

## Test Report

SPONSOR: **ezoBord**  
Mississauga, Ontario, Canada

Sound Absorption  
**RAL™-A19-456**

CONDUCTED: 2019-11-08

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ON: ezoBord 12 mm (0.5 in.) acoustic panel

### TEST METHODOLOGY

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 17025:2017 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 measurement procedure and room specifications are available upon request. The results presented in this report apply to the sample as received from the test sponsor.

### INFORMATION PROVIDED BY SPONSOR

The test specimen was designated by the sponsor as ezoBord 12 mm (0.5 in.) acoustic panel. The following nominal product information was provided by the sponsor prior to testing. The accuracy of such sponsor-provided information can affect the validity of the test results.

#### **Product Under Test**

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Trade Name: ezoBord  
Material: 50 % post-consumer recycled polyethylene terephthalate  
Thickness: 12 mm (0.472 in.)  
Manufacturer: ezoBord

### SPECIMEN MEASUREMENTS & TEST CONDITIONS

Through a full external visual inspection performed on the test specimen, Riverbank personnel verified the following information:

#### **Base Layer**

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Material: Semirigid felt panels  
Dimensions: 4 @ 1219.2 mm (48 in.) x 1371.6 mm (54 in.)  
Thickness: Measured range 12.4-12.76 mm (0.488 – 0.502 in.)  
Overall Weight: 13.61 kg (30 lbs)

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### Overall Specimen Properties

Size: 2.44 m (96.0 in) wide by 2.74 m (108.0 in) long  
Thickness: 0.01 m (0.5 in)  
Weight: 13.61 kg (30.0 lbs)  
Mass per Unit Area: 2.03 kg/m<sup>2</sup> (0.42 lbs/ft<sup>2</sup>)  
Calculation Area: 6.689 m<sup>2</sup> (72 ft<sup>2</sup>)

### Test Environment

Room Volume: 291.98 m<sup>3</sup>  
Temperature: 21.4 °C ± 0.0 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)  
Relative Humidity: 50.1 % ± 0.6 % (Requirement: ≥ 40 % and ≤ 5 % change)  
Barometric Pressure: 100.1 kPa (Requirement not defined)

### MOUNTING METHOD

Type D-50 Mounting: The test specimen was mounted on 50.8 mm (2 in.) thick wood furring strips spaced 304.8 mm (12 in.) on centers and laid directly against the test surface. The numeral suffix in the mounting designation is the thickness of the furring strips in millimeters, rounded to the nearest integer multiple of 5. Perimeter edges were sealed with metal framing.

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Figure 1 – Specimen mounted in test chamber



Figure 2 – Detail of specimen material

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Figure 3 – Specimen partially installed over D-50 mounting materials

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### TEST RESULTS

Specimen total absorption and absorption coefficient are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages.

#### 1/3 Octave Center

Frequency (Hz)	Total Absorption (m <sup>2</sup> )	Total Absorption (Sabins)	Absorption Coefficient
100	0.73	7.81	0.11
** 125	0.89	9.60	0.13
160	1.41	15.22	0.21
200	1.76	18.92	0.26
** 250	2.39	25.67	0.36
315	3.59	38.64	0.54
400	4.40	47.32	0.66
** 500	5.72	61.62	0.86
630	5.86	63.07	0.88
800	6.43	69.20	0.96
** 1000	6.85	73.78	1.02
1250	7.18	77.29	1.07
1600	7.09	76.30	1.06
** 2000	6.68	71.86	1.00
2500	6.30	67.83	0.94
3150	6.32	68.03	0.94
** 4000	6.97	75.00	1.04
5000	7.50	80.74	1.12

**SAA = 0.80**  
**NRC = 0.80**

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### TEST RESULTS (continued)

