



Acoustical Testing Laboratory



Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code 200291

TEST REPORT

For

Amorim Industrial Solutions
26112 110th Street P.O. Box 25
Trevor, Wisconsin 53179
Larry Lyons / 262-862-2311

Sound Transmission Loss Test

ASTM E 90 - 04 / E 413 - 04

On

**8 Inch (203mm) Concrete Slab Overlaid with
1/2 in. Quarry Tile on 9.5mm Cork / Rubber Laminated Underlayment**

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Report Number: NGC 5007031

Assignment Number: G-355

Test Date: 05/18/2007

Report Date: 07/27/2007

Submitted by: Craig G. Cooper
Craig G. Cooper
Test Engineer

Reviewed by: Robert J. Menchetti
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. This report may not be reproduced except in full, without the written approval of the laboratory. The laboratory's accreditation or any of its test reports in no way constitutes or implies product certification, approval, or endorsement by NVLAP or any agency of the U.S. Government.



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Report Number: NGC-5007031

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: 8 inch (203mm) Concrete Slab Overlaid with; 12.7mm (1/2 in.) Quarry Tile over, 9.5mm thick Cork top / Rubber Bottom Laminated Underlayment.

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

- 1 layer of 152mm x 152mm x 12.7mm (6 in. x 6 in. x 1/2 in.) unglazed clay quarry tile 27.3 kg/m² (5.6 PSF) installed using latex-modified Thin-set mortar and latex-modified sanded grout mixtures 4.9 kg/m² (1.0 PSF).
- 1 layer of 9.5mm Cork top / Rubber Bottom laminated underlayment, observed to be: nominal 10.1mm (0.397 in.), underlayment, 1220mm (48 in.) wide rolls. Seams duct taped. Installed with the cork side up 3.8kg/m² (0.78 PSF). Underlayment was adhered to poly with Mapei 990 Polyurethane Adhesive using 1/8 in. x 1/8 in. square notched trowel.
- 1 layer 4 mil poly sheeting attached to concrete with double sided tape at seams and Perimeter.
- 8 inch thick reinforced concrete slab 417.9 kg/m² (85.6 PSF).

The overall weight of the test assembly is nominal 453.93 kg/m² (92.98 PSF).

The perimeter of the concrete slab was sealed with rubber gasketing and a sand filled trough. The test assembly is structurally isolated from the receiving room.

Specimen size: 3658mm x 4877mm (12 ft x 16 ft.)

Conditioning: Adhesive cured for a minimum 24 hours. Mortar and grout cured for 7 days. Concrete slab cured for a minimum of 28 days.

Test samples were submitted by client and tested as received.

Test Results: The results of the tests are given on pages 3 and 4.

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Sound Transmission Loss Test Data

Test: ASTM E 90 - 04 / ASTM E 413 - 04

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No. of test report: NGC5007031

