TEST REPORT

for

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Impact Sound Transmission Test

ASTM E 492 – 09 / ASTM E 989 – 06

On

6 Inch Concrete Slab Floor – Ceiling Assembly
Overlaid with 2 layers of Regupol Vibration 300 (25 mm)
and a 4 Inch Concrete Slab

Report Number: NGC 7016087

Assignment Number: G-1296

Test Date: 05/12/2016

Report Approval Date: 05/19/2016

Submitted by: _____
Anthony J. Rivers
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Revision Summary:

Date	SUMMARY
Approval Date: 05/19/2016	Original issue date: 05/19/2016 Original NGCTS report #: NGC 7016087

Report Number: NGC 7016087

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, overlaid with according to client, 2 layers of Regupol Vibration 300 (25 mm) and a 4 inch concrete slab.

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

- 101.6 mm (4 in.) thick reinforced concrete slab, weighing: 223.30 kg/m^2 (45.74 PSF)
- 1 layer of, according to the client, Regupol Vibration 300 (25 mm). The Regupol Vibration 300 (25 mm) was floating on the 6 inch concrete slab. Measured thickness: 44.20 mm (1.74 in.). Measured weight: 17.18 kg/m^2 (3.52 PSF)
- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.15 kg/m^2 (75.0 PSF)

The overall weight of the test assembly is: 606.64 kg/m^2 (124.26 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.

Normalized impact sound pressure level

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

Test Report: NGC7016087 Date: 5/12/2016
Specimen Size [m²]: 17.8

Source room

Rm Temp [°C]: 19
Humidity [%]: 60

Receiving room

Volume [m³]: 128
Rm Temp [°C]: 19
Humidity [%]: 60

Impact Insulation Class IIC [dB]: 66

Sum of Unfavorable Deviations [dB]: 28
Max. Unfavorable Deviation [dB]: 5 at 160 Hz

Frequency [Hz]	L_n [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔL_n
80	52	51.8	27.90	0.2		1.23
100	50	51.9	20.73	-1.9	4	3.38
125	49	51.4	15.40	-2.4	3	1.07
160	51	53.7	15.93	-2.7	5	1.26
200	51	54.0	14.78	-3.0	5	0.66
250	51	53.4	15.65	-2.4	5	0.70
315	50	53.2	14.85	-3.2	4	0.80
400	47	50.0	16.45	-3.0	2	0.55
500	40	42.8	16.99	-2.8		0.42
630	37	40.0	17.14	-3.0		0.26
800	31	34.2	17.11	-3.2		0.66
1000	30	33.8	16.92	-3.8		0.67
1250	30	32.5	18.14	-2.5		0.83
1600	32	33.8	19.75	-1.8		0.74
2000	27	28.4	22.01	-1.4		0.71
2500	27	27.3	23.92	-0.3		0.68
3150	19	21.0	25.66	-2.0		0.68
4000	14	16.4	29.26	-2.4		0.87
5000	13	14.0	33.86	-1.0		1.07

L_n = Normalized Sound Pressure Level, dB
L2 = Receiving Room Level, dB
d = Decay Rate, dB/second
ΔL_n = Uncertainty for 95% Confidence Level

Normalized impact sound pressure level

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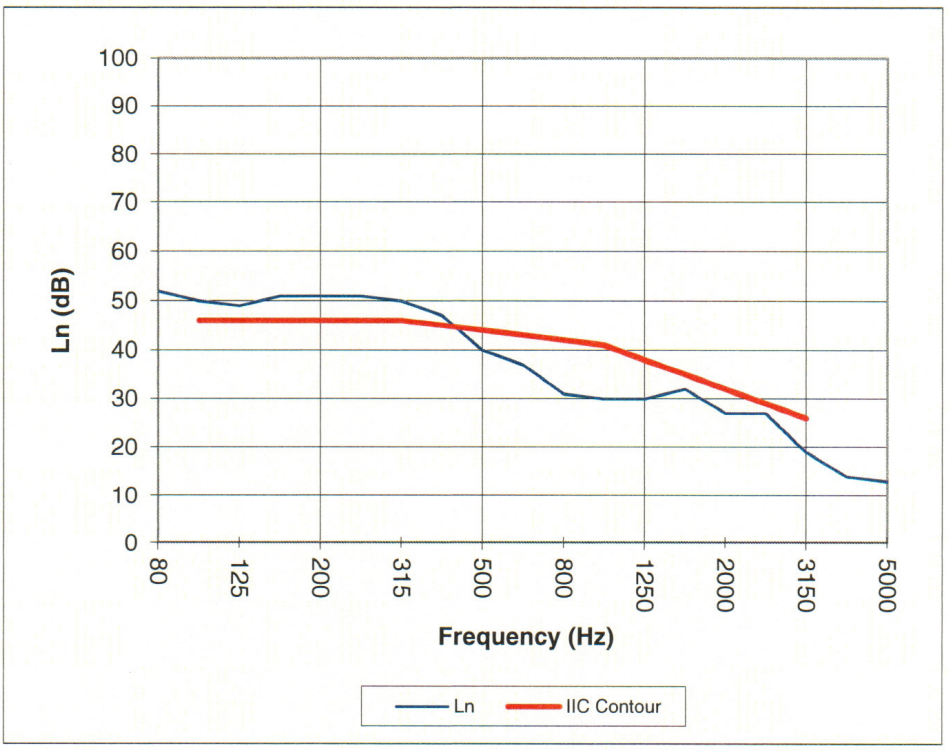
Specimen Size [m²]: 17.8

Impact Insulation Class IIC [dB]: 66

Frequency [Hz]	L_n [dB]	
80	52	
100	50	
125	49	
160	51	
200	51	
250	51	
315	50	
400	47	
500	40	
630	37	
800	31	
1000	30	
1250	30	
1600	32	
2000	27	
2500	27	
3150	19	
4000	14	*
5000	13	*



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

L_n = Normalized Sound Pressure Level, dB