

TEST REPORT

for

STC Architectural Products
1200 Northland Ave.
Buffalo, NY 14215
Paul L. Battaglia / 716-392-3831

Sound Transmission Loss Test

ASTM E 90 – 04 / E 413 - 04

On

**STC Acoustic Sleepers on Wood Truss System
Over 18 Inch Open Web Wood Truss Joist Floor-Ceiling Assembly,
RC-1 Channels, with a Single Layer of 5/8 Inch Type C Gypsum Board
and 3-1/2 Inches of Fiberglass Insulation**

Report Number: NGC 5017101

Assignment Number: G-1437

Test Date: 07/28/2017

Report Date: 08/10/2017

Submitted by:


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Test Technician

Reviewed by:


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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: 08/10/2017	Original issue date: 08/10/2017 Original NGCTS report: NGC 5017101

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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 - 04 / E 413 - 04.

Specimen Description: 18 inch (457.2mm) Open web wood truss floor-suspended ceiling assembly with, according to client, STC Acoustic Sleepers on Wood Truss System , over 3/4 inch plywood, resilient channel and one layer of 5/8 in. Type C gypsum board ceiling and 3-1/2 inches of fiberglass insulation.

The test specimen was a floor-ceiling assembly consisting of the following:

- 1 layer of, according to client, STC Acoustic Sleepers on Wood Truss System . The System was floating on the 3/4 in. plywood panels. The measured thickness of the Rubber Sleeper System was 22.48 mm (0.885 in.), the measured weight of the STC Acoustic Sleepers on Wood Truss System was 7.42 kg/m² (1.52 PSF).
- 1 layer of 19.1mm (3/4 in.) plywood panels. They were fastened to the wood joists with construction adhesive and with 6d ring-shank nails, spaced 304.8mm (12 in.) o.c. in field and 152.4mm (6 in.) o.c. at joints and perimeter. The measured weight was 9.1 kg/m² (1.86 PSF).
- 88.9mm x 457.2mm x 3657.6mm (3-1/2 in. x 18 in. x 12 ft.) open web wood truss joists spaced 609.6mm (24 in.) o.c. The joists were attached to 50.8mm x 254mm x 4876.8mm (2 in. x 10 in. x 16 ft.) Douglas Fir rim boards with 16d nails, ten nails per joist. The trusses and rim boards weighed 22.31 kg/m² (4.57 PSF).
- 88.9mm (3-1/2 in.) fiberglass batt insulation. 0.78 kg/m² (0.16 PSF)
- Dietrich Unimast RC Deluxe dogbone hole pattern resilient metal furring channel. Sample was observed to be 60.3mm (2-3/8 in.) wide x 3657.6 mm (144 in.) long x 12.7mm (1/2 in.) deep and 0.43mm (0.017 in.) thick. The channels were spaced 406.4mm (16 in.) o.c. They were attached perpendicular to joists with 31.8mm (1-1/4 in.) coarse thread screws. The sample weight was 0.28 kg/m² (0.19 PLF); 0.98 kg/m² (0.20 PSF).
- 1 layer of 15.9mm (5/8 in.) Type C gypsum board. The board was attached perpendicular to the channels with 25.4mm (1 in.) fine thread bugle head drywall screws. The screw spacing was 304.8mm (12 in.) o.c. throughout. Sample was observed to be 16.2mm (0.636 in.) thick, and weighed 12.7 kg/m² (2.60 PSF).

The overall weight of the test assembly is 53.26 kg/m² (10.91 PSF).

The perimeter of the floor assembly was sealed with a rubber gasket and a sand filled trough.

The test assembly is structurally isolated from the receiving room.

Specimen size: 3657.6mm x 4876.8mm (12 ft x 16 ft).

