

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 44 oz. Carpet and Foam Rubber Underlayment
with Furring Channel, a Single Layer of 1/2 Inch Type C Gypsum Board**

Report Number: NGC 7020093_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. Manchetti
Director

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.

Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 7020093
Reissue Date: 10/02/2020	Report #: NGC 7020093_R1 The report was revised to fix a typographical error.

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Report Number: NGC 7020093_R1

Page 3 of 5

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 AI.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, 44 oz. Carpet over Foam Rubber 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 44 oz. Carpet. The carpet was floating on the Foam Rubber underlayment. Measured weight of 2.73 kg/m² (0.56 PSF).
- 1 layer of Foam Rubber Underlayment. The underlayment was floating on the Normal Weight concrete. The measured thickness of the underlayment was 9.65 mm (0.38 in.), Measured weight of 2.34 kg/m² (0.48 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)
- 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 weigh: 9.28 kg/m² (1.90 PSF)

The overall weight of the test assembly is: 234.68 kg/m² (48.07 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: NGC7020093_R1					Date: 6/29/2020	
Specimen Size [m ²]: 17.8					Page 4 of 5	
Source room			Receiving room			
Rm Temp [°C]: 25			Volume [m ³]: 124			
Humidity [%]: 50			Rm Temp [°C]: 25			
			Humidity [%]: 50			
Impact Insulation Class IIC [dB]: 74						
Sum of Unfavorable Deviations [dB]: 10						
Max. Unfavorable Deviation [dB]: 8			at 100 Hz			
Frequency	L _n	L ₂	d	Corr.	u.Dev.	ΔL _n
[Hz]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
80	52	52.1	31.02	-0.1		1.63
100	46	46.9	25.01	-0.9	8	2.62
125	40	41.3	20.95	-1.3	2	1.22
160	38	40.1	17.33	-2.1		1.78
200	34	37.1	16.12	-3.1		0.77
250	25	29.0	15.77	-4.0		1.00
315	26	29.6	15.48	-3.6		0.44
400	27	30.5	16.62	-3.5		0.75
500	25	28.1	18.70	-3.1		0.52
630	20	23.8	20.27	-3.8		1.07
800	18	21.0	21.94	-3.0		2.76
1000	14	18.1	20.31	-4.1		2.84
1250	11	14.8	21.09	-3.8		1.23
1600	10	13.0	21.94	-3.0		0.93
2000	12	15.2	24.43	-3.2		2.74
2500	12	14.6	26.55	-2.6		3.37
3150	15	17.2	30.29	-2.2		3.92
4000	12	13.5	32.70	-1.5		2.45
5000	9	10.6	35.74	-1.6		1.32
L _n = Normalized Sound Pressure Level, dB L ₂ = 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

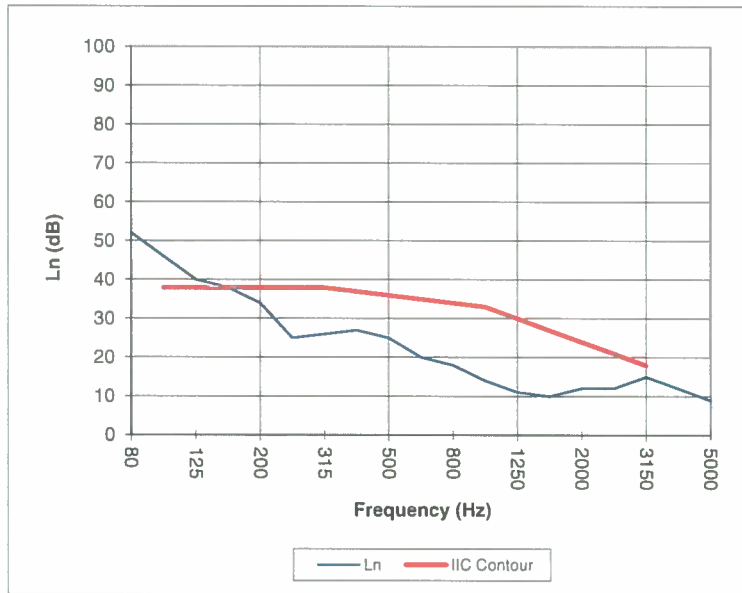
Test: ASTM E 492 - 09 (2016) / ASTM E 989 - 18

Page 5 of 5

Test Report: NGC7020093_R1
 Test Date: 6/29/2020
 Specimen Size [m²]: 17.8

Impact Insulation Class IIC [dB]: 74

Frequency [Hz]	L _n [dB]
80	52
100	46
125	40
160	38
200	34
250	25
315	26
400	27
500	25
630	20
800	18
1000	14
1250	11
1600	10
2000	12
2500	12
3150	15
4000	12
5000	9



* 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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