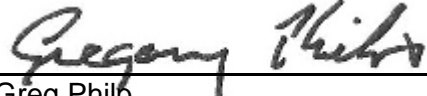
Sample Material	Flame Spread Classification	Smoke Developed Classification
P102 2448 09 Paintable Acoustic Wall Panels	10	5

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.

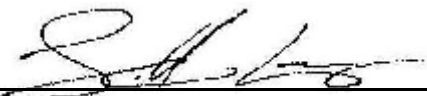
### INTERTEK TESTING SERVICES NA LTD.

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Tested and  
Reported by:

  
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Technician – Building Products

Reviewed by:

  
\_\_\_\_\_  
Scott Leduc, EIT  
Reviewer, Fire Testing

# APPENDIX A

## DATA SHEETS

## ASTM E84-11b DATA SHEETS

### ASTM E84

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Client: Radial Engineering  
Date: 12 28 2011  
Project Number: 100593800  
Test Number: 1  
Operator: Greg Philp  
Specimen ID: P102 2448 09 Paintable Series Acoustic Wall Panels

#### TEST RESULTS

**FLAMESPREAD INDEX: 10**  
**SMOKE DEVELOPED INDEX: 5**

#### SPECIMEN DATA . . .

Time to Ignition (sec): 20  
Time to Max FS (sec): 36  
Maximum FS (feet): 2.3  
Time to 980 F (sec): Never Reached  
Time to End of Tunnel (sec): Never Reached  
Max Temperature (F): 595  
Time to Max Temperature (sec): 597  
Total Fuel Burned (cubic feet): 37.00  
  
FS\*Time Area (ft<sup>2</sup>\*min): 22.0  
Smoke Area (%A\*min): 3.0  
Unrounded FSI: 11.3  
Unrounded SDI: 3.7

#### CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 48.0  
Red Oak Smoke Area (%A\*min): 81.5

Tested By  
*GP*

Reviewed By  
*[Signature]*

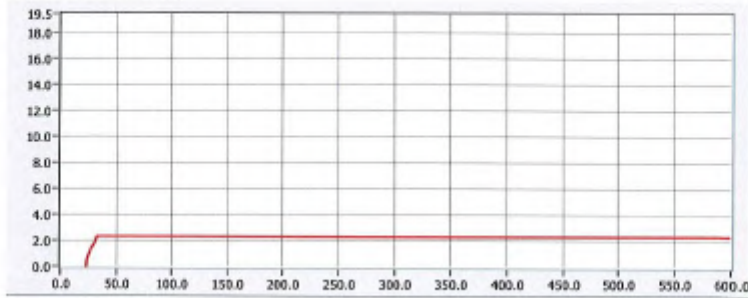


### ASTM E84-11b DATA SHEETS

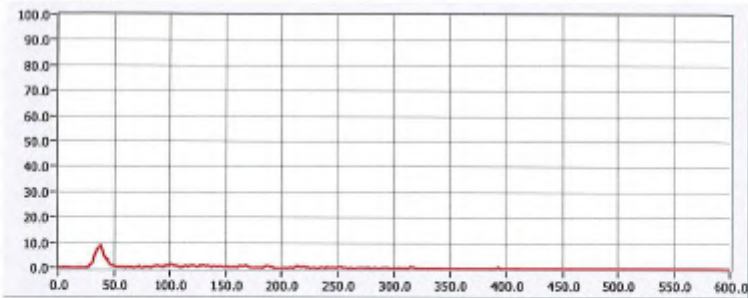
Project No: 100593800

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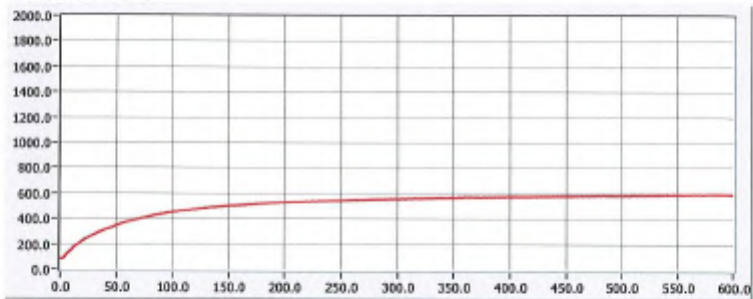
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (sec)

600

*AS*

*MS*

## REVISION SUMMARY

<b>DATE</b>	<b>PAGE</b>	<b>SUMMARY</b>
December 28, 2011	All	Original Issue Date