TEST REPORT

for

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Sound Transmission Loss Test

ASTM E 90 – 09 / E 413 – 10

On

6 Inch Concrete Slab Floor – Ceiling Assembly
Overlaid with 2 layers of Regupol Vibration 200 (17 mm)
and a 4 Inch Concrete Slab

Report Number: NGC 5016054

Assignment Number: G-1296

Test Date: 05/09/2016

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 5016054

Report Number: NGC 5016054

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 - 09 / E 413 - 10.

Specimen Description: 6 inch concrete slab floor-ceiling assembly, overlaid with according to client, 2 layers of Regupol Vibration 200 (17 mm) and a 4 inch concrete slab.

The test specimen was a floor-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)
- 2 layers of, according to the client, Regupol Vibration 200 (17 mm). The Regupol Vibration 200 (17 mm) was floating on the 6 inch concrete slab. Measured thickness: 36.58 mm (1.44 in.). Measured weight: 10.35 kg/m^2 (2.12 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: 599.80 kg/m^2 (122.86 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.

Sound Transmission Loss Test Data

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

Test Report: NGC 5016054 Date: 5/9/2016
Specimen Size [m²]: 17.8

Source room		Receiving room	
Volume [m³]:	84.75	Volume [m³]:	128
Rm Temp [°C]:	19	Rm Temp [°C]:	19
Humidity [%]:	61	Humidity [%]:	61

Sound Transmission Class STC [dB]: 59

Sum of Unfavorable Deviations [dB]: 28
Max. Unfavorable Deviation [dB]: 7 at 250 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	37	100.4	65.7	29.7	2.3		3.18
100	40	103.8	68.3	20.5	4.5		4.81
125	37	103.7	72.2	16.3	5.5	6	2.24
160	45	106.0	66.3	16.6	5.3	1	1.36
200	45	104.8	65.3	14.4	5.5	4	1.02
250	45	102.3	62.0	16.4	4.6	7	1.19
315	51	102.2	56.9	15.6	5.6	4	1.53
400	54	100.0	51.2	16.4	5.3	4	1.37
500	57	101.6	49.8	16.8	5.1	2	1.41
630	60	102.4	47.3	17.3	4.9		1.14
800	63	101.4	43.4	17.1	5.0		0.72
1000	67	98.8	37.1	16.9	5.3		1.16
1250	69	96.2	31.8	18.1	4.6		1.21
1600	72	97.6	29.6	19.8	4.0		0.61
2000	75	99.0	27.6	22.2	3.5		1.20
2500	78	101.2	26.8	24.1	3.7		1.35
3150	79	100.4	24.9	26.0	3.5		1.68
4000	80	98.0	20.1	29.7	2.2		2.41
5000	78	91.6	15.5	34.0	2.0		3.45

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

Sound Transmission Loss Test Data

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

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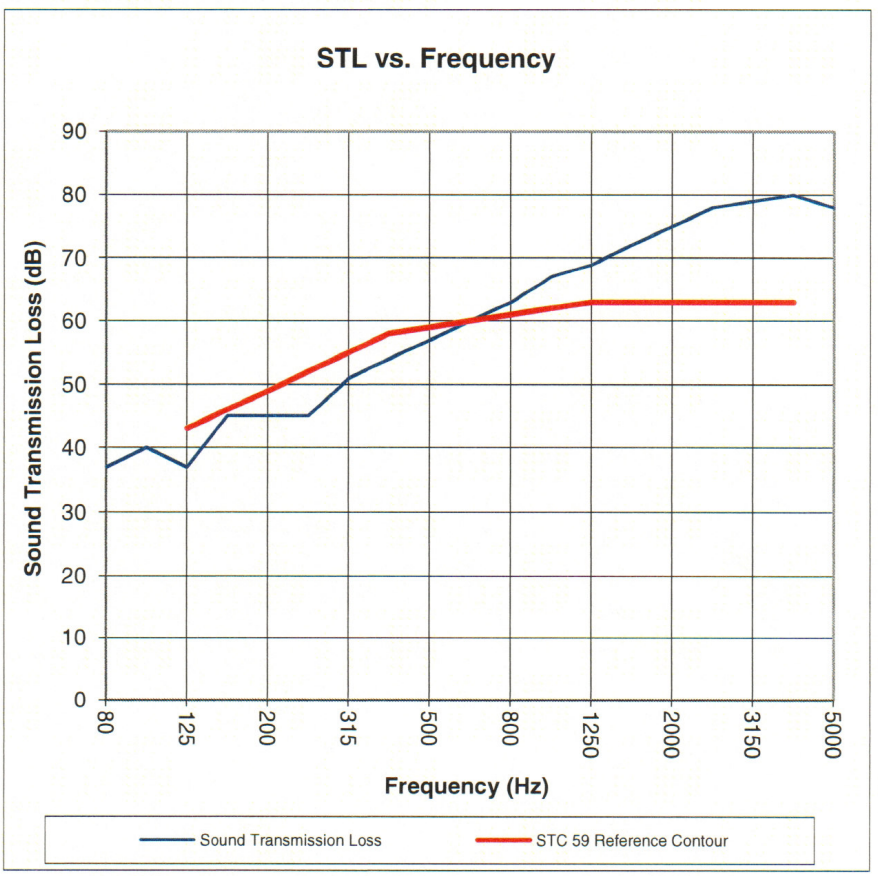
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 59 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	37	3.18
100	40	4.81
125	37	2.24
160	45	1.36
200	45	1.02
250	45	1.19
315	51	1.53
400	54	1.37
500	57	1.41
630	60	1.14
800	63	0.72
1000	67	1.16
1250	69	1.21
1600	72	0.61
2000	75	1.20
2500	78	1.35
3150	79	1.68
4000	80	2.41
5000	78	3.45



* 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