TEST REPORT

for

Unilin by Division Flooring
Ooigemstraat 3
8710 Wielsbeke, Belgium
32499414709

Impact Sound Transmission Test

ASTM E 492 – 22 / ASTM E 989 – 21

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 7025028

Assignment Number: G-1934

Test Date: 04/14/2025

Report Issue Date: 05/01/2025

Submitted by: _____
Anthony J. Rivers
Acoustical Test Engineer

Reviewed by: _____
Michael J. Rizzo
General Manager

Revision Summary:

Date	SUMMARY
Approval Date: 05/01/2025	Original issue date: 05/01/2025 Original NGCTS report: NGC 7025028

Report Number: NGC 7025028

Test Method: This test method is in accordance with American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine - Designation: E 492-22 / E 989-21.

The uncertainty limits of each tapping machine location met the precision requirements of section A1.4 of ASTM E 492-22.

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/m^2 (1.59 PSF)

- 152.4 mm (6 in.) thick reinforced concrete slab, weighing: 366.2 kg/m^2 (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/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 2.03 mm (8 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: 385.92 kg/m^2 (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.

NGC TESTING SERVICES
ACOUSTICAL • FIRE • STRUCTURAL • ANALYTICAL℠

Acoustical Testing Laboratory

NVLAP
TESTING
NVLAP LAB CODE 200291-0
Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation.

Normalized impact sound pressure level

Test: ASTM E 492 - 09 (2016)e1 / ASTM E 989 - 21

Test Report: NGC7025028 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

Impact Insulation Class IIC : 65

Sum of Unfavorable Deviations [dB]: 31
Max. Unfavorable Deviation [dB]: 7 at 160 Hz

Frequency [Hz]	L_n [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔL_n
80	53	53.1	27.09	-0.1		0.36
100	51	51.8	26.56	-0.8	4	2.73
125	52	55.6	19.40	-3.6	5	0.95
160	54	55.8	18.27	-1.8	7	0.58
200	47	49.8	16.33	-2.8		1.19
250	50	53.1	16.07	-3.1	3	1.75
315	50	53.0	15.98	-3.0	3	1.54
400	46	48.0	17.30	-2.0		0.50
500	45	47.7	18.14	-2.7		0.81
630	45	46.7	18.64	-1.7	1	0.80
800	41	43.5	18.84	-2.5		0.48
1000	38	39.9	18.58	-1.9		0.47
1250	34	36.1	19.38	-2.1		0.49
1600	33	34.7	20.92	-1.7		0.58
2000	37	37.4	24.63	-0.4	4	0.42
2500	33	33.5	26.34	-0.5	3	0.83
3150	28	28.7	27.94	-0.7	1	0.43
4000	24	24.1	31.54	-0.1		0.32
5000	18	18.4	35.57	-0.4		0.41

L_n = Normalized Sound Pressure Level, dB
L2 = Receiving Room Level, dB
d = Decay Rate, dB/second
ΔL_n = Uncertainty for 95% Confidence Level

1650 Military Road • Buffalo, NY 14217-1198
(716) 873-9750 • Fax (716) 873-9753 • www.ngctestingservices.com

NGC TESTING SERVICES
ACOUSTICAL • FIRE • STRUCTURAL • ANALYTICAL

Acoustical Testing Laboratory

NVLAP
TESTING
NVLAP LAB CODE 200291-0
Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation.

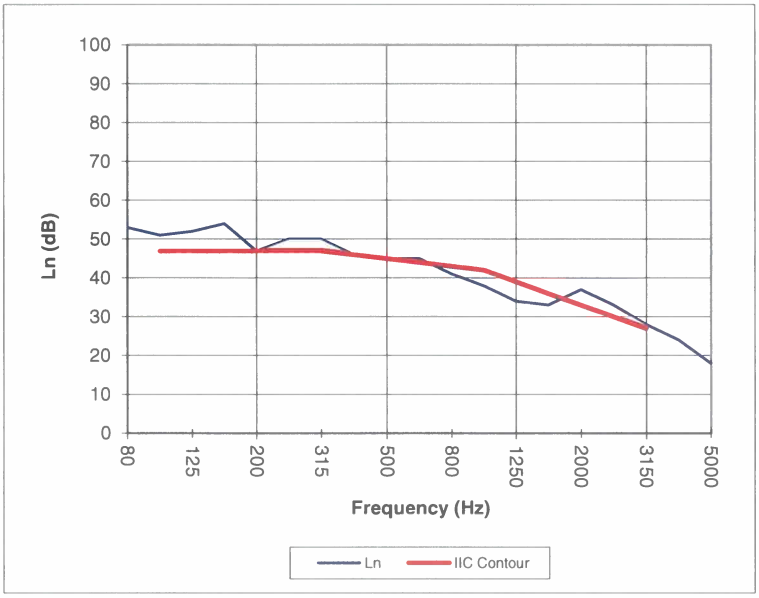
Normalized impact sound pressure level

Test: ASTM E 492 - 09 (2016)e1 / ASTM E 989 - 21

Test Report: NGC7025028
Test Date: 4/14/2025
Specimen Size [m²]: 17.8

Impact Insulation Class IIC : 65

Frequency [Hz]	L_n [dB]
80	53
100	51
125	52
160	54
200	47
250	50
315	50
400	46
500	45
630	45
800	41
1000	38
1250	34
1600	33
2000	37
2500	33
3150	28
4000	24
5000	18



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

L_n = Normalized Sound Pressure Level, dB

1650 Military Road • Buffalo, NY 14217-1198
(716) 873-9750 • Fax (716) 873-9753 • www.ngctestingservices.com