

TEST REPORT

Intertek ETL SEMKO

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RENDERED TO

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PRODUCT EVALUATED: Fiberglass Textile Wall Covering
EVALUATION PROPERTY: Surface Burning Characteristics

Report of Testing Fiberglass Textile Wall Covering for compliance with the applicable requirements of the following criteria: ASTM E84-05, 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 Saint-Gobain Hornstein Glastextil GmbH, to evaluate the surface burning characteristics of a fiberglass textile wall covering. Testing was conducted in accordance with the standard methods of ASTM E84-05, *Standard Test Method for Surface Burning Characteristics of Materials*. This evaluation began April 18, 2007 and was completed April 18, 2007.

3 Test Samples

3.1. SAMPLE SELECTION

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

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

There were three samples tested in this project. These samples consisted of two fiberglass wall coverings, identified by the client as "Florentine 60530" and "Relief T 1017", and one acoustic fiberglass wall covering, identified by the client as "Accoustics 89640". The specifications of the samples were supplied by the client and listed in the following table. These products were selected to represent the entire product line.

All three sample materials were mounted to 1/2 in. Georgia-Pacific gypsum wallboard using clay based adhesive. The adhesive used is Sure-Stik 111. The adhesive was applied to both the fabric and the gypsum wallboard, allowed to dry for 5 minutes, and then the fabric was applied to the gypsum board. The samples were then stored in a conditioning room to cure for 5 days.

Sample	Weight (g/m ²)	Picks/Warp (yarns/cm)	Picks/Weft (yarns/cm)	Thickness (mm)	Backing Type/Density (g/m ²)
Relief T 1017	235	1.8	2.0	.6	
Florentine 60530	220	8.0	5.0	.6	
Accoustics 89640	500	3.2	3.2	3	Viscose Acoustic Fleece/280

Upon receipt of the samples at the Intertek Coquitlam laboratory, they were mounted to the substrate as described above and 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, two 10 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 E84-05.

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 E84-05

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)

Sample Material	Flame Spread	Flame Spread Classification
"Relief T 1017" Fiberglass Textile Wall Covering	10	10
"Florentine 60530" Fiberglass Textile Wall Covering	10	10
"Accoustics 89640" Acoustic Fiberglass Wall Covering	17	15

(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)

Sample Material	Smoke Developed	Smoked Developed Classification
"Relief T 1017" Fiberglass Textile Wall Covering	3	5
"Florentine 60530" Fiberglass Textile Wall Covering	0	0
"Accoustics 89640" Acoustic Fiberglass Wall Covering	1	0

(C) Observations

Both the "Relief T 1017" and "Florentine 60530" samples exhibited the same burning characteristics. During the test the samples ignited within the first minute. The flame front spread to approximately the 7 ft. mark and remained there until the surface stopped flaming at approximately 6 minutes.

The "Accoustics 89640" sample seemed to create more flaming on the surface and as a result had a slightly larger flame spread index. The sample ignited almost immediately after the burners were lit and the flame front reached a maximum of approximately 8.5 ft. The flame front receded after 4 minutes.

For all three samples, after the test there was an obvious colour change. In the first 4 ft. where the flames from the burners were in direct contact the samples, they were white in colour. Beyond that, the colour faded from black to yellow.

6 Conclusion

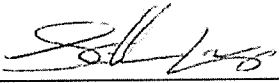
The samples of fiberglass textile wall covering, submitted by Saint-Gobain Hornstein Glastetil GmbH, exhibited the following flame spread characteristics when tested in accordance with ASTM E84-05, *Standard Test Method for Surface Burning Characteristics of Materials*.

Sample Material	Flame Spread Classification	Smoke Developed Classification
"Relief T 1017" Fiberglass Textile Wall Covering	10	5
"Florentine 60530" Fiberglass Textile Wall Covering	10	0
"Accoustics 89640" Acoustic Fiberglass Wall Covering	15	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.