Date: 5/18/2007

Size: 17.8 m²

Source room

Volume V = 53.2 m³
 Temperature [°C]: 18.9
 Humidity [%]: 46

Receiving room

Volume V = 63.0 m³
 Temperature [°C]: 20.2
 Humidity [%]: 58

Sound Transmission Class STC = 56 dB

Sum of unfavorable deviations: 25.0 dB

Max. unfavorable deviation: 8.0 dB at 250 Hz

Frequency	STL	L1	L2	T	Corr.	u.Dev.	ΔSTL
[Hz]	[dB]	[dB]	[dB]	[s]	[dB]	[dB]	
100	37.0	101.6	72.4	3.09	7.3	--	2.149
125	43.0	99.7	64.8	3.49	7.9	--	0.911
160	45.0	106.2	69.8	4.07	8.5	--	1.105
200	40.0	101.4	69.5	3.54	7.9	6.0	0.529
250	41.0	99.3	65.2	3.03	7.3	8.0	0.224
315	45.0	100.3	62.1	2.88	7.0	7.0	0.480
400	52.0	103.5	58.5	2.77	6.9	3.0	0.640
500	55.0	102.1	53.3	2.51	6.4	1.0	0.387
630	58.0	102.0	50.6	2.33	6.1	--	0.640
800	58.0	101.2	49.0	2.37	6.2	--	0.283
1000	61.0	100.8	45.4	2.25	6.0	--	0.224
1250	62.0	101.2	44.6	2.01	5.5	--	0.458
1600	64.0	101.6	43.2	1.85	5.1	--	0.265
2000	67.0	100.5	38.0	1.67	4.7	--	0.265
2500	69.0	101.1	36.8	1.54	4.3	--	0.224
3150	72.0	100.4	31.8	1.37	3.8	--	0.316
4000	71.0	100.4	32.4	1.23	3.3	--	0.447
5000	71.0	100.8	32.4	1.10	2.9	--	0.469

STL = Sound Transmission Loss, dB
 L1 = Source Room Level, dB
 L2 = Receiving Room Level, dB
 T = Reverberation Time, seconds
 Δ STL = Uncertainty for 95% Confidence Level

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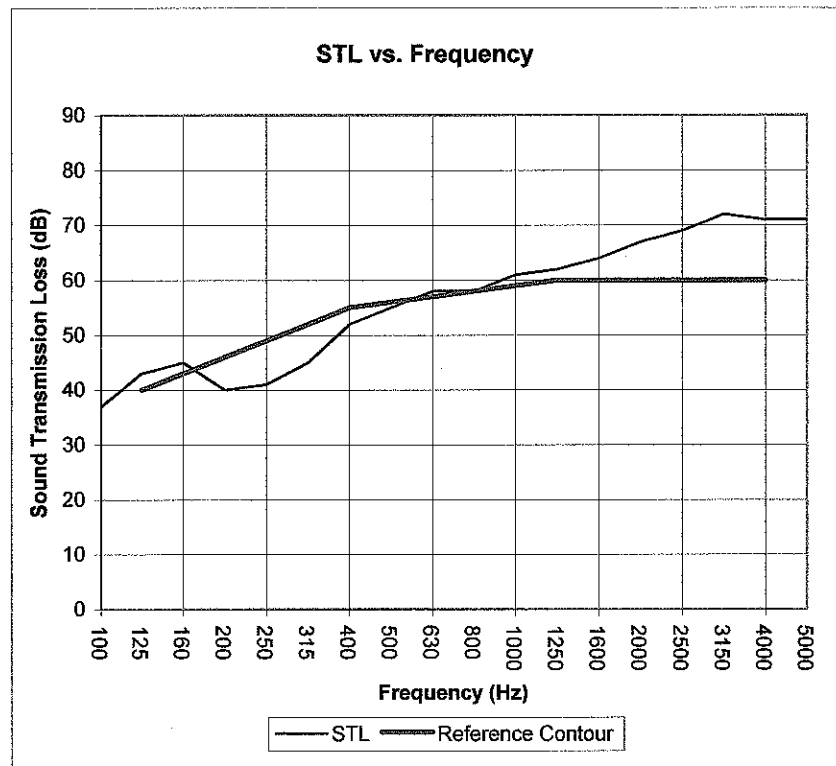
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Sound Transmission Loss Test Data Page 4 of 4
 Per: ASTM E 90 - 04 / ASTM E 413 - 04

No. of test report: NGC5007031
 Test Date: 5/18/2007
 Size: 17.8 m²

Sound Transmission Class STC = 56 dB

Frequency [Hz]	STL [dB]	ΔSTL
100	37	2.149
125	43	0.911
160	45	1.105
200	40	0.529
250	41	0.224
315	45	0.480
400	52	0.640
500	55	0.387
630	58	0.640
800	58	0.283
1000	61	0.224
1250	62	0.458
1600	64	0.265
2000	67	0.265
2500	69	0.224
3150	72	0.316
4000	71	0.447
5000	71	0.469



* 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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