Conditioning: NA

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

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Sound Transmission Loss Test Data							
Test: ASTM E 90 - 04 / ASTM E 413 - 10							
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Specimen Size [m²]: 17.8							
Source room				Receiving room			
Volume [m³]: 83.5				Volume [m³]: 126.5			
Rm Temp [°C]: 25				Rm Temp [°C]: 25			
Humidity [%]: 65				Humidity [%]: 65			
Sound Transmission Class STC [dB]: 51							
Sum of Unfavorable Deviations [dB]: 23							
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	24	100.1	78.0	31.5	1.8		4.94
100	30	105.2	77.9	31.2	2.7		5.10
125	27	105.0	82.0	22.0	4.0	8	1.10
160	36	102.9	71.8	16.1	4.9	2	1.06
200	39	104.0	70.0	15.1	5.0	2	1.67
250	42	101.5	64.6	15.3	5.1	2	0.89
315	44	100.4	61.6	16.7	5.2	3	0.69
400	46	99.7	58.1	18.6	4.4	4	1.45
500	49	99.9	54.6	20.3	3.7	2	0.69
630	53	101.0	51.9	20.7	3.9		0.80
800	57	100.8	48.2	20.8	4.4		0.51
1000	58	98.2	44.6	19.8	4.4		0.31
1250	59	97.1	42.1	20.4	4.0		0.54
1600	61	96.8	39.3	21.3	3.6		0.87
2000	60	99.2	42.3	24.2	3.1		0.57
2500	62	100.4	41.4	26.9	3.0		1.21
3150	67	99.5	34.9	28.1	2.3		1.44
4000	72	96.9	26.7	31.0	1.9		1.69
5000	70	90.2	21.6	34.3	1.4		2.18

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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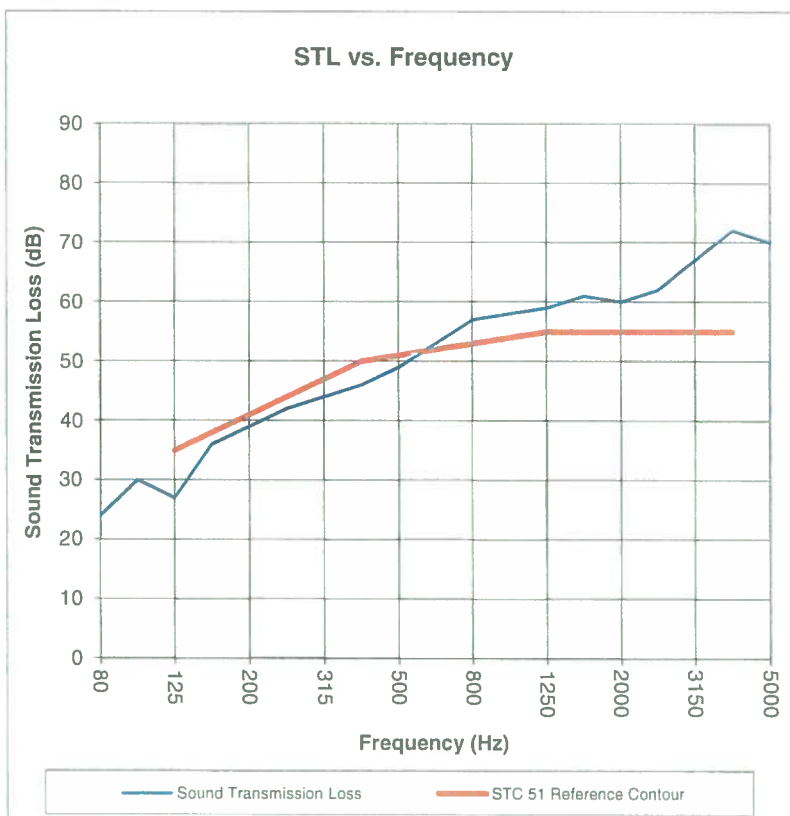
Sound Transmission Loss Test Data

Per: ASTM E 90 - 04 / ASTM E 413 - 10

Test Report: NGC 5017101
 Test Date: 7/28/2017
 Specimen Size [m²]: 17.8

Sound Transmission Class STC = 51 dB

Frequency [Hz]	STL [dB]	ΔSTL
80	24	4.94
100	30	5.10
125	27	1.10
160	36	1.06
200	39	1.67
250	42	0.89
315	44	0.69
400	46	1.45
500	49	0.69
630	53	0.80
800	57	0.51
1000	58	0.31
1250	59	0.54
1600	61	0.87
2000	60	0.57
2500	62	1.21
3150	67	1.44
4000	72	1.69
5000	70	2.18



* 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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