

1512 S BATAVIA AVENUE
GENEVA, IL 60134
630-232-0104

An  ALION Technical Center

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WALLACE CLEMENT SABINE

Test Report

FOR: **ezoBord**
Elgin, IL

Sound Absorption
RAL™-A18-335

CONDUCTED: 2018-10-04
ON: Ezo on Ezo 3/4 in. (18 mm)

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TEST METHOD

Riverbank Acoustical Laboratories™ is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) as an ISO 17025:2005 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM C423-17: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-16: "Standard Practices for Mounting Test Specimens During Sound Absorption Tests." A description of the measuring procedure and room qualifications is available upon request.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Ezo on Ezo 3/4 in. (18 mm). A full external visual inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Test Specimen

Materials: Polyethylene terephthalate
Dimensions: 2 @ 2406.65 mm (94.75 in.) x 1206.5 mm (47.5 in.)
Composition: Solid panel @ 9.14 mm (0.36 in.) thick
Panel with circular holes @ 9.14 mm (0.36 in.) thick
Holes: Total of 27 randomly distributed holes per panel
4 holes @ 114.3 mm (4.5 in.) diameter per panel
11 holes @ 66.68 mm (2.625 in.) diameter per panel
12 holes @ 47.62 mm (1.875 in.) diameter per panel
Overall Weight: 14.97 kg (33 lbs)
Installation: Mounted with holes facing up

Physical Measures

Size: 2.41 m (95.0 in) wide by 2.41 m (94.75 in) long
Thickness: 0.02 m (0.72 in)
Weight: 14.97 kg (33.0 lbs)
Mass per Unit Area: 2.58 kg/m² (0.53 lbs/ft²)
Calculation Area: 5.807 m² (62.51 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 20.8 °C ± 0.2 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 61.7 % ± 0.2 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 99.4 kPa (Requirement not defined)



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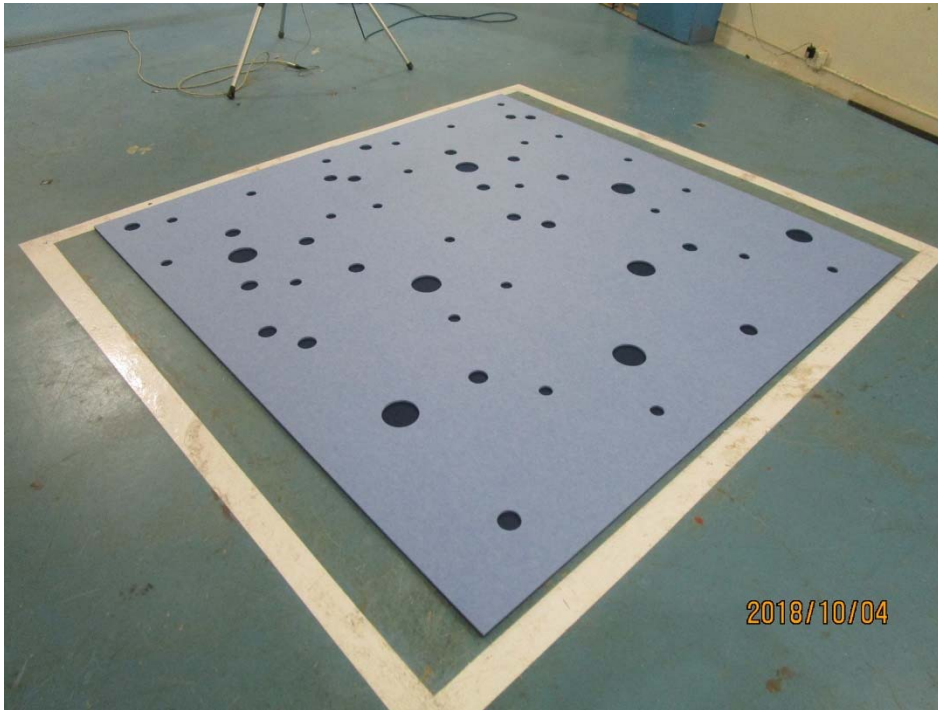


