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TEST REPORT

For

Sound Seal
P. O. Box 545
Agawam, MA 01001
Bill Devin / 413-789-1770

Impact Sound Transmission Test
ASTM E 2179 - 03
On

Quarry Tile and Mortar over
Sound Seal® Impacta-Regupol Probase Tile Underlayment
6 Inch (152mm) Concrete Slab
(Formally known as CeraZorb Green)

Report Number: NGC 7008120

Assignment Number: G-455

Test Date: 08/05/2008

Report Date: 09/04/2008

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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Report Number: NGC 7008120

Test Method: This test method is in accordance with American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors – Designation: E 2179 – 03

A 30 second averaging time was used for measurement of sound pressure levels.

Specimen Description: 6 inch (152mm) Concrete Slab Overlaid with, according to client, Quarry tile and mortar over CeraZorb green rubber underlayment.

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

- 1 layer of 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 polymer modified mortar and polymer modified grout mixtures 4.9 kg/m^2 (1.0 PSF).
- 1 layer of 3.4mm (0.135 in.) Sound Seal® CeraZorb green rubber underlayment. Sample weight was 2.10 kg/m^2 (0.43 PSF). Sample was a black rubberized mat
- 152mm (6 in.) thick reinforced concrete slab 366.1 kg/m^2 (75.0 PSF).

The overall weight of the test assembly is 400.5 kg/m^2 (82.03 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: 3658mm x 4877mm (12 ft. x 16 ft.).

Category II Specimen Size: 3658mm x 4877mm (12 ft. x 16 ft.).

Conditioning: Mortar allowed to cure for 7 days.

Test Results: The results of the tests are given on pages 3 through 6.

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Test: ASTM E 2179 - 03 — Bare 6" Concrete Slab

Test Number: NGC7008120 Date: 8/5/2008
Size: 17.8 m²

Source room

Temperature [°C]: 24.7
Humidity [%]: 62

Receiving room

Volume V = 63.9 m³
Temperature [°C]: 23.2
Humidity [%]: 53

Frequency [Hz]	Ln [dB]	L2 [dB]	T [s]	Corr. [dB]	u.Dev. [dB]	ΔL_n
50	62.0	68.0	3.83	-6.0	-.-	0.469
63	58.0	63.2	3.54	-5.2	-.-	0.321
80	59.0	65.6	4.22	-6.6	-.-	0.276
100	63.0	68.5	3.50	-5.5	-.-	0.554
125	67.0	72.3	3.54	-5.3	-.-	0.309
160	69.0	75.2	4.01	-6.2	-.-	0.204
200	68.0	74.1	4.24	-6.1	-.-	0.252
250	71.0	75.9	3.17	-4.9	-.-	0.118
315	68.0	72.6	3.11	-4.6	-.-	0.115
400	71.0	75.9	3.04	-4.9	-.-	0.082
500	68.0	72.5	2.73	-4.5	-.-	0.057
630	70.0	74.4	2.65	-4.4	-.-	0.060
800	70.0	74.1	2.64	-4.1	-.-	0.054
1000	71.0	75.0	2.48	-4.0	-.-	0.047
1250	72.0	75.4	2.19	-3.4	-.-	0.047
1600	72.0	75.4	2.09	-3.4	-.-	0.043
2000	73.0	75.3	1.90	-2.3	1.0	0.039
2500	74.0	76.0	1.72	-2.0	5.0	0.035
3150	74.0	76.0	1.57	-2.0	8.0	0.032
4000	76.0	77.6	1.37	-1.6	-.-	0.033
5000	76.0	76.5	1.19	-0.5	-.-	0.028

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

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Test: ASTM E 2179 - 03 — 6" Concrete Slab with Specimen

Test Number: NGC7008120 — Date: 8/5/2008
Size: 17.8 m²

Source room
Temperature [°C]: 24.7
Humidity [%]: 62

Receiving room
Volume V = 63.9 m³
Temperature [°C]: 23.2
Humidity [%]: 53

Frequency [Hz]	L_n [dB]	L2 [dB]	T [s]	Corr. [dB]	u.Dev. [dB]	ΔL_n
50	58.0	63.2	3.70	-5.2	-.-	0.408
63	55.0	60.1	3.62	-5.1	-.-	0.307
80	52.0	58.3	4.17	-6.3	-.-	0.328
100	56.0	61.6	3.43	-5.6	-.-	0.581
125	64.0	69.8	3.70	-5.8	1.0	0.436
160	63.0	69.3	3.96	-6.3	-.-	0.199
200	68.0	74.2	3.90	-6.2	5.0	0.129
250	70.0	75.3	3.15	-5.3	7.0	0.124
315	69.0	73.9	3.09	-4.9	6.0	0.094
400	67.0	71.8	2.87	-4.8	5.0	0.104
500	62.0	66.4	2.68	-4.4	1.0	0.048
630	63.0	67.3	2.58	-4.3	3.0	0.070
800	60.0	64.3	2.60	-4.3	1.0	0.053
1000	58.0	61.7	2.40	-3.7	-.-	0.057
1250	55.0	58.0	2.12	-3.0	-.-	0.048
1600	52.0	54.6	2.03	-2.6	-.-	0.043
2000	48.0	50.6	1.87	-2.6	-.-	0.042
2500	46.0	48.0	1.71	-2.0	-.-	0.036
3150	43.0	44.4	1.56	-1.4	-.-	0.036
4000	38.0	39.1	1.38	-1.1	-.-	0.034
5000	33.0	34.2	1.21	-1.2	-.-	0.043

