

Test Report

CLIENT: **Architectural Supplements LLC**
Waterbury, CT

Sound Absorption
RAL™-A19-084

CONDUCTED: 2019-02-27

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ON: BioMontage® Panels, Sustainable Poplar Bark

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 17025:2005 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 measurement procedure and room specifications are available upon request. The results presented in this report apply to the sample as received from the client.

INFORMATION PROVIDED BY CLIENT

The test specimen was designated by the client as BioMontage® Panels, Sustainable Poplar Bark. The following nominal product information was provided by the client prior to testing. The accuracy of such client-provided information can affect the validity of the test results.

Product Under Test

Trade Name: BioMontage® Panels
Material: Sustainable Poplar Bark
Manufacturer: Architectural Supplements LLC

SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

Test Specimen

Materials: Panels with organic material, plastic frames
Panel Dimensions: 16 @ 584.2 mm (23 in.) x 584.2 mm (23 in.)
Panel Composition: Wood furring strips @ 6 mm (0.236 in.) thick
Pressboard core @ 12.5 mm (0.492 in.) thick
Organic facade @ approximately 10 mm (0.394 in.) thick
Frame Dimensions: 16 @ 603.25 mm (23.75 in.) x 603.25 mm (23.75 in.)
Frame Depth: 73.02 mm (2.875 in.)
Assembly: Trays laid in frames, secured by snap-in perimeter pieces
Weight: Panels with organic material @ 81.31 kg (179.25 lbs)
Frames @ 54.66 kg (120.5 lbs)

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Overall Specimen Properties

Size: 2.44 m (95.875 in) wide by 2.44 m (95.875 in) long
Thickness: 0.07 m (2.875 in)
Weight: 135.96 kg (299.75 lbs)
Mass per Unit Area: 22.93 kg/m² (4.7 lbs/ft²)
Calculation Area: 5.93 m² (63.83 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 21.1 °C ± 0.0 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 63.7 % ± 3.0 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 99.3 kPa (Requirement not defined)

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.

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Figure 1 – Individual panel installed in frame



Figure 2 – Rear face of individual panel

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Figure 3 – Plastic frame pieces (left, right), panel with organic material (center)

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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 ²)	Total Absorption (Sabins)	Absorption Coefficient
100	0.84	9.09	0.14
** 125	1.35	14.48	0.23
160	2.22	23.89	0.37
200	4.18	45.01	0.71
** 250	1.88	20.21	0.32
315	2.04	21.98	0.34
400	2.04	21.90	0.34
** 500	2.76	29.66	0.46
630	2.14	23.01	0.36
800	0.97	10.46	0.16
** 1000	0.82	8.88	0.14
1250	0.93	9.97	0.16
1600	1.06	11.45	0.18
** 2000	1.17	12.54	0.20
2500	1.55	16.72	0.26
3150	1.82	19.62	0.31
** 4000	2.11	22.76	0.36
5000	2.26	24.37	0.38

SAA = 0.30

NRC = 0.30

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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 
Marc Sciaky
Senior Experimentalist