Figure 1 – Specimen mounted in test chamber

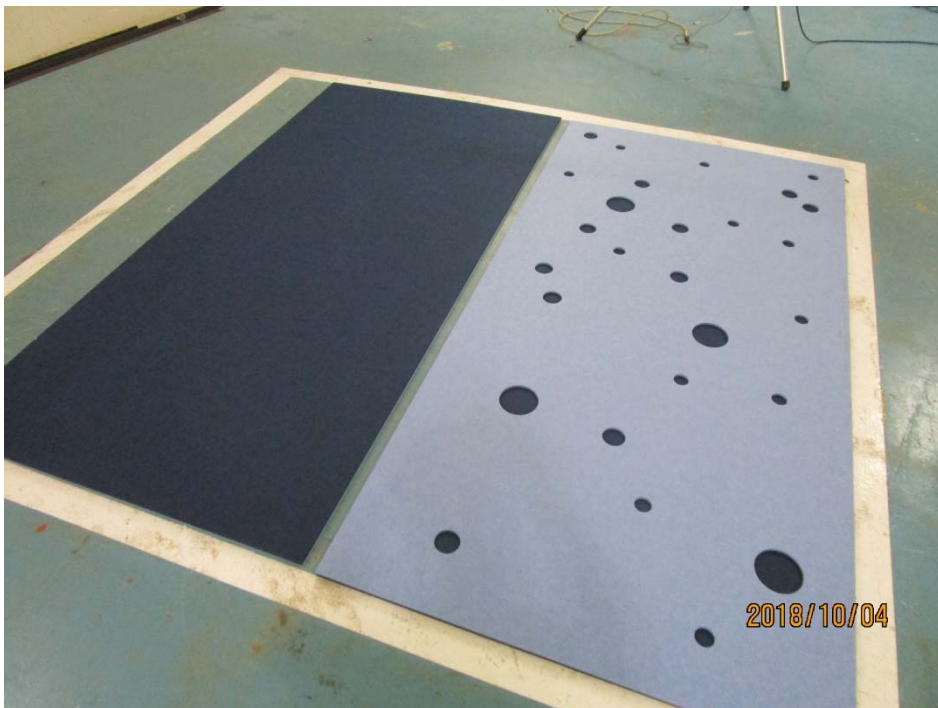


Figure 2 – Front and back sides of individual panels

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Figure 3 – Detail of holes

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MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. The perimeter edges were exposed, as would be typical of an actual installation of this specimen.

TEST RESULTS

1/3 Octave Center Frequency (Hz)	Total Absorption (m ²)	Total Absorption (Sabins)	Absorption Coefficient
100	0.08	0.85	0.01
** 125	0.38	4.07	0.07
160	0.75	8.10	0.13
200	0.59	6.40	0.10
** 250	0.70	7.57	0.12
315	1.25	13.47	0.22
400	1.49	16.01	0.26
** 500	2.45	26.32	0.42
630	3.33	35.89	0.57
800	4.01	43.11	0.69
** 1000	4.85	52.24	0.84
1250	5.06	54.48	0.87
1600	5.41	58.28	0.93
** 2000	5.70	61.33	0.98
2500	5.91	63.58	1.02
3150	5.82	62.60	1.00
** 4000	5.95	64.03	1.02
5000	6.22	66.97	1.07

SAA = 0.58

NRC = 0.60

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TEST RESULTS (Continued)

The sound absorption average (SAA) is defined in ASTM C423-17 Section 3.1.1 as the average, rounded to the nearest integer multiple of 0.01, of the sound absorption coefficients of a material for the twelve one-third octave bands from 200 Hz through 2500 Hz, inclusive.

The noise reduction coefficient (NRC) is defined from previous versions of ASTM C423 as the average of the sound absorption coefficients at 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz, expressed to the nearest integer multiple of 0.05.


