

TEST REPORT

for

American Fiber Cushion, Inc.

207 Recycling Way
Dalton, GA 30721
Bob Waddell / 706-217-1900

Sound Transmission Loss Test

ASTM E 90 – 04 / E 413 - 10

On

6 Inch Concrete Slab Floor–Ceiling Assembly With a Suspended Wallboard Ceiling Overlaid with; Carpet and Ultra 2 Pad

Report Number: NGC 5015059

Assignment Number: G-1173

Test Date: 06/01/2015

Report Approval Date: 07/01/2015

Submitted by: _____

Andrew E. Heuer
Senior Test Engineer

Reviewed by: _____

Robert J. Menchetti
Director

The results reported above apply to specific samples submitted for measurement. No responsibility is assumed for performance of any other specimen. The laboratory's accreditation or any of its test reports in no way constitute or imply product certification, approval, or endorsement by NVLAP or any agent of the U.S. Government. This report may not be reproduced except in full, without written approval of the laboratory.

Revision Summary:

Date	SUMMARY
Approval Date: 07/01/2015	Original issue date: 07/01/2015 Original NGCTS report: NGC 5015059

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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 - 10.

Specimen Description: 6 inch concrete slab floor-ceiling assembly with a single layer of 5/8 inch Type X wallboard Ceiling overlaid with, according to client, Carpet with Ultra 2 Pad.

The test specimen was a floor-suspended ceiling assembly and was observed to consist of the following:
All weights and dimension are averaged:

- 1 layer of, 44 oz. Carpet. Measured average thickness: 11.13 mm (0.438 in.).
Measured weight: 2.73 kg/m² (0.56 PSF)
- 1 layer of, according to the client, Ultra 2 Pad. Measured average thickness: 8.76 mm (0.345 in.).
Measured weight: 1.07 kg/m² (0.22 PSF)
- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.2 kg/m² (75.0 PSF)
- 1 layer of, 88.9 mm (3.5 in.) unfaced fiberglass batt insulation which was laid over the suspended grid system parallel to the main tees. Sample weight: 0.78 kg/m² (0.16 PSF)
- Gypsum wallboard ceiling grid suspension system. System is comprised of main tees and cross tees. The main tees were placed 1219.2 mm (48 in.) o.c. and the cross tees were placed 609.6 mm (24 in.) o.c. 16 gauge galvanized tie wire was used to attach the main tees to concrete anchors, located 1219.2 mm (48 in.) o.c. along the longitudinal axis, suspending the grid 304.8 mm (12 in.) below the concrete slab.
- 1 layer of, 15.9 mm (5/8 in.) Type X gypsum wallboard. The wallboard was attached parallel to the suspended grid suspension system mains, using 28.6 mm (1-1/8 in.) Type S drywall screws spaced 304.8 mm (12 in.) o.c. The wallboard joints were taped. Suspended gypsum wallboard grid ceiling weighed: 11.23 kg/m² (2.30 PSF)

The overall weight of the test assembly is: 381.2 kg/m² (78.08 PSF)

The perimeter of the test frame was sealed with a rubber gasket and a sand filled trough.

The test frame was structurally isolated from the receiving room.

Specimen size: 3657.6 mm x 4876.8 mm (12 ft. x 16 ft.)

Conditioning: Concrete slab cured for a minimum of 28 days.

Test Results: The results of the tests are given on pages 4 and 5 of the report.

