

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™-A18-341

CONDUCTED: 2018-10-05
ON: ezoPrint 1/2 in. (12 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 ezoPrint 1/2 in. (12 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 @ 2752.72 mm (108.375 in.) x 1219.2 mm (48 in.)
Thickness: 11.91 mm (0.469 in.)
Overall Weight: 13.83 kg (30.5 lbs)

Physical Measures

Size: 2.44 m (96.0 in) wide by 2.75 m (108.375 in) long
Thickness: 11.91 mm (0.469 in.)
Weight: 13.83 kg (30.5 lbs)
Mass per Unit Area: 2.06 kg/m² (0.42 lbs/ft²)
Calculation Area: 6.712 m² (72.25 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 20.7 °C ± 0.0 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 63.45 % ± 0.7 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 98.6 kPa (Requirement not defined)

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Figure 1 – Specimen mounted in test chamber



Figure 2 – Detail of specimen material

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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	0.13	1.41	0.02
** 125	0.23	2.50	0.03
160	0.27	2.87	0.04
200	0.17	1.83	0.03
** 250	0.43	4.66	0.06
315	0.72	7.80	0.11
400	0.93	9.98	0.14
** 500	1.41	15.13	0.21
630	1.96	21.08	0.29
800	2.72	29.32	0.41
** 1000	3.46	37.25	0.52
1250	4.02	43.32	0.60
1600	4.73	50.86	0.70
** 2000	5.04	54.21	0.75
2500	5.52	59.37	0.82
3150	6.01	64.74	0.90
** 4000	6.39	68.80	0.95
5000	6.72	72.35	1.00

SAA = 0.39

NRC = 0.40

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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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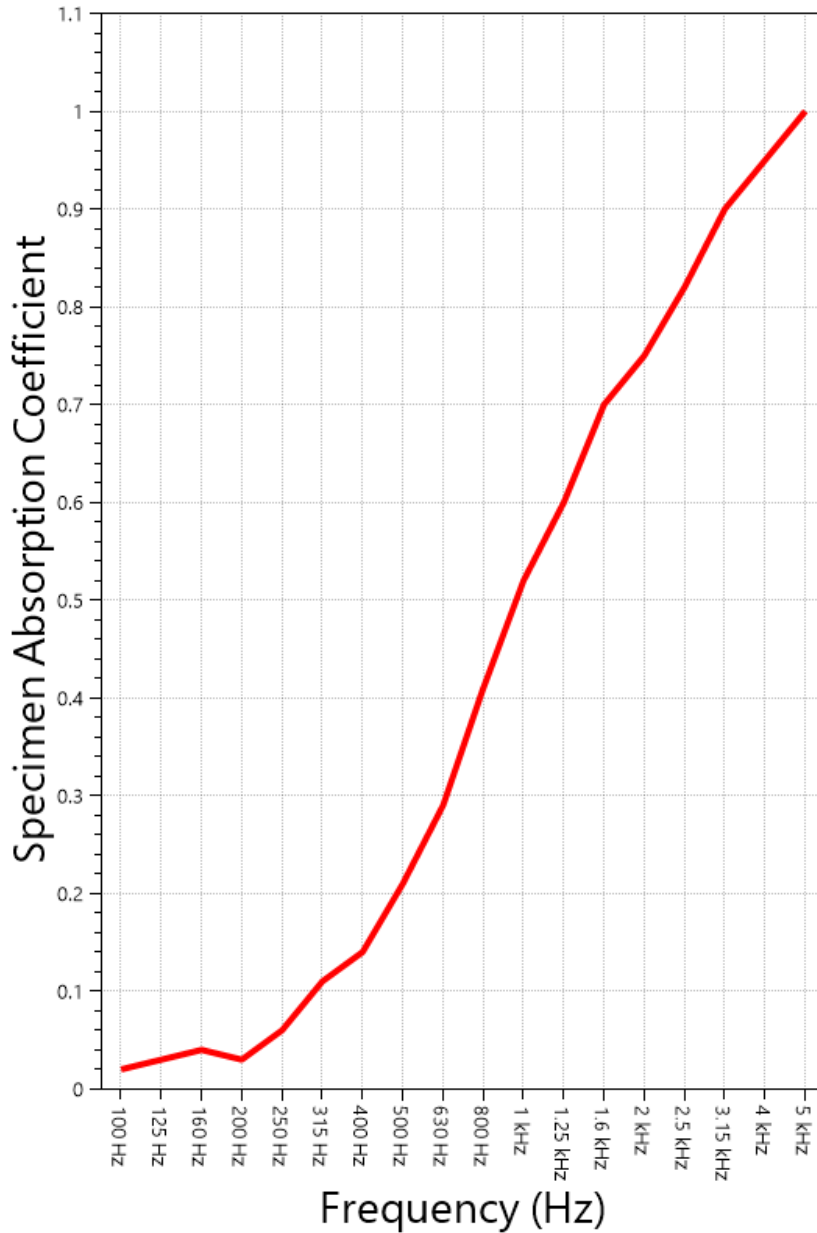
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SOUND ABSORPTION REPORT

ezoPrint 1/2 in. (12 mm)



SAA = 0.39

NRC = 0.40

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APPENDIX A: Extended Frequency Range Data

Specimen: ezoPrint 1/2 in. (12 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	-0.92	-0.01
40	1.10	0.02
50	-4.79	-0.07
63	-2.13	-0.03
80	-5.58	-0.08
100	1.41	0.02
125	2.50	0.03
160	2.87	0.04
200	1.83	0.03
250	4.66	0.06
315	7.80	0.11
400	9.98	0.14
500	15.13	0.21
630	21.08	0.29
800	29.32	0.41
1000	37.25	0.52
1250	43.32	0.60
1600	50.86	0.70
2000	54.21	0.75
2500	59.37	0.82
3150	64.74	0.90
4000	68.80	0.95
5000	72.35	1.00
6300	75.26	1.04
8000	78.61	1.09
10000	76.35	1.06
12500	76.27	1.06

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APPENDIX B: Instruments of Traceability

Specimen: ezoPrint 1/2 in. (12 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