



Acoustical Testing Laboratory



Accredited by the National Voluntary
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under Lab Code 200291

TEST REPORT

For

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

Impact Sound Transmission Test ASTM E 2179 – 03

On

**6 Inch (152mm) Concrete Slab Overlaid with
Quarry Tile and Mortar on 5mm Sound Seal CeraZorb[®] Underlayment
and Impacta[™] T-700 Adhesive**

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Report Number: NGC 7009002

Assignment Number: G-489

Test Date: 01/14/2009

Report Date: 01/26/2009

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 7009002

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 on 5mm CeraZorb® underlayment with Impacta™ T-700 Adhesive.

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/m² (5.6 PSF) installed using Mapei® Ultraflex™ 2 latex-modified Thin-set mortar and Custom Building Products® Polyblend™ latex-modified sanded grout mixtures 4.9 kg/m² (1.0 PSF).
- 1 layer of 5.3mm (0.208 in.) Sound Seal CeraZorb® underlayment. Sample weight was found to be 0.30 kg/m² (0.06 PSF).
- 1 layer of Impacta™ T-700 adhesive. Adhesive was applied with a 3.2 x 1.6mm (1/8 x 1/16 in.) U notch trowel, according to manufacturers' directions.
- 152mm (6 in.) thick reinforced concrete slab 366.1 kg/m² (75.0 PSF).

The overall weight of the test assembly is 398.7 kg/m² (81.66 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: Concrete slab cured for a minimum of 28 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				Page 3 of 6
Test Number: NGC7009002			Date: 1/14/2009				
Size: 17.8 m ²							
Source room			Receiving room				
Temperature [°C]: 17.5			Volume V = 63.9 m ³				
Humidity [%]: 26			Temperature [°C]: 16.5				
			Humidity [%]: 66				
Frequency							
Ln	L2	T	Corr.	u.Dev.	ΔL_n		
[Hz]	[dB]	[s]	[dB]	[dB]			
50	60	66.5	4.49	-6.5	--	0.418	
63	59	63.7	3.36	-4.7	--	0.287	
80	57	64.0	4.65	-7.0	--	0.306	
100	62	68.1	3.82	-6.1	--	0.552	
125	66	71.7	3.47	-5.7	--	0.418	
160	69	75.1	3.93	-6.1	--	0.198	
200	70	75.4	3.81	-5.4	--	0.187	
250	70	74.6	3.13	-4.6	--	0.093	
315	69	73.3	3.09	-4.3	--	0.096	
400	70	75.0	2.97	-5.0	--	0.069	
500	68	72.1	2.78	-4.1	--	0.055	
630	70	74.5	2.62	-4.5	--	0.060	
800	70	74.2	2.69	-4.2	--	0.051	
1000	71	74.8	2.52	-3.8	--	0.047	
1250	72	75.2	2.22	-3.2	--	0.050	
1600	72	75.5	2.12	-3.5	--	0.052	
2000	73	75.5	1.96	-2.5	1.0	0.044	
2500	74	76.0	1.82	-2.0	5.0	0.042	
3150	74	76.0	1.64	-2.0	8.0	0.032	
4000	76	77.4	1.42	-1.4	--	0.035	
5000	76	76.4	1.25	-0.4	--	0.045	
<p>L_n = Normalized Sound Pressure Level, dB L2 = Receiving Room Level, dB T = Reverberation Time, seconds ΔL_n = Uncertainty for 95% Confidence Level</p>							

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Test: ASTM E 2179 - 03		6" Concrete Slab with Specimen				
Test Number: NGC7009002		Date: 1/14/2009			Page 4 of 6	
Size: 17.8 m ²						
Source room			Receiving room			
Temperature [°C]: 17.5			Volume V = 63.9 m ³			
Humidity [%]: 26			Temperature [°C]: 16.5			
			Humidity [%]: 66			
Frequency	L _n	L2	T	Corr.	u.Dev.	ΔL _n
[Hz]	[dB]	[dB]	[s]	[dB]	[dB]	
50	57	62.6	4.07	-5.6	--	0.470
63	56	60.9	3.21	-4.9	--	0.183
80	55	61.7	5.21	-6.7	--	0.277
100	61	66.7	3.80	-5.7	--	0.577
125	62	68.0	3.87	-6.0	--	0.328
160	65	71.1	3.80	-6.1	1	0.159
200	66	72.1	3.83	-6.1	2	0.167
250	68	73.1	3.11	-5.1	4	0.130
315	67	71.8	3.04	-4.8	3	0.102
400	69	73.3	2.89	-4.3	6	0.074
500	67	71.2	2.73	-4.2	5	0.058
630	65	68.7	2.57	-3.7	4	0.065
800	60	64.1	2.62	-4.1	--	0.055
1000	57	61.1	2.49	-4.1	--	0.049
1250	55	58.3	2.20	-3.3	--	0.047
1600	52	55.2	2.10	-3.2	--	0.040
2000	49	51.3	1.95	-2.3	--	0.030
2500	46	48.2	1.78	-2.2	--	0.037
3150	44	45.6	1.61	-1.6	--	0.041
4000	41	41.9	1.39	-0.9	--	0.032
5000	37	37.5	1.23	-0.5	--	0.045

