NWAA Labs

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SOUND ABSORPTION
TEST REPORT #: NWAB140122-01

Client: Acoustics First Corporation
2247 Tomlyn Street
Richmond, VA 23230

Test Date: 22 January, 2014
Report Date: 24 January, 2014
Test Specimen: Art Diffuser Model D – E-400 Mount

INTRODUCTION

The methods and procedures used in this test conform to the provisions and requirements of ASTM Procedure C 423-09a, *Standard Test Method for Sound Absorption Coefficients by the Reverberation Room Method.* Copies of the test standards are available at www.astm.org. The test chamber is a cuboid, 12.79 m (42.0 ft) long by 10.75 m (35.3 ft) wide by 5.31 m (17.4 ft) high, and volume is 737.4 m^3 (26041.0 ft^3). There are six fixed surfaces in the reverberation chamber. There are three sources consisting of two dodecahedron loudspeakers mounted in the two upper corners and one sub-woofer located below one of the dodecahedrons. We utilize six Earthworks M-30 Omni directional microphones to gather the data. This test report relates only to the item(s) tested. Any advertisement that utilizes this test report or test data must not imply product certification or endorsement by NWAA Labs and has to include all pages of the report.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of 30 acoustic panels, each with dimensions of 60.96 cm (24.0 inches) wide by 60.96 cm (24.0 inches) long, weighing 1.81 kg (4.0 lb) for an overall weight of 54.43 kg (120.0 lb). According to the manufacturer each panel consisted of vacuformed thermoplastic in a patented, two dimensional, four octave, binary array pattern. The panels were placed side by side and end to end on the E-400 mounting jig on the test chamber floor to form an overall sample of 3.05 m (10.0 ft) by 3.66 m (12.0 ft). The edges of the test jig were taped to the chamber floor and the sample was recessed in the E-400 jig so that the surface of the sample was 400 mm (15.75 inches) above the chamber floor.

Test results are on the following pages.

Submitted by,
NWAA Labs Inc

Ron Sauro
NWAA Labs Inc

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Test #	NWAB140122-01
Test Date:	22-Jan-14
Mounting per ASTM E795-00:	A Mount
Area Tested: M²	11.15
Temperature: °C	23
Barometer: pa	101900
Humidity: %	67

NRC	0.10
SAA	0.11

Acoustics First Mod D Diff Ceiling Panel E-400, 10 min wait				
Frequency (Hz)	Absorption Coefficient	Absorption (m²)	Absorption (sabins)	
50Hz	0.30	3.37	36.30	
63Hz	0.20	2.24	24.10	
80Hz	0.39	4.35	46.80	
100Hz	0.61	6.78	73.00	
125Hz	0.34	3.85	41.40	
160Hz	0.29	3.20	34.40	
200Hz	0.14	1.61	17.30	
250Hz	0.14	1.52	16.40	
315Hz	0.10	1.16	12.50	
400Hz	0.08	0.89	9.50	
500Hz	0.06	0.67	7.20	
630Hz	0.06	0.68	7.40	
800Hz	0.10	1.10	11.80	
1000Hz	0.14	1.56	16.80	
1250Hz	0.14	1.52	16.40	
1600Hz	0.11	1.28	13.70	
2000Hz	0.14	1.59	17.10	
2500Hz	0.11	1.22	13.20	
3150Hz	0.09	0.98	10.60	
4000Hz	0.06	0.66	7.10	
5000Hz	0.05	0.54	5.90	
6300Hz	0.10	1.13	12.20	
8000Hz	0.13	1.40	15.00	
10000Hz	0.13	1.40	15.00	

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