TEST REPORT

for

Speedfloor Ltd.
16B Ormiston Rd.
Auckland, New Zealand 2016
Hamish Coubray / 64 9 3034825

Impact Sound Transmission Test

ASTM E 492 – 09 (2016)e1 / ASTM E 989 – 18

On

Speedfloor 8" (200mm) Joist Floor-Ceiling Assembly Overlaid with 3-1/2 Inches (90mm) of Normal Weight Concrete, and Porcelain Tile over 6mm AcoustiCork Underlayment with Furring Channel, a Single Layer of 1/2 Inch Type C Gypsum Board

Report Number: NGC 7020092_R1

Assignment Number: G-1631

Test Date: 06/29/2020

Report Reissue Date: 10/02/2020

Submitted by: _____
Anthony J. Rivers
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 7020092
Reissue Date: 10/02/2020	Report #: NGC 7020092_R1 The report was revised to fix a typographical error.

Report Number: NGC 7020092_R1

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 492-09 (2016)e1 / E 989-18.

The uncertainty limits of each tapping machine location met the precision requirements of section A1.4 of ASTM E 492-09 (2016)e1.

Specimen Description: Speedfloor 8" (200mm) Joist floor-ceiling assembly overlaid with, according to client, 3-1/2 Inches (90mm) of Normal Weight concrete, Porcelain Tile over 6mm AcoustiCork Underlayment, Furring Channel and a layer of 1/2" Type C gypsum board.

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

- 1 layer of, Porcelain Tile. The tile was adhered to the 6mm AcoustiCork underlayment using thin set mortar, and grouted with Spectralock Pro Grout. Measured thickness: 8.89 mm (0.35 in.). Measured weight: 19.43 kg/m^2 (3.98 PSF)
- 1 layer of, 6mm AcoustiCork underlayment. The underlayment was adhered to the concrete slab using Mapei Ultrabond ECO350 adhesive. The adhesive was applied using a 0.06 mm x 0.06 mm x 0.03 mm (1/16 in. x 1/16 in. x 1/16 in.) Square-Notch Trowel. Measured thickness: 6.10 mm (0.24 in.). Measured weight: 1.17 kg/m^2 (0.24 PSF)
- 1 layer of, 90mm (3-1/2 in.) Normal Weight concrete. Measured weight: 213.59 kg/m^2 (43.75 PSF)
- According to the client, Speedfloor 8" (200mm) joists. Measured weight: 6.01 kg/m^2 (1.23 PSF)
- Furring channel. The channel was spaced 406.4 mm (16 in.) o.c and was attached perpendicular to the joist. Measured weight of the channel: 0.73 kg/m^2 (0.15 PSF)
- 1 layer of 12.70 mm (1/2 in.) Type C gypsum board. The Gypsum board was attached to the furring channel with 31.8 mm (1-1/4 in.) Type S screws spaced 203.2 mm (8 in.) o.c. Measured weigh: 9.28 kg/m^2 (1.90 PSF)

The overall weight of the test assembly is: 250.20 kg/m^2 (51.25 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: Minimum 24 hours at 70°F, 55% R.H

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

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Normalized impact sound pressure level

Test: ASTM E 492 - 09 (2016) / ASTM E 989 - 18

Test Report: NGC7020092_R1 Date: 6/29/2020
Specimen Size [m²]: 17.8

Source room

Rm Temp [°C]: 25
Humidity [%]: 50

Receiving room

Volume [m³]: 124
Rm Temp [°C]: 25
Humidity [%]: 50

Impact Insulation Class IIC [dB]: 52

Sum of Unfavorable Deviations [dB]: 29
Max. Unfavorable Deviation [dB]: 4 at 100 Hz

Frequency [Hz]	L_n [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔL_n
80	67	66.3	31.52	0.7		2.02
100	64	64.7	23.81	-0.7	4	3.08
125	63	64.9	19.24	-1.9	3	0.93
160	64	66.8	17.39	-2.8	4	1.44
200	62	65.1	15.55	-3.1	2	0.69
250	61	63.6	15.24	-2.6	1	0.79
315	63	65.5	16.28	-2.5	3	0.54
400	63	65.1	17.64	-2.1	4	0.71
500	59	60.7	19.48	-1.7	1	0.47
630	56	58.2	20.34	-2.2		0.47
800	55	56.8	21.25	-1.8		0.43
1000	56	58.3	19.91	-2.3	1	0.50
1250	52	54.2	20.22	-2.2		0.36
1600	46	47.2	21.39	-1.2		0.28
2000	44	45.3	24.35	-1.3		0.58
2500	45	45.2	27.61	-0.2	2	0.59
3150	44	44.1	30.56	-0.1	4	0.81
4000	37	36.9	32.55	0.1		0.75
5000	27	25.9	35.70	1.1		1.11

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

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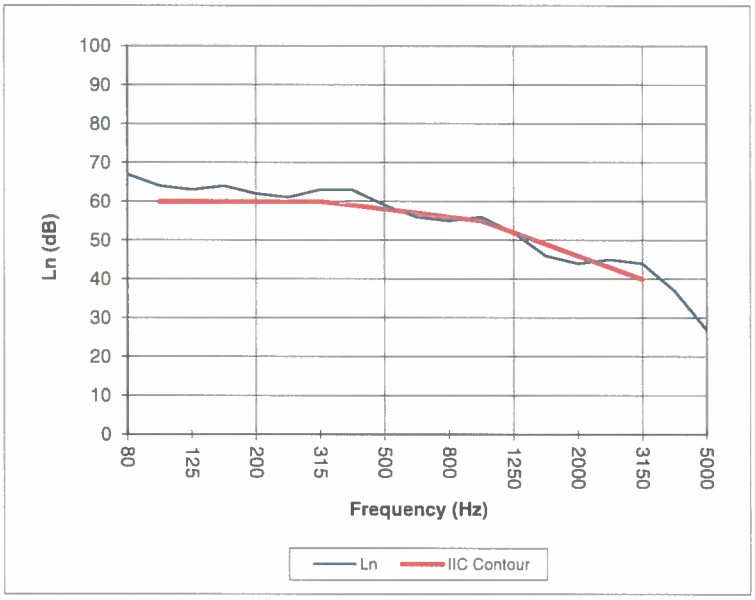
Impact Insulation Class IIC [dB]: 52

Frequency [Hz]	L_n [dB]
80	67
100	64
125	63
160	64
200	62
250	61
315	63
400	63
500	59
630	56
800	55
1000	56
1250	52
1600	46
2000	44
2500	45
3150	44
4000	37
5000	27



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

L_n = Normalized Sound Pressure Level, dB

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