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SL/bjm

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APPENDIX A

DATA SHEETS

ASTM E84-05 DATA SHEETS

"Relief T 1017" Fiberglass Textile Wall Covering

ASTM E84

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Client: Saint-Gobain Hornstein Glastextil GmbH
Date: 4/18/2007
Project Number: 3115332
Test Number: 7
Operator: Scott Leduc

Specimen ID: white fiber glass textile product on a gypsum board substrate. "Relief T 1017"

TEST RESULTS

FLAMESPREAD INDEX: 10

SMOKE DEVELOPED INDEX: 5

SPECIMEN DATA . . .

Time to Ignition (sec): 37
Time to Max FS (sec): 141
Maximum FS (feet): 2.2
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 557
Time to Max Temperature (sec): 570
Total Fuel Burned (cubic feet): 42.00

FS*Time Area (ft*min): 19.7
Smoke Area (%A*min): 2.2
Unrounded FSI: 10.2

CALIBRATION DATA . .

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

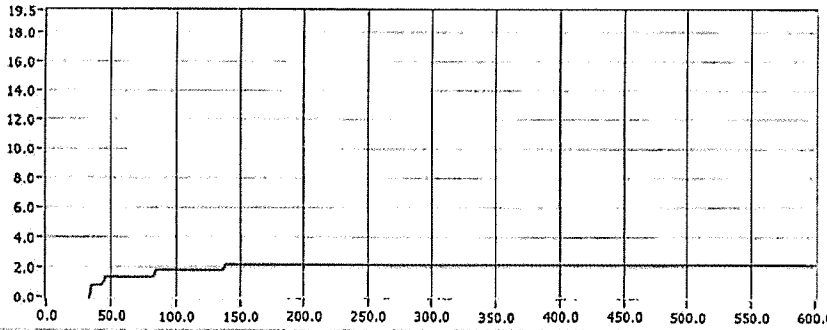
ASTM E84-05 DATA SHEETS

"Relief T 1017" Fiberglass Textile Wall Covering

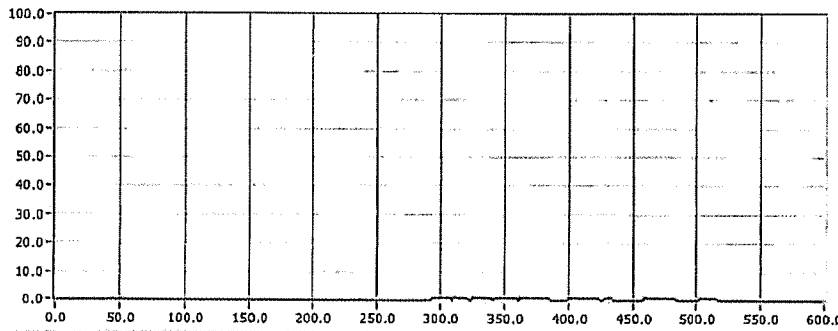
Project No: 3115332

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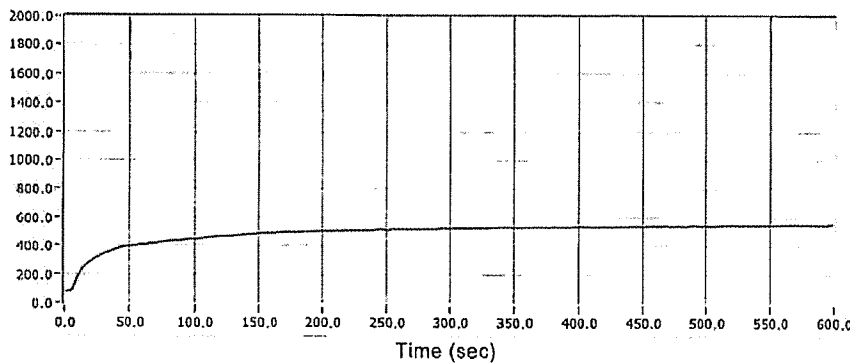
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



600

ASTM E84-05 DATA SHEETS

"Florentine 60530" Fiberglass Textile Wall Covering

ASTM E84

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Client: Saint-Gobain Hornstein Glastextil GmbH
Date: 4/18/2007
Project Number: 3115332
Test Number: 8
Operator: Scott Leduc

Specimen ID: White fiber glass textile product on a gypsum board substrate. "Florentine 60530"

TEST RESULTS

FLAMESPREAD INDEX: 10

SMOKE DEVELOPED INDEX: 0

SPECIMEN DATA . . .

