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# Acoustical Testing Laboratory

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# TEST REPORT

For

Sound Seal
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Agawam, MA 01001
Jamie Vallee / 413-789-1770

## Impact Sound Transmission Test

**ASTM E 492 – 09 / ASTM E 989 – 06**
**On**

**8 Inch (203mm) Concrete Slab Overlaid with Quarry Tile and Mortar on 5mm Impacta-Regupol PROBASE Underlayment**



Report Number: NGC 7010065

Assignment Number: G-609

Test Date: 07/27/2010

Report Date: 08/30/2030

Submitted by: Craig G. Cooper
Test Engineer

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 – 09 / E 989 - 89.
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, Quarry tile and mortar on 5mm Impacta-Regupol PROBASE underlayment.

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

- 152mm x 152mm x 12.7mm (6 in. x 6 in. x ½ in.) unglazed clay quarry tile 27.3 kg/m$^2$ (5.6 PSF) installed using latex-modified Thin-set mortar and latex-modified sanded grout mixtures 4.9 kg/m$^2$ (1.0 PSF).
- 1 layer of 5.3mm (0.207 in.) 5mm Impacta-Regupol PROBASE underlayment. Sample weight was found to be 3.7 kg/m$^2$ (0.76 PSF).
- 8 Inch (203mm) thick reinforced concrete slab 488.2 kg/m$^2$ (100 PSF).

The overall weight of the test assembly is 524.1 kg/m$^2$ (107.4 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.
Mortar and grout cured for a minimum of 7 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: NGC7010065 Date: 7/27/2010

Specimen Size [m²]: 17.8

**Source room**

Rm Temp [°C]: 26.5

Humidity [%]: 55

**Receiving room**

Volume [m³]: 63

Rm Temp [°C]: 23.5

Humidity [%]: 48

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

Sum of Unfavorable Deviations [dB]: 21

Max. Unfavorable Deviation [dB]: 6 at 250 Hz

| Frequency [Hz] | $L_n$ [dB] | L2 [dB] | d [dB/s] | Corr. [dB] | u.Dev. [dB] | $\Delta L_n$ |
|---|---|---|---|---|---|---|
| 100 | 57 | 63.4 | 14.3 | -6.4 | | 11.43 |
| 125 | 60 | 64.6 | 19.4 | -4.6 | | 8.15 |
| 160 | 63 | 68.7 | 15.8 | -5.7 | 3 | 9.33 |
| 200 | 61 | 66.9 | 16.6 | -5.9 | 1 | 8.13 |
| 250 | 66 | 70.6 | 20.7 | -4.6 | 6 | 9.24 |
| 315 | 64 | 68.9 | 20.5 | -4.9 | 4 | 8.10 |
| 400 | 60 | 64.5 | 22.5 | -4.5 | 1 | 8.98 |
| 500 | 59 | 62.8 | 24.9 | -3.8 | 1 | 9.22 |
| 630 | 58 | 61.0 | 26.9 | -3.0 | 1 | 7.75 |
| 800 | 56 | 59.8 | 26.9 | -3.8 | | 7.94 |
| 1000 | 56 | 59.2 | 28.6 | -3.2 | 1 | 8.06 |
| 1250 | 54 | 56.3 | 31.5 | -2.3 | 2 | 8.71 |
| 1600 | 50 | 52.8 | 32.0 | -2.8 | 1 | 8.07 |
| 2000 | 45 | 47.9 | 34.2 | -2.9 | | 6.46 |
| 2500 | 42 | 44.5 | 36.6 | -2.5 | | 5.39 |
| 3150 | 37 | 38.9 | 40.7 | -1.9 | | 4.02 |
| 4000 | 31 | 32.4 | 46.1 | -1.4 | | 3.67 |
| 5000 | 30 | 30.4 | 52.3 | -0.4 | | 4.34 |

$L_n$ = Normalized Sound Pressure Level, dB

L2 = Receiving Room Level, dB

d = Decay Time, dB/second

$\Delta L_n$ = Uncertainty for 95% Confidence Level

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# Normalized impact sound pressure level

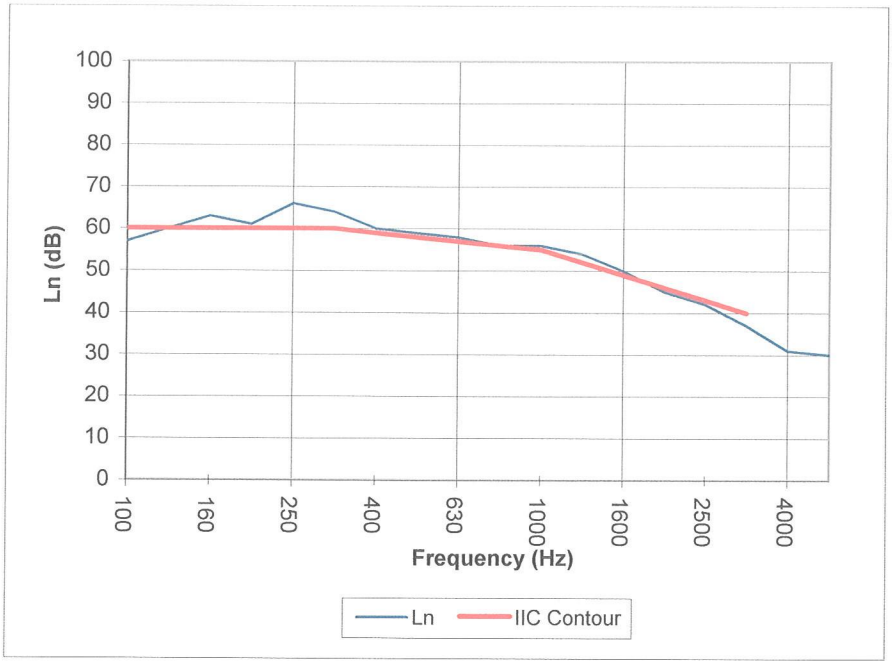
Test: ASTM E 492 - 09 / ASTM E 989 - 06



Test Report: NGC7010065
Test Date: 7/27/2010
Specimen Size [m²]: 17.8

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

| Frequency [Hz] | $L_n$ [dB] |
|---|---|
| 100 | 57 |
| 125 | 60 |
| 160 | 63 |
| 200 | 61 |
| 250 | 66 |
| 315 | 64 |
| 400 | 60 |
| 500 | 59 |
| 630 | 58 |
| 800 | 56 |
| 1000 | 56 |
| 1250 | 54 |
| 1600 | 50 |
| 2000 | 45 |
| 2500 | 42 |
| 3150 | 37 |
| 4000 | 31 |
| 5000 | 30 |




* 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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