RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

TEST REPORT

FOR: **Auralex Acoustics, Inc.**
Indianapolis, IN.

Sound Absorption
RAL™-A14-256

CONDUCTED: 2014-11-18

ON: Deep 6 Bass Trap Panel (1-Inch Metal Clips 4 Per Panel Evenly Spaced)

TEST METHOD

The test method conformed explicitly with the requirements of the ASTM Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method: ASTM C423-09a and E795-05. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure (NVLAP Lab Code: 100227-0). A description of the measuring procedure and room qualifications is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Deep 6 Bass Trap Panel (1-Inch Metal Clips 4 Per Panel Evenly Spaced). A visual inspection verified the manufacturer's description. The specimen consisted of eight panels measured as 1.23 m (48.25 in.) long by 609.60 m (24.0 in.) wide. From top to bottom, the specimen was composed of the following: 50.80 mm (2.0 in.) thick, rigid fiberglass with beveled and chemically hardened edges, all wrapped with 0.76 mm (0.03 in.) fabric; 52.83 mm (2.08 in.) thick, semi-rigid mineral wool insulation; 52.32 mm (2.06 in.) thick, semi-rigid mineral wool insulation with foil backing. The specimen was encased by a metal frame measured as 144.27 mm (5.68 in.) deep and 0.76 mm (0.03 in.) thick. Four metal clips, measured as 155.70 mm (6.13 in.) long by 77.72 mm (3.06 in.) wide and 26.92 mm (1.06 in.) thick, were secured to the back of each panel by design.

The overall dimensions of the specimen as measured were 2.45 m (96.50 in.) wide by 2.44 m (96.00 in.) long and 152.65 mm (6.01 in.) thick. The weight of the entire specimen as measured was 119.98 kg (264.50 lbs), an average of 20.07 kg/m^2 (4.11 lbs/ft^2). The area used in the calculations was 5.97 m^2 (64.30 ft^2).

The specimen was tested in the laboratory's 292.0 m^3 (10,311.0 ft^3) test chamber. The room temperature at the time of the test was 20.3±0.0ºC (68.6±0.0ºF) and 64.3±0.0% relative humidity. The atmospheric pressure was 99.0 kPa.

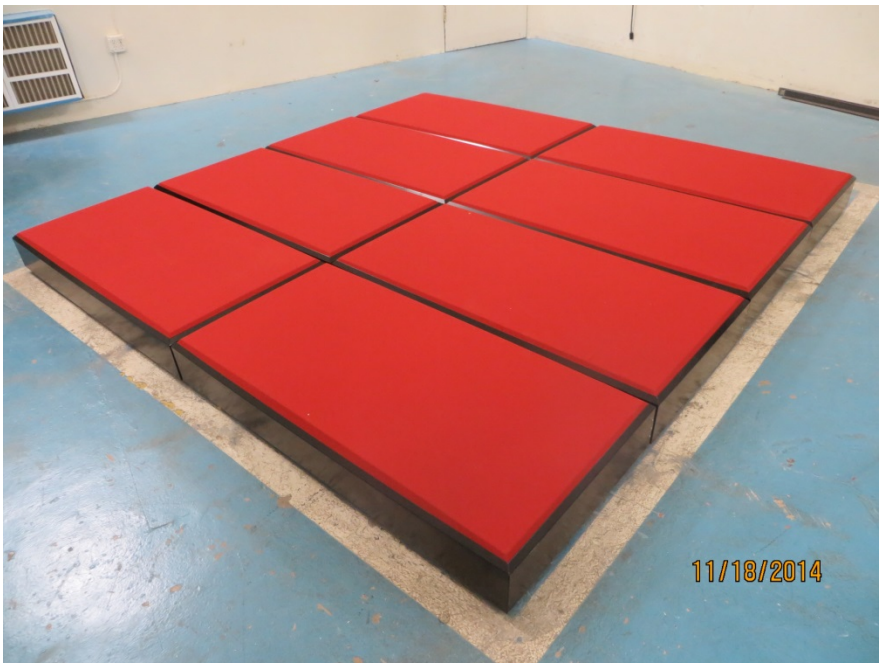


Figure 1 - Specimen mounted in the test chamber.

Figure 2 – Detail of mounting clips.

TEST REPORT

Figure 3 - Detail of the test specimen.

TEST REPORT

Auralex Acoustics, Inc.
2014-11-18

RAL™-A14-256

MOUNTING F-20

The test specimen was laid directly against the test surface, but included a mounting clip that provided a 22.35 mm (0.88 in.) airspace behind the panel.

TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient (Sabins / ft^2)	Total Absorption In Sabins
100	0.85	54.68
** 125	1.24	79.62
160	1.18	75.60
200	1.13	72.55
** 250	1.01	65.13
315	1.09	70.37
400	1.18	75.89
** 500	1.18	76.03
630	1.30	83.35
800	1.26	80.95
** 1000	1.19	76.76
1250	1.22	78.65
1600	1.17	74.92
** 2000	1.16	74.43
2500	1.15	74.20
3150	1.08	69.51
** 4000	1.07	68.92
5000	1.05	67.60

SAA = 1.17
NRC = 1.15

TEST REPORT

Auralex Acoustics, Inc.
2014-11-18

RAL™-A14-256
Page 5 of 7

TEST RESULTS (Continued)

The sound absorption average (SAA) is defined as a single number rating, the average, rounded to the nearest 0.01, of the sound absorption coefficient of a material for the twelve one-third octave bands from 200 through 2500 Hz, inclusive.

