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.
INVESTIGATION OF THE SURFACE BURNING CHARACTERISTICS OF A MULTI-LAYERED 0.25 IN. THICK GYPSUM WALLBOARD SANDWICH PANEL, WITH A 30 GAUGE METAL SHEET CORE
MATERIAL ID: QUIET ROCK QR-530

FINAL REPORT
Consisting of 5 Pages
SwRI Project No.: 01.10932.01.096
Test Date: January 17, 2005

Report Date: February 7, 2005

Prepared for:
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INTRODUCTION

This report presents the results of an ASTM E 84 test on a specimen submitted by the Client, tested at Southwest Research Institute’s (SwRI’s) Department of Fire Technology, located in San Antonio, Texas. The test is conducted in accordance with the procedure outlined in ASTM E 84-03, “Standard Test Method for Surface Burning Characteristics of Building Materials” (NFPA 255, ANSI/UL 723 and UBC 8-1).

This test method is applicable to exposed surfaces, such as ceilings or walls, provided that the material or assembly of materials, by its own structural quality or the manner in which it is tested and intended for use, is capable of supporting itself in position or being supported during the test period. The test is conducted with the material in the ceiling position.

The purpose of this test method is to determine the relative burning behavior of the material by observing the flame spread along the specimen. Flame Spread and Smoke Developed index are reported. However, there is not necessarily a relationship between these two measurements.

This standard should be used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions and should not be used to describe or appraise the fire-hazard or fire-risk of materials, products, or assemblies under actual fire conditions. However, results of the test may be used as elements of a fire-hazard assessment or a fire-risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard or fire risk of a particular end use.

Test specimens are conditioned as appropriate in an atmosphere maintained between 68 and 78°F and 45 to 55% relative humidity. Immediately prior to the test, the specimen is mounted in the furnace with the side to be tested facing the test flame. Sometimes, because of the nature of the material undergoing testing, additional support (e.g. wire, wire and rods, rods, and/or bars) is used to ensure that the specimen will remain in position during the test. The use of supporting materials on the underside of the test specimen may lower the Flame Spread Index from that which might be obtained if the specimen could be tested without such support, and the test results do not necessarily relate to indices obtained by testing materials without such support.

The flame front position and light obscuration are recorded throughout the 10-minute test and used to calculate the Flame Spread and Smoke Developed indices. The temperature at 23 ft is also recorded. The Flame Spread and Smoke Developed indices reported herein are relative to the results obtained for mineral fiber-reinforced cement board and select grade red oak (moisture content between 6 and 8%). The mineral fiber-reinforced cement board is the calibration material used to obtain 0 values for Flame Spread and Smoke; red oak decks are used to obtain 100 values for Flame Spread and Smoke.

The results apply specifically to the specimens tested, in the manner tested, and not to the entire production of these or similar materials, nor to the performance when used in combination with other materials.

Two model building codes (2000 International Building Code®, Chapter 8 Interior Finishes, Section 803 Wall and Ceiling Finishes; NFPA 5000, Chapter 10 Interior Finish, Section 10.3 Interior Wall or Ceiling Finish Testing and Classification) classify materials based on the Flame Spread and Smoke Developed indices. For reference purposes, the classification criteria are listed below:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Flame Spread Index</th>
<th>Smoke Developed Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0 – 25</td>
<td>0 – 450</td>
</tr>
<tr>
<td>B</td>
<td>26 – 75</td>
<td>0 – 450</td>
</tr>
<tr>
<td>C</td>
<td>76 – 200</td>
<td>0 – 450</td>
</tr>
</tbody>
</table>
ASTM E 84-03 REPORT

CLIENT: QUIET SOLUTION, INC.
SWRI PROJECT NO.: 01.10932.01.096
TEST DATE: JANUARY 17, 2005
DAILY TEST NO.: 2

DESCRIPTION OF SPECIMEN

DATE RECEIVED: 3-Jan-2005 (received ready-to-test)
MATERIAL ID:* Quiet Rock QR-530
TRADE NAME: QR-530
DESCRIPTION:* Multi-layered engineered drywall panel
COMPOSITION: Laminated gypsum wallboard panel with a 30 gauge sheet metal core
THICKNESS: 0.25 in. per gypsum, 30 gauge sheet metal core for a total of 0.55 in. (nominal)
DENSITY:* 2.6 lbs/sq ft
COLOR: White
SPECIMEN SIZE: Three sections, 23.875 in. wide x 96.0 in. long
CONDITIONING TIME: 14 days at 70°F and 50% relative humidity
SUPPORT USED: None
WITNESSED BY: Mr. Ted Devit (DeVit Consulting) representing Quiet Solution, Inc.

* From Client's material description and/or instructions
ASTM E 84-03 REPORT

CLIENT: QUIET SOLUTION, INC.
SWRI PROJECT NO.: 01.10932.01.096
TEST DATE: JANUARY 17, 2005
DAILY TEST NO.: 2

TEST RESULTS (ROUNDED TO NEAREST 5)

FLAME SPREAD INDEX (FSI): 10
SMOKE DEVELOPED INDEX (SDI): 20

TEST DATA

UNROUNDED FSI: 8.3
UNROUNDED SDI: 20.7
FS*TIME AREA (Ft*Min): 16.3
SMOKE AREA (%*Min): 27.5
FUEL AREA (°F*Min): 5373.7

OBSERVATIONS DURING TEST

IGNITION TIME (Min:Sec): 1:26
MAXIMUM FLAME FRONT ADVANCE (Ft.): 5.0
TIME TO MAXIMUM ADVANCE (Min:Sec): 8:57
MAXIMUM TEMP. AT EXPOSED TC (°F): 614
TIME TO MAXIMUM TEMP. (Min:Sec): 9:36
TOTAL FUEL BURNED (Cu. Ft.): 52.0
DRIPPING (Min:Sec): None
FLAMING ON FLOOR (Min:Sec): None
AFTERFLAME TOP (Min:Sec): 2:46
AFTERFLAME FLOOR (Min:Sec): None

CALIBRATION DATA (LAST RED OAK)

RED OAK SMOKE AREA (%*Min): 109.3
RED OAK FUEL AREA (°F*Min): 8555.3
GRC BOARD FUEL AREA (°F*Min): 5170.2
LIGHT OBSCURATION

FLAMESPREAD

--- Red Oak
--- Specimen