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


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

Tested by

  
Dean Victor

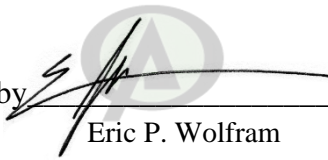
Lead Experimentalist

Report by

  
Malcolm Kelly

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Approved by

  
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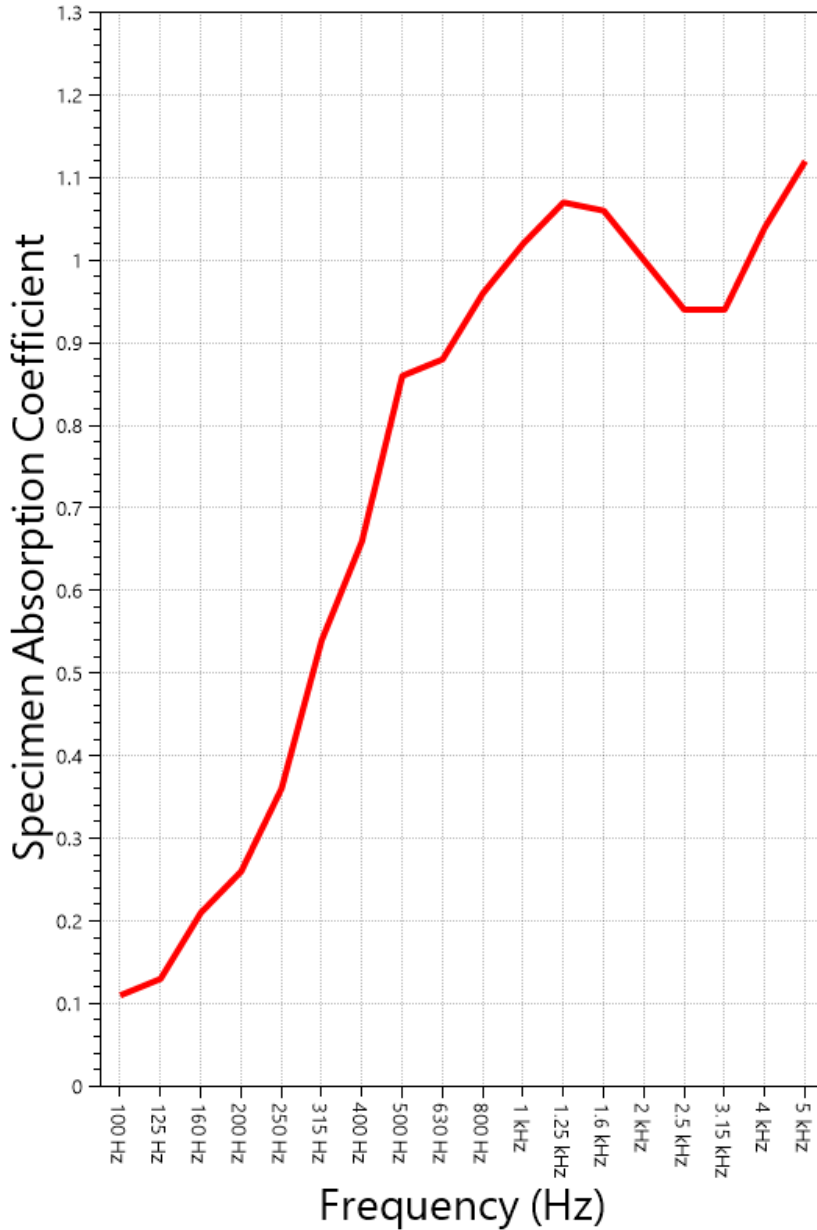
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**SOUND ABSORPTION REPORT**  
ezoBord 12 mm (0.5 in.) acoustic panel



**SAA = 0.80**  
**NRC = 0.80**



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### **APPENDIX A: Extended Frequency Range Data**

Specimen: ezoBord 12 mm (0.5 in.) acoustic panel (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	2.40	0.03
40	-1.65	-0.02
50	0.86	0.01
63	-5.08	-0.07
80	0.96	0.01
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100	7.81	0.11
125	9.60	0.13
160	15.22	0.21
200	18.92	0.26
250	25.67	0.36
315	38.64	0.54
400	47.32	0.66
500	61.62	0.86
630	63.07	0.88
800	69.20	0.96
1000	73.78	1.02
1250	77.29	1.07
1600	76.30	1.06
2000	71.86	1.00
2500	67.83	0.94
3150	68.03	0.94
4000	75.00	1.04
5000	80.74	1.12
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6300	81.40	1.13
8000	83.38	1.16
10000	86.20	1.20
12500	97.27	1.35



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### **APPENDIX B: Instruments of Traceability**

Specimen: ezoBord 12 mm (0.5 in.) acoustic panel (See Full Report)

<b><u>Description</u></b>	<b><u>Model</u></b>	<b><u>Serial Number</u></b>	<b><u>Date of Certification</u></b>	<b><u>Calibration Due</u></b>
System 1	Type 3160-A-042	3160-106968	2019-06-25	2020-06-25
Bruel & Kjaer Mic And Preamp A	Type 4943-B-001	2311428	2019-09-27	2020-09-27
Bruel & Kjaer Pistonphone	Type 4228	2781248	2019-08-09	2020-08-09
Omega Digital Temp., Humid. And Pressure Recorder	OM-CP-PRHTemp2000	P97844	2019-02-08	2020-02-08

### **APPENDIX C: Revisions to Original Test Report**

Specimen: ezoBord 12 mm (0.5 in.) acoustic panel (See Full Report)

<b><u>Date</u></b>	<b><u>Revision</u></b>
2019-11-26	Original report issued

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END