

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 1.5"x2" Hat Channel, a Single Layer of 1/2 Inch Type C Gypsum Board
and 3 Inches of Mineral Wool Insulation**

Report Number: NGC 7020086_R1

Assignment Number: G-1631

Test Date: 06/16/2020

Report Reissue Date: 10/02/2020

Submitted by:


Anthony J. Rivers
Test Technician

Reviewed by:


Robert J. Menchetti
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.

NGC 7020086_R1
Speedfloor Ltd.
10/02/2020
Page 2 of 5

Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 7020086
Reissue Date: 10/02/2020	Report #: NGC 7020086_R1 The report was revised to fix a typographical error.

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.

Report Number: NGC 7020086_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 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, 44 oz. Carpet over Foam Rubber Underlayment, 1.5" x 2" Hat 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 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)
- 1 layer of, 76.2 mm (3 in.) Mineral Wool insulation. Sample weight: 3.61 kg/m² (0.74 PSF)
- 1.5" x 2 in. Hat Channel. The channel was spaced 406.4 mm (16 in.) o.c and was attached perpendicular to the joist. Measured weight of the channel: 0.82 kg/m² (0.17 PSF)
- 1 layer of 12.70 mm (1/2 in.) Type C gypsum board. The Gypsum board was attached to the Hat 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: 238.39 kg/m² (48.83 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.

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.

Normalized impact sound pressure level						
Test: ASTM E 492 - 09 (2016) / ASTM E 989 - 18						
Test Report: NGC7020086_R1				Date: 6/12/2020		Page 4 of 5
Specimen Size [m²]: 17.8						
Source room				Receiving room		
Rm Temp [°C]: 22				Volume [m³]: 124		
Humidity [%]: 55				Rm Temp [°C]: 22		
				Humidity [%]: 66		
Impact Insulation Class IIC [dB]: 80						
Sum of Unfavorable Deviations [dB]: 13						
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	48	47.9	30.62	0.1		2.27
100	40	40.2	29.11	-0.2	8	1.68
125	36	38.9	23.08	-2.9	4	2.02
160	33	36.3	15.10	-3.3	1	1.18
200	32	34.5	16.79	-2.5		0.91
250	27	29.7	16.53	-2.7		1.07
315	27	30.1	16.24	-3.1		0.56
400	30	32.1	19.05	-2.1		0.66
500	27	29.0	19.53	-2.0		0.50
630	22	24.3	19.59	-2.3		0.57
800	13	17.1	20.86	-4.1		0.42
1000	10	13.5	20.24	-3.5		0.47
1250	9	12.8	20.91	-3.8		0.76
1600	8	11.6	22.42	-3.6		0.58
2000	7	10.4	24.31	-3.4		0.36
2500	7	9.6	28.03	-2.6		0.45
3150	9	11.1	30.84	-2.1		0.47
4000	8	9.9	32.47	-1.9		0.40
5000	8	9.1	35.79	-1.1		0.34
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						

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 agent of the U.S. Government. This report may not be reproduced except in full, without written approval of the laboratory.

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

Normalized impact sound pressure level

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

Page 5 of 5

Test Report: NGC7020086_R1

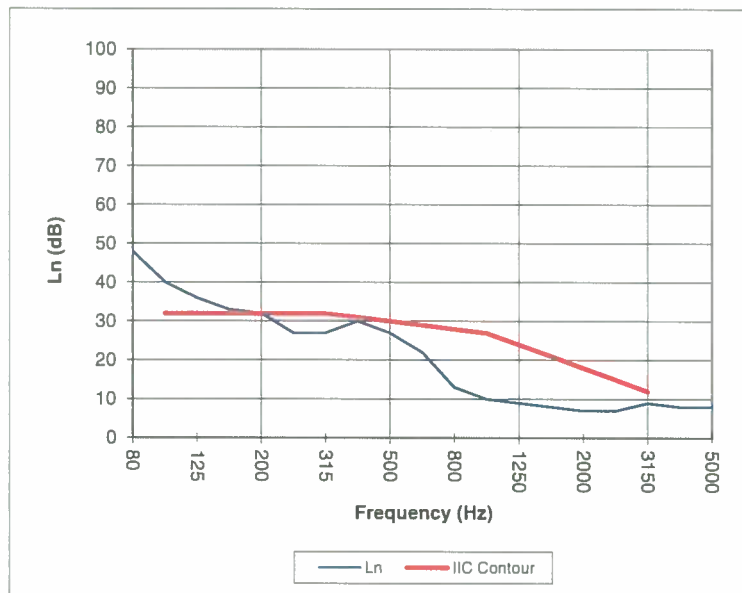
Test Date: 6/12/2020

Specimen Size [m²]: 17.8

Impact Insulation Class IIC [dB]: 80

Frequency	L _n
[Hz]	[dB]
80	48
100	40
125	36
160	33
200	32
250	27
315	27
400	30
500	27
630	22
800	13
1000	10
1250	9
1600	8
2000	7
2500	7
3150	9
4000	8
5000	8

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



L_n = Normalized Sound Pressure Level, dB

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 agent of the U.S. Government. This report may not be reproduced except in full, without written approval of the laboratory.