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TEST REPORT

For

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Impact Sound Transmission Test

ASTM E 492 – 04 / ASTM E 989 – 06
On

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

Report Number: NGC 7007087
Reissued 08/08/2007

Assignment Number: G-374

Test Date: 06/27/2007

Report Date: 07/26/2007

Submitted by: _____
Craig G. Cooper
Test 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 – 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 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^2 (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^2 (0.10 PSF)
- 152mm (6 in.) thick reinforced concrete slab 366.1 kg/m^2 (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^2 (0.16 PSF) is laid over grid. A single layer of 15.9mm (5/8 in.) type X gypsum board 11.2 kg/m^2 (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^2 (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 Results: The results of the tests are given on pages 3 and 4.

Normalized impact sound pressure level

Test: ASTM E 492 - 04 / ASTM E 989 - 89

Test Number: NGC7007087 Date: 6/27/2007
Size: 17.84 m²

Source room

Temperature [°C]: 25.1
Humidity [%]: 57

Receiving room

Volume V = 60.0 m³
Temperature [°C]: 22.1
Humidity [%]: 55

Impact Insulation Class IIC = 69 dB

Sum of unfavorable deviations: 17.0 dB
Max. unfavorable deviation: 8.0 dB at 100 Hz

Frequency [Hz]	L_n [dB]	L2 [dB]	T [s]	Corr. [dB]	u.Dev. [dB]	ΔL_n
100	51.0	54.0	2.08	-3.0	8.0	0.138
125	46.0	49.9	2.50	-3.9	3.0	0.196
160	45.0	50.4	3.46	-5.4	2.0	0.200
200	43.0	48.9	3.53	-5.9	-.-	0.111
250	44.0	49.2	3.15	-5.2	1.0	0.109
315	39.0	44.3	3.04	-5.3	-.-	0.095
400	40.0	44.8	2.91	-4.8	-.-	0.091
500	40.0	44.8	2.75	-4.8	-.-	0.088
630	39.0	43.1	2.64	-4.1	-.-	0.055
800	36.0	40.0	2.63	-4.0	-.-	0.060
1000	31.0	34.6	2.45	-3.6	-.-	0.044
1250	29.0	32.6	2.22	-3.6	-.-	0.045
1600	28.0	31.4	2.11	-3.4	-.-	0.038
2000	27.0	29.5	1.90	-2.5	-.-	0.044
2500	25.0	27.0	1.67	-2.0	-.-	0.037
3150	26.0	28.5	1.58	-2.5	3.0	0.046
4000	27.0	28.6	1.42	-1.6	-.-	0.033
5000	22.0	23.5	1.30	-1.5	-.-	0.041

L_n = Normalized Sound Pressure Level, dB
L2 = Receiving Room Level, dB
T = Reverberation Time, seconds
ΔL_n = Uncertainty for 95% Confidence Level

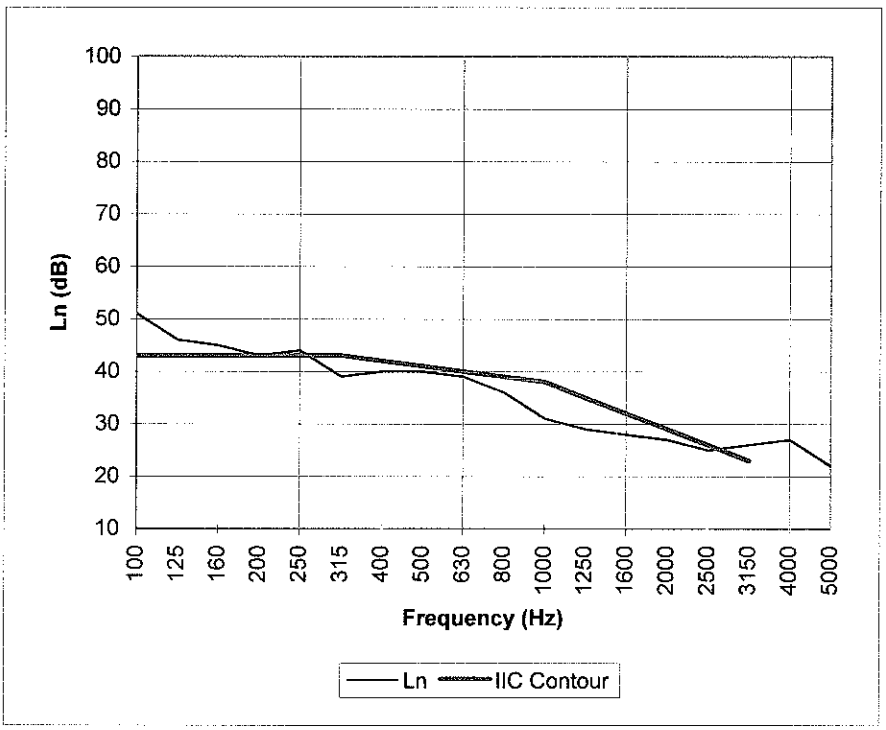
Normalized impact sound pressure level

Test: ASTM E 492 - 04 / ASTM E 989 - 89

Test Number: NGC7007087 Date: 6/27/2007

Impact Insulation Class IIC = 69 dB

Frequency [Hz]	L_n [dB]
100	51
125	46
160	45
200	43
250	44
315	39
400	40
500	40
630	39
800	36
1000	31
1250	29
1600	28
2000	27
2500	25
3150	26
4000	27
5000	22



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

L_n = Normalized Sound Pressure Level, dB