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Acoustical Testing Laboratory

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TEST REPORT

for

Regupol America LLC
11 Ritter Way
Lebanon, PA 17042
Florian Sassmannshausen / 717-675-2190

Sound Transmission Loss Test

ASTM E 90 – 09 / E 413 – 10

On

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

Report Number: NGC 5016059

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 5016059

Report Number: NGC 5016059

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 300 (25 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)
- 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.

Sound Transmission Loss Test Data

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

Test Report: NGC 5016059 Date: 5/12/2016
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 [%]:	60	Humidity [%]:	60

Sound Transmission Class STC [dB]: 60

Sum of Unfavorable Deviations [dB]: 30
Max. Unfavorable Deviation [dB]: 6 at 125 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	38	100.1	64.3	27.7	2.2		3.05
100	42	103.8	65.6	19.9	3.8		5.09
125	38	103.6	70.5	16.1	4.9	6	2.16
160	45	105.4	65.5	15.6	5.1	2	1.27
200	46	104.6	64.2	14.8	5.6	4	1.10
250	47	102.4	60.5	15.7	5.1	6	1.05
315	51	101.9	56.4	15.1	5.5	5	1.49
400	54	99.8	50.9	16.4	5.1	5	1.47
500	58	101.2	48.1	16.8	4.9	2	1.07
630	61	102.0	46.2	17.0	5.2		0.93
800	64	101.3	41.9	17.2	4.6		0.91
1000	68	98.5	35.9	16.9	5.3		0.90
1250	70	96.5	31.4	18.1	4.9		1.36
1600	72	96.9	28.9	19.9	4.0		0.64
2000	75	99.1	27.4	22.2	3.3		1.02
2500	77	100.6	27.1	24.0	3.6		1.34
3150	78	100.0	25.1	25.8	3.1		1.67
4000	80	97.5	20.5	29.2	3.0		2.47
5000	77	91.0	15.9	33.5	1.9		3.21

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

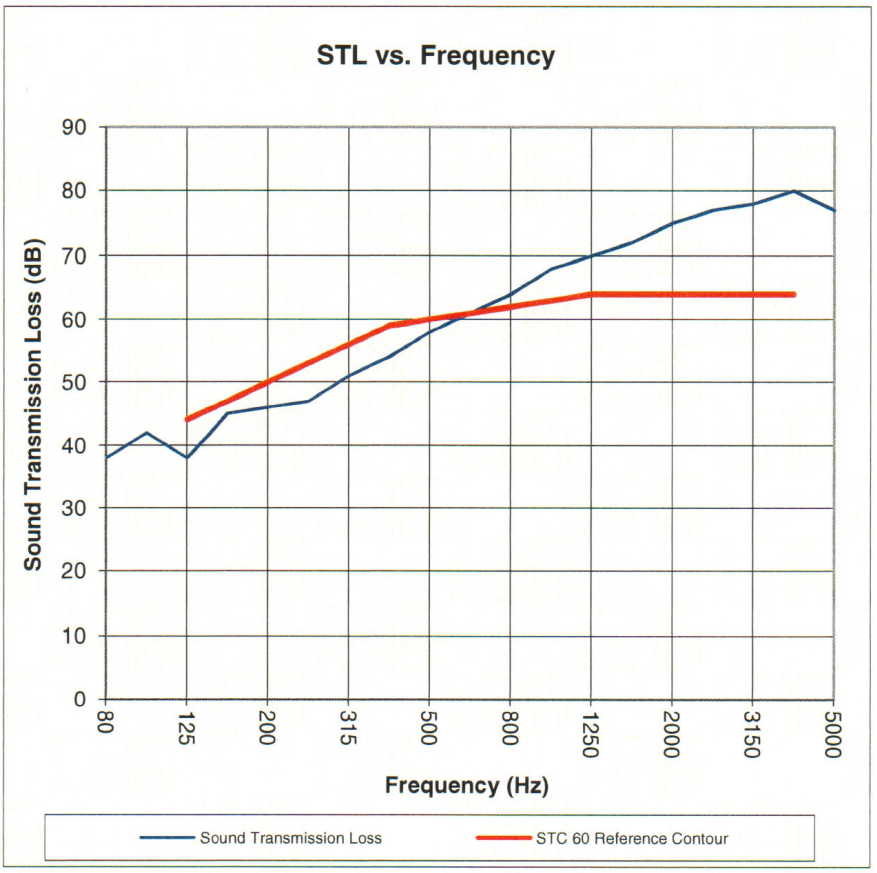
Sound Transmission Loss Test Data

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

Test Report: NGC 5016059
Test Date: 5/12/2016
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 60 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	38	3.05
100	42	5.09
125	38	2.16
160	45	1.27
200	46	1.10
250	47	1.05
315	51	1.49
400	54	1.47
500	58	1.07
630	61	0.93
800	64	0.91
1000	68	0.90
1250	70	1.36
1600	72	0.64
2000	75	1.02
2500	77	1.34
3150	78	1.67
4000	80	2.47
5000	77	3.21



* 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