



# Acoustical Surfaces, Inc.

**SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS**

123 Columbia Court North • Suite 201 • Chaska, MN 55318

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**We Identify and S.T.O.P. Your Noise Problems**



Acoustical Testing  
Laboratory



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under Lab Code 200291

## 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 - 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,

Page 1 of 4


Report Number: NGC 2009027

Assignment Number: G-307N


Test Date: 07/17/2009

Report Date: 08/03/2009

Submitted by:

  
Steven M. Armenia  
Test Technician

Reviewed by:

  
Robert J. Menchetti  
Director

The results reported above apply to specific samples submitted for measurement.  
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Report Number: NGC 2009027

**Test Method:** This test method conforms explicitly with the American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements - Designation: E 90 - 04 / E 413 - 04.

**Specimen Description:** The test specimen was a partition assembly constructed within the 12 ft. Wide by 9 ft. High (3657mm W by 2743mm H) test opening. The test specimen was described by client as, wood stud framing 24 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 on source side. Un-faced 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:  
From Room 1 to Room 2.

- 1 layer of 12.7mm (1/2 in.) SoundBreak® gypsum wallboard. Sample weight was 10.8 kg/m<sup>2</sup> (2.2 PSF) mounted vertically and attached directly to the wood framing members. Screw spacing was 304.8mm (12 in.) on center with 31.2mm (1-1/4 in.) coarse thread bugle head drywall screws.
- 89mm (3-1/2 in.) wide by 38mm (1-1/2 in.) thick wood studs mounted vertically 406.4mm (24 in.) on center between the top and bottom plates 2.5 kg/m<sup>2</sup> (0.52 PSF).
- 89mm (3-1/2 in.) wide by 38mm (1-1/2 in.) thick wood top and bottom plates 1.2 kg/m<sup>2</sup> (0.23 PSF). A bead of acoustical caulk was placed between plate and test assembly.
- 1 layer of 89mm (3-1/2 in.) un-faced fiberglass insulation was friction fit into stud cavities. The sample weight was found to be 1.1 kg/m<sup>2</sup> (0.23 PSF).
- 1 layer of 12.7mm (1/2 in.) regular gypsum wallboard. Sample weight was 6.3 kg/m<sup>2</sup> (1.3 PSF) mounted vertically and attached directly to the wood framing members. Screw spacing was 304.8mm (12 in.) on center with 31.2mm (1-1/4 in.) coarse thread bugle head drywall screws.

Total weight of the wall system was 21.9 kg/m<sup>2</sup> (4.48 PSF)

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

**Specimen size:** 3657mm 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							
Test: ASTM E 90 - 04 / ASTM E 413 - 04							Page 3 of 4
Test Report: NGC2009027				Date: 07/17/09			
Specimen Size [m <sup>2</sup> ]: 10.1							
<b>Source room</b>				<b>Receiving room</b>			
Volume [m <sup>3</sup> ]: 91.3				Volume [m <sup>3</sup> ]: 98.7			
Rm Temp [°C]: 23.5				Rm Temp [°C]: 23.5			
Humidity [%]: 52				Humidity [%]: 53			
<b>Sound Transmission Class STC [dB]: 49</b>							
Sum of Unfavorable Deviations [dB]: 29							
Max. Unfavorable Deviation [dB]: 6				at 250 Hz			
Frequency	STL	L1	L2	d	Corr.	u.Dev.	ΔSTL
[Hz]	[dB]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
50	15	90.5	75.2	23.4	-0.3		
63	15	96.2	83.9	18.3	2.7		
80	15	98.8	84.2	32.2	0.4		0.0
100	20	98.1	81.1	22.0	3.0		0.0
125	31	99.7	71.5	18.7	2.8	2	1.0
160	37	97.2	64.4	12.6	4.2		2.0
200	35	96.3	66.1	13.2	4.8	4	0.8
250	36	95.0	63.2	14.4	4.2	6	0.5
315	39	96.3	61.7	13.4	4.4	6	0.4
400	42	95.7	57.7	13.2	4.0	6	0.3
500	46	96.5	55.2	12.5	4.7	3	0.2
630	49	97.0	52.5	12.3	4.5	1	0.1
800	52	97.5	50.3	12.9	4.8		0.1
1000	54	96.0	46.5	13.8	4.5		0.0
1250	56	97.5	45.4	14.9	3.9		0.1
1600	59	96.5	41.5	17.2	4.0		0.1
2000	60	97.3	39.8	20.6	2.5		0.0
2500	58	98.7	43.0	23.6	2.3		0.0
3150	52	97.1	46.1	26.4	1.0	1	0.0
4000	53	97.2	45.4	29.4	1.2		0.0
5000	54	95.9	42.3	33.2	0.4		0.0

