Important Notice

In August 1, 2013, PABCO® Gypsum, a division of PABCO® building products, LLC acquired the QuietRock® business and operations from Serious Energy, Inc. Serious Energy, Inc. corporate structure and legal name changed through the years from Quiet Solution, Inc. to Serious Materials, Inc to Serious Energy, Inc. The acquisition of the QuietRock® business by PABCO® Gypsum includes the products, technical data, test reports and other intellectual property. For the avoidance of confusion, references to “Quiet Solution”, “Serious Materials”, or “Serious Energy” used within test reports, in general, should be understood as references to PABCO® Gypsum as of August 1, 2013.
June 03, 2011

Serious Materials Inc.
Mr. Kent Whiting
1250 Elko Dr
Sunnyvale, CA  94089
USA

Our Reference:       SV18874/11CA22967

Subject:            Report of Surface Burning Characteristics Tests On Samples As Submitted By Serious Materials Inc.

Dear Mr. Whiting:

This is a Report summarizing the results of tests conducted under the Commercial Inspection and Testing Services (CITS) program identified as Assignment No. 11CA22967.

GENERAL:

The results relate only to items tested.

METHOD:


The test determines the Surface Burning Characteristics of the material, specifically the flame spread and smoke developed indices when exposed to fire.

The maximum distance the flame travels along the length of the sample from the end of the igniting flame is determined by observation. The Flame Spread Index of the material is derived by plotting the progression of the flame front on a time-distance basis, ignoring any flame front recession, and using the equations described below:

A. \[ CFS = 0.515 \, A_T \text{ when } A_T \text{ is less than or equal to } 97.5 \text{ minute-foot}. \]

B. \[ CFS = \frac{4900}{(195-A_T)} \text{ when } A_T \text{ is greater than } 97.5 \text{ minute-foot}. \]

Where \( A_T \) = total area under the time distance curve expressed in minute-foot.
The Smoke Developed Index (SDI) is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of photoelectric equipment operating across the furnace flue pipe. A curve is developed by plotting the values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for the material tested as a percentage of the area under the curve for untreated red oak.

The CSD is expressed as:

\[
\text{CSD} = \left( \frac{A_m}{A_{ro}} \right) \times 100
\]

Where:

- \( \text{CSD} \) = Calculated Smoke Developed
- \( A_m \) = The area under the curve for the test material.
- \( A_{ro} \) = The area under the curve for untreated red oak.

**SAMPLES:**

The samples utilized in this investigation were neither prepared nor selected by a Laboratories' representative such that no verification of composition can be provided.

<table>
<thead>
<tr>
<th>Test No.</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>QUIET GLUE PRO - CAULK (ORANGE)</td>
</tr>
<tr>
<td>2</td>
<td>QUIET SEAL PRO (351) - CAULK (BLUE)</td>
</tr>
</tbody>
</table>

Both test materials were applied on inorganic cement board at two 1/2in.diameter beads 8 in. OC covering 5.55 percent of the exposed test sample area. Each test sample consisted of three 8 by 2 ft. wide boards butted end-to-end to form the required 24 ft. long surface. Due to the rigidity of the test samples, supplementary means of support was not required.
RESULTS:

The results are tabulated below are considered applicable only to the specific samples tested. Data sheets and graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

Table 1: Test Summary

<table>
<thead>
<tr>
<th>Test No.</th>
<th>Test Code</th>
<th>Sample Description</th>
<th>CFS Calculated Flame Spread</th>
<th>FSI Flame Spread Index</th>
<th>CSD Calculated Smoke Developed</th>
<th>SDI Smoke Developed Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>06021111</td>
<td>QUIET GLUE PRO - CAULK (ORANGE)</td>
<td>25.47</td>
<td>25</td>
<td>218.3</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>06021114</td>
<td>QUIET SEAL PRO (351) - CAULK (BLUE)</td>
<td>6.30</td>
<td>5</td>
<td>6.2</td>
<td>5</td>
</tr>
</tbody>
</table>
The Classification Marking of Underwriters Laboratories Inc. on the product is the only method provided by Underwriters Laboratories Inc. to identify products which have been produced under its Classification and Follow-Up Service. No use of a Classification Marking has been authorized as a result of this investigation.

Since the anticipated work has been completed, we have instructed our Accounting Department to terminate the investigation and invoice you for the charges incurred to date.

Should you have any questions, please contact the undersigned.

Very truly yours

Jamila Shawon (ext. 42607)  
Senior Project Engineer  
Fire Protection Division

Reviewed by:

James Smith (ext. 42666)  
Staff Engineering Associate  
Fire Protection Division
TEST METHOD: The test was conducted in accordance with UL 723, Tenth Edition.