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: NGC7009002
Size: 17.8 m²

Date: 1/14/2009

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Increase in Impact Insulation Class $\Delta IIC = 20.0$

Frequency	L_o	L_c	L_d	L_{ref}	$L_{ref,c}$
[Hz]	[dB]	[dB]	[dB]	[dB]	[dB]
100	62.0	61.0	1.0	67.0	66.0
125	66.0	62.0	4.0	67.5	63.5
160	69.0	65.0	4.0	68.0	64.0
200	70.0	66.0	4.0	68.5	64.5
250	70.0	68.0	2.0	69.0	67.0
315	69.0	67.0	2.0	69.5	67.5
400	70.0	69.0	1.0	70.0	69.0
500	68.0	67.0	1.0	70.5	69.5
630	70.0	65.0	5.0	71.0	66.0
800	70.0	60.0	10.0	71.5	61.5
1000	71.0	57.0	14.0	72.0	58.0
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	49.0	24.0	72.0	48.0
2500	74.0	46.0	28.0	72.0	44.0
3150	74.0	44.0	30.0	72.0	42.0

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
 L_{ref} = Reference Floor Average Normalized Impact Sound Pressure Level, dB
 $L_{ref,c}$ = $L_{ref} - L_d$, dB

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

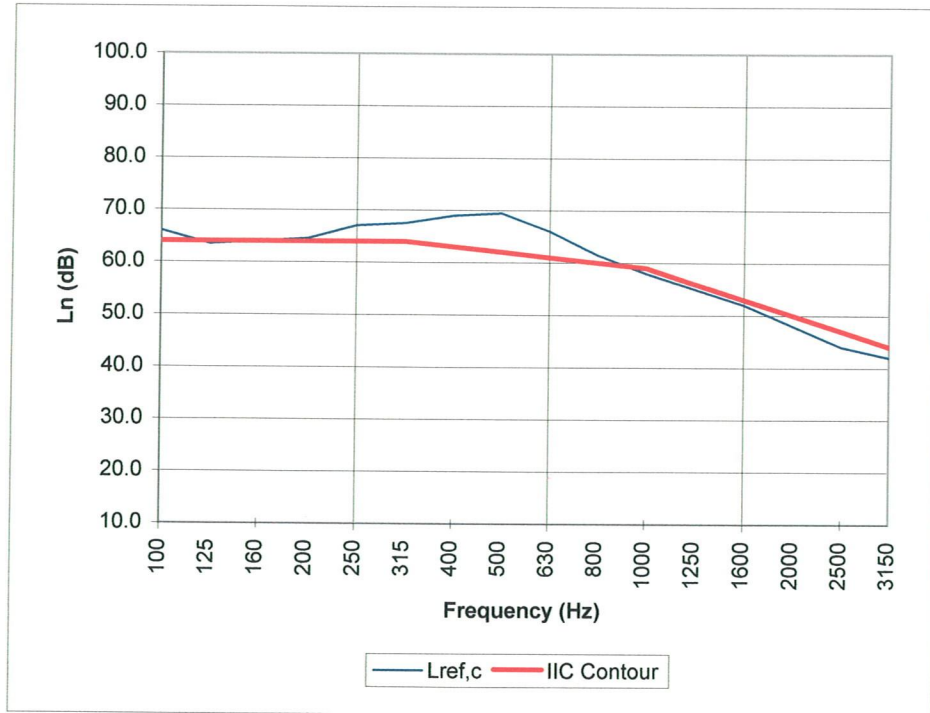
Test: ASTM E 2179 - 03

Test Number: NGC7009002

Date: 1/14/2009

Increase in Impact Insulation Class Δ IIC = 20.0

Frequency [Hz]	Lref,c [dB]
100	66.0
125	63.5
160	64.0
200	64.5
250	67.0
315	67.5
400	69.0
500	69.5
630	66.0
800	61.5
1000	58.0
1250	55.0
1600	52.0
2000	48.0
2500	44.0
3150	42.0



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

Lref,c = Lref - Ld, dB

L_n = Normalized Sound Pressure Level, dB

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