Time to Ignition (sec): 44
Time to Max FS (sec): 97
Maximum FS (feet): 2.2
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 553
Time to Max Temperature (sec): 586
Total Fuel Burned (cubic feet): 42.10

FS*Time Area (ft*min): 19.2
Smoke Area (%A*min): 0.3
Unrounded FSI: 9.9

CALIBRATION DATA . . .

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

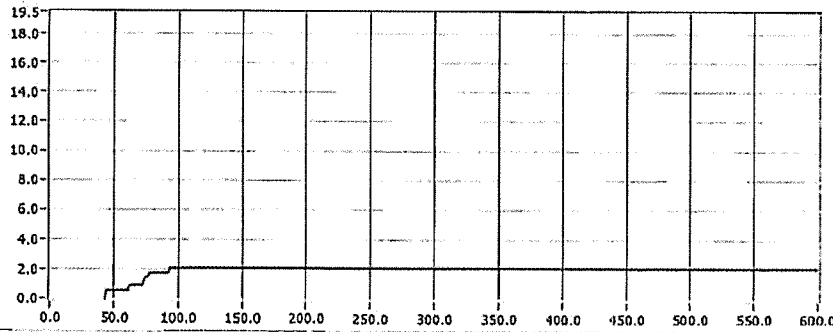
ASTM E84-05 DATA SHEETS

"Florentine 60530" Fiberglass Textile Wall Covering

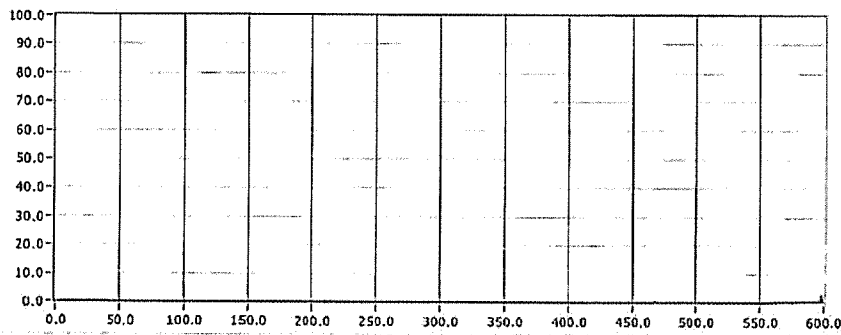
Project No: 3115332

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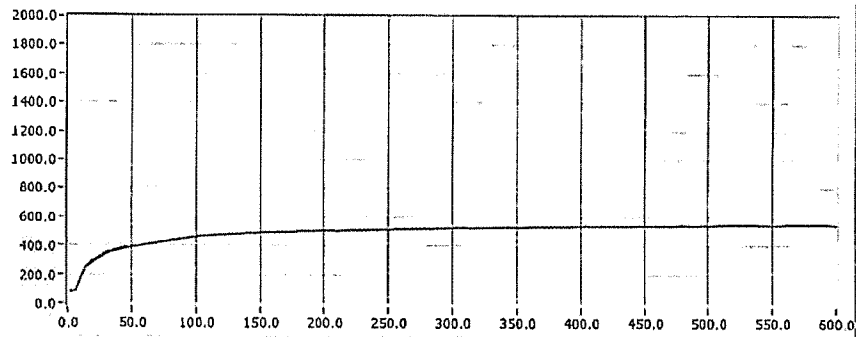
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (sec)

600

ASTM E84-05 DATA SHEETS

"Accoustics 89640" Acoustic Fiberglass Wall Covering

ASTM E84

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Client: Saint-Gobain Hornstein Glastextil GmbH
Date: 4/18/2007
Project Number: 3115332
Test Number: 9
Operator: Scott Leduc

Specimen ID: White fiber glass acoustic wall covering mounted on a gypsum board substrate.
"Accoustics 89640"

TEST RESULTS

FLAMESPREAD INDEX: 15

SMOKE DEVELOPED INDEX: 0

SPECIMEN DATA . . .

