

# 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™-A13-140

CONDUCTED: 17 May 2013

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ON: Auralex SonoLite Bass Trap Panels – 3" Thickness

### 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 Auralex SonoLite Bass Trap Panels – 3" Thickness. A full internal inspection was performed by Riverbank staff, disclosing a set of 610 mm by 610 mm panels. Each featured a 77 mm thick dense foam core with non-hardened edges. A 0.6 mm thick velour fabric was adhered to the face and sides. Each panel was backed with a 4.1 mm thick corrugated polymer hardboard. Two edges of each piece were beveled at a 45 degree angle.

The specimen consisted of 20 pieces laid out as a single rectangular patch. The overall dimensions of the specimen as measured were 2.74 m (108.00 in.) wide by 2.44 m (96.00 in.) long and 82.55 mm (3.25 in.) thick. The area used in the calculations was 6.69 m<sup>2</sup> (72.00 ft<sup>2</sup>). The weight of the entire specimen as measured was 20.64 kg (45.50 lbs), an average of 3.08 kg/m<sup>2</sup> (0.63 lbs/ft<sup>2</sup>).

The specimen was tested in the laboratory's 292.0 m<sup>3</sup> (10,311.0 ft<sup>3</sup>) test chamber. The room temperature at the time of the test was 21±0°C (70±0°F) and 60±0% relative humidity. The barometric pressure was 742 mm of mercury.



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### MOUNTING A

The test specimen was laid directly against the test surface. Perimeter edges were unsealed as per a typical field installation.

### TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins
100	0.52	37.14
** 125	0.55	39.67
160	0.65	46.79
200	0.79	57.09
** 250	1.01	72.81
315	1.12	80.39
400	1.16	83.38
** 500	1.25	89.90
630	1.27	91.15
800	1.19	85.80
** 1000	1.20	86.53
1250	1.22	88.12
1600	1.19	85.69
** 2000	1.18	84.69
2500	1.17	83.99
3150	1.14	81.96
** 4000	1.14	82.25
5000	1.17	84.43

**SAA = 1.15**

**NRC = 1.15**



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### 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 Dean Victor Approved by Eric P. Wolfram  
Dean Victor Senior Experimentalist Eric P. Wolfram Laboratory Manager

