



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
Demountable Ceiling Panels

Report Number: NGC 6010009

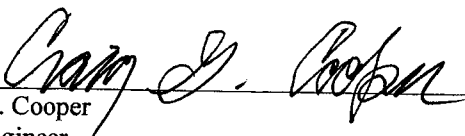
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Assignment Number: G-616

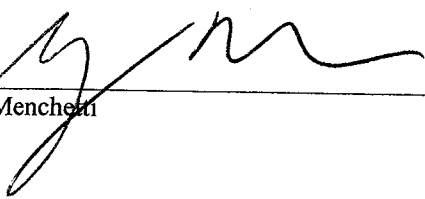
Test Date: 12/01/2010

Report Date: 12/23/2010

Submitted by: _____


Craig G. Cooper
Test Engineer

Reviewed by: _____


Robert J. Menchen
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. This sample was described by the client as: Armstrong Cortega Tegular ceiling tile with damping layer and ½ in. drywall backer board.
- Grid System Description:** Suspended ceiling system consisting of nominal 610mm x 1213mm x 31.8mm (24 in. x 48 in. x 1.25 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 ½ in. vinyl faced drywall.
 - Overall Thickness: 31.8mm (1.25 in.).
 - Weight: 15.3 kg/m² (3.13 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: NGC6010009

Date: 12/1/2010

Spec. Area [m²]: 12

Source room

Volume [m³]: 41.26

Rm Temp [°C]: 19.5

Humidity [%]: 51

Receiving room

Volume [m³]: 41.26

Rm Temp [°C]: 19.5

Humidity [%]: 51

Ceiling Attenuation Class CAC [dB] = 49

Sum of Unfavorable Deviations [dB]: 30

Maximum Unfavorable Deviation [dB]: 5 at 315 Hz

Frequency	D _{n,c}	L1	L2	d	Corr.	u.Dev.	ΔD _{n,c}
[Hz]	[dB]	[dB]	[dB]	[dB/s]	[dB]	[dB]	
100	28	97.4	72.7	45.9	3.3		
125	33	93.4	62.8	58.8	2.3		1.8
160	40	90.1	53.5	51.9	3.4		2.3
200	43	94.5	54.4	51.2	2.9		1.7
250	40	95.3	57.5	62.2	2.3	2	1.1
315	40	96.0	57.4	73.3	1.3	5	0.8
400	44	96.1	53.6	83.7	1.5	4	0.6
500	47	96.6	50.5	98.0	0.9	2	1.3
630	47	95.2	47.7	111.4	-0.5	3	1.0
800	49	94.6	44.6	124.6	-1.0	2	0.7
1000	50	95.6	44.8	136.7	-0.9	2	0.5
1250	49	95.9	45.1	148.4	-1.8	4	0.9
1600	49	94.3	44.0	147.3	-1.3	4	0.8
2000	51	93.4	41.5	147.1	-0.9	2	0.7
2500	53	93.7	38.9	151.4	-1.8		0.7
3150	57	92.3	33.6	152.6	-1.7		0.7
4000	59	94.2	33.5	153.5	-1.7		1.0
5000	58	95.5	36.0	164.3	-1.5		

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

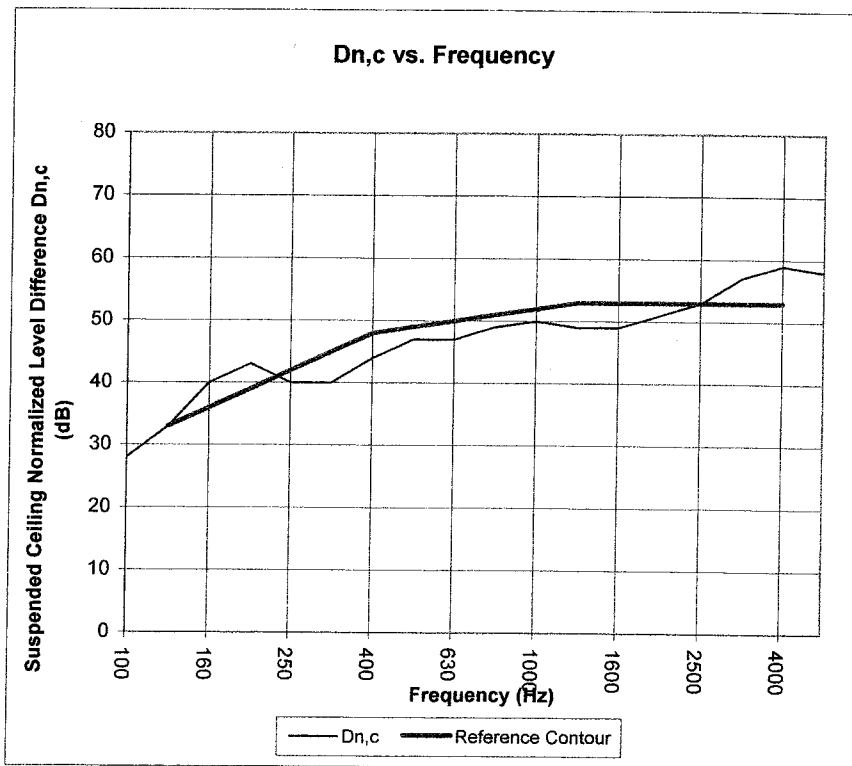
Test Report: NGC6010009

Test Date: 12/1/2010

Specimen Size [m²]: 12

Ceiling Attenuation Class CAC [dB] = 49 dB

Frequency [Hz]	D _{n,c} [dB]	ΔD _{n,c}
100	28	
125	33	1.8
160	40	2.3
200	43	1.7
250	40	1.1
315	40	0.8
400	44	0.6
500	47	1.3
630	47	1.0
800	49	0.7
1000	50	0.5
1250	49	0.9
1600	49	0.8
2000	51	0.7
2500	53	0.7
3150	57	0.7
4000	59	1.0
5000	58	



* 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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