

TEST REPORT

for

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

Sound Transmission Loss Test

ASTM E 90 – 09 (2016) / E 413 – 16

On

**Speedfloor 8" (200mm) Joist Floor-Ceiling Assembly
Overlaid with 3-1/2 Inches (90mm) of Normal Weight Concrete,
and 3/8" Engineered Wood Flooring over Stock Underlayment
with 1.5"x2" Hat Channel, a Single Layer of 1/2 Inch Type C Gypsum Board**

Report Number: NGC 5020064_R1

Assignment Number: G-1631

Test Date: 06/02/2020

Report Reissue Date: 10/05/2020

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.

Revision Summary:

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 5020064
Reissue Date: 10/05/2020	Report #: NGC 5020064_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 5020064_R1

Page 3 of 5

Test Method: This test method conforms explicitly with the American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions

Specimen Description: Speedfloor 8" (200mm) Joist floor-ceiling assembly overlaid with, according to client, 3-1/2 Inches (90mm) of Normal Weight concrete, 3/8" Engineered Wood flooring over Stock Underlayment, 1.5" x 2" Hat 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, 3/8" Engineered Wood flooring. The flooring was floating on the stock underlayment. Measured thickness: 9.65 mm (0.38 in.). Measured weight: 5.78 kg/m² (1.18 PSF)
- 1 layer of, stock underlayment. The underlayment was floating on the Normal Weight concrete. Measured thickness: 2.29 mm (0.09 in.). Measured weight: 0.78 kg/m² (0.16 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)
- 1.5" 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 weight: 9.28 kg/m² (1.90 PSF)

The overall weight of the test assembly is: 236.24 kg/m² (48.39 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

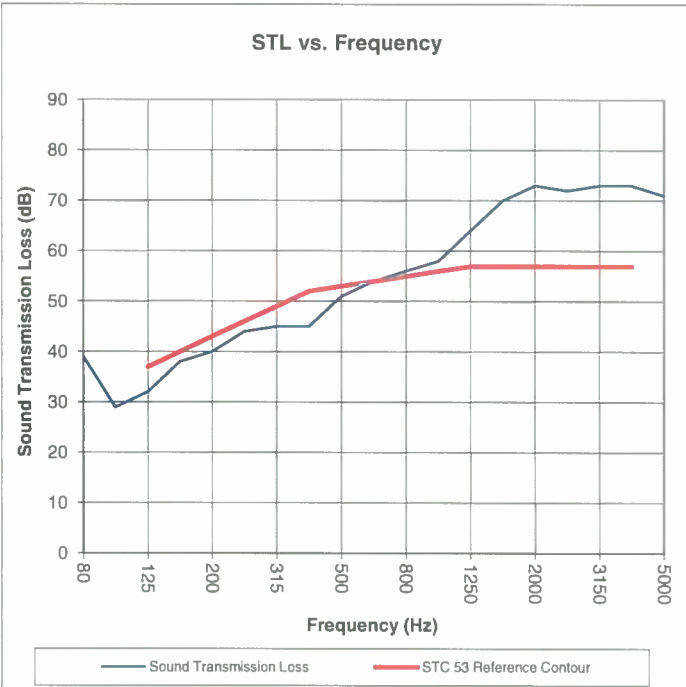
Test Results: The results of the tests are given on pages 4 and 5 of the report.

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.

Sound Transmission Loss Test Data							
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 16							
Test Report: NGC 5020064_R1						Date: 6/4/2020	
Specimen Size [m²]: 17.8						Page 4 of 5	
Source room				Receiving room			
Volume [m³]: 86				Volume [m³]: 124			
Rm Temp [°C]: 25				Rm Temp [°C]: 25			
Humidity [%]: 50				Humidity [%]: 50			
Sound Transmission Class STC [dB]: 53							
Sum of Unfavorable Deviations [dB]: 25							
Max. Unfavorable Deviation [dB]: 7 at 400 Hz							
Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	39	101.0	65.1	26.8	3.1		2.18
100	29	102.2	75.6	30.4	2.4		4.47
125	32	103.3	75.3	23.0	3.9	5	2.03
160	38	105.6	72.9	17.7	5.3	2	3.15
200	40	105.4	71.1	16.1	5.6	3	2.23
250	44	102.6	63.8	16.2	5.1	2	1.92
315	45	101.7	62.2	16.3	5.5	4	1.61
400	45	98.5	58.7	17.5	5.3	7	0.74
500	51	99.9	53.2	19.6	4.4	2	1.19
630	54	100.7	51.2	20.5	4.5		1.52
800	56	99.1	46.7	21.3	3.6		1.03
1000	58	96.3	43.0	20.0	4.7		1.08
1250	64	96.0	36.5	20.6	4.4		1.54
1600	70	96.2	30.6	21.4	4.3		1.61
2000	73	99.2	29.9	24.0	3.7		2.18
2500	72	100.6	31.7	27.0	3.2		1.80
3150	73	100.0	29.1	30.0	2.1		2.38
4000	73	97.8	26.5	32.7	1.7		2.81
5000	71	90.6	21.4	36.3	1.8		3.12

STL = Sound Transmission Loss, dB
 L1 = Source Room Level, dB
 L2 = Receiving Room Level, dB
 d = Decay Rate dB/second
 Δ STL = 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.

Sound Transmission Loss Test Data			Page 5 of 5
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 16			
Test Report: NGC 5020064_R1 Test Date: 6/4/2020 Specimen Size [m ²]: 17.8			
Sound Transmission Class STC = 53 dB			
			
		STL = Sound Transmission Loss, dB Δ STL = Uncertainty for 95% Confidence Level	

Frequency [Hz]	STL [dB]	ΔSTL	
80	39	2.18	
100	29	4.47	
125	32	2.03	
160	38	3.15	
200	40	2.23	
250	44	1.92	
315	45	1.61	
400	45	0.74	
500	51	1.19	
630	54	1.52	
800	56	1.03	
1000	58	1.08	
1250	64	1.54	
1600	70	1.61	*
2000	73	2.18	*
2500	72	1.80	*
3150	73	2.38	*
4000	73	2.81	*
5000	71	3.12	*

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

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.