

TEST REPORT

for

American Fiber Cushion, Inc.

P.O. Box 2084

Dalton, GA 30721

Jack Weitz / 706-217-1900

Impact Sound Transmission Test

ASTM E 492 – 09 / ASTM E 989 – 06

On

**6 Inch Concrete Slab Floor – Ceiling Assembly
With a Suspended Wallboard Ceiling Overlaid with;
Carpet and Matrix Carpet Cushion**

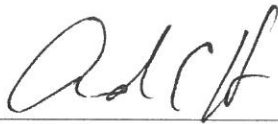
Report Number: NGC 7016046

Assignment Number: G-1258


Test Date: 02/24/2016

Report Approval Date: 03/18/2016

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.

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Revision Summary:

Date	SUMMARY
Approval Date: 03/18/2016	Original issue date: 03/18/2016 Original NGCTS report: NGC 7016046

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Test Method: This test method is in accordance with American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine – Designation: E 492-09/ E 989-06.

The uncertainty limits of each tapping machine location met the precision requirements of Section A1.4 of ASTM E 492-09.

Specimen Description: 6 inch concrete slab floor-ceiling assembly, with a suspended wallboard ceiling overlaid with according to client, Carpet with Matrix Carpet Cushion.

The test specimen was a floor-ceiling assembly observed to consist of the following.

All measured weights and dimensions 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 client, Matrix Carpet Cushion. Measured thickness: 9.65 mm (0.38 in.) .Measured weight: 0.781 kg/m² (0.16 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: 381.67 kg/m² (78.18 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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Normalized impact sound pressure level						
Test: ASTM E 492 - 09 / ASTM E 989 - 06						
Test Report: NGC7016046				Date: 2/24/2016		
Specimen Size [m²]: 17.8				Page 4 of 5		
Source room				Receiving room		
Rm Temp [°C]: 19.5				Volume [m³]: 124		
Humidity [%]: 50				Rm Temp [°C]: 18		
				Humidity [%]: 70		
Impact Insulation Class IIC [dB]: 85						
Sum of Unfavorable Deviations [dB]: 12						
Max. Unfavorable Deviation [dB]: 8				at 125 Hz		
Frequency	L _n	L ₂	d	Corr.	u.Dev.	ΔL _n
[Hz]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
80	39	41.1	28.26	-2.1		2.16
100	30	33.3	21.60	-3.3	3	1.78
125	35	38.8	18.20	-3.8	8	2.45
160	28	32.6	14.79	-4.6	1	0.78
200	25	30.5	14.98	-5.5		0.67
250	24	28.8	14.61	-4.8		1.78
315	19	24.2	14.39	-5.2		0.56
400	17	22.8	13.83	-5.8		0.46
500	17	21.6	15.71	-4.6		0.42
630	13	17.4	16.09	-4.4		0.32
800	14	18.1	16.58	-4.1		0.40
1000	12	16.4	15.94	-4.4		0.44
1250	10	14.7	17.59	-4.7		0.45
1600	11	14.9	18.70	-3.9		0.57
2000	7	10.6	21.28	-3.6		0.37
2500	4	6.8	23.29	-2.8		0.81
3150	4	7.0	25.04	-3.0		0.74
4000	5	7.7	27.45	-2.7		0.82
5000	6	7.5	31.50	-1.5		1.12
L _n = Normalized Sound Pressure Level, dB L ₂ = Receiving Room Level, dB d = Decay Rate dB/second ΔL _n = Uncertainty for 95% Confidence Level						

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Normalized impact sound pressure level

Test: ASTM E 492 - 09 / ASTM E 989 - 06

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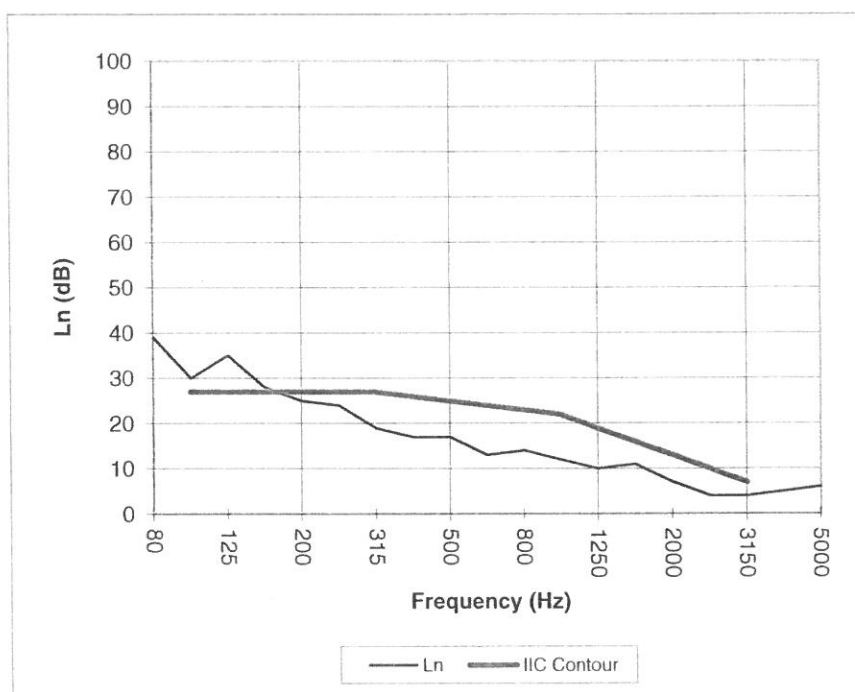
Test Report: NGC7016046

Test Date: 2/24/2016

Specimen Size [m²]: 17.8

Impact Insulation Class IIC [dB]: 85

Frequency	L_n
[Hz]	[dB]
80	39 *
100	30 *
125	35 *
160	28 *
200	25 *
250	24 *
315	19 *
400	17 *
500	17 *
630	13 *
800	14 *
1000	12 *
1250	10 *
1600	11 *
2000	7 *
2500	4 *
3150	4 *
4000	5 *
5000	6 *



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

L_n = Normalized Sound Pressure Level, dB

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