

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

An  ALION Technical Center

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FOUNDED 1918 BY
WALLACE CLEMENT SABINE

Test Report

FOR: **Audimute**
Beachwood, OH

Sound Absorption
RAL™-A17-297

CONDUCTED: 2017-10-30
ON: eco-C-tex™ Natural Panel 1"

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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 eco-C-tex™ Natural Panel 1". A full external visual inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Panel

Material: eco-C-tex™
Dimensions: 8 @ 1219.2 mm (48 in.) x 609.6 mm (24 in.)
2 @ 1219.2 mm (48 in.) x 304.8 mm (12 in.)
Nominal Thickness: 25.4 mm (1.0 in.)
Overall Weight: 29.03 kg (64 lbs)

Physical Measures

Size: 2.74 m (108.00 in.) wide by 2.44 m (96.00 in.) long
Thickness Range: 28.58 mm (1.125 in.) – 31.75 mm (1.25 in.)
Weight: 29.03 kg (64.00 lbs.)
Mass per Unit Area: 4.35 kg/m² (0.89 lbs./ft²)
Area: 6.69 m² (72.00 ft²)

Test Environment

Volume: 292.0 m³ (10,311.0 ft³)
Temperature: 21.5±0.0°C (70.6±0.1°F) (Requirement: ≥10° C and ≤5° C change)
Humidity: 62.7±1.1% (Requirement: ≥40% RH and ≤5% change)
Barometric Pressure: 98.3 kPa. (Requirement not defined)



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THIS REPORT SHALL NOT BE MODIFIED OR PARTIALLY REPRODUCED 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 SPECIMEN.

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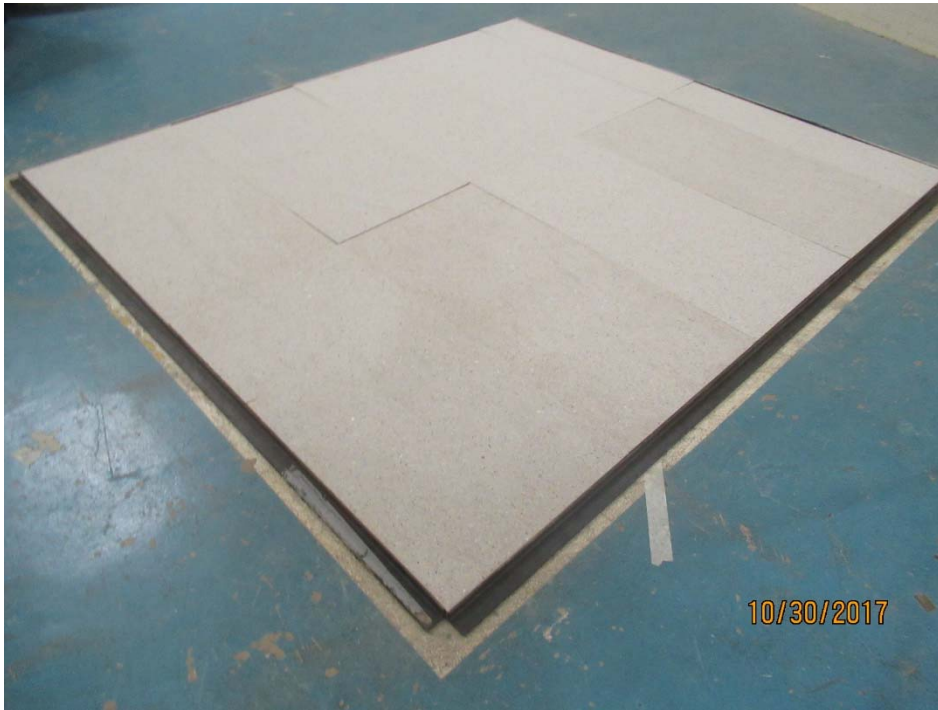


Figure 1 – Specimen mounted in the test chamber.



Figure 2 – Detail of test specimen.



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MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. The perimeter was sealed using metal framing.

TEST RESULTS

1/3 Octave Center Frequency (Hz)	Total Absorption (SI) (m ²)	Total Absorption (IP) (Sabins)	Absorption Coefficient (Sabins / ft ²)
100	0.91	9.84	0.14
** 125	1.25	13.48	0.19
160	2.04	21.97	0.31
200	3.25	34.95	0.49
** 250	4.21	45.30	0.63
315	5.12	55.16	0.77
400	5.19	55.89	0.78
** 500	5.14	55.37	0.77
630	5.00	53.82	0.75
800	4.99	53.67	0.75
** 1000	5.10	54.86	0.76
1250	5.46	58.81	0.82
1600	5.59	60.15	0.84
** 2000	5.52	59.44	0.83
2500	5.60	60.25	0.84
3150	5.74	61.83	0.86
** 4000	5.67	61.00	0.85
5000	5.84	62.86	0.87

SAA = 0.75

NRC = 0.75



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TEST RESULTS (Continued)

The sound absorption average (SAA) is defined as a single number rating, the average, rounded to the nearest 0.01, of the sound absorption coefficient of a material for the twelve one-third octave bands from 200 through 2500 Hz, inclusive.