STL = Sound Transmission Loss, dB  
L1 = Source Room Level, dB  
L2 = Receiving Room Level, dB  
d = Decay Time, dB/second  
Δ STL = Uncertainty for 95% Confidence Level

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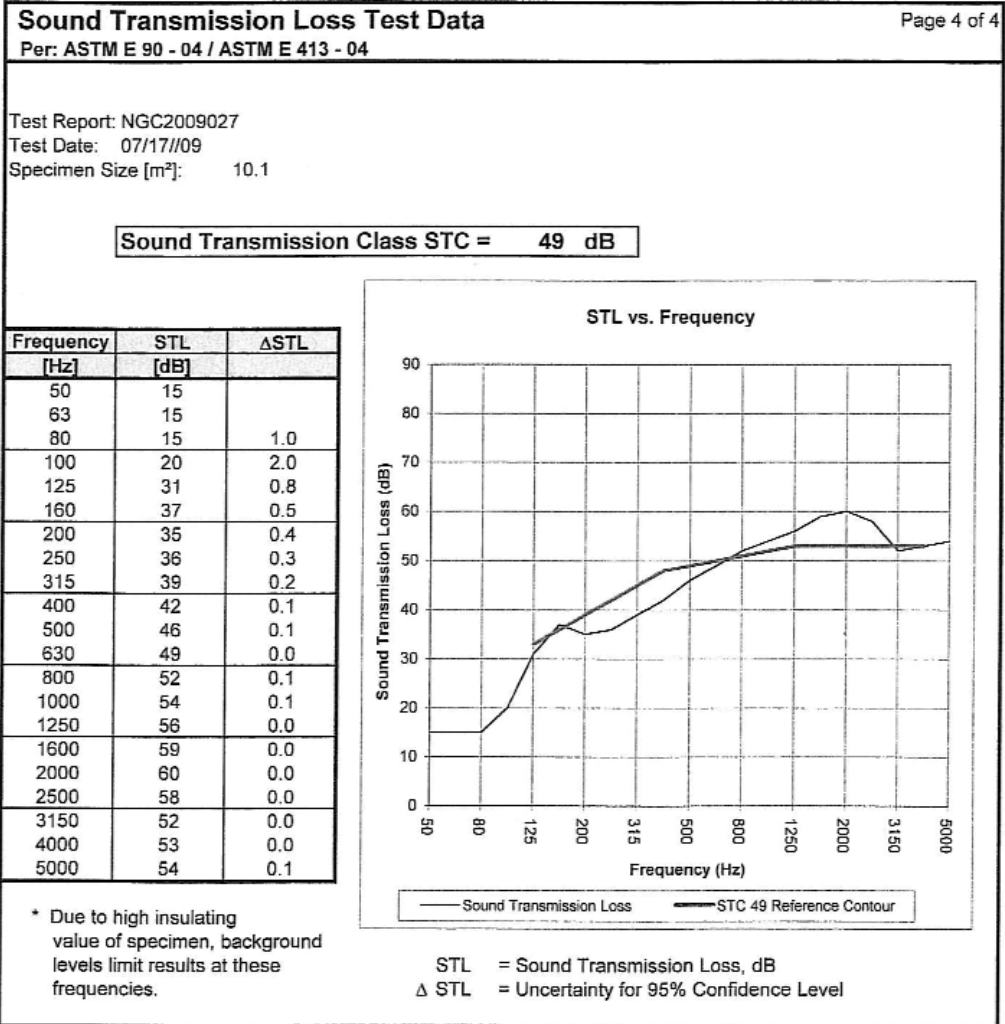
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