

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

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

Report Number: NGC 5020081

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

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.

Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 5020081

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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

Specimen Description: 8 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/m² (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/m² (0.46 PSF)
- 203.2 mm (8 in.) thick reinforced concrete slab, weighing: 488.2 kg/m² (100.00 PSF)

The overall weight of the test assembly is: 494.55 kg/m² (101.30 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

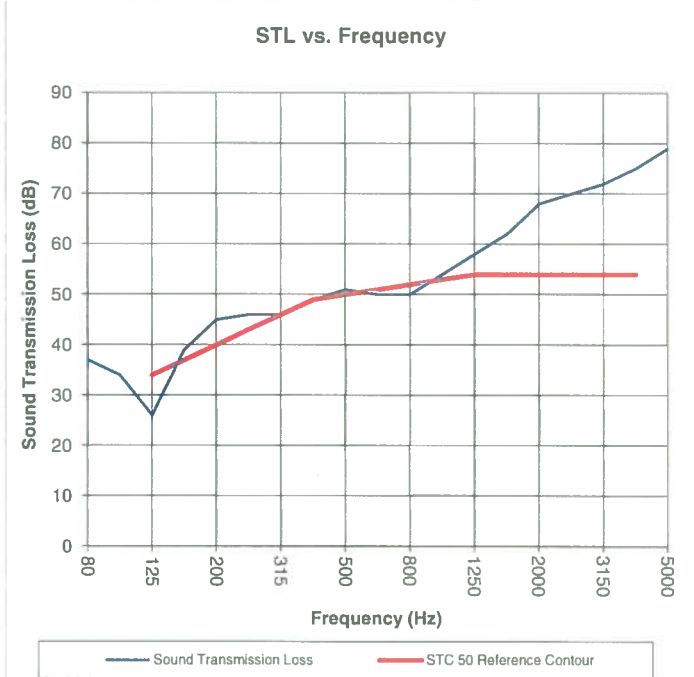
Test Results: The results of the tests are given on pages 4 and 5 of the report.

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Sound Transmission Loss Test Data							
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 16							
Test Report: NGC 5020081						Date: 7/9/2020	
Specimen Size [m ²]: 17.8						Page 4 of 5	
Source room				Receiving room			
Volume [m ³]: 83.5				Volume [m ³]: 128			
Rm Temp [°C]: 25				Rm Temp [°C]: 25			
Humidity [%]: 50				Humidity [%]: 50			
Sound Transmission Class STC [dB]: 50							
Sum of Unfavorable Deviations [dB]: 11							
Max. Unfavorable Deviation [dB]: 8 at 125 Hz							
Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	37	101.4	67.3	26.3	2.9		1.34
100	34	103.2	72.7	22.6	3.4		3.71
125	26	103.9	81.8	20.8	3.9	8	1.29
160	39	105.0	71.0	15.4	5.0		0.97
200	45	106.4	66.8	15.3	5.4		0.73
250	46	103.3	62.5	15.6	5.2		1.04
315	46	100.8	59.8	15.5	4.9		0.81
400	49	100.1	56.2	17.1	5.1		1.23
500	51	100.3	53.6	18.7	4.3		1.15
630	50	99.8	54.3	19.3	4.5	1	0.89
800	50	98.7	52.5	20.7	3.8	2	0.62
1000	54	97.3	47.7	20.4	4.4		0.92
1250	58	96.9	42.9	20.6	4.0		0.67
1600	62	96.5	38.0	21.3	3.4		0.78
2000	68	99.1	34.4	24.0	3.3		0.80
2500	70	100.0	33.1	25.9	3.1		1.53
3150	72	99.2	30.0	28.2	2.8		1.33
4000	75	96.6	24.2	30.9	2.6		1.57
5000	79	89.7	13.0	34.5	2.2		1.79

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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	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Frequency [Hz]</th> <th style="text-align: center;">STL [dB]</th> <th style="text-align: center;">ΔSTL</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">80</td><td style="text-align: center;">37</td><td style="text-align: center;">1.34</td></tr> <tr><td style="text-align: center;">100</td><td style="text-align: center;">34</td><td style="text-align: center;">3.71</td></tr> <tr><td style="text-align: center;">125</td><td style="text-align: center;">26</td><td style="text-align: center;">1.29</td></tr> <tr><td style="text-align: center;">160</td><td style="text-align: center;">39</td><td style="text-align: center;">0.97</td></tr> <tr><td style="text-align: center;">200</td><td style="text-align: center;">45</td><td style="text-align: center;">0.73</td></tr> <tr><td style="text-align: center;">250</td><td style="text-align: center;">46</td><td style="text-align: center;">1.04</td></tr> <tr><td style="text-align: center;">315</td><td style="text-align: center;">46</td><td style="text-align: center;">0.81</td></tr> <tr><td style="text-align: center;">400</td><td style="text-align: center;">49</td><td style="text-align: center;">1.23</td></tr> <tr><td style="text-align: center;">500</td><td style="text-align: center;">51</td><td style="text-align: center;">1.15</td></tr> <tr><td style="text-align: center;">630</td><td style="text-align: center;">50</td><td style="text-align: center;">0.89</td></tr> <tr><td style="text-align: center;">800</td><td style="text-align: center;">50</td><td style="text-align: center;">0.62</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">54</td><td style="text-align: center;">0.92</td></tr> <tr><td style="text-align: center;">1250</td><td style="text-align: center;">58</td><td style="text-align: center;">0.67</td></tr> <tr><td style="text-align: center;">1600</td><td style="text-align: center;">62</td><td style="text-align: center;">0.78</td></tr> <tr><td style="text-align: center;">2000</td><td style="text-align: center;">68</td><td style="text-align: center;">0.80</td></tr> <tr><td style="text-align: center;">2500</td><td style="text-align: center;">70</td><td style="text-align: center;">1.53</td></tr> <tr><td style="text-align: center;">3150</td><td style="text-align: center;">72</td><td style="text-align: center;">1.33</td></tr> <tr><td style="text-align: center;">4000</td><td style="text-align: center;">75</td><td style="text-align: center;">1.57</td></tr> <tr><td style="text-align: center;">5000</td><td style="text-align: center;">79</td><td style="text-align: center;">1.79</td></tr> </tbody> </table>			Frequency [Hz]	STL [dB]	ΔSTL	80	37	1.34	100	34	3.71	125	26	1.29	160	39	0.97	200	45	0.73	250	46	1.04	315	46	0.81	400	49	1.23	500	51	1.15	630	50	0.89	800	50	0.62	1000	54	0.92	1250	58	0.67	1600	62	0.78	2000	68	0.80	2500	70	1.53	3150	72	1.33	4000	75	1.57	5000	79	1.79
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