



TESTING
NVLAP LAB CODE 200291-0
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### **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
and 3 Inches of Mineral Wool Insulation

Report Number: NGC 5020071\_R1

Assignment Number: G-1631

Test Date: 06/16/2020

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.





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### **Revision Summary:**

Date	SUMMARY
Approval Date: 07/24/2020	Original issue date: 07/24/2020 Original NGCTS report: NGC 5020071
Reissue Date: 10/05/2020	Report #: NGC 5020071_R1 The report was revised to fix a typographical error.

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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, 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, 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/m<sup>2</sup> (43.75 PSF)
- According to the client, Speedfloor 8" (200mm) joists. Measured weight: 6.01 kg/m<sup>2</sup> (1.23 PSF)
- 1 layer of, 76.2 mm (3 in.) Mineral Wool insulation. Sample weight: 3.61 kg/m<sup>2</sup> (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/m<sup>2</sup> (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: 236.24 kg/m<sup>2</sup> (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.

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Test Report: NGC 5020071_R1 Date: 6/15/2020							
Specimen Size [m Source room	12]:	17.8			Dessiring		
Volume [m³]: 86				Receiving room Volume [m³]: 124			
Rm Temp [°C]: 25				Rm Temp [°C]: 25			
Humidity [%]: 50				Humidity [%]: 50			
Sound Transmis		C [dB]·	55		The street of th	-	
Sum of Unfavorable D		28	00				
flax. Unfavorable Dev		7	at	400	Hz		
Frequency	STL	L1	L2	d	Corr.	u.Dev.	ΔSTL
[Hz]	[dB]	[dB]	[dB]	[dB/s]	[dB]	[dB]	BOIL
80	38	100.8	64.9	31.4	2.1		1.54
100	38	102.9	66.9	31.8	2.0		5.43
125	36	103.4	71.4	22.6	4.1	3	0.86
160	42	105.5	68.5	17.8	5.0		1.87
200	43	105.2	67.0	16.4	4.9	2	0.52
250	44	102.6	64.0	16.6	5.4	4	1.22
315	45	99.8	59.4	16.9	4.6	6	0.53
400	47	98.9	56.4	18.1	4.5	7	0.65
500	51	99.3	52.4	19.6	4.1	4	0.77
630	54	99.8	50.1	20.8	4.3	2	0.83
800	57	98.7	45.3	21.6	3.6		0.61
1000	60	96.6	40.7	20.4	4.1		0.75
1250	67	95.3	32.9	20.7	4.7		0.74
1600	71	96.0	28.8	21.4	3.9		1.15
2000	72	98.2	29.5	24.4	3.3		1.85
2500	73	99.6	29.6	27.6	3.0	-	1.53
3150 4000	73	98.9	28.0	30.5	2.1		2.06
20000	73 71	96.7 89.5	25.9 20.5	32.9 36.5	2.2 1.9		2.93
5000					1 1 4	1	3.54

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= Uncertainty for 95% Confidence Level

 $\Delta$  STL

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# Laboratory



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#### **Sound Transmission Loss Test Data**

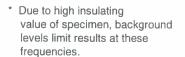
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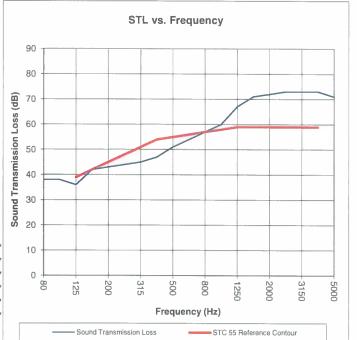
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 16

Test Report: NGC 5020071\_R1 Test Date: 6/15/2020 Specimen Size [m2]: 17.8

#### Sound Transmission Class STC = 55 dB

Frequency	STL	ΔSTL
[Hz]	[dB]	
80	38	1.54
100	38	5.43
125	36	0.86
160	42	1.87
200	43	0.52
250	44	1.22
315	45	0.53
400	47	0.65
500	51	0.77
630	54	0.83
800	57	0.61
1000	60	0.75
1250	67	0.74
1600	71	1.15
2000	72	1.85
2500	73	1.53
3150	73	2.06
4000	73	2.93
5000	71	3.54





STL = Sound Transmission Loss, dB

= Uncertainty for 95% Confidence Level

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