



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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



**Acoustical Testing
Laboratory**



Accredited by the National Voluntary
Laboratory Accreditation Program
for the specific scope of accreditation
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 5/8 Inch SoundBreak® Gypsum Wallboard Side - Side 1

Single Layer of 5/8 Inch Type X Gypsum Wallboard - Side 2

On 2-1/2 Inch Metal Studded Chase Walls with 3 Inch Mineral Wool Batt Insulation

Report Number: NGC 2008036

Page 1 of 4
Re-issued 11/12/2008

Assignment Number: G-307N

Test Date: 10/02/2008

Report Date: 10/09/2008

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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Page 2 of 4

Report Number: NGC 2008036

Re-issued 11/12/2008

- 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, chase walls with metal stud framing 24 in. on center with a 1 in. air gap between them. The source side had a single layer of SoundBreak® gypsum board .Mineral wool insulation placed into the cavities formed by the framing members on source side. A single layer of 5/8 in. gypsum board was placed on the receive side of the assembly.

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 15.9mm (5/8 in.) SoundBreak® gypsum wallboard. Sample weight was 13.7 kg/m^2 (2.7 PSF) mounted vertically and applied directly to the metal framing members. Screw spacing was 203mm (8 in.) on center around the perimeter and 304.8mm (12 in.) on center in the field with 41.3mm (1-5/8 in.) fine thread bugle head drywall screws.
- 1 Layer of 76.2mm (3 in.) mineral wool insulation was friction fit into stud cavities. The sample weight was found to be 3.0 kg/m^2 (0.62 PSF). Placed on source side only.
- 63.5mm (2-1/2 in.) wide by 31.2mm (1-1/4 in.) thick metal studs mounted vertically 609mm (24 in.) on center between the top and bottom tracks 0.88 kg/m^2 (0.18 PSF). A 38mm (1-1/2 in.) cold roll channel was placed through stud knock-outs at mid-height.
- 63.5mm (2-1/2 in.) wide by 31.2mm (1-1/4 in.) thick metal track 0.34 kg/m^2 (0.07 PSF). A bead of acoustical caulk was placed between the tracks and test assembly.
- A 25.4mm (1 in.) air gap was placed between the two studded walls, forming a chase.
- 63.5mm (2-1/2 in.) wide by 31.2mm (1-1/4 in.) thick metal studs mounted vertically 609mm (24 in.) on center between the top and bottom tracks 0.88 kg/m^2 (0.18 PSF). A 38mm (1-1/2 in.) cold roll channel was placed through stud knock-outs at mid-height.
- 63.5mm (2-1/2 in.) wide by 31.2mm (1-1/4 in.) thick metal track 0.34 kg/m^2 (0.07 PSF). A bead of acoustical caulk was placed between the tracks and test assembly.
- 1 Layer of 15.9mm (5/8 in.) Type X gypsum wallboard. Sample weight was 11.2 kg/m^2 (2.3 PSF) mounted vertically and applied directly to the metal framing members. Screw spacing was 203mm (8 in.) on center around the perimeter and 304.8mm (12 in.) on center in the field with 41.3mm (1-5/8 in.) fine thread bugle head drywall screws.

Total weight of the wall system was 29.9 kg/m^2 (6.12 PSF)