Report by 
Malcolm Kelly
Acoustical Test Engineer

Approved by 
Eric P. Wolfram
Laboratory Manager


Digitally signed by Eric P Wolfram
DN: cn=Eric P Wolfram, o=Alion
Science & Technology,
ou=Riverbank Acoustical
Laboratories,
email=ewolfram@alionscience.co
m, c=US
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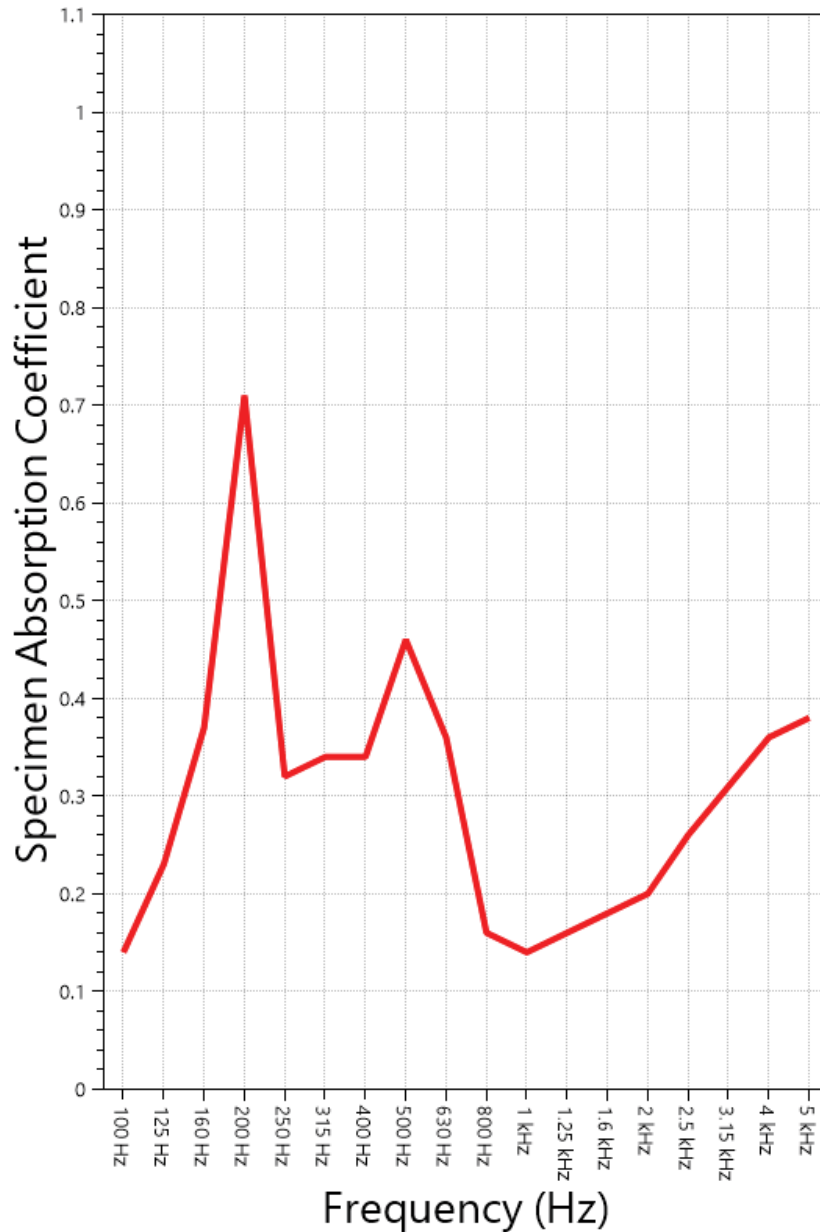
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SOUND ABSORPTION REPORT
 BioMontage® Panels, Sustainable Poplar Bark



SAA = 0.30
NRC = 0.30



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APPENDIX A: Extended Frequency Range Data

Specimen: BioMontage® Panels, Sustainable Poplar Bark (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	3.29	0.05
40	-15.51	-0.24
50	-4.64	-0.07
63	1.42	0.02
80	3.43	0.05
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100	9.09	0.14
125	14.48	0.23
160	23.89	0.37
200	45.01	0.71
250	20.21	0.32
315	21.98	0.34
400	21.90	0.34
500	29.66	0.46
630	23.01	0.36
800	10.46	0.16
1000	8.88	0.14
1250	9.97	0.16
1600	11.45	0.18
2000	12.54	0.20
2500	16.72	0.26
3150	19.62	0.31
4000	22.76	0.36
5000	24.37	0.38
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6300	23.81	0.37
8000	22.46	0.35
10000	25.06	0.39
12500	31.87	0.50



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APPENDIX B: Instruments of Traceability

Specimen: BioMontage® Panels, Sustainable Poplar Bark (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	2018-08-09	2019-08-09
Bruel & Kjaer Mic And Preamp A	Type 4943-B-001	2311428	2018-09-28	2019-09-28
Bruel & Kjaer Pistonphone	Type 4228	2781248	2018-08-06	2019-08-06
EXTECH Hygro 662	SD700	A083662	2018-11-29	2019-11-29

APPENDIX C: Revisions to Original Test Report

Specimen: BioMontage® Panels, Sustainable Poplar Bark (See Full Report)

<u>Date</u>	<u>Revision</u>
2019-03-08	Original report issued

END