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TEST REPORT

for

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Sound Attenuation of Suspended Ceiling Test

ASTM E 1414 – 00a / E 413 – 04

On

2 Ft. x 2 Ft. Acoustical Ceiling Panel (CAC)

Report Number: NGC 6007001

Assignment Number: G-358

Test Date: 03/07/2007

Report Date: 04/11/2007

Submitted by: _____
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Report Number: NGC 6007001

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 – 00a / E 413 – 04

Specimen Designation: Acoustical Ceiling Panels (CAC)

Specimen Description: Suspended ceiling system consisting of nominal 24 " (610mm) by 24" (610mm) lay-in ceiling panels installed into standard 15/16" (23.8mm) face metal T grid ceiling tile suspension system.

The specimen was sealed with chalk 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: White coating adhered to core material. Surface had round perforations of different sizes. According to client, constellation pattern with micro perforations.
Core: 19mm (3/4 in.) mineral fiber material.
Back finish: Same as core.

Weight: 3.66 kg/m^2 (0.75 lb. PSF)

Unit Size: 604.8mm x 604.8mm x 19mm (23-13/16 in. x 23-13/16 in. x ¾")

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 48 hours at 70 (F), 55% RH.

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

Sound Attenuation by Suspended Ceiling

Test: ASTM E 1414 - 00a / E 413 - 04

No. of test report: NGC6007001
Test Date: 3/7/2007
Specimen Area(m^2): 26
Temperature [°C]: 19.3 Humidity [%]: 61

Ceiling Attenuation Class CAC = 33 dB
Sum of unfavorable deviations: 31.0 dB
Max. unfavorable deviation: 7.0 dB at 630 Hz

Frequency [Hz]	Dn,c [dB]	L1 [dB]	L2 [dB]	T [s]	Corr. [dB]	u.Dev. [dB]	ΔDn,c
100	24.0	93.7	72.0	0.99	2.3	-.-	2.345
125	25.0	96.5	73.2	0.79	1.7	-.-	2.330
160	24.0	93.0	71.1	0.84	2.1	-.-	2.105
200	30.0	93.4	65.8	0.88	2.4	-.-	1.269
250	26.0	92.6	67.9	0.78	1.3	-.-	1.005
315	27.0	93.3	67.0	0.71	0.7	2.0	1.063
400	26.0	88.9	63.2	0.60	0.3	6.0	2.830
500	28.0	88.6	60.5	0.56	-0.1	5.0	2.602
630	27.0	88.8	61.2	0.51	-0.6	7.0	2.093
800	30.0	90.8	60.0	0.49	-0.8	5.0	2.759
1000	32.0	90.7	57.3	0.44	-1.4	4.0	3.280
1250	35.0	88.1	51.9	0.40	-1.2	2.0	2.914
1600	38.0	87.3	47.7	0.39	-1.6	-.-	2.170
2000	43.0	87.0	41.6	0.35	-2.4	-.-	2.285
2500	50.0	89.0	36.8	0.34	-2.2	-.-	2.045
3150	57.0	87.4	28.8	0.35	-1.6	-.-	2.548
4000	64.0	-91.2	25.3	0.34	-1.9	-.-	2.200
5000	63.0	90.6	25.8	0.33	-1.8	-.-	2.307

Dn,c = normalized ceiling attenuation, dB
L1 = Source Room Level, dB
L2 = Receiving Room Level, dB
T = Reverberation Time, seconds
Δ Dn,c = Uncertainty for 95% Confidence Level

Sound Attenuation by Suspended Ceiling

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Specimen Area(m2): 26
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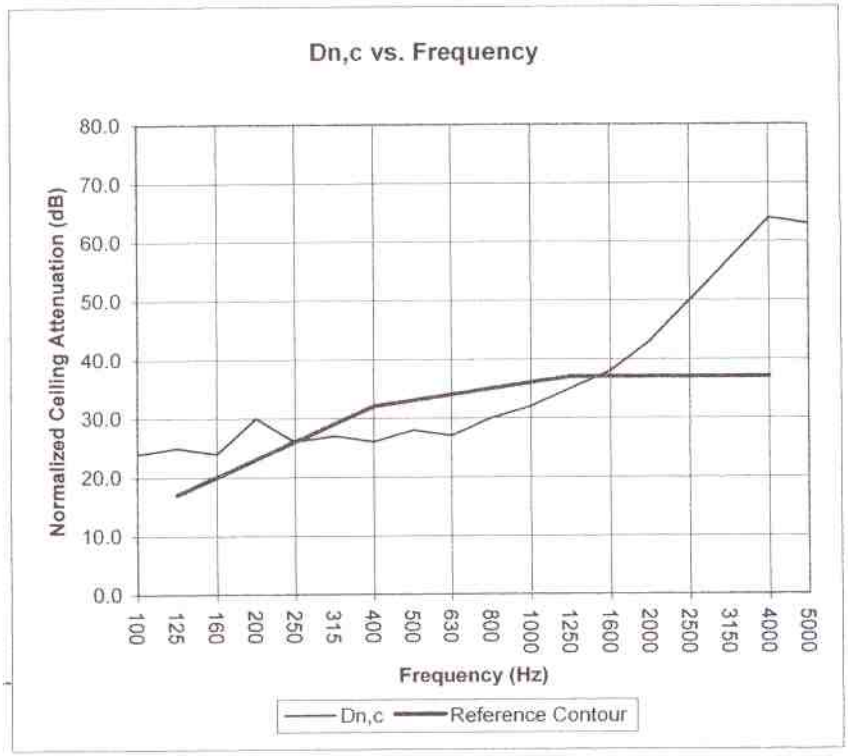
1250	35.0	2.914
1600	38.0	2.170
2000	43.0	2.285
2500	50.0	2.045
3150	57.0	2.548
4000	64.0	2.200
5000	63.0	2.307



Dn,c = normalized ceiling attenuation, dB
Δ Dn,c = Uncertainty for 95% Confidence Level