



# 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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### Impact Sound Transmission Test

ASTM E 492 - 09 / ASTM E 989 - 06

On

**8 Inch (203mm) Concrete Slab Overlaid with  
Engineered Hardwood Flooring Adhered with Sikabond-T35 Adhesive over  
3mm Impacta-Regupol Probase Underlayment Adhered with Sikabond-T35 Adhesive**

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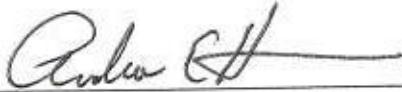
Report Number: NGC 7011102

Assignment Number: G-709


Test Date: 08/25/2011

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.  
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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 3mm 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 kg/m<sup>2</sup> (1.54 PSF).
- 1 layer of Sikabond-T35 adhesive. Sample was troweled on using client supplied P5 trowel.
- 3mm-Impacta Regupol Probase underlayment, 3.1mm (0.12 in.) thick. Sample weight was 2.3 kg/m<sup>2</sup> (0.48 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 kg/m<sup>2</sup> (100.0 PSF).

The overall weight of the test assembly is 498.1 kg/m<sup>2</sup> (102.02 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						
Test Report: NGC7011102					Date: 8/25/2011	
Specimen Size [m <sup>2</sup> ]: 17.8					Page 3 of 4	
<b>Source room</b>			<b>Receiving room</b>			
Rm Temp [°C]: 25			Volume [m <sup>3</sup> ]: 63			
Humidity [%]: 62			Rm Temp [°C]: 23			
			Humidity [%]: 49			
<b>Impact Insulation Class IIC [dB]: 52</b>						
Sum of Unfavorable Deviations [dB]: 31						
Max. Unfavorable Deviation [dB]: 7			at 500 Hz			
Frequency	L <sub>n</sub>	L <sub>2</sub>	d	Corr.	u.Dev.	ΔL <sub>n</sub>
[Hz]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
100	61	66.1	16.5	-5.1	1	2.81
125	58	63.6	17.9	-5.6		3.08
160	62	67.9	15.0	-5.9	2	1.03
200	62	67.9	15.8	-5.9	2	0.79
250	64	69.1	19.0	-5.1	4	0.77
315	66	70.6	18.4	-4.6	6	0.65
400	65	69.8	19.8	-4.8	6	0.41
500	65	69.5	20.7	-4.5	7	0.22
630	60	64.1	22.3	-4.1	3	0.25
800	53	57.5	22.7	-4.5		0.22
1000	47	51.2	24.7	-4.2		0.14
1250	44	47.5	27.6	-3.5		0.26
1600	38	40.5	30.0	-2.5		0.18
2000	32	34.5	33.2	-2.5		0.28
2500	28	30.1	36.2	-2.1		0.18
3150	25	27.0	40.2	-2.0		0.23
4000	22	23.3	45.0	-1.3		0.21
5000	18	18.7	52.2	-0.7		0.36
<p>L<sub>n</sub> = Normalized Sound Pressure Level, dB            L<sub>2</sub> = 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

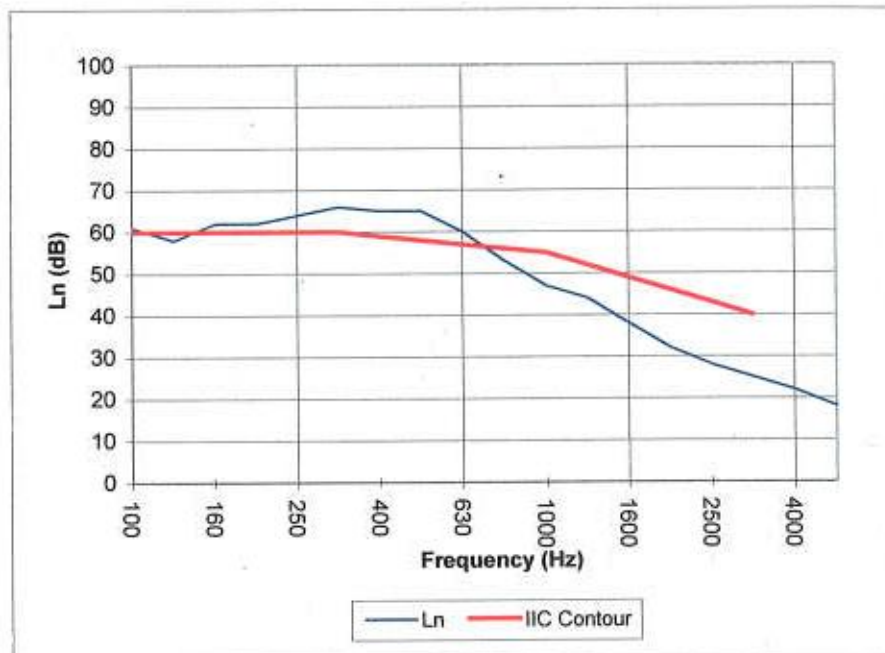
Test Report: NGC7011102

Test Date: 8/25/2011

Specimen Size [m²]: 17.8

**Impact Insulation Class IIC [dB]: 52**

Frequency [Hz]	$L_n$ [dB]
100	61
125	58
160	62
200	62
250	64
315	66
400	65
500	65
630	60
800	53
1000	47
1250	44
1600	38
2000	32
2500	28
3150	25
4000	22
5000	18



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

$L_n$  = Normalized Sound Pressure Level, dB

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