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

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EFFECTIVENESS OF FLOOR COVERINGS IN REDUCING IMPACT SOUND TRANSMISSION THROUGH CONCRETE FLOORS

Test: ASTM E 2179 - 03

Test Number: NGC7008120 Date: 8/5/2008

Size: 17.8 m²

Increase in Impact Insulation Class ΔIIC = 20.0

Frequency [Hz]	L_o [dB]	L_c [dB]	L_d [dB]	L_{ref} [dB]	$L_{ref,c}$ [dB]
100	63.0	56.0	7.0	67.0	60.0
125	67.0	64.0	3.0	67.5	64.5
160	69.0	63.0	6.0	68.0	62.0
200	68.0	68.0	0.0	68.5	68.5
250	71.0	70.0	1.0	69.0	68.0
315	68.0	69.0	-1.0	69.5	70.5
400	71.0	67.0	4.0	70.0	66.0
500	68.0	62.0	6.0	70.5	64.5
630	70.0	63.0	7.0	71.0	64.0
800	70.0	60.0	10.0	71.5	61.5
1000	71.0	58.0	13.0	72.0	59.0
1250	72.0	55.0	17.0	72.0	55.0
1600	72.0	52.0	20.0	72.0	52.0
2000	73.0	48.0	25.0	72.0	47.0
2500	74.0	46.0	28.0	72.0	44.0
3150	74	43	31.0	72.0	41.0

L_o = Normalized Sound Pressure Level for Bare Standard Concrete Floor, dB

L_c = Normalized Sound Pressure Level for Covering over Concrete Floor, dB

L_d = L_o - L_c, dB

Lref = Reference Floor Average Normalized Impact Sound Pressure Level, dB

Lref,c = Lref - Ld, dB

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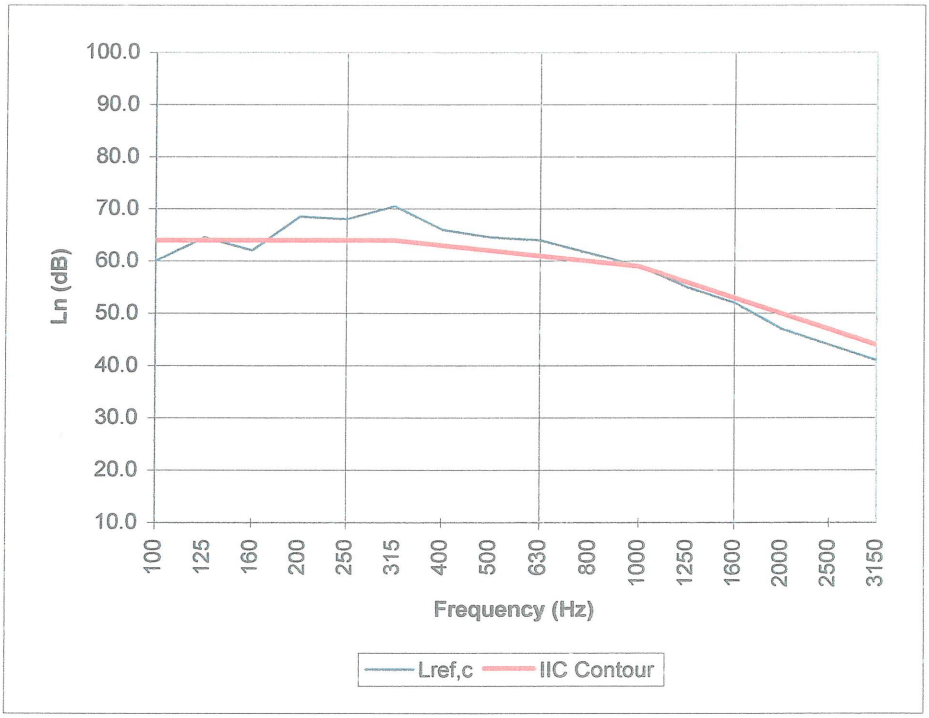
EFFECTIVENESS OF FLOOR COVERINGS IN REDUCING IMPACT SOUND TRANSMISSION THROUGH CONCRETE FLOORS

Test: ASTM E 2179 - 03

Test Number: NGC7008120 Date: 8/5/2008

Increase in Impact Insulation Class ΔIIC = 20.0

Frequency [Hz]	Lref,c [dB]
100	60.0
125	64.5
160	62.0
200	68.5
250	68.0
315	70.5
400	66.0
500	64.5
630	64.0
800	61.5
1000	59.0
1250	55.0
1600	52.0
2000	47.0
2500	44.0
3150	41.0



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

$L_{ref,c}$ = Lref - Ld, dB

L_n = Normalized Sound Pressure Level, dB

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