TEST REPORT

for

Sound Seal
50 H.P. Almgren Dr.
Agawam, MA 01027
Michael Keeney / 413-789-1770

Sound Transmission Loss Test

ASTM E 90 – 09 (2016) / E 413 – 16

On

6 Inch Concrete Slab Floor – Ceiling Assembly
Overlaid with Luxury Vinyl Plank Flooring
on ProBase Vinyl 3mm Underlayment

Report Number: NGC 5020080

Assignment Number: G-1705

Test Date: 07/09/2020

Report Date: 07/24/2020

Submitted by: _____
Anthony J. Rivers
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 5020080

Report Number: NGC 5020080

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

Specimen Description: 6 inch concrete slab floor- ceiling assembly, overlaid with according to the client, Luxury Vinyl Plank Flooring over ProBase Vinyl 3mm Underlayment.

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

- 1 layer of, according to the client, Luxury Vinyl Plank Flooring. The flooring was glued to the ProBase Vinyl 3mm Underlayment using Impacta T-440 acrylic adhesive. The adhesive was applied using a 1.59 mm x 1.59 mm x 1.59 mm (1/16 in. x 1/16 in. x 1/16 in.) Square-Notch trowel. Measured thickness: 3.30 mm (0.08 in.). Measured weight: 4.10 kg/m^2 (0.84 PSF)
- 1 layer of, according to the client, ProBase Vinyl 3mm Underlayment. The underlayment was glued to the concrete slab using Impacta T-440 acrylic adhesive. The adhesive was applied using a 1.59 mm x 1.59 mm x 1.59 mm (1/16 in. x 1/16 in. x 1/16 in.) Square-Notch trowel. Measured thickness: 1.27 mm (0.13 in.). Measured weight: 2.25 kg/m^2 (0.46 PSF)
- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.2 kg/m^2 (75.00 PSF)

The overall weight of the test assembly is: 372.50 kg/m^2 (76.30 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. Adhesive cured a minimum of 24 hours

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 - 09 (2016) / ASTM E 413 - 16

Test Report: NGC 5020080 Date: 7/9/2020
Specimen Size [m²]: 17.8

Source room		Receiving room	
Volume [m³]:	86	Volume [m³]:	128
Rm Temp [°C]:	25	Rm Temp [°C]:	25
Humidity [%]:	50	Humidity [%]:	50

Sound Transmission Class STC [dB]: 52
Sum of Unfavorable Deviations [dB]: 30
Max. Unfavorable Deviation [dB]: 6 at 400 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	36	101.9	68.9	24.4	3.1		1.03
100	36	103.8	70.9	24.4	3.1		5.04
125	32	103.2	75.6	18.7	4.4	4	1.79
160	35	105.3	75.4	15.9	5.0	4	1.94
200	39	106.9	73.4	15.0	5.4	3	1.01
250	42	103.2	66.7	16.4	5.5	3	1.72
315	44	100.6	61.7	15.3	5.1	4	1.01
400	45	99.9	59.6	17.1	4.7	6	0.77
500	50	100.9	55.6	17.8	4.7	2	0.60
630	52	100.6	53.3	18.5	4.7	1	0.92
800	53	100.1	51.5	19.2	4.4	1	1.34
1000	54	97.4	47.7	18.8	4.3	1	1.05
1250	55	96.5	45.2	19.8	3.7	1	1.25
1600	60	96.5	40.5	21.3	4.0		0.79
2000	66	98.7	36.5	24.0	3.8		0.74
2500	70	100.2	33.4	26.2	3.2		1.10
3150	73	99.4	29.6	28.4	3.2		1.26
4000	73	96.6	25.7	31.5	2.1		1.64
5000	77	89.9	14.8	35.7	1.9		1.76

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

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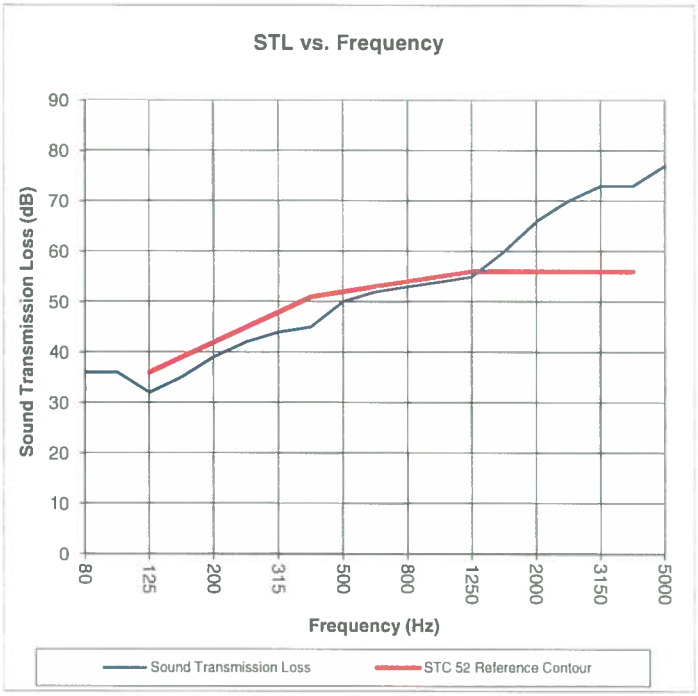
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 52 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	36	1.03
100	36	5.04
125	32	1.79
160	35	1.94
200	39	1.01
250	42	1.72
315	44	1.01
400	45	0.77
500	50	0.60
630	52	0.92
800	53	1.34
1000	54	1.05
1250	55	1.25
1600	60	0.79
2000	66	0.74
2500	70	1.10
3150	73	1.26
4000	73	1.64
5000	77	1.76



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

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Δ STL = Uncertainty for 95% Confidence Level

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