Tested by


Dean Victor
Senior Experimentalist

Report by


Malcolm Kelly
Acoustician

Approved by


Eric P. Wolfram
Laboratory Manager

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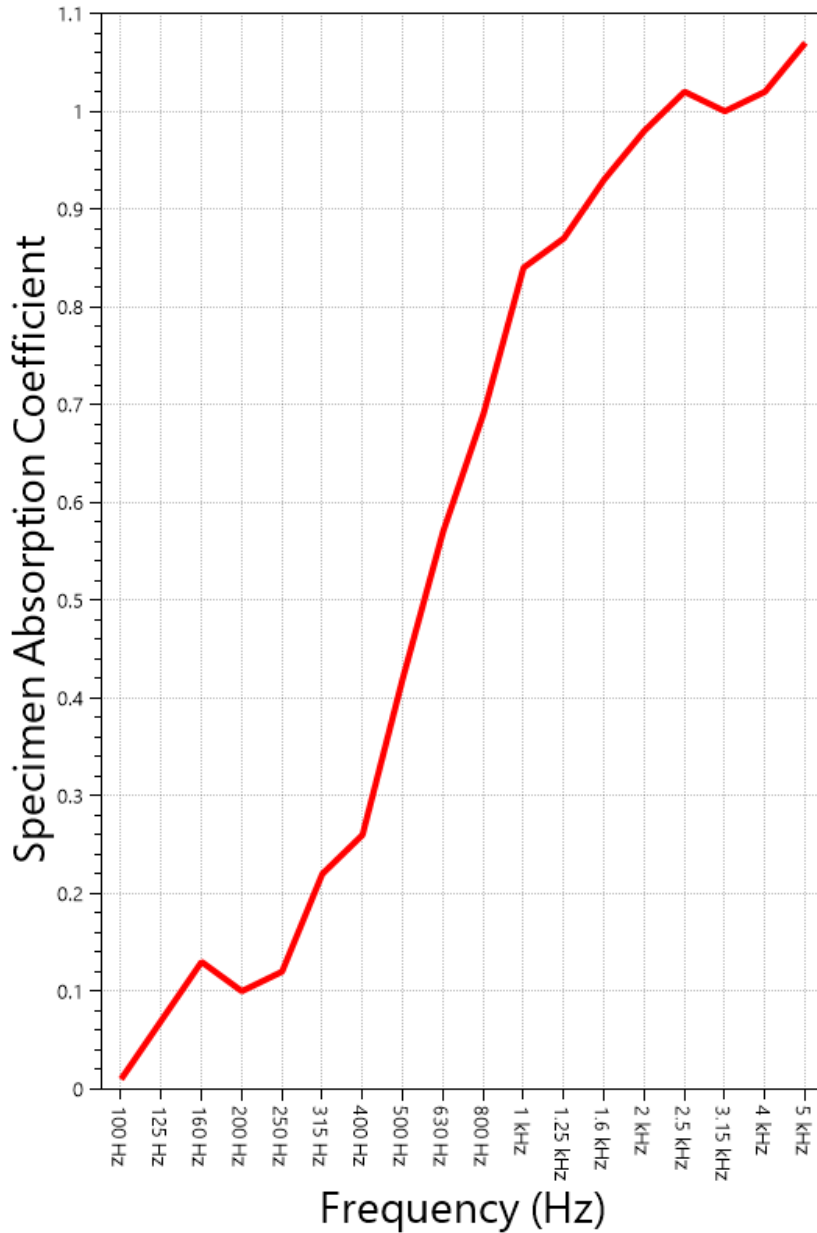
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SOUND ABSORPTION REPORT

Ezo on Ezo 3/4 in. (18 mm)



SAA = 0.58

NRC = 0.60



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APPENDIX A: Extended Frequency Range Data

Specimen: Ezo on Ezo 3/4 in. (18 mm) (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-17, but extend beyond the defined frequency range of 100Hz to 5,000Hz. These unofficial results are representative of the RAL test environment only and intended for research & comparison purposes.

1/3 Octave Band Center Frequency (Hz)	Total Absorption (Sabins)	Absorption Coefficient
31.5	-2.38	-0.04
40	6.63	0.11
50	3.51	0.06
63	3.97	0.06
80	-3.05	-0.05
100	0.85	0.01
125	4.07	0.07
160	8.10	0.13
200	6.40	0.10
250	7.57	0.12
315	13.47	0.22
400	16.01	0.26
500	26.32	0.42
630	35.89	0.57
800	43.11	0.69
1000	52.24	0.84
1250	54.48	0.87
1600	58.28	0.93
2000	61.33	0.98
2500	63.58	1.02
3150	62.60	1.00
4000	64.03	1.02
5000	66.97	1.07
6300	68.23	1.09
8000	69.37	1.11
10000	73.52	1.18
12500	81.32	1.30

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APPENDIX B: Instruments of Traceability

Specimen: Ezo on Ezo 3/4 in. (18 mm) (See Full Report)

<u>Description</u>	<u>Model</u>	<u>Serial Number</u>	<u>Date of Certification</u>	<u>Calibration Due</u>
System 1	Type 3160-A-4/2	3160-106968	2018-08-09	2019-08-09
Bruel & Kjaer Mic And Preamp C	Type 4943-B-001	2311439	2018-03-27	2019-03-27
Bruel & Kjaer Pistonphone	Type 4228	2781248	2018-08-06	2019-08-06
Omega Digital Temp., Humid. And Pressure Recorder	OM-CP-PRHTemp2000	P97844	2018-02-03	2019-02-03

END