



Acoustical Testing Laboratory



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under Lab Code 200291

TEST REPORT

For

Kinetics Noise Control
6300 Irelan Place
Dublin, Ohio 43017-0655
Matthew Golden / 614-889-0480

Sound Attenuation of Suspended Ceiling Test ASTM E 1414 - 06 / E 413 - 04 On

Quiet Tile - FG
Demountable Ceiling Panels

Report Number: NGC 6010010

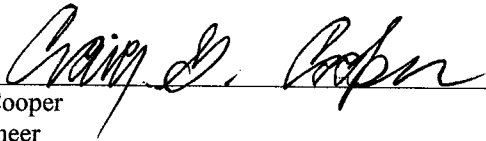
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Assignment Number: G- 616

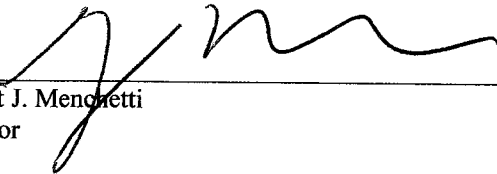
Test Date: 12/01/2010

Report Date: 12/23/2010

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 conforms explicitly with the American Society for Testing and Materials Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum. Designation: E 1414 - 06 / E 413 - 04

Specimen Designation: Ceiling panel samples identified by client as, Quiet Tile FG. This sample was described by the client as: Armstrong Cortega Tegular ceiling tile with a damping layer, 1/2" drywall backer and 1 in. thick, 3# fiberglass board.

Grid System Description: Suspended ceiling system consisting of nominal 610mm x 1213mm 57.2mm (24 in. x 48 in. x 2.25 in.) lay-in ceiling panels. The T-grid system was Chicago Metallic Exposed Tee System. Main tee part number 211.01H. Cross tee part number 209.01H. Tee cross number 229.01H. All mains and tees had a 23.8mm (15/16 in.) wide face.

The specimen was sealed with caulk between the grid face and the top of the dividing partition. The metal grid system was installed continuous at the dividing partition.

Ceiling panels were observed to consist of:

Face Finish: Perforated and Fissured with latex paint finish.

Panel Core: Tegular Mineral Fiber ceiling tile measured at 603mm x 1213mm x 17.5mm (23-3/4 in. x 47-3/4 in. x .689 in.)

Backing layer: Damping layer plus layer of 1/2 in. vinyl faced drywall and 1 in. thick 3 # density fiberglass board.

Overall Thickness: 57.2mm (2.25 in.).

Weight: 16.6 kg/m² (3.41 PSF)

Panel Size: 603mm x 603mm (23-3/4 in. x 23-3/4 in.)

Ceiling Test Area: 26 sq. meters

Suspension System Type: CE.

Data Normalization: The 'direct method' of measuring the receiving room absorption was used.

Preconditioning: Minimum 24 hours at 70 (F), 55% RH.

Test Results: The results of the tests are given on pages 3 and 4.

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Sound Attenuation by Suspended Ceiling