Time to Ignition (sec): 11
Time to Max FS (sec): 171
Maximum FS (feet): 3.6
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 582
Time to Max Temperature (sec): 235
Total Fuel Burned (cubic feet): 42.10

FS*Time Area (ft*min): 33.9
Smoke Area (%A*min): 0.8
Unrounded FSI: 17.4

CALIBRATION DATA . . .

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

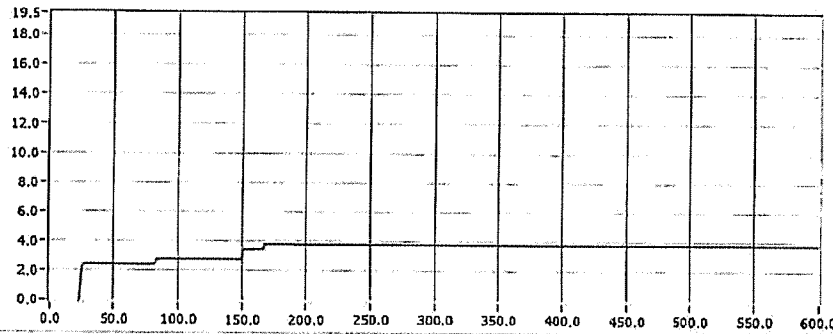
ASTM E84-05 DATA SHEETS

"Accoustics 89640" Acoustic Fiberglass Wall Covering

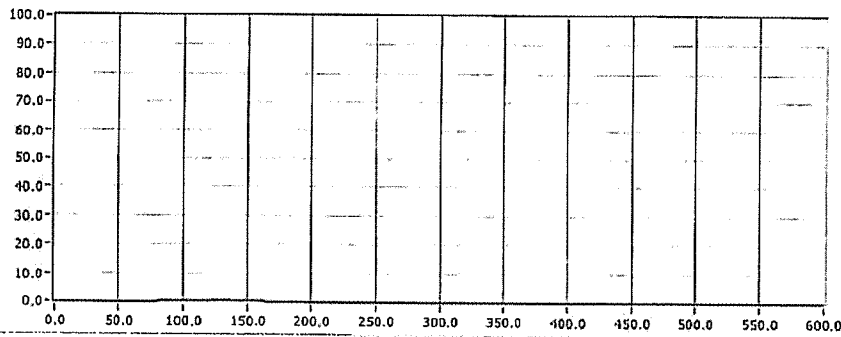
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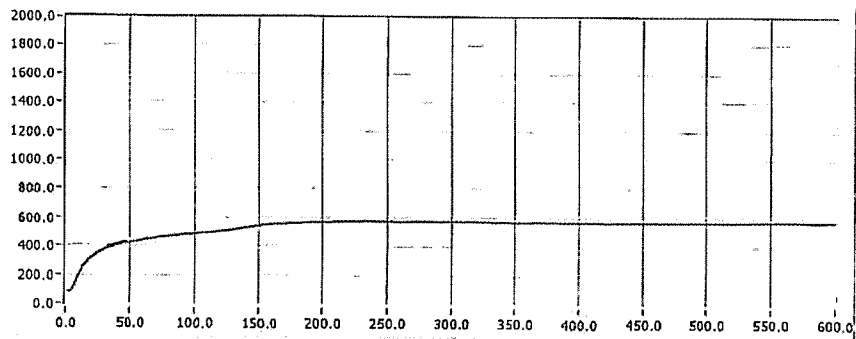
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (sec)

600