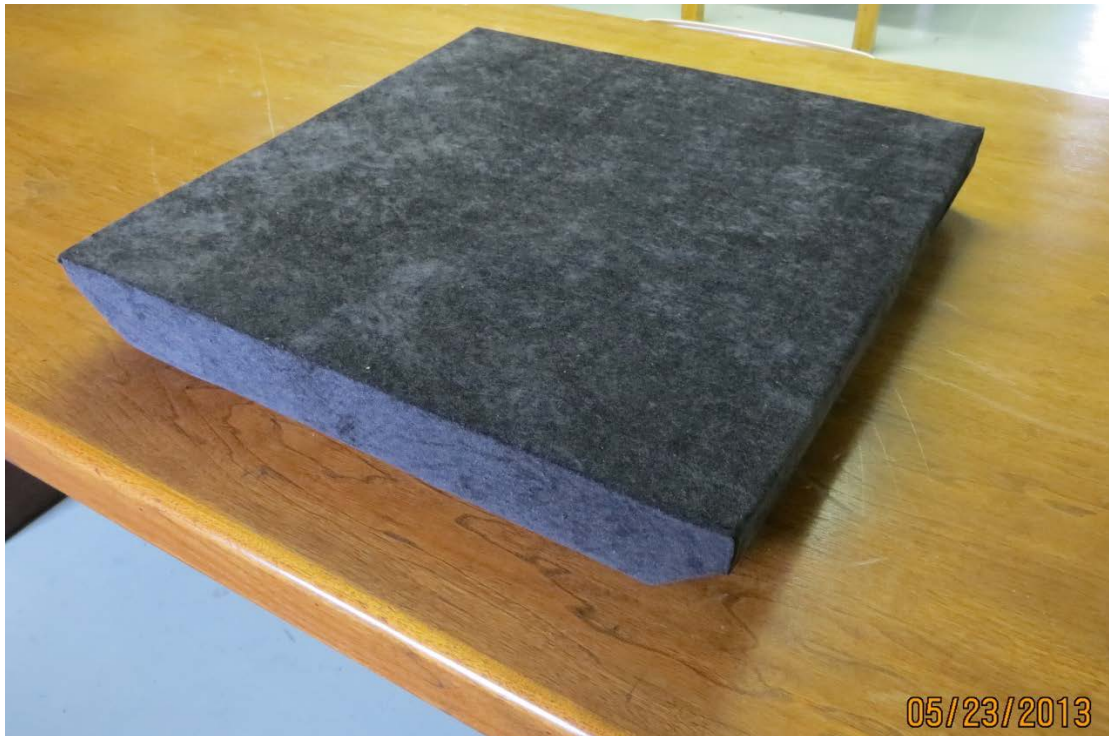


Figure 1 - One 24" x 24" Tile



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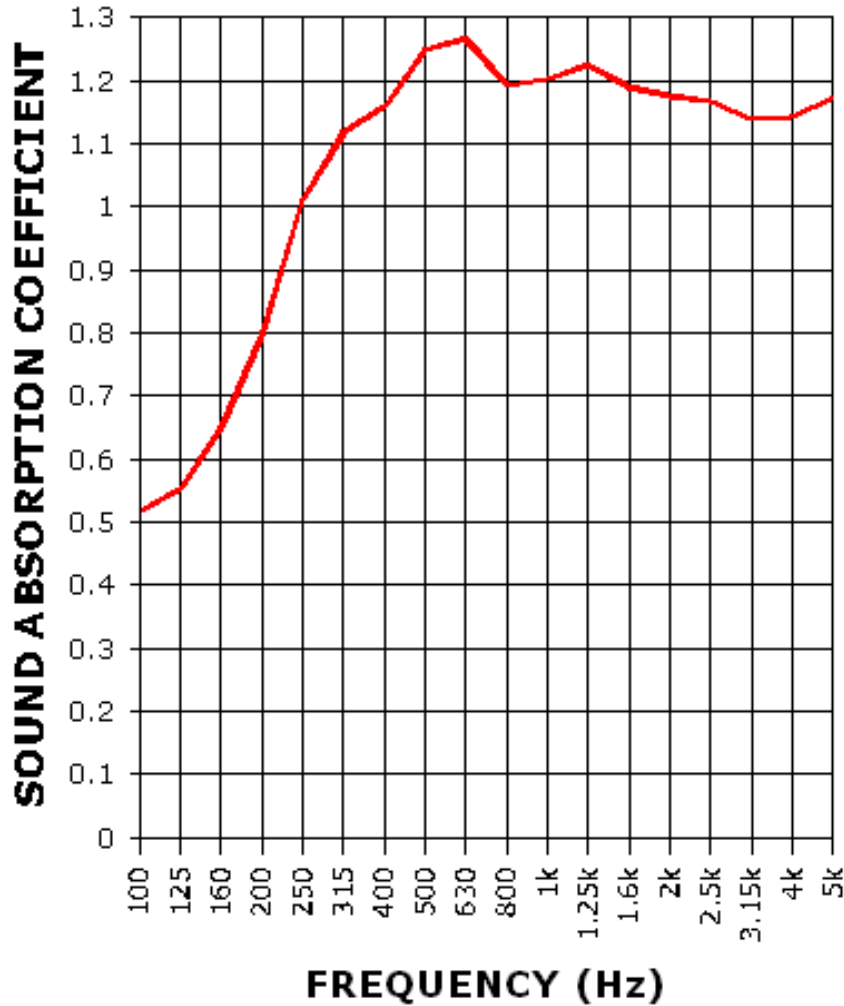
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### SOUND ABSORPTION REPORT Auralex SonoLite Bass Trap Panels – 3" Thickness



**SAA = 1.15**  
**NRC = 1.15**



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### Appendix to ASTM C423 Sound Absorption Test **Extended Frequency Range Data**

Product Description: Auralex SonoLite Bass Trap Panels – 3" Thickness (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:

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1/3 Octave Center Frequency (Hz)	<u>Absorption Coefficient</u>	<u>Total Absorption</u> (Sabins)
40	0.04	3.09
50	0.14	10.30
63	0.02	1.76
80	0.12	8.89
6300	1.17	84.22
8000	1.18	85.02
10000	1.29	93.00



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