TEST REPORT

For

Metroflor Corporation
15 Oakwood Ave., 2nd Floor
Norwalk, CT 06850
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Sound Transmission Loss Test

ASTM E 90 – 09 / E 413 – 10

On

6 Inch (152 mm) Concrete Slab Floor- Ceiling Assembly
With a Suspended-Gypsum Board Ceiling
With 3-1/2 Inch Fiberglass Insulation
Overlaid with Prevail® GDP Underlayment and
Dryback LVT (2.5 mm Gauge) Flooring

Report Number: NGC 5016071

Assignment Number: G-1297

Test Date: 06/07/2016

Report Date: 06/27/2016

Submitted by: _____
Anthony J. Rivers
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Revision Summary:

Date	SUMMARY
Approval Date: 06/27/2016	Original issue date: 06/27/2016 Original NGCTS report: NGC 5016071

Report Number: NGC 5016071

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-suspended ceiling assembly overlaid with, according to client, Prevail® GDP Underlayment and Dryback LVT (2.5 mm Gauge) 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 client, Dryback LVT (2.5 mm Gauge) flooring. The flooring was adhered to the Prevail® GDP Underlayment using Prevail® 6000 PSA adhesive. A 1.59 mm x 0.794 mm x 0.794 mm (1/16 in. x 1/32 in. x 1/32 in.) trowel was used to apply the adhesive. The flooring size was 609.6 mm x 609.6 mm (24 in. x 24 in.). The measured thickness of the flooring was 2.51 mm (0.099 in.), Measured weight of 4.05 kg/m^2 (0.83 PSF).
- 1 layer of, according to client, Prevail® GDP Underlayment. The underlayment was adhered to the concrete slab using Prevail® 6000 PSA adhesive. A 1.59 mm x 0.794 mm x 0.794 mm (1/16 in. x 1/32 in. x 1/32 in.) trowel was used to apply the adhesive. The measured thickness of the underlayment was 1.02 mm (0.04 in.), Measured weight of the underlayment was 0.098 kg/m^2 (0.02 PSF).
- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.2 kg/m^2 (75.0 PSF)
- 1 layer of, 88.9 mm (3.5 in.) unfaced fiberglass batt insulation which was laid over the suspended grid system parallel to the main tees. Sample weight: 0.78 kg/m^2 (0.16 PSF)
- Gypsum wallboard ceiling grid suspension system. System is comprised of main tees and cross tees. The main tees were placed 1219.2 mm (48 in.) o.c. and the cross tees were placed 609.6 mm (24 in.) o.c. 16 gauge galvanized tie wire was used to attach the main tees to concrete anchors, located 1219.2 mm (48 in.) o.c. along the longitudinal axis, suspending the grid 304.8 mm (12 in.) below the concrete slab.
- 1 layer of, 15.9 mm (5/8 in.) Type X gypsum wallboard. The wallboard was attached parallel to the suspended grid suspension system mains, using 28.6 mm (1-1/8 in.) Type S drywall screws spaced 304.8 mm (12 in.) o.c. The wallboard joints were taped. Suspended gypsum wallboard grid ceiling weighed: 11.23 kg/m^2 (2.30 PSF)

The overall weight of the test assembly is: 382.31 kg/m^2 (78.31 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 for a minimum of 24 hours.

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 5016071 Date: 6/7/2016
Specimen Size [m²]: 17.8

Source room		Receiving room	
Volume [m³]:	86	Volume [m³]:	124
Rm Temp [°C]:	22	Rm Temp [°C]:	22
Humidity [%]:	54	Humidity [%]:	55