<table>
<thead>
<tr>
<th>Client Name:</th>
<th>SERIOUS MATERIALS INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Duration</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Test No.:</td>
<td>1</td>
</tr>
<tr>
<td>Mounting:</td>
<td>RCB</td>
</tr>
<tr>
<td>Test Type:</td>
<td>CITS</td>
</tr>
<tr>
<td>Burn-Out Required:</td>
<td>Yes</td>
</tr>
<tr>
<td>Test Sample:</td>
<td>QUIET GLUE PRO - CAULK (ORANGE)</td>
</tr>
</tbody>
</table>

*sealant & glue material on inorganic cement board at two 1/2in.diameter beads 8 in. OC covering 5.55 percent of the exposed test sample area.

**FLAME SPREAD RESULTS**

<table>
<thead>
<tr>
<th>Distance (Feet)</th>
<th>Time (Sec)</th>
<th>Distance (Feet)</th>
<th>Time (Sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition</td>
<td>26</td>
<td>3.5</td>
<td>180</td>
</tr>
<tr>
<td>0.5</td>
<td>54</td>
<td>4</td>
<td>188</td>
</tr>
<tr>
<td>1</td>
<td>64</td>
<td>4.5</td>
<td>206</td>
</tr>
<tr>
<td>1.5</td>
<td>74</td>
<td>5</td>
<td>210</td>
</tr>
<tr>
<td>2</td>
<td>88</td>
<td>6</td>
<td>218</td>
</tr>
<tr>
<td>2.5</td>
<td>98</td>
<td>6.5</td>
<td>240</td>
</tr>
<tr>
<td>3</td>
<td>128</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated Flame Spread (CFS): 25.47
Flame Spread Index (FSI): 25
Time to Ignition (sec): 26
Maximum Flame Spread (ft): 6.5
Area Under the Flame Spread Curve (ft.-min): 49.5

**SMOKE RESULTS**

Calculated Smoke Developed (CSD): 218.3
Smoke Developed Index (SDI): 200
Area Under the Smoke Curve (Obs-min.): 152.15
Area Under Red Oak Curve (Obs-min.): 69.69

Post-Test Observations
Discoloration (Feet From Burner): 22
Melt (Feet From Burner): 21.50
Flame Spread / Smoke Results

SERIOUS MATERIALS INC
QUIET GLUE PRO - CAULK (ORANGE)

Test Num.: 1
SV18874 / 11CA22967
06021111

Flame Spread Index: 25
Smoke Developed Index: 200
Max. Flame Spread (ft.): 6.5
TEST METHOD: The test was conducted in accordance with UL 723, Tenth Edition.

<table>
<thead>
<tr>
<th>Client Name</th>
<th>SERIOUS MATERIALS INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Duration</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Test No.</td>
<td>2</td>
</tr>
<tr>
<td>Mounting</td>
<td>RCB</td>
</tr>
<tr>
<td>Test Type</td>
<td>CITS</td>
</tr>
<tr>
<td>Hot Test</td>
<td>No</td>
</tr>
<tr>
<td>Burn-Out Required</td>
<td>No</td>
</tr>
</tbody>
</table>

**Test Sample:** QUIET SEAL PRO (351) - CAULK (BLUE) sealant & glue material on inorganic cement board at two 1/2in.diameter beads 8 in. OC covering 5.55 percent of the exposed test sample area.

**FLAME SPREAD RESULTS**

<table>
<thead>
<tr>
<th>Distance (Feet)</th>
<th>Time (Sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition</td>
<td>44</td>
</tr>
<tr>
<td>0.5</td>
<td>164</td>
</tr>
<tr>
<td>1</td>
<td>182</td>
</tr>
<tr>
<td>1.5</td>
<td>260</td>
</tr>
<tr>
<td>2</td>
<td>380</td>
</tr>
</tbody>
</table>

Calculated Flame Spread (CFS): 6.30
Flame Spread Index (FSI): 5

Time to Ignition (sec): 44
Maximum Flame Spread (ft): 2.0
Area Under the Flame Spread Curve (ft.-min): 12.2

**SMOKE RESULTS**

Calculated Smoke Developed (CSD): 6.2
Smoke Developed Index (SDI): 5

Area Under the Smoke Curve (Obs-min.): 4.31
Area Under Red Oak Curve (Obs-min.): 69.69

Post-Test Observations
Discoloration (Feet From Burner): 24
Char (Feet From Burner): 6.5
Flame Spread / Smoke Results

SERIOUS MATERIALS INC
QUIET SEAL PRO (351) - CAULK (BLUE)

Test Num.: 2
SV18874 / I1CA22967
06021114

Flame Spread Index: 5
Smoke Developed Index: 5
Max. Flame Spread (ft.): 2.0