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 44 oz. Carpet and Foam Rubber Underlayment with 1.5"x2" Hat Channel, a Single Layer of 1/2 Inch Type C Gypsum Board

Report Number: NGC 5020063_R1

Assignment Number: G-1631

Test Date: 06/03/2020

Report Reissue Date: 10/05/2020

Submitted by: _____
Anthony J. Rivers
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Revision Summary:

Date	SUMMARY
Approval Date: 07/23/2020	Original issue date: 07/23/2020 Original NGCTS report: NGC 5020063
Reissue Date: 10/05/2020	Report #: NGC 5020063_R1 The report was revised to fix a typographical error.

Report Number: NGC 5020063_R1

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, 44 oz. Carpet over Foam Rubber 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 44 oz. Carpet. The carpet was floating on the Foam Rubber underlayment. Measured weight of 2.73 kg/m^2 (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/m^2 (0.48 PSF).
- 1 layer of, 90mm (3-1/2 in.) Normal Weight concrete. Measured weight: 213.59 kg/m^2 (43.75 PSF)
- According to the client, Speedfloor 8" (200mm) joists. Measured weight: 6.01 kg/m^2 (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/m^2 (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/m^2 (1.90 PSF)

The overall weight of the test assembly is: 234.78 kg/m^2 (48.09 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.

NGC TESTING SERVICES
ACOUSTICAL • FIRE • STRUCTURAL • ANALYTICAL

Acoustical Testing Laboratory

NVLAP TESTING
NVLAP LAB CODE 200291-0

Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation

Sound Transmission Loss Test Data

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

Test Report: NGC 5020063_R1 Date: 6/3/2020
Specimen Size [m²]: 17.8

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]: 57

Sum of Unfavorable Deviations [dB]: 30
Max. Unfavorable Deviation [dB]: 8 at 125 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
80	39	98.9	63.3	26.6	3.4		2.46
100	33	100.5	69.7	29.8	2.2		3.10
125	33	102.2	72.8	24.5	3.6	8	2.22
160	39	103.6	69.3	17.7	4.7	5	3.16
200	42	100.6	63.9	15.7	5.3	5	2.15
250	46	99.5	59.0	16.1	5.5	4	3.40
315	49	99.3	55.8	16.6	5.5	4	3.99
400	53	98.7	50.5	18.0	4.8	3	4.13
500	56	96.8	45.9	18.9	5.0	1	3.28
630	59	97.5	43.2	19.9	4.7		3.28
800	61	96.5	39.8	21.3	4.2		3.42
1000	62	92.1	34.7	20.0	4.6		3.19
1250	67	90.2	27.8	20.7	4.6		3.23
1600	71	91.0	24.5	21.1	4.4		4.06
2000	74	93.1	23.0	24.2	3.9		4.08
2500	74	94.5	23.6	26.8	3.2		4.15
3150	75	93.5	21.0	30.3	2.5		5.18
4000	76	91.1	17.3	32.9	2.2		4.81
5000	71	83.9	14.2	36.4	1.3		5.22

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

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

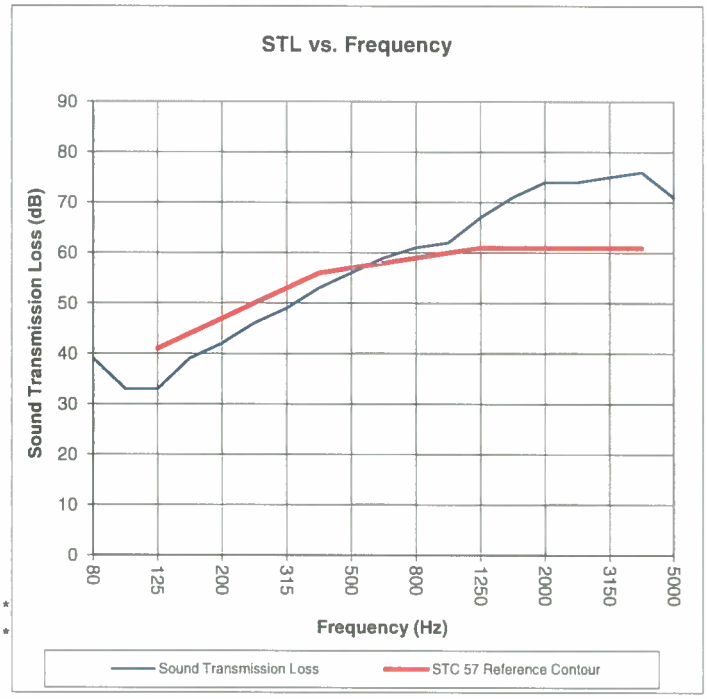
Sound Transmission Loss Test Data

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

Test Report: NGC 5020063_R1
Test Date: 6/3/2020
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 57 dB

Frequency [Hz]	STL [dB]	ΔSTL	
80	39	2.46	
100	33	3.10	
125	33	2.22	
160	39	3.16	
200	42	2.15	
250	46	3.40	
315	49	3.99	
400	53	4.13	
500	56	3.28	
630	59	3.28	
800	61	3.42	
1000	62	3.19	
1250	67	3.23	
1600	71	4.06	
2000	74	4.08	
2500	74	4.15	
3150	75	5.18	
4000	76	4.81	*
5000	71	5.22	*



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

STL = Sound Transmission Loss, dB
Δ STL = Uncertainty for 95% Confidence Level