



Acoustical Testing Laboratory



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under Lab Code 200291

TEST REPORT

For

Unilin Floor Covering
2640 Highway 41 South
Calhoun, GA 30701
Karen Shoemaker / 1-800-241-4494

Impact Sound Transmission Test
ASTM E 492 – 04 / ASTM E 989 – 06
On

**Quick Step® Eligna 800 8mm Laminate Wood Flooring over
Quick Step® Combi-Floor Plus Underlayment on
6 Inch (152mm) Concrete Slab with Suspended Gypsum Board Ceiling**

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Report Number: NGC 7007141

Assignment Number: G-411

Test Date: 10/29/2007

Report Date: 12/05/2007

Submitted by:


Steven M. Armenia
Test Technician

Reviewed by:


Robert J. Menchetti
Director

The results reported above apply to specific samples submitted for measurement.
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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 - 04 / E 989 - 89. The uncertainty limits of each tapping machine location met the precision requirements of section 11.3 of ASTM E 492-04.
- Specimen Description:** 6 inch (152mm) Concrete Slab Overlaid with; Floating Quick Step® Eligna 800 Uniclic® Laminate wood flooring, over Quick Step® Combi-Floor Plus Grey Underlayment, with suspended grid ceiling system and 5/8 in. gypsum board ceiling.

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

- 1 layer of 1380mm x 27mm x 8mm (54-11/32 in. x 6-1/16 in. x 5/16 in.) Quick Step® Eligna 800 Uniclic® Laminate wood flooring. The sample thickness was measured to be 8.1mm (0.321 in.). The sample weight was 7.62 kg/m² (1.56 PSF).
- 1 layer of 1.8mm (0.071 in.) Quick Step® Combi-Floor Plus Grey Underlayment. The sample weight was measured to be 0.09kg/m² (0.02 PSF). The sample was white foam-like material, with a smooth face layer and textured back. The underlayment had a flap with a glue strip for sealing the joints. The seams were butted together and taped.
- 152mm (6 in.) thick reinforced concrete slab 366.1 kg/m² (75.0 PSF).
- 88.9mm (3-1/2 in.) fiberglass unfaced batt insulation. Sample weight was 0.68 kg/m² (0.23 PSF). The insulation was laid over the suspended grid system parallel with the Main Tee's.
- Gypsum board ceiling grid suspension system manufactured by Armstrong®. System is comprised of Main Tee's (part number HD8906E) and Cross Tee's (part number XL8945P). The Main Tee's were placed 1218mm (48 in.) on center and the Cross tee's were placed 609mm (24 in.) on center. 16 gauge galvanized tie wire was used to attach the Main Tee's to concrete anchors, located 1219mm (48 in.) o.c. along the longitudinal axis, suspending the grid 305mm (12 in.) below the trusses.
- 1 layer of 15.9mm (5/8 in.) Type X gypsum board. Sample was observed to be 15.7mm (0.632 in.) thick and weighed 11.2 kg/m² (2.3 PSF). The board was attached 304.8mm (12 in.) o.c. perpendicular to suspended grid suspension system mains, using 31.8mm (1-1/4 in.) type S bugle head drywall screws. The board joints were taped.

The overall weight of the test assembly is 386.2kg/m² (79.11 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 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 - 04 / ASTM E 989 - 06						
Test Number: NGC7007141					Date: 10/31/2007	
Size: 17.84 m ²						
Source room			Receiving room			
Temperature [°C]: 18.5			Volume V = 60.0 m ³			
Humidity [%]: 43			Temperature [°C]: 20.3			
			Humidity [%]: 57			
Impact Insulation Class IIC = 69 dB						
Sum of unfavorable deviations: 24.0 dB						
Max. unfavorable deviation: 8.0 dB at 100 Hz						
Frequency	L _n	L ₂	T	Corr.	u.Dev.	ΔL _n
[Hz]	[dB]	[dB]	[s]	[dB]	[dB]	
100	51.0	54.7	2.03	-3.7	8.0	0.134
125	46.0	49.9	2.40	-3.9	3.0	0.188
160	49.0	54.4	3.07	-5.4	6.0	0.155
200	42.0	47.3	3.03	-5.3	--	0.113
250	45.0	49.8	3.20	-4.8	2.0	0.126
315	41.0	46.5	3.17	-5.5	--	0.083
400	42.0	47.4	3.05	-5.4	--	0.077
500	39.0	43.4	2.84	-4.4	--	0.067
630	36.0	40.7	2.65	-4.7	--	0.061
800	34.0	38.9	2.69	-4.9	--	0.051
1000	30.0	34.0	2.54	-4.0	--	0.044
1250	30.0	33.7	2.29	-3.7	--	0.051
1600	29.0	32.4	2.14	-3.4	--	0.043
2000	27.0	29.4	1.88	-2.4	--	0.037
2500	26.0	28.2	1.73	-2.2	--	0.044
3150	28.0	30.6	1.63	-2.6	5.0	0.036
4000	26.0	28.0	1.46	-2.0	--	0.040
5000	20.0	21.5	1.30	-1.5	--	0.038
L _n = Normalized Sound Pressure Level, dB L ₂ = Receiving Room Level, dB T = Reverberation Time, seconds ΔL _n = Uncertainty for 95% Confidence Level						

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Normalized impact sound pressure level

Test: ASTM E 492 - 04 / ASTM E 989 - 06

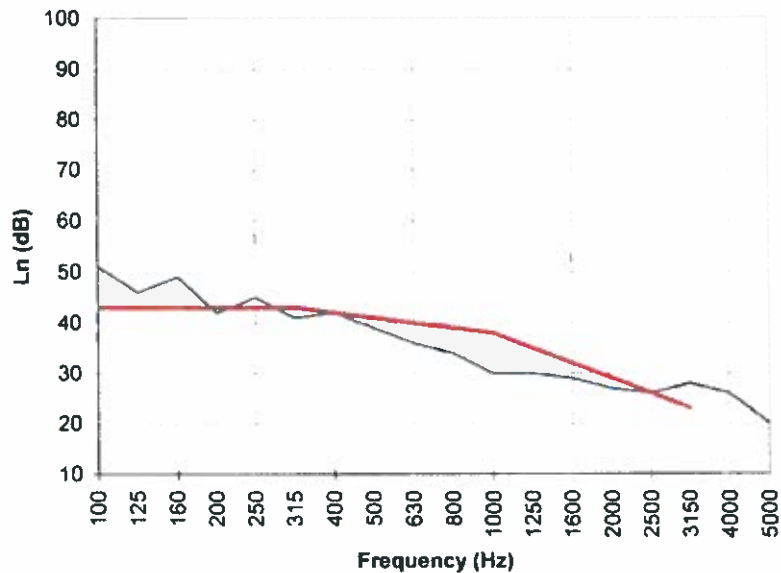
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Test Number: NGC7007141

Date: 10/31/2007

Impact Insulation Class IIC = 69 dB

Frequency [Hz]	L_n [dB]
100	51
125	46
160	49
200	42
250	45
315	41
400	42
500	39
630	36
800	34
1000	30
1250	30
1600	29
2000	27
2500	26
3150	28
4000	26
5000	20



— L_n — IIC Contour

L_n = Normalized Sound Pressure Level, dB

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

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