

# NWAA Labs

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## SOUND ABSORPTION TEST REPORT #: NWAB160908-03

Client: Acoustic Geometry  
123 Columbia Court, Suite 201  
Chaska, MN 55318

Test Date: 08 September, 2016  
Report Date: 20 December, 2016  
Test Specimen: Acoustic Bass Absorber, 0.25 lb/ft<sup>2</sup> membrane, 3 inch spacing, Taped,  
Type J 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](http://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<sup>3</sup> (26041.0 ft<sup>3</sup>). 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 18 trapezoidal shaped units, each with overall dimensions of 64.77 cm (25.5 inches) wide by 110.49 cm (43.5 inches) long, and 8.89 cm (3.5 inches) thick, weighing 10.65 kg (23.5 lbs) for an overall weight of 191.7 kg (423.0 lb).

SEE Fig.1

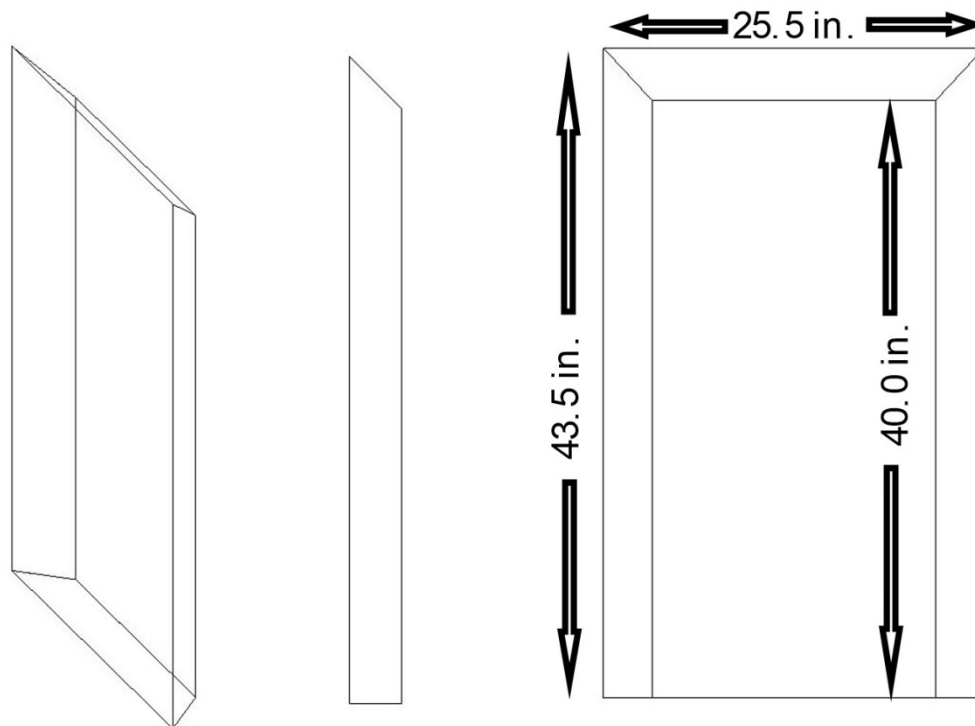


Fig 1

According to the manufacturer each unit consisted of a bowl shaped, plywood case with a 101.6cm (40.0 in.) by 48.26 cm (19 in.) by 5.08 cm (2.0 in.) pad of recycled cotton denim material placed against the interior rear panel. The front of the unit was covered by a slide-in frame of aluminum enclosing mass loaded vinyl with a mass weight of 0.25 lbs/ft<sup>2</sup>. The units were painted black.

The units were then mounted to a vertical frame made of Unistrut in a 90 degree format shown in fig 2.

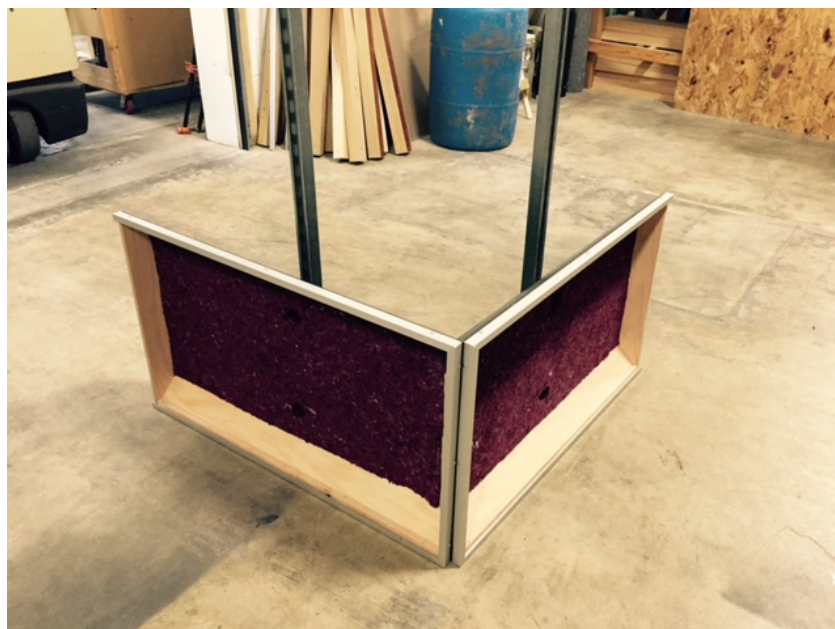


Fig 2

The units were stacked 3 high on each side of the array as in Fig 3



Fig 3



Fig 4

Three of these arrays were assembled and placed in three different corners of the test chamber with a nominal spacing of 3 inches from the vertical walls of the chamber to the front faces of the units. See Fig 4

The overall sample had an operable surface area of 12.8 m<sup>2</sup> (138.65 ft<sup>2</sup>). The mass loaded frames had a total weight of 15.74 kg (34.67 lbs). This made the overall weight of the sample 207.44 kg (457.66 lbs).

Test results are on the following pages.

Submitted by,  
NWAA Labs Inc



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Ron Sauro  
NWAA Labs Inc

# NWAA Labs, Inc.

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(253)-973-1018

Test #	NWAB160908-03
Test Date:	8-Sep-16
Mounting per ASTM E795-00:	J Mount
Area Tested: M <sup>2</sup>	12.5
Temperature: °C	23
Barometer: pa	101900
Humidity: %	67

NRC	0.25
SAA	0.24

## AcBassAbsbr-0,25Density,3in,Taped

Frequency (Hz)	Absorption Coefficient	Absorption (m <sup>2</sup> )	Absorption (sabins)
40Hz	0.00	0.00	0.00
50Hz	0.29	3.61	38.90
63Hz	0.00	0.00	0.00
80Hz	0.71	8.92	96.00
100Hz	0.99	12.34	132.80
125Hz	0.77	9.58	103.10
160Hz	0.63	7.87	84.70
200Hz	0.50	6.25	67.30
250Hz	0.38	4.78	51.50
315Hz	0.38	4.79	51.60
400Hz	0.31	3.88	41.70
500Hz	0.25	3.13	33.70
630Hz	0.24	2.99	32.20
800Hz	0.17	2.18	23.50
1000Hz	0.16	1.97	21.20
1250Hz	0.14	1.80	19.30
1600Hz	0.15	1.85	19.90
2000Hz	0.13	1.66	17.80
2500Hz	0.11	1.44	15.40
3150Hz	0.11	1.43	15.40
4000Hz	0.09	1.18	12.70
5000Hz	0.05	0.68	7.30
6300Hz	0.04	0.50	5.40
8000Hz	0.00	0.00	0.00
10000Hz	0.00	0.00	0.00

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