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Sound Transmission Loss Test Data

Test: ASTM E 90 - 04 / ASTM E 413 - 10

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Date: 6/1/2015

Specimen Size [m²]: 17.8

Source room

Volume [m³]: 53.2

Rm Temp [°C]: 19

Humidity [%]: 55

Receiving room

Volume [m³]: 60.5

Rm Temp [°C]: 20

Humidity [%]: 57

Sound Transmission Class STC [dB]: 65

Sum of Unfavorable Deviations [dB]: 26

Max. Unfavorable Deviation [dB]: 6

at 315 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	44	104.5	67.3	20.6	6.8		2.55
100	49	105.0	63.3	19.8	7.2		3.25
125	45	105.7	68.1	19.6	7.5	4	2.12
160	49	107.8	67.2	15.3	8.3	3	2.63
200	52	106.2	62.6	16.7	8.5	3	0.88
250	55	105.2	58.2	18.6	8.0	3	1.23
315	55	100.4	52.7	18.3	7.4	6	1.15
400	59	98.5	47.4	19.3	7.8	5	1.19
500	63	98.9	43.3	20.6	7.3	2	0.94
630	68	99.7	38.9	22.3	7.2		1.02
800	71	99.8	35.3	22.4	6.5		0.56
1000	74	97.3	30.0	24.3	6.7		1.40
1250	78	95.0	23.3	26.6	6.4		0.91
1600	79	95.2	22.4	27.7	6.2		1.23
2000	80	96.7	22.3	30.9	5.6		1.39
2500	81	97.9	21.9	33.6	5.0		2.53
3150	80	97.1	21.8	36.5	4.6		3.25
4000	78	95.3	21.3	42.0	4.0		4.73
5000	70	88.0	21.5	47.4	3.5		6.68

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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Sound Transmission Loss Test Data

Per: ASTM E 90 - 04 / ASTM E 413 - 10

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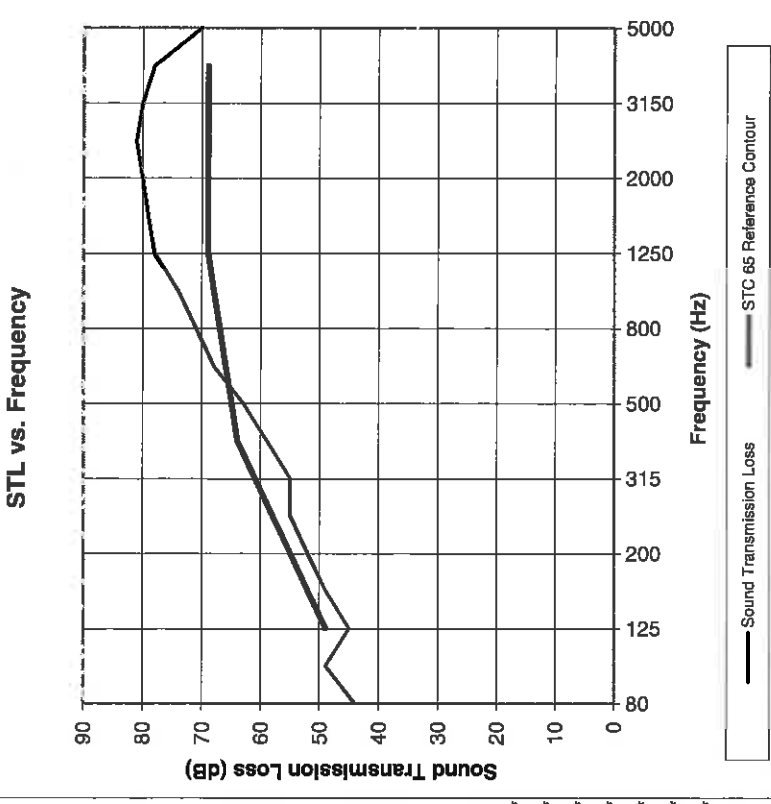
Test Date: 6/1/2015

Specimen Size [m²]: 17.8

Sound Transmission Class STC = 65 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	44	2.55
100	49	3.25
125	45	2.12
160	49	2.63
200	52	0.88
250	55	1.23
315	55	1.15
400	59	1.19
500	63	0.94
630	68	1.02
800	71	0.56
1000	74	1.40
1250	78	0.91
1600	79	1.23
2000	80	1.39
2500	81	2.53
3150	80	3.25
4000	78	4.73
5000	70	6.68

* 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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