



# Acoustical Testing Laboratory



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

## TEST REPORT

For

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


**8 Inch (203mm) Concrete Slab Overlaid with Engineered Hardwood Flooring Adhered with Sikabond-T35 Adhesive over 10mm Impacta-Regupol Probase Underlayment Adhered with Sikabond-T35 Adhesive**

Report Number: NGC 7011099

Assignment Number: G-709

Test Date: 08/19/2011

Report Date: 09/13/2011

Submitted by:   
Andrew E. Heuer  
Test and Quality Engineer

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. 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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- Test Method:** This test method is in accordance with American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine - Designation: E 492-09 / E 989-06.  
The uncertainty limits of each tapping machine location met the precision requirements of section A1.4 of ASTM E 492-09.
- Specimen Description:** 8 inch (203mm) Concrete Slab overlaid with, according to client, Engineered wood flooring with Sikabond-T35 adhesive over 10mm Impacta-Regupol Probase underlayment adhered with Sikabond-T35 adhesive.

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

- 1 layer of 13.1mm (0.515 in.) Hard Maple Select V Engineered Hardwood flooring. Samples were 127mm (5 in.) wide, by random length planks. Sample weight was  $7.5 \text{ kg/m}^2$  (1.54 PSF).
- 1 layer of Sikabond-T35 adhesive. Sample was troweled on using client supplied P5 trowel.
- 10mm-Impacta Regupol Probase underlayment, 10.0mm (0.395 in.) thick. Sample weight was  $7.7 \text{ kg/m}^2$  (1.58 PSF).
- 1 layer of Sikabond-T35 adhesive. Sample was troweled on using client supplied P5 trowel.
- 203.2mm (8 in.) thick reinforced concrete slab  $488.2 \text{ kg/m}^2$  (100.0 PSF).

The overall weight of the test assembly is  $503.4 \text{ kg/m}^2$  (103.12 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.

**Test Floor Size:** 3657.6mm x 4876.8mm (12 ft. x 16 ft.).

**Conditioning:** Adhesive cured for minimum of 24 hours.  
Concrete cured minimum of 28 days.

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

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Normalized impact sound pressure level						
Test: ASTM E 492 - 09 / ASTM E 989 - 06						
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Test Report: NGC7011099			Date: 8/19/2011			
Specimen Size [m <sup>2</sup> ]: 17.8						
<b>Source room</b>			<b>Receiving room</b>			
Rm Temp [°C]: 26			Volume [m <sup>3</sup> ]: 63			
Humidity [%]: 56			Rm Temp [°C]: 23.5			
			Humidity [%]: 48			
<b>Impact Insulation Class IIC [dB]: 54</b>						
Sum of Unfavorable Deviations [dB]: 32						
Max. Unfavorable Deviation [dB]: 8			at 315 Hz			
Frequency	L <sub>n</sub>	L2	d	Corr.	u.Dev.	ΔL <sub>n</sub>
[Hz]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
100	60	65.3	16.9	-5.3	2	3.24
125	58	63.4	18.0	-5.4		3.01
160	61	67.1	15.7	-6.1	3	1.44
200	62	67.5	15.8	-5.5	4	0.95
250	64	68.6	18.8	-4.6	6	0.53
315	66	71.1	18.3	-5.1	8	0.65
400	63	67.7	19.7	-4.7	6	0.43
500	59	63.4	20.7	-4.4	3	0.27
630	54	58.3	22.5	-4.3		0.31
800	47	51.3	22.9	-4.3		0.23
1000	41	45.2	25.0	-4.2		0.20
1250	37	40.4	27.6	-3.4		0.25
1600	31	34.2	30.1	-3.2		0.28
2000	26	28.8	32.9	-2.8		0.24
2500	21	24.3	35.6	-3.3		0.18
3150	18	21.2	40.3	-3.2		0.29
4000	18	20.3	44.9	-2.3		0.35
5000	14	16.4	51.3	-2.4		0.47
<p>L<sub>n</sub> = Normalized Sound Pressure Level, dB            L2 = Receiving Room Level, dB            d = Decay Time, dB/second            ΔL<sub>n</sub> = Uncertainty for 95% Confidence Level</p>						

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## Normalized impact sound pressure level

Test: ASTM E 492 - 09 / ASTM E 989 - 06

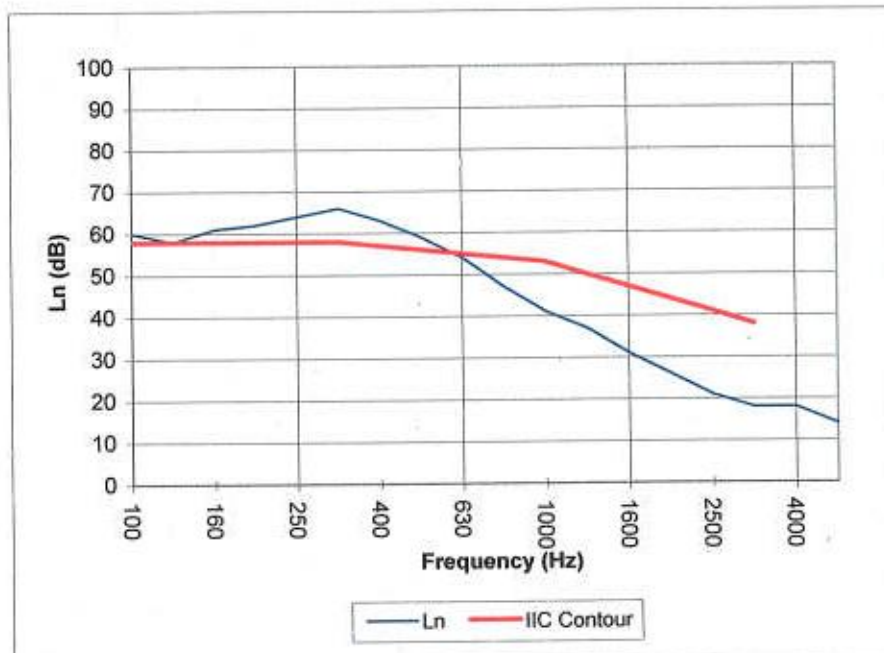
Test Report: NGC7011099

Test Date: 8/19/2011

Specimen Size [m<sup>2</sup>]: 17.8

**Impact Insulation Class IIC [dB]: 54**

Frequency [Hz]	L <sub>n</sub> [dB]
100	60
125	58
160	61
200	62
250	64
315	66
400	63
500	59
630	54
800	47
1000	41
1250	37
1600	31
2000	26
2500	21
3150	18
4000	18
5000	14



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

L<sub>n</sub> = Normalized Sound Pressure Level, dB

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