

TEST REPORT

for

Unilin by Division Flooring

Ooigemstraat 3
8710 Wielsbeke, Belgium
32499414709

Sound Transmission Loss Test

ASTM E 90 – 09 (2016) / E 413 – 22

On

**6 Inch Concrete Slab Floor – Ceiling Assembly
Overlaid with Unilin LVT Flex Looselay 4.5mm – 0.55mm (Moduleo Intoo) Flooring
with XL2230 Adhesive
With a Suspended-Gypsum Board Ceiling
With 3-1/2 Inch Fiberglass Insulation**

Report Number: NGC 5025017

Assignment Number: G-1934

Test Date: 04/14/2025

Report Date: 05/01/2025

Submitted by:


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Acoustical Test Engineer

Reviewed by:


Michael J. Rizzo
General Manager

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: 05/01/2025	Original issue date: 05/01/2025 Original NGCTS report: NGC 5025017

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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 (2016) / E 413 - 22.

Specimen Description: 6 inch concrete slab floor suspended ceiling assembly, overlaid with according to client, Unilin LVT Flex Looselay 4.5mm – 0.55mm (Moduleo Intoo) Flooring adhered using XL2230 adhesive.

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

- 1 layer of, according to the client, Unilin LVT Flex Looselay 4.5mm – 0.55mm (Moduleo Intoo) Flooring. The flooring was adhered to the concrete slab with XL2230 adhesive applied with a 1.59mm x 0.79mm x 0.79mm (1/16 in. x 1/32 in. x 1/32 in. U-notch trowel. Measured thickness: 4.83 mm (0.19 in.). Measured weight: 7.75 kg/m² (1.59 PSF)
- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.2 kg/m² (75.00 PSF)
- 88.9 mm (3-1/2 in.) unfaced fiberglass batt insulation which was laid over the suspended grid system parallel to the main tees. Sample weight: 0.78 kg/m² (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 2.03 mm (8 in.) o.c. The wallboard joints were taped. Suspended gypsum wallboard grid ceiling weighed: 11.23 kg/m² (2.30 PSF)

The overall weight of the test assembly is: 385.92 kg/m² (79.05 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.

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Sound Transmission Loss Test Data							
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 22							
Test Report: NGC 5025017				Date: 4/14/2025			
Specimen Size [m²]: 17.8							
Source room				Receiving room			
Volume [m³]: 86				Volume [m³]: 125			
Rm Temp [°C]: 25				Rm Temp [°C]: 25			
Humidity [%]: 50				Humidity [%]: 50			
Sound Transmission Class STC :				61			
Sum of Unfavorable Deviations [dB]: 24							
Max. Unfavorable Deviation [dB]: 7				at 400 Hz			
Frequency	TL	L1	L2	d	Corr.	u.Dev.	ΔTL
[Hz]	[dB]	[dB]	[dB]	[dB/s]	[dB]	[dB]	[+/- dB]
80	41	98.7	60.3	29.8	2.7		0.62
100	40	97.8	60.6	25.9	2.8		5.34
125	42	98.9	61.4	18.9	4.5	3	1.23
160	48	105.7	62.7	18.5	5.0		1.52
200	51	104.2	58.5	16.1	5.4		2.54
250	49	99.6	56.2	15.9	5.6	5	2.10
315	52	101.7	54.7	16.1	5.0	5	2.38
400	53	98.4	50.6	17.1	5.2	7	1.67
500	59	100.5	46.2	17.7	4.7	2	2.17
630	60	99.3	43.9	18.8	4.5	2	1.92
800	63	97.8	39.7	18.7	4.9		2.34
1000	66	95.1	33.3	18.5	4.2		1.54
1250	71	92.6	25.8	19.4	4.1		1.77
1600	72	92.8	25.0	21.2	4.3		1.69
2000	72	92.6	23.5	24.5	2.9		1.51
2500	74	94.4	23.6	26.6	3.3		0.86
3150	73	92.9	22.3	28.1	2.3		1.97
4000	72	90.6	21.1	31.8	2.5		4.41
5000	66	84.6	20.7	35.6	2.1		7.29
TL = Sound Transmission Loss, dB L1 = Source Room Level, dB L2 = Receiving Room Level, dB d = Decay Rate dB/second Δ TL = Uncertainty for 95% Confidence Level							

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Sound Transmission Loss Test Data

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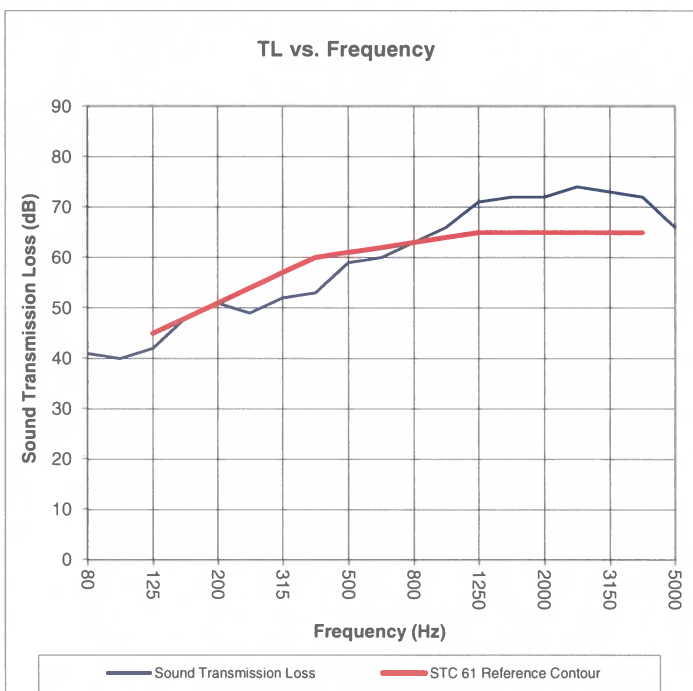
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 22

Test Report: NGC 5025017
 Test Date: 4/14/2025
 Specimen Size [m²]: 17.8

Sound Transmission Class STC = 61

Frequency [Hz]	TL [dB]	ΔTL [+/- dB]
80	41	0.62
100	40	5.34
125	42	1.23
160	48	1.52
200	51	2.54
250	49	2.10
315	52	2.38
400	53	1.67
500	59	2.17
630	60	1.92
800	63	2.34
1000	66	1.54
1250	71	1.77
1600	72	1.69
2000	72	1.51
2500	74	0.86
3150	73	1.97
4000	72	4.41
5000	66	7.29

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



TL = Sound Transmission Loss, dB
 Δ TL = Uncertainty for 95% Confidence Level
 The test sample was tested in one direction

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