

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
With 3 Inches of Mineral Wool Insulation**

Report Number: NGC 7020091_R1

Assignment Number: G-1631

Test Date: 06/25/2020

Report Reissue Date: 10/02/2020

Submitted by:


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Test Technician

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Robert J. Menchetti
Director

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Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 7020091
Reissue Date: 10/02/2020	Report #: NGC 7020091_R1 The report was revised to fix a typographical error.

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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, with 3 inches of Mineral wool insulation.

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/m² (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/m² (0.24 PSF)
- 1 layer of, 90mm (3-1/2 in.) Normal Weight concrete. Measured weight: 213.59 kg/m² (43.75 PSF)
- According to the client, Speedfloor 8" (200mm) joists. Measured weight: 6.01 kg/m² (1.23 PSF)
- 1 layer of, 76.2 mm (3 in.) Mineral Wool insulation. Sample weight: 3.61 kg/m² (0.74 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/m² (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 weight: 9.28 kg/m² (1.90 PSF)

The overall weight of the test assembly is: 253.82 kg/m² (51.99 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: NGC7020091_R1				Date: 6/25/2020		Page 4 of 5
Specimen Size [m²]: 17.8						
Source room				Receiving room		
Rm Temp [°C]: 25				Volume [m³]: 128		
Humidity [%]: 50				Rm Temp [°C]: 25		
				Humidity [%]: 50		
Impact Insulation Class IIC [dB]: 54						
Sum of Unfavorable Deviations [dB]: 25						
Max. Unfavorable Deviation [dB]: 5				at	400	Hz
Frequency	L _n	L ₂	d	Corr.	u.Dev.	ΔL _n
[Hz]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
80	62	61.8	29.70	0.2		2.55
100	58	57.2	31.76	0.8		2.12
125	60	61.2	22.81	-1.2	2	1.12
160	60	61.9	17.25	-1.9	2	1.16
200	60	62.1	16.74	-2.1	2	0.61
250	60	62.7	16.12	-2.7	2	0.64
315	61	63.9	16.82	-2.9	3	0.52
400	62	63.8	18.68	-1.8	5	0.54
500	59	61.1	19.77	-2.1	3	0.50
630	56	58.0	20.12	-2.0	1	0.46
800	55	56.2	20.90	-1.2	1	0.67
1000	53	55.0	19.91	-2.0		0.49
1250	50	51.8	20.33	-1.8		0.48
1600	42	43.7	21.76	-1.7		0.47
2000	40	41.2	24.67	-1.2		0.61
2500	43	42.9	27.92	0.1	2	0.53
3150	40	39.6	30.88	0.4	2	0.75
4000	34	33.5	33.36	0.5		0.97
5000	27	25.6	37.51	1.4		1.28

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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Normalized impact sound pressure level

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

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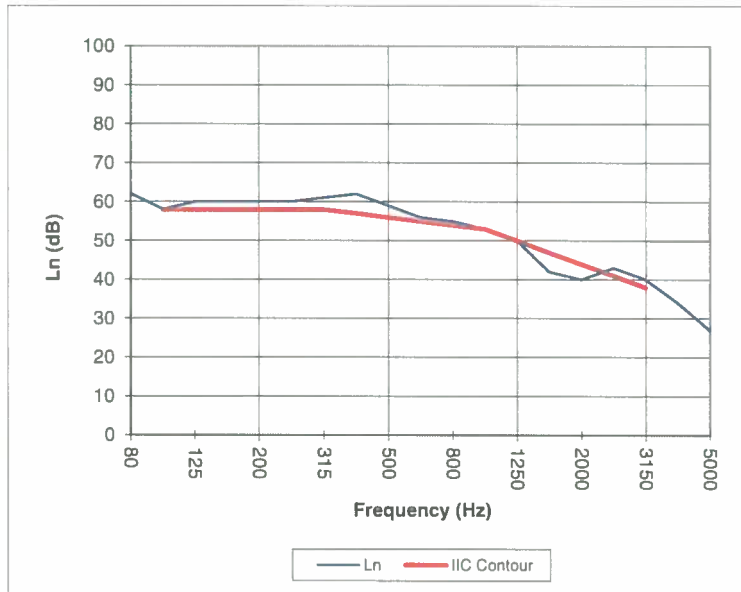
Test Report: NGC7020091_R1

Test Date: 6/25/2020

Specimen Size [m²]: 17.8

Impact Insulation Class IIC [dB]: 54

Frequency [Hz]	L _n [dB]
80	62
100	58
125	60
160	60
200	60
250	60
315	61
400	62
500	59
630	56
800	55
1000	53
1250	50
1600	42
2000	40
2500	43
3150	40
4000	34
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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