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

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							
No. of test report: NGC2008036				Date: 10/2/2008		Page 3 of 4	
Size: 10.0 m ²							
Source room Volume V = 90.4 m ³ Temperature [°C]: 20.7 Humidity [%]: 54				Receiving room Volume V = 98.9 m ³ Temperature [°C]: 20.8 Humidity [%]: 52			
Sound Transmission Class STC = 59 dB Sum of unfavorable deviations: 31.0 dB Max. unfavorable deviation: 8.0 dB at 160 Hz							
Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	T [s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	--	100.5	77.2	--	--	--	--
100	33	99.2	70.3	3.88	3.9	--	0.707
125	36	97.2	64.7	3.41	3.3	7	0.678
160	38	95.1	61.4	4.16	4.2	8	0.490
200	43	96.4	57.8	4.77	4.8	6	0.548
250	48	96.9	54.2	4.79	4.8	4	0.412
315	52	100.3	53.0	4.84	4.9	3	0.173
400	55	98.9	48.2	4.76	4.8	3	0.200
500	59	96.7	42.8	5.08	5.1	--	0.141
630	61	96.4	40.6	5.16	5.1	--	0.224
800	62	97.1	39.8	4.89	4.9	--	0.141
1000	64	96.1	37.2	4.65	4.7	--	0.100
1250	64	95.1	35.2	4.17	4.2	--	0.100
1600	64	95.7	35.1	3.58	3.5	--	0.100
2000	63	95.1	34.8	2.89	2.6	--	0.100
2500	64	96.4	34.0	2.53	2.0	--	0.100
3150	67	96.8	31.2	2.37	1.7	--	0.141
4000	70	96.9	28.1	2.12	1.3	--	--
5000	72	97.2	25.9	1.88	0.7	--	0.100

STL = Sound Transmission Loss, dB
 L1 = Source Room Level, dB
 L2 = Receiving Room Level, dB
 T = Reverberation Time, seconds
 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

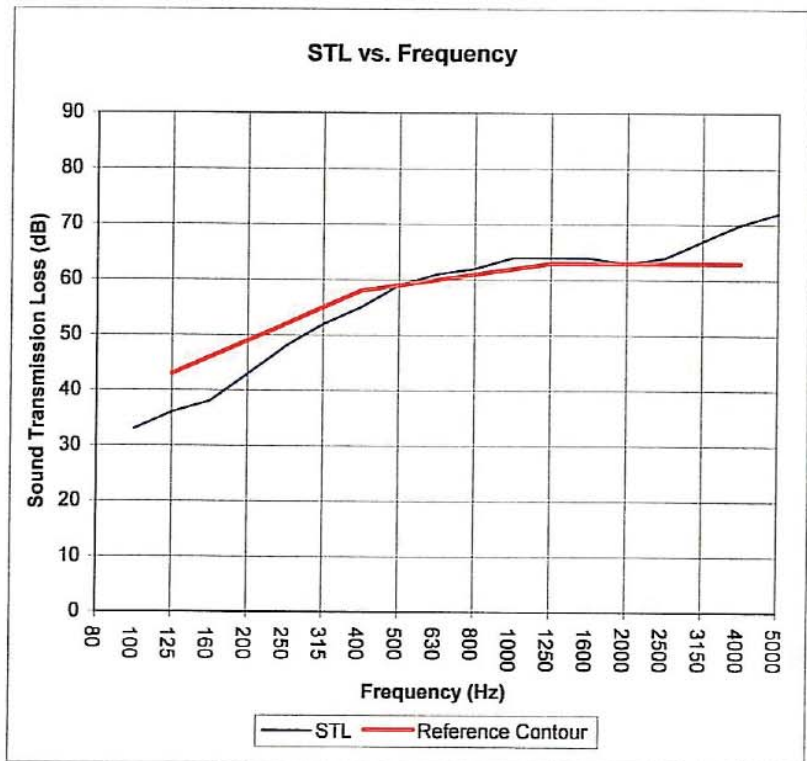
No. of test report: NGC2008036

Test Date: 10/2/2008

Size: 10.0 m²

Sound Transmission Class STC = 59 dB
 Outdoor Indoor Transmission Class OITC = dB

Frequency [Hz]	STL [dB]	ΔSTL
80	-	-
100	33	0.707
125	36	0.678
160	38	0.490
200	43	0.548
250	48	0.412
315	52	0.173
400	55	0.200
500	59	0.141
630	61	0.224
800	62	0.141
1000	64	0.100
1250	64	0.100
1600	64	0.100
2000	63	0.100
2500	64	0.100
3150	67	0.141
4000	70	-
5000	72	0.100



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

STL = Sound Transmission Loss, dB
 Δ STL = Uncertainty for 95% Confidence Level

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