Acoustical Testing Laboratory

TEST REPORT

For

Rendered by Manufacturer and Released to:
Acoustical Surfaces, Inc.
123 Columbia Court North
Chaska, MN 55318

Sound Transmission Loss Test
ASTM E 90 – 04 / E 413 – 04
On

Single Layer of 1/2 Inch SoundBreak® Gypsum Wallboard Over
Single Layer of 1/2 Inch Regular Gypsum Wallboard - Side 1
Single Layer of 1/2 Inch Regular Gypsum Wallboard - Side 2
On Nominal 2 Inch by 4 Inch (24 inch o.c.) Wood Studs, Fiberglass Batt Insulation

Report Number: NGC 209928
Assignment Number: G-307N

Test Date: 07/20/2009
Report Date: 08/03/2009

Submitted by:

Steven M. Armenia
Test Technician

Reviewed by:

Robert J. Meddini
Director

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Report Number: NGC 3009028


Specimen Description: The test specimen was a partition assembly constructed within the 12 ft. Wide by 9 ft. High (3657mm x 2743mm H) test opening. The test specimen was described by client as, wood stud framing 2 in. on center with a single layer of 1/2 inch gypsum board on receive side and single layer of 1/2 inch SoundBreak@ gypsum over a single layer of 1/2 inch gypsum board on source side. Un-felted fiberglass insulation placed into the cavities formed by the framing members

Standard direction of sound from Source Room (Room 1) to Receiving Room (Room 2). The wall system was constructed in the test opening and consisted of:

- 1 layer of 12.7mm (1/2 in.) SoundBreak gypsum wallboard. Sample weight was 10.8 kg/m² (2.2 PSF) mounted vertically. Screw spacing was 304.8mm (12 in.) on center with 41.3mm (1-1/2 in.) course thread bugle head drywall screws.
- 1 layer of 15.2mm (1/2 in.) regular gypsum wallboard. Sample weight was 6.3 kg/m² (1.3 PSF) mounted vertically and attached directly to the wood framing members. Screw spacing was 304.8mm (12 in.) on center with 4.8mm (1/16 in.) course thread bugle head drywall screws.
- 89mm (3-1/2 in.) wide by 35mm (1-1/2 in.) thick wood studs mounted vertically 406.4mm (34 in.) on center between the top and bottom plates 2.3 kg/m² (0.53 PSF).
- 89mm (3-1/2 in.) wide by 35mm (1-1/2 in.) thick wood top and bottom plates 1.2 kg/m² (0.23 PSF). A band of acoustical caulk was placed between plate and test assembly.
- 1 layer of 89mm (3-1/2 in.) un-felted fiberglass insulation was friction fit into stud cavities. The sample weight was found to be 1.1 kg/m² (0.23 PSF).
- 1 layer of 12.7mm (1/2 in.) regular gypsum wallboard. Sample weight was 6.3 kg/m² (1.3 PSF) mounted vertically and attached directly to the wood framing members. Screw spacing was 304.8mm (12 in.) on center with 4.8mm (1/16 in.) course thread bugle head drywall screws.

Total weight of the wall system was 38.2 kg/m² (8.78 PSF)

The perimeter of the wall system was sealed with acoustical caulk and exposed board joints were taped.

Specimen size: 3557mm x 2743mm (12 ft x 9 ft)

Conditioning: Boards were tested as received.

Test Results: The results of the tests are given on pages 3 and 4.

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### Sound Transmission Loss Test Data

<table>
<thead>
<tr>
<th>Test: ASTM E 90 - 04 / ASTM E 413 - 04</th>
<th>Page 3 of 4</th>
</tr>
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<tbody>
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<td><strong>Test Report:</strong> NGC2006029</td>
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<tr>
<td><strong>Date:</strong> 07/20/09</td>
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<tr>
<td><strong>Specimen Size (m²):</strong> 10.1</td>
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<tr>
<td><strong>Source room</strong></td>
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<td><strong>Volume (m³):</strong> 91.2</td>
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<td><strong>Humidity (%):</strong> 54</td>
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<td><strong>Sound Transmission Class STC [dB]:</strong> 51</td>
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<td><strong>Sum of Unfavorable Deviations [dBA]:</strong> 32</td>
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<td><strong>Max. Unfavorable Deviation [dBA]:</strong> 0</td>
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</table>

**STL** = Sound Transmission Loss, dBA

**L1** = Source Room Level, dBA

**L2** = Receiving Room Level, dBA

**d** = Decay Time, dBA/Second

**Δ STL** = Uncertainty for 95% Confidence Level

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Sound Transmission Loss Test Data
Per: ASTM E 90 - 04 / ASTM E 413 - 04

Test Report: NGC2009028
Test Date: 07/20/09
Specimen Size [m²]: 10.1

Sound Transmission Class STC = 51 dB

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*Due to high insulating value of specimen, background levels limit results at these frequencies.

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