Sound Transmission Class STC [dB]: 61

Sum of Unfavorable Deviations [dB]: 27
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	44	102.1	61.2	28.0	3.2		1.87
100	42	104.3	65.6	26.4	3.3		3.76
125	37	103.7	71.4	18.7	4.6	8	2.02
160	44	105.7	67.5	15.0	5.8	4	1.61
200	49	106.5	62.8	15.0	5.3	2	1.02
250	51	103.1	57.6	15.5	5.5	3	0.83
315	52	101.8	55.3	14.9	5.4	5	1.41
400	56	100.2	49.3	15.8	5.1	4	0.67
500	60	101.4	45.9	17.0	4.5	1	1.02
630	62	101.6	44.1	17.6	4.5		0.55
800	65	100.1	40.3	18.1	5.1		0.52
1000	69	97.2	33.4	17.4	5.2		0.52
1250	74	96.5	27.2	18.1	4.6		0.70
1600	75	96.1	26.0	19.5	4.9		0.87
2000	77	98.9	25.4	22.7	3.4		0.68
2500	77	100.7	27.2	25.3	3.5		0.92
3150	79	99.6	23.7	26.6	3.1		1.32
4000	81	97.5	19.1	29.6	2.6		1.63
5000	81	90.7	11.8	33.8	2.2		1.37

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

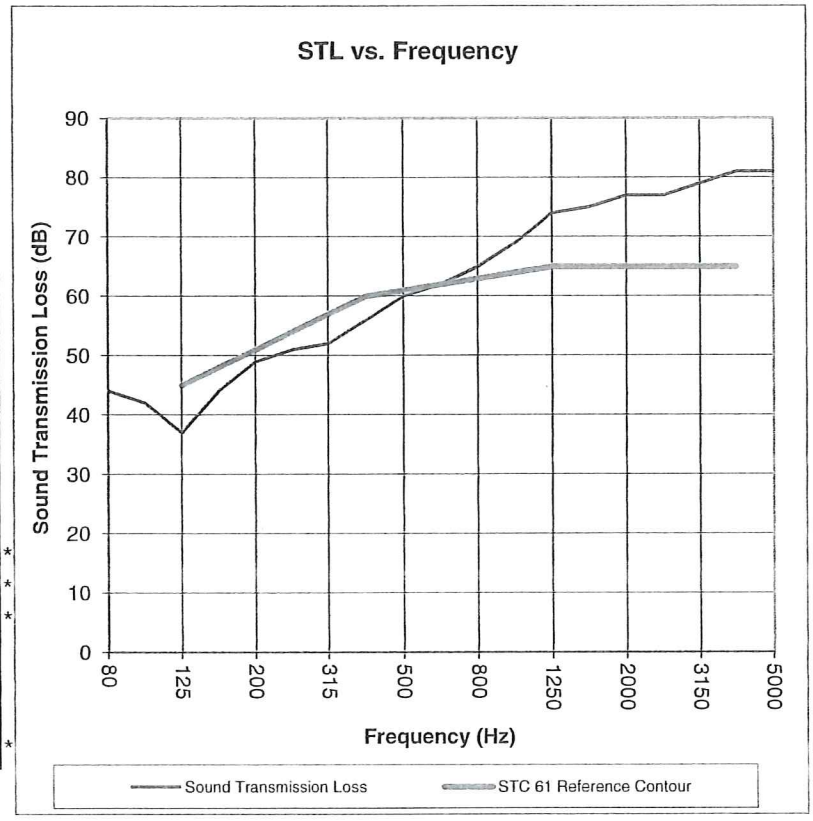
Sound Transmission Loss Test Data

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

Test Report: NGC 5016071
Test Date: 6/7/2016
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 61 dB

Frequency [Hz]	STL [dB]	ΔSTL	
80	44	1.87	
100	42	3.76	
125	37	2.02	
160	44	1.61	
200	49	1.02	
250	51	0.83	
315	52	1.41	
400	56	0.67	
500	60	1.02	
630	62	0.55	
800	65	0.52	
1000	69	0.52	
1250	74	0.70	*
1600	75	0.87	*
2000	77	0.68	*
2500	77	0.92	
3150	79	1.32	
4000	81	1.63	
5000	81	1.37	*



* 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