The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by _____
Marc Sciaky
Experimentalist

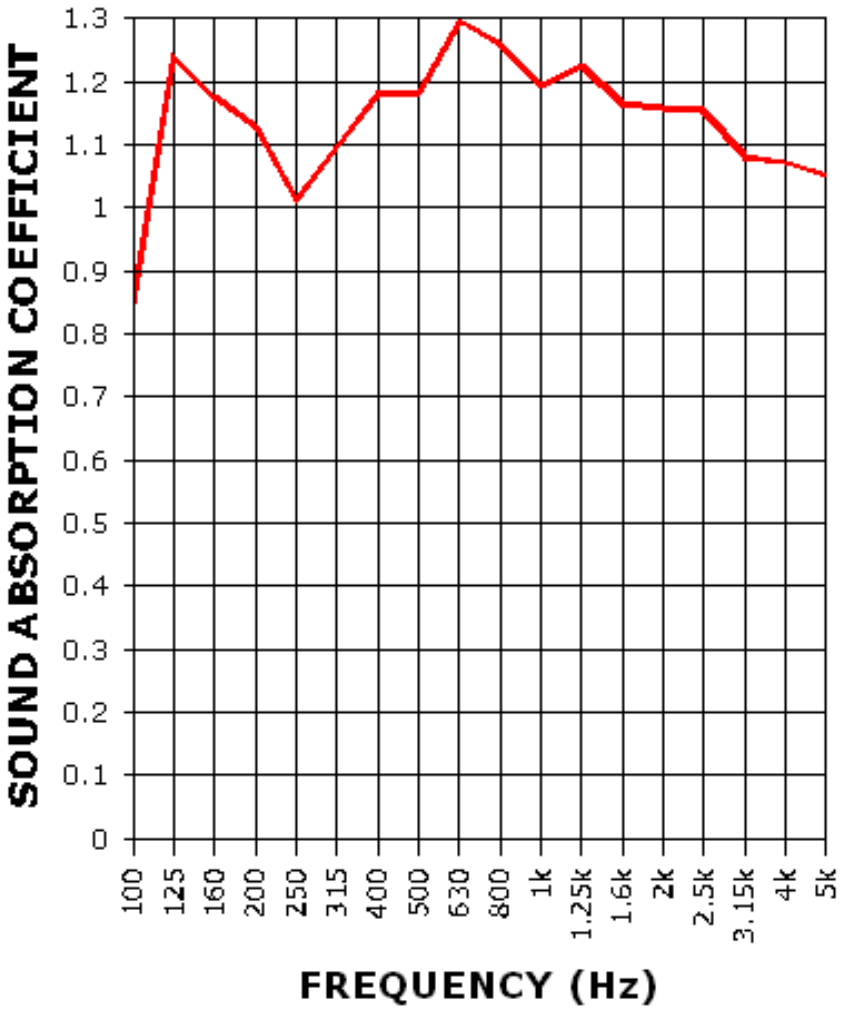
Report by _____
Chris Nottoli
Acoustician

Approved by _____
Eric P. Wolfram
Laboratory Manager

Digitally signed by Eric Wolfram
DN: cn=Eric Wolfram, o=Alion Science and Technology, ou=Riverbank Acoustical Laboratories, email=ewolfram@alionscience.com, c=US
Date: 2014.11.26 13:55:56 -06'00'

SOUND ABSORPTION REPORT

Deep 6 Bass Trap Panel (1-Inch Metal Clips 4 Per Panel Evenly Spaced)



SAA = 1.17
NRC = 1.15

TEST REPORT

Auralex Acoustics, Inc.
2014-11-18

RAL™-A14-256

Appendix to ASTM C423 Sound Absorption Test
Extended Frequency Range Data

Product Description: Deep 6 Bass Trap Panel (1-Inch Metal Clips 4 Per Panel Evenly Spaced) (See Full Report)

Riverbank Acoustical Laboratories is accredited to perform sound absorption coefficient measurements for the frequency range of 100Hz to 5,000Hz. However, we calculate sound absorption values at additional test frequencies as a service to our clients.

Although these measurements were made in accordance with the procedures described in ASTM C423-09a, they do not qualify as part of the standard. Since the results are representative of the test environment only, they are unofficial and intended for research and development guidelines rather than for commercial purposes. The sound absorption values at additional frequencies were as follows:

RAL-A14-256

1/3 Octave Center Frequency (Hz)	**Absorption Coefficient** (Sabins / ft^2)	**Total Absorption** (Sabins)
40	0.14	9.21
50	0.16	10.26
63	0.06	3.60
80	0.25	16.06
6300	1.04	67.19
8000	0.92	58.99
10000	0.94	60.48

END