

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

## Test Report

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

SPONSOR: **Archifibe Inc.**  
Mississauga, Ontario, Canada

**Sound Absorption**  
**RAL™-A22-428**

CONDUCTED: 2022-09-28

Page 1 of 9

ON: EzoLayer 50mm

### 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 C423-22: "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 EzoLayer 50mm. 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**

---

Product Name: EzoLayer 50mm  
Manufacturer: Archifibe Inc.

### SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

#### **Test Specimen**

---

Dimensions: 8 panels @ 610 mm (24 in.) by 1372 mm (54 in.)  
Thickness: 50.93 mm (2.005 in.)  
Overall Weight: 31.64 kg (69.75 lbs)  
Mass per Unit Volume: 92.9 kg/m<sup>3</sup> (5.80 lbs/ft<sup>3</sup>)

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

## Test Report

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

Archifibe Inc.  
2022-09-28

**RAL™-A22-428**  
Page 2 of 9

### Overall Specimen Properties

Size: 2.44 m (96.0 in) wide by 2.74 m (108.0 in) long  
Thickness: 0.05 m (2.004 in)  
Weight: 31.64 kg (69.75 lbs)  
Mass per Unit Area: 4.73 kg/m<sup>2</sup> (0.97 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: 21.6 °C ± 0.2 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)  
Relative Humidity: 57.2 % ± 1.4 % (Requirement: ≥ 40 % and ≤ 5 % change)  
Barometric Pressure: 100.2 kPa (Requirement not defined)

### MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. Per sponsor request, the perimeter edges were left exposed.

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

**Test Report**

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

**Archifibe Inc.**  
2022-09-28

**RAL™-A22-428**  
Page 3 of 9

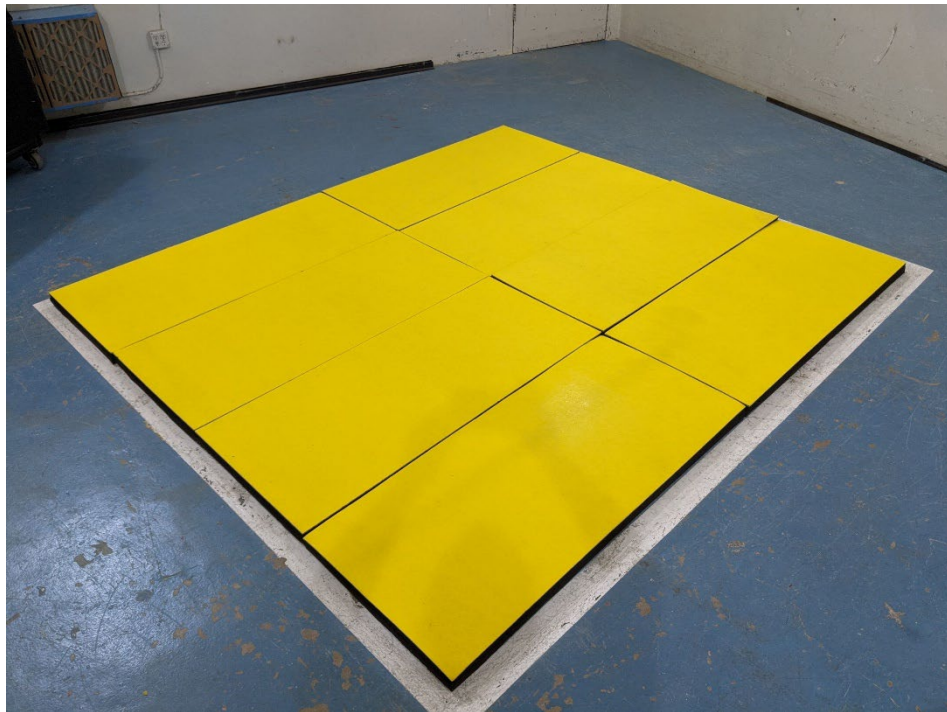


Figure 1 – Specimen mounted in test chamber



Figure 2 – Individual specimen panel



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

**Test Report**

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

**Archifibe Inc.**  
2022-09-28

**RAL™-A22-428**  
Page 4 of 9



Figure 3 – Detail of specimen materials

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

## Test Report

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
 WALLACE CLEMENT SABINE

**Archifibe Inc.**  
 2022-09-28

**RAL™-A22-428**  
 Page 5 of 9

### 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	1.49	16.02	0.22
** 125	2.36	25.43	0.35
160	3.30	35.48	0.49
200	4.35	46.87	0.65
** 250	5.24	56.45	0.78
315	6.64	71.51	0.99
400	7.30	78.54	1.09
** 500	8.15	87.71	1.22
630	8.47	91.16	1.27
800	8.42	90.60	1.26
** 1000	8.52	91.76	1.27
1250	8.48	91.32	1.27
1600	8.28	89.13	1.24
** 2000	8.14	87.58	1.22
2500	7.68	82.63	1.15
3150	7.45	80.23	1.11
** 4000	7.66	82.48	1.15
5000	7.76	83.55	1.16

**SAA = 1.12**  
**NRC = 1.10**

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

## Test Report

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

**Archifibe Inc.**  
2022-09-28

**RAL™-A22-428**  
Page 6 of 9

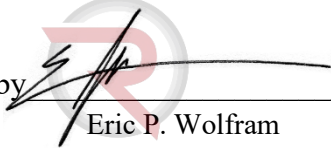
### TEST RESULTS (continued)

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   
Marc Sciaky  
*Senior Experimentalist*

Report by   
Keith Kimberling  
*Test Engineer*

Approved by   
Eric P. Wolfram  
*Laboratory Manager*

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

Test Report

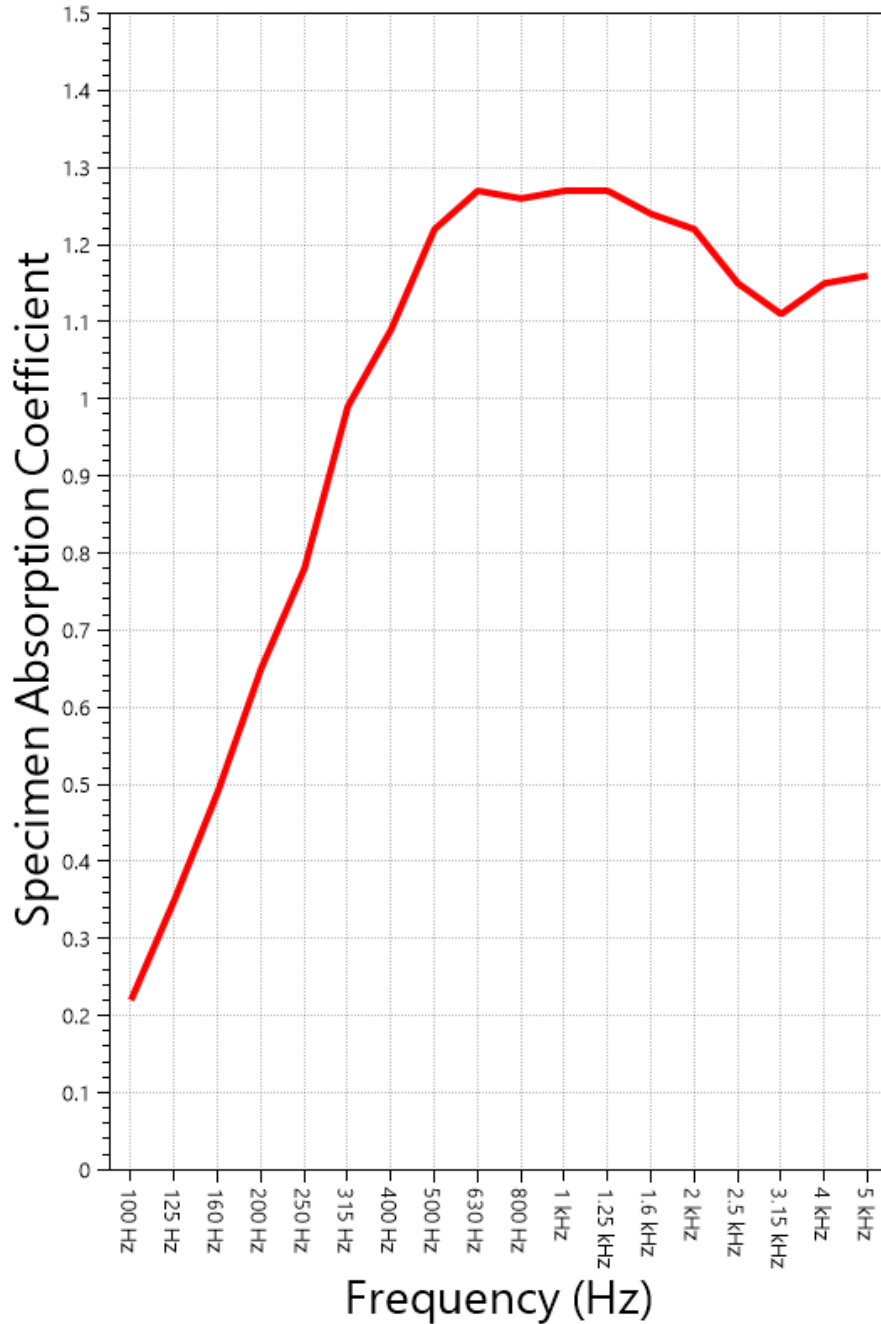
[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