Test: ASTM E 1414 - 06 / ASTM E 413 - 04

Test Report: NGC6010010

Date: 12/1/2010

Spec. Area [m²]: 12

Source room

Volume [m³]: 41.26

Rm Temp [°C]: 20.0

Humidity [%]: 51

Receiving room

Volume [m³]: 41.26

Rm Temp [°C]: 20.0

Humidity [%]: 51

Ceiling Attenuation Class CAC [dB] = 51

Sum of Unfavorable Deviations [dB]: 26

Maximum Unfavorable Deviation [dB]: 5 at 315 Hz

Frequency [Hz]	D _{n,c} [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔD _{n,c}
100	29	97.5	71.3	54.0	2.8		
125	34	92.9	61.6	56.7	2.7	1	1.8
160	40	89.3	52.5	53.8	3.2		2.3
200	43	93.4	53.4	54.8	3.0		1.8
250	42	94.3	55.3	59.1	3.0	2	1.1
315	42	95.0	54.7	67.7	1.6	5	0.8
400	46	95.1	50.5	87.7	1.4	4	0.7
500	48	95.6	47.5	104.7	-0.1	3	1.4
630	51	94.1	43.4	113.6	0.3	1	0.9
800	53	93.6	39.6	131.6	-1.0		0.7
1000	53	94.7	40.7	137.6	-1.0	1	0.9
1250	51	94.9	42.3	143.3	-1.6	4	1.0
1600	51	93.4	40.8	142.7	-1.6	4	0.7
2000	54	92.3	36.9	147.6	-1.4	1	0.8
2500	58	92.6	33.3	147.9	-1.3		0.6
3150	61	91.2	28.6	149.3	-1.5		0.7
4000	62	93.2	29.9	158.8	-1.3		1.0
5000	59	94.6	33.6	161.2	-1.9		

D_{n,c} = Normalized Ceiling Attenuation, dB
 L1 = Source Room Level, dB
 L2 = Receiving Room Level, dB
 d = Decay Rate, dB/second
 Δ D_{n,c} = Uncertainty for 95% Confidence Level

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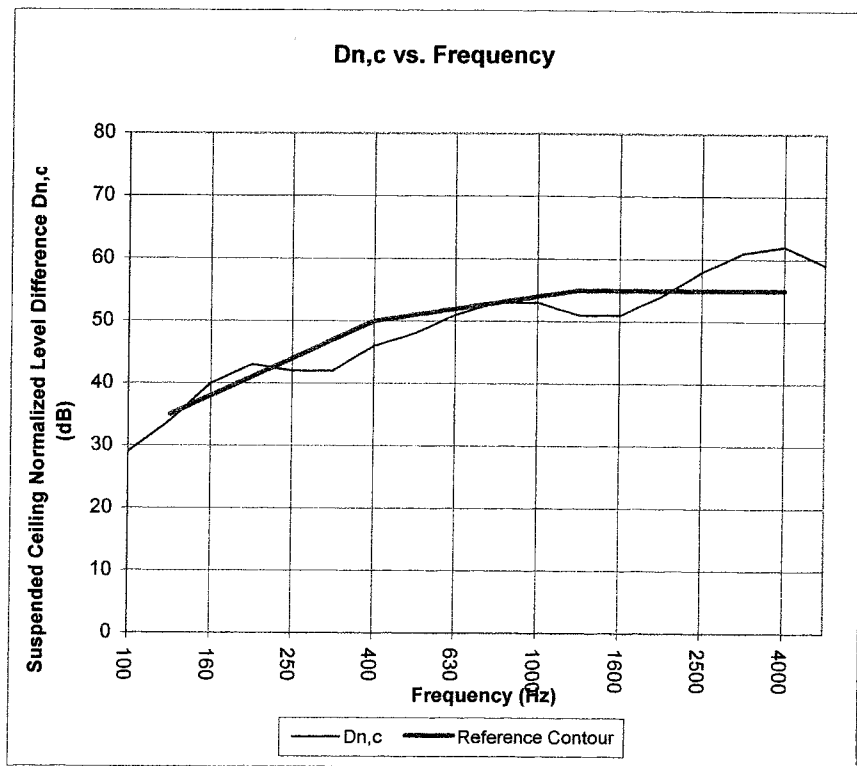
Sound Attenuation by Suspended Ceiling

Test: ASTM E 1414 - 06 / ASTM E 413 - 04

Test Report: NGC6010010
 Test Date: 12/1/2010
 Specimen Size [m²]: 12

Ceiling Attenuation Class CAC [dB] = 51 dB

Frequency [Hz]	D _{n,c} [dB]	ΔD _{n,c}
100	29	
125	34	1.8
160	40	2.3
200	43	1.8
250	42	1.1
315	42	0.8
400	46	0.7
500	48	1.4
630	51	0.9
800	53	0.7
1000	53	0.9
1250	51	1.0
1600	51	0.7
2000	54	0.8
2500	58	0.6
3150	61	0.7
4000	62	1.0
5000	59	



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

D_{n,c} = Normalized Ceiling Attenuation, dB
 Δ D_{n,c} = Uncertainty for 95% Confidence Level

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