TEST REPORT

for

PINA S.A.
Carretera de Teruel km 98
Fuentes – CUENCA, Spain 16193
Jose Luis Pineda / 34 926 569 710

Sound Transmission Loss Test

ASTM E 90 – 09 (2016) / E 413 – 16

On

6 Inch (152 mm) Concrete Slab Floor- Ceiling Assembly
Overlaid with 8 mm Laminate Flooring and DMX 1-Step 2.0 Underlayment

Report Number: NGC 5020012

Assignment Number: G-1668

Test Date: 01/21/2020

Report Date: 02/03/2020

Submitted by: _____
Anthony J. Rivers
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Revision Summary:

Date	SUMMARY
Approval Date: 02/03/2020	Original issue date: 02/03/2020 Original NGCTS report: NGC 5020012

Report Number: NGC 5020012 Page 3 of 5

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 (2016) / E 413 - 16.

Specimen Description: 6 inch concrete slab floor ceiling assembly overlaid with, according to client, Step & Wall Natural Superior Oak Flooring.

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, Step & Wall Natural Superior Oak Flooring. The flooring was floating on the concrete slab. Measured average thickness: 11.68 mm (0.46 in.). Measured average weight: 8.97 kg/m^2 (1.84 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: 375.13 kg/m^2 (76.84 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 - 09 (2016) / ASTM E 413 - 16

Test Report: NGC 5020012 Date: 1/17/2020
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]: 49

Sum of Unfavorable Deviations [dB]: 23
Max. Unfavorable Deviation [dB]: 8 at 400 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	37	103.2	70.1	21.0	3.9		2.45
100	36	105.9	73.4	24.1	3.6		2.14
125	33	107.1	78.6	18.3	4.6		0.82
160	35	105.8	75.6	17.3	4.8	1	1.49
200	38	106.3	73.6	15.1	5.3	1	0.93
250	39	101.9	67.6	16.5	4.7	3	0.75
315	43	102.1	64.5	16.0	5.3	2	0.75
400	40	98.4	62.9	17.5	4.6	8	0.39
500	44	100.3	60.8	17.9	4.6	5	0.80
630	47	99.9	57.7	18.2	4.8	3	0.28
800	52	99.6	51.6	19.1	4.0		0.51
1000	57	97.7	45.7	18.3	5.0		0.35
1250	56	94.8	43.1	19.8	4.3		0.22
1600	57	95.6	42.1	21.4	3.4		0.53
2000	62	97.3	38.8	23.5	3.5		0.55
2500	63	99.2	39.1	25.9	2.9		0.41
3150	64	98.0	36.8	28.4	2.8		0.43
4000	64	94.1	31.8	32.3	1.7		0.70
5000	68	87.6	21.4	36.8	1.7		0.48

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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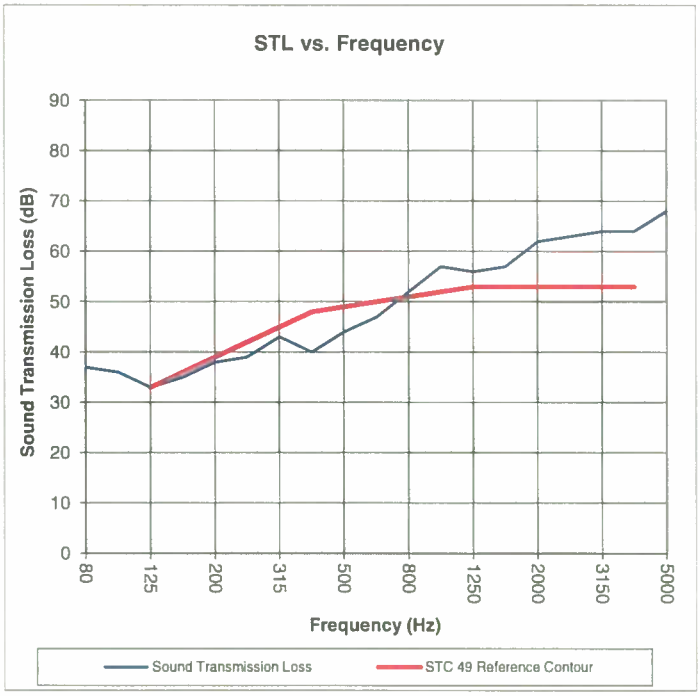
Sound Transmission Loss Test Data

Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 16

Test Report: NGC 5020012
Test Date: 1/17/2020
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 49 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	37	2.45
100	36	2.14
125	33	0.82
160	35	1.49
200	38	0.93
250	39	0.75
315	43	0.75
400	40	0.39
500	44	0.80
630	47	0.28
800	52	0.51
1000	57	0.35
1250	56	0.22
1600	57	0.53
2000	62	0.55
2500	63	0.41
3150	64	0.43
4000	64	0.70
5000	68	0.48



* 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