

TEST REPORT

for

International Cellulose Corporation

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Houston, Texas 77045
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Sound Transmission Loss Test

ASTM E 90 – 09 (2016) / E 413 – 16

On

**6-1/4 Inch Light Weight Concrete Slab Above
3 Inch 18 gage Galvanized Metal Decking Floor System
With 3 Inches of K-13 sprayed on the bottom of the Decking**

Report Number: NGC 5019060

Assignment Number: G-1594

Test Date: 08/20/2019

Report Approval Date: 09/27/2019

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: 09/27/2019	Original issue date. 09/27/2019 Original NGCTS report: NGC 5019060

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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 and Elements – Designation: E 90 – 09 (2016) / E 413 - 16.

Specimen Description 6-1/4 inch overall depth Light weight concrete slab on 3 in. 18 gage Galvanized Metal decking floor-ceiling assembly, with 3 Inches of K-13 sprayed to the underside of the decking.

The test specimen was a floor-ceiling assembly and was observed to consist of the following:
All weights and dimension are averaged:

- 158.8 mm (6-1/4 in.) Light weight concrete slab overall depth, 76.2 mm (3 in.) uninterrupted above deck and 82.6 mm (3-1/4 in.) deep in troughs. Measured weight: 45.70 kg/m² (9.36 PSF)
- 76.2 mm (3 in.) 18 gage Galvanized Metal decking deck 1.27 mm (0.05 in.) thick. The deck weight was: 13.38 kg/m² (2.74 PSF).
- 76.2 mm (3 in.) K-13 sprayed to the underside of the decking. The K-13 was: 5.17 kg/m² (1.06 PSF).

The overall weight of the test assembly is: 64.25 kg/m² (13.16 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: Concrete slab cured for a minimum of 28 days

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

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Sound Transmission Loss Test Data							
Test: ASTM E 90 - 09 (2016) / ASTM E 413 - 16							
Test Report: NGC 5019060						Date: 8/20/2019	
Specimen Size [m²]: 17.8						Page 4 of 5	
Source room				Receiving room			
Volume [m³]: 86				Volume [m³]: 126			
Rm Temp [°C]: 25				Rm Temp [°C]: 25			
Humidity [%]: 50				Humidity [%]: 50			
Sound Transmission Class STC [dB]: 50							
Sum of Unfavorable Deviations [dB]: 18							
Max. Unfavorable Deviation [dB]: 8				at 315 Hz			
Frequency	STL	L1	L2	d	Corr.	u.Dev.	ΔSTL
[Hz]	[dB]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
80	34	102.4	70.7	32.1	2.3		1.99
100	40	104.2	65.6	36.0	1.4		3.27
125	35	104.1	70.6	35.5	1.5		1.69
160	36	105.5	71.6	35.9	2.1	1	1.20
200	39	106.6	68.6	38.5	1.0	1	1.80
250	40	103.2	64.4	42.9	1.2	3	0.42
315	38	101.2	63.5	53.5	0.3	8	0.92
400	44	100.7	56.4	53.8	-0.3	5	0.88
500	52	101.8	49.6	54.6	-0.2		0.99
630	55	101.3	46.2	57.9	-0.1		0.53
800	58	100.7	42.1	59.8	-0.6		0.86
1000	61	98.8	37.2	60.2	-0.7		0.76
1250	65	97.7	32.0	63.2	-0.8		0.65
1600	68	97.2	28.8	58.6	-0.3		0.80
2000	72	99.9	27.4	63.2	-0.5		0.86
2500	74	100.6	25.7	65.5	-0.9		1.31
3150	78	99.8	20.6	68.7	-1.2		1.23
4000	80	97.3	16.0	75.7	-1.3		1.56
5000	80	90.6	8.7	81.7	-1.9		1.83

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

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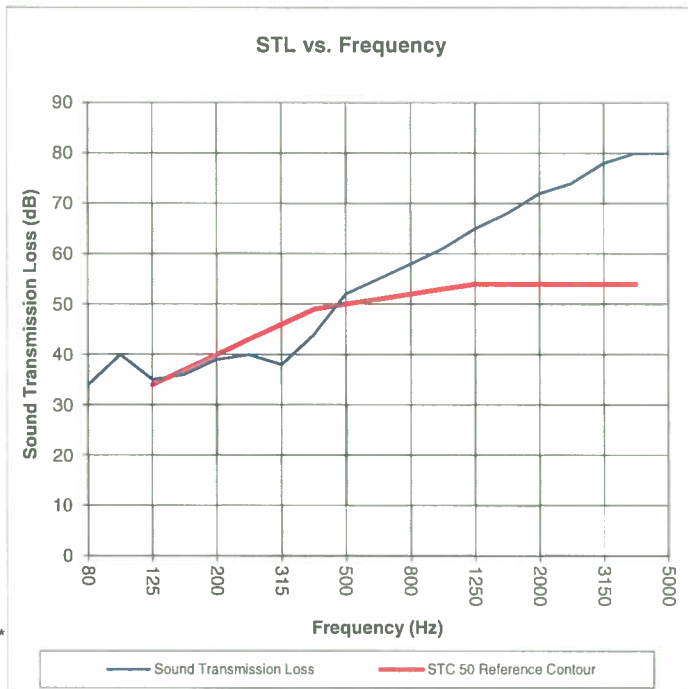
Sound Transmission Loss Test Data

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

Test Report: NGC 5019060
 Test Date: 8/20/2019
 Specimen Size [m²]: 17.8

Sound Transmission Class STC = 50 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	34	1.99
100	40	3.27
125	35	1.69
160	36	1.20
200	39	1.80
250	40	0.42
315	38	0.92
400	44	0.88
500	52	0.99
630	55	0.53
800	58	0.86
1000	61	0.76
1250	65	0.65
1600	68	0.80
2000	72	0.86
2500	74	1.31
3150	78	1.23
4000	80	1.56
5000	80	1.83



* 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

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