



# 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  
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Trevor, Wisconsin 53179  
Larry Lyons / 262-862-2311

### Sound Transmission Loss Test ASTM E 90 - 04 / E 413 - 04 On

**8mm Laminate Flooring over 2.5 mm AcoustiCORK® Quiet Comfort Underlayment on 6 Inch (152mm) Concrete Slab Floor-Ceiling Assembly with Suspended Gypsum Board Ceiling**

Report Number: NGC 5007039

Page 1 of 4  
Reissued 08/08/2007

Assignment Number: G-374

Test Date: 06/27/2007

Report Date: 07/27/2007

Submitted 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. 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 5007039

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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:** 6 inch (152mm) concrete slab floor-ceiling assembly overlaid with, 3/8 in. Laminate wood Flooring and AcoustiCORK® Underlayment, with suspended grid ceiling system, and 5/8 in. (15.9mm) gypsum board ceiling.

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

- 1 layer of laminate flooring, 8mm (0.31 in.) thick, 200mm (7.86 in.) wide, 1208mm (47.56 in.) long planks, 7.29kg/m<sup>2</sup> (1.49 PSF).
- 1 layer of 3.00mm and 1.32mm (0.118 in. and 0.052 in.) 2.5mm AcoustiCORK® Quiet Comfort underlayment 0.49 kg/m<sup>2</sup> (0.10 PSF).
- 152mm (6 in.) thick reinforced concrete slab 366.1 kg/m<sup>2</sup> (75.0 PSF).
- Gypsum board ceiling grid suspension system consisting of concrete anchors located 1219mm (48 in.) o.c. along the longitudinal axis secure the 16 gauge galvanized tie wire which supports the grid system. A 305mm (12 in.) plenum is created and a layer of 89mm (3-1/2 in.) fiberglass insulation 0.78 kg/m<sup>2</sup> (0.16 PSF) is laid over grid. A single layer of 15.9mm (5/8 in.) type X gypsum board 11.2 kg/m<sup>2</sup> (2.3 PSF) attached with 25.4mm (1 in.) screws, 305mm (12 in.) o.c. to suspended grid suspension system mains and runners.

The overall weight of the test assembly is 385.9 kg/m<sup>2</sup> (79.05 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:** 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: NGC5007039

Date: 6/27/2007

Size: 17.8 m<sup>2</sup>

### Source room

Volume V = 53.2 m<sup>3</sup>

Temperature [°C]: 28.0

Humidity [%]: 57

### Receiving room

Volume V = 63.9 m<sup>3</sup>

Temperature [°C]: 24.3

Humidity [%]: 54

### Sound Transmission Class STC = 67 dB

Sum of unfavorable deviations: 32.0 dB

Max. unfavorable deviation: 7.0 dB at 630 Hz

Frequency	STL	L1	L2	T	Corr.	u.Dev.	ΔSTL
[Hz]	[dB]	[dB]	[dB]	[s]	[dB]	[dB]	
100	54.0	96.4	48.6	2.08	5.9	--	1.456
125	54.0	93.6	46.2	2.50	6.7	--	0.775
160	59.0	100.1	49.3	3.46	8.1	--	0.245
200	56.0	95.6	47.7	3.53	8.2	1.0	0.300
250	56.0	94.6	46.0	3.15	7.7	4.0	0.480
315	61.0	95.7	42.4	3.04	7.5	2.0	0.539
400	61.0	96.3	42.9	2.91	7.3	5.0	0.469
500	63.0	94.6	38.5	2.75	7.1	4.0	0.316
630	61.0	93.3	39.6	2.64	6.9	7.0	0.200
800	63.0	94.0	38.2	2.63	6.9	6.0	0.300
1000	67.0	94.5	33.7	2.45	6.6	3.0	0.458
1250	78.0	95.5	24.1	2.22	6.2	--	0.361
1600	75.0	95.6	26.1	2.11	5.9	--	0.346
2000	74.0	95.8	27.0	1.90	5.5	--	0.346
2500	80.0	96.0	21.0	1.67	4.9	--	0.374
3150	83.0	95.4	17.4	1.58	4.7	--	0.332
4000	85.0	96.0	15.4	1.42	4.2	--	0.265
5000	87.0	96.4	13.2	1.30	3.8	--	0.346

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

The results reported above apply to specific samples submitted for measurement.

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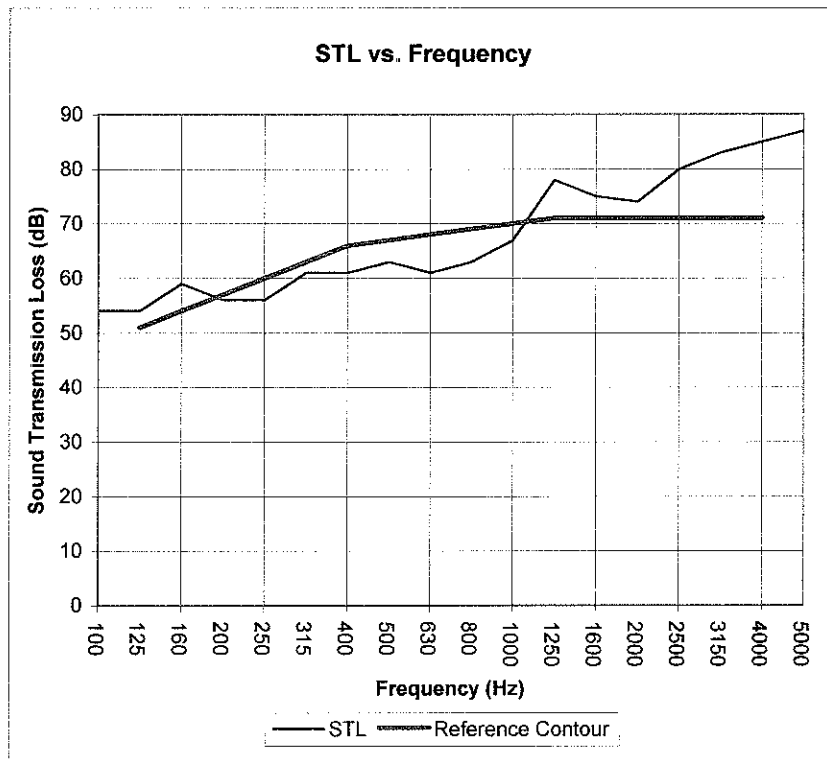
## Sound Transmission Loss Test Data

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

No. of test report: NGC5007039  
 Test Date: 6/27/2007  
 Size: 17.8 m<sup>2</sup>

**Sound Transmission Class STC = 67 dB**

Frequency [Hz]	STL [dB]	ΔSTL
100	54	1.456
125	54	0.775
160	59	0.245
200	56	0.300
250	56	0.480
315	61	0.539
400	61	0.469
500	63	0.316
630	61	0.200
800	63	0.300
1000	67	0.458
1250	78	0.361
1600	75	0.346
2000	74	0.346
2500	80	0.374
3150	83	0.332
4000	85	0.265
5000	87	0.346



\* 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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