Archifibe Inc.  
2022-09-28

**RAL™-A22-428**  
Page 7 of 9

**SOUND ABSORPTION REPORT**  
EzoLayer 50mm



**SAA = 1.12**  
**NRC = 1.10**



RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT. THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

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

## Test Report

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
 WALLACE CLEMENT SABINE

Archifibe Inc.  
 2022-09-28

**RAL™-A22-428**  
 Page 8 of 9

### APPENDIX A: Extended Frequency Range Data

Specimen: EzoLayer 50mm (See Full Report)

*The following non-accredited data were obtained in accordance with ASTM C423-22, 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	15.31	0.21
40	4.43	0.06
50	1.40	0.02
63	11.07	0.15
80	7.29	0.10
100	16.02	0.22
125	25.43	0.35
160	35.48	0.49
200	46.87	0.65
250	56.45	0.78
315	71.51	0.99
400	78.54	1.09
500	87.71	1.22
630	91.16	1.27
800	90.60	1.26
1000	91.76	1.27
1250	91.32	1.27
1600	89.13	1.24
2000	87.58	1.22
2500	82.63	1.15
3150	80.23	1.11
4000	82.48	1.15
5000	83.55	1.16
6300	83.93	1.17
8000	84.41	1.17
10000	87.25	1.21
12500	81.23	1.13



RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT. THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.



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

## Test Report

[www.riverbankacoustics.com](http://www.riverbankacoustics.com)

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

Archifibe Inc.  
2022-09-28

**RAL™-A22-428**  
Page 9 of 9

### APPENDIX B: Instruments of Traceability

Specimen: EzoLayer 50mm (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-042	3160-106968	2022-07-12	2023-07-12
Bruel & Kjaer Mic And Preamp C	Type 4943-B-001	2311439	2022-05-02	2023-05-02
Bruel & Kjaer Pistonphone	Type 4228	2781248	2022-07-22	2023-07-22
EXTECH Hygro 959	SD700	A099959	2022-03-22	2023-03-22

### APPENDIX C: Revisions to Original Test Report

Specimen: EzoLayer 50mm (See Full Report)

<u>Date</u>	<u>Revision</u>
2022-10-06	Original report issued

---

END