

# Acoustical Testing Laboratory



Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation unde Lab Code 200291

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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 layers of Regupol Vibration 300 (17 mm) and a 4 Inch Concrete Slab

Report Number: NGC 5016057

Assignment Number: G-1296

Test Date: 05/11/2016

Report Approval Date: 05/19/2016

Submitted by:

Anthony J. Rivers

Test Technician

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, NIST or any agency of the Federal 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: 05/19/2016	Original issue date: 05/19/2016
	Original NGCTS report #: NGC 5016057

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Report Number:

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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 - 09 / E 413 - 10.

Specimen Description:

6 inch concrete slab floor-ceiling assembly, overlaid with according to client, 2 layers of Regupol Vibration 300 (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<sup>2</sup> (45.74 PSF)
- 2 layers of, according to the client, Regupol Vibration 300 (17 mm). The Regupol Vibration 300 (17 mm) was floating on the 6 inch concrete slab. Measured thickness: 36.07 mm (1.42 in.). Measured weight: 14.45 kg/m<sup>2</sup> (2.96 PSF)
- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.15 kg/m<sup>2</sup> (75.0 PSF)

The overall weight of the test assembly is: 603.90 kg/m<sup>2</sup> (123.70 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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Test Report: NGC 5016057 Date: 5/11/2016

Specimen Size [m²]:

Source room Volume [m<sup>3</sup>]: 84.75 Receiving room

Rm Temp [°C]: 20 Humidity [%]: 60 Volume [m<sup>3</sup>]: 128 Rm Temp [°C]: 20 Humidity [%]: 60

Sound Transmission Class STC [dB]: 59

Sum of Unfavorable Deviations [dB]:

17.8

ax. Unfavorable Devi	ation [dB]:	6	at	250	Hz		
Frequency	STL	L1	L2	d	Corr.	u.Dev.	ΔSTL
[Hz]	[dB]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
80	39	100.2	64.0	29.5	2.8		2.67
100	40	103.5	67.7	21.2	4.1		4.70
125	38	103.6	71.0	16.0	5.4	5	1.75
160	44	105.7	66.6	16.3	4.9	2	1.28
200	45	104.9	65.2	15.1	5.3	4	1.19
250	46	102.3	61.2	15.9	4.9	6	1.16
315	50	102.1	57.0	15.1	4.9	5	1.39
400	53	99.7	51.6	16.7	4.9	5	1.52
500	57	101.6	49.2	16.8	4.7	2	1.21
630	60	102.4	47.0	17.3	4.6		1.04
800	64	101.3	42.6	17.2	5.3		0.65
1000	67	98.6	37.0	16.6	5.3		0.97
1250	69	95.9	31.0	18.1	4.1		1.08
1600	73	97.3	28.4	19.9	4.1		0.71
2000	76	98.9	26.8	21.9	3.9		1.21
2500	77	100.9	26.9	23.7	3.0	7.1	1.27
3150	79	100.4	24.9	26.0	3.5		1.75
4000	80	97.6	20.0	29.8	2.4		2.43
5000	78	91.2	14.9	34.5	1.8		3.35

= Sound Transmission Loss, dB

= Source Room Level, dB L1

L2 = Receiving Room Level, dB

= Decay Rate dB/second d

= Uncertainty for 95% Confidence Level Δ STL

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#### **Sound Transmission Loss Test Data**

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

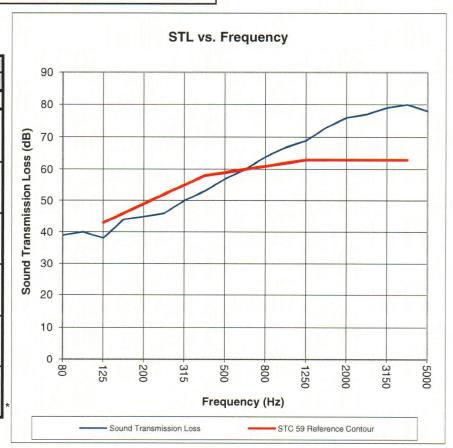
Test Report: NGC 5016057 Test Date: 5/11/2016

Specimen Size [m2]: 17.8

> Sound Transmission Class STC = 59 dB

Frequency	STL	ΔSTL				
[Hz]	[dB]					
80	39	2.67				
100	40	4.70				
125	38	1.75				
160	44	1.28				
200	45	1.19				
250	46	1.16				
315	50	1.39				
400	53	1.52				
500	57	1.21				
630	60	1.04				
800	64	0.65				
1000	67	0.97				
1250	69	1.08				
1600	73	0.71				
2000	76	1.21				
2500	77	1.27				
3150	79	1.75				
4000	80	2.43				
5000	78	3.35				

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



STL = Sound Transmission Loss, dB  $\Delta$  STL = Uncertainty for 95% Confidence Level

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