The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by



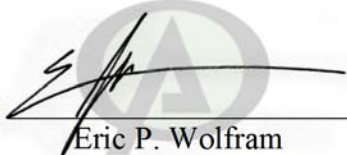
Marc Sciaky
Experimentalist

Report by



Malcolm Kelly
Acoustician

Approved by



Eric P. Wolfram
Laboratory Manager



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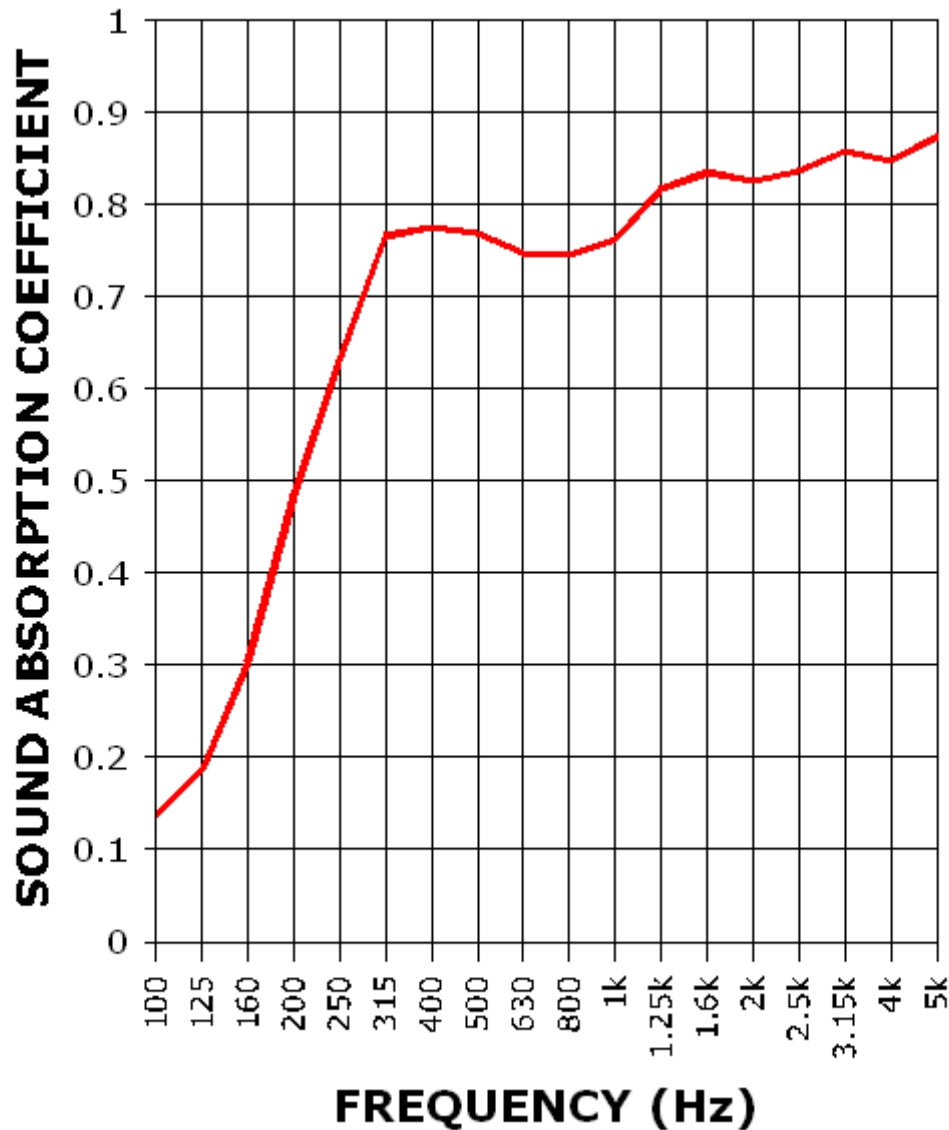
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SOUND ABSORPTION REPORT

eco-C-tex™ Natural Panel 1"



SAA = 0.75

NRC = 0.75



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APPENDIX A: Extended Frequency Range Data

Specimen: eco-C-tex™ Natural Panel 1" (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 (Sabins / ft ²)
31.5	-2.87	-0.04
40	-1.37	-0.02
50	4.08	0.06
63	1.89	0.03
80	1.22	0.02
100	9.84	0.14
125	13.48	0.19
160	21.97	0.31
200	34.95	0.49
250	45.30	0.63
315	55.16	0.77
400	55.89	0.78
500	55.37	0.77
630	53.82	0.75
800	53.67	0.75
1000	54.86	0.76
1250	58.81	0.82
1600	60.15	0.84
2000	59.44	0.83
2500	60.25	0.84
3150	61.83	0.86
4000	61.00	0.85
5000	62.86	0.87
6300	61.40	0.85
8000	60.82	0.84
10000	54.46	0.76
12500	42.43	0.59



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APPENDIX B: Instruments of Traceability

Specimen: eco-C-tex™ Natural Panel 1" (See Full Report)

<u>Description</u>	<u>Model</u>	<u>Serial Number</u>	<u>Date of Certification</u>	<u>Calibration Due</u>
Bruel & Kjaer Pulse Analyzer - System3	Type 3560-C	2647140	2017-04-21	2018-04-21
Bruel & Kjaer Mic And Preamp C	Type 4943-B-001	2311439	2017-03-17	2018-03-17
Bruel & Kjaer Pistonphone	Type 4228	2781248	2017-08-02	2018-08-02
Omega Digital Temp., Humid. And Pressure Recorder	OM-CP-PRHTemp2000	P97844	2017-01-16	2018-01-16

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