

## Test Report

SPONSOR: **Audimute**  
Beachwood, OH

**Sound Absorption**  
**RAL™-A20-137**

CONDUCTED: 2020-03-23

Page 1 of 9

ON: eco-C-tex™ panels with loose laid textile facing

### 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 eco-C-tex™ panels with loose laid textile facing. 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**

---

Trade Name: eco-C-tex™  
Face Finish: Non-Woven Image Substrate  
Core Thickness: 25.4 mm (1 in.)  
Core Density: 144.2 kg/m<sup>3</sup> (9 lbs/ft<sup>3</sup>)  
Manufacturer: Audimute

### SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

#### **Base Panels**

---

Material: Compressed bonded recycled fiber substrate  
Dimensions: 18 @ 304.8 mm (12 in.) x 1219.2 mm (48 in.)  
Thickness: 21.18 mm (0.834 in.)  
Overall Weight: 24.04 kg (53 lbs)  
Density: 169.6 kg/m<sup>3</sup> (10.59 lbs/ft<sup>3</sup>)

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

An  ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## Test Report

**Audimute**  
2020-03-23

**RAL™-A20-137**  
Page 2 of 9

### Fabric

Material: Nonwoven textile  
Dimensions: 1 @ 2743.2 mm (108 in.) x 1524 mm (60 in.)  
1 @ 2743.2 mm (108 in.) x 914.4 mm (36 in.)  
Thickness: 0.48 mm (0.019 in.)  
Overall Weight: 1.02 kg (2.25 lbs)  
Mass per Unit Area: 0.15 kg/m<sup>2</sup> (0.03 lbs/ft<sup>2</sup>)  
Installation: Loose laid over base panels

### Overall Specimen Properties

Size: 2.74 m (108.0 in) wide by 2.44 m (96.0 in) long  
Thickness: 0.02 m (0.853 in)  
Weight: 25.06 kg (55.25 lbs)  
Mass per Unit Area: 3.75 kg/m<sup>2</sup> (0.77 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: 21.5 °C ± 0.1 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)  
Relative Humidity: 66.75 % ± 1.7 % (Requirement: ≥ 40 % and ≤ 5 % change)  
Barometric Pressure: 99.4 kPa (Requirement not defined)

### MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. Perimeter edges were sealed with metal framing.

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

An **ALION** Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

**Test Report**

**RAL™-A20-137**

Page 3 of 9

**Audimute**  
2020-03-23



Figure 1 – Specimen mounted in test chamber



Figure 2 – Detail of specimen composition and materials

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

An **ALION** Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

**Test Report**

**Audimute**  
2020-03-23

**RAL™-A20-137**  
Page 4 of 9



Figure 3 – Individual base panel piece

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

An ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
 WALLACE CLEMENT SABINE

## Test Report

**RAL™-A20-137**

Page 5 of 9

**Audimute**  
 2020-03-23

### 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	0.75	8.12	0.11
** 125	0.97	10.47	0.15
160	1.29	13.91	0.19
200	1.70	18.27	0.25
** 250	2.93	31.54	0.44
315	4.93	53.06	0.74
400	5.42	58.38	0.81
** 500	5.65	60.82	0.84
630	5.60	60.30	0.84
800	5.48	59.02	0.82
** 1000	5.63	60.57	0.84
1250	5.77	62.12	0.86
1600	5.50	59.16	0.82
** 2000	5.16	55.55	0.77
2500	5.08	54.70	0.76
3150	4.75	51.15	0.71
** 4000	4.58	49.30	0.68
5000	4.46	48.02	0.67

**SAA = 0.73**  
**NRC = 0.70**

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

An ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## Test Report

**RAL™-A20-137**


Page 6 of 9

**Audimute**  
2020-03-23

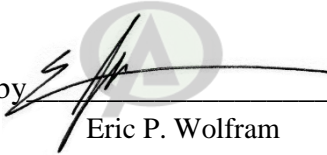
### TEST RESULTS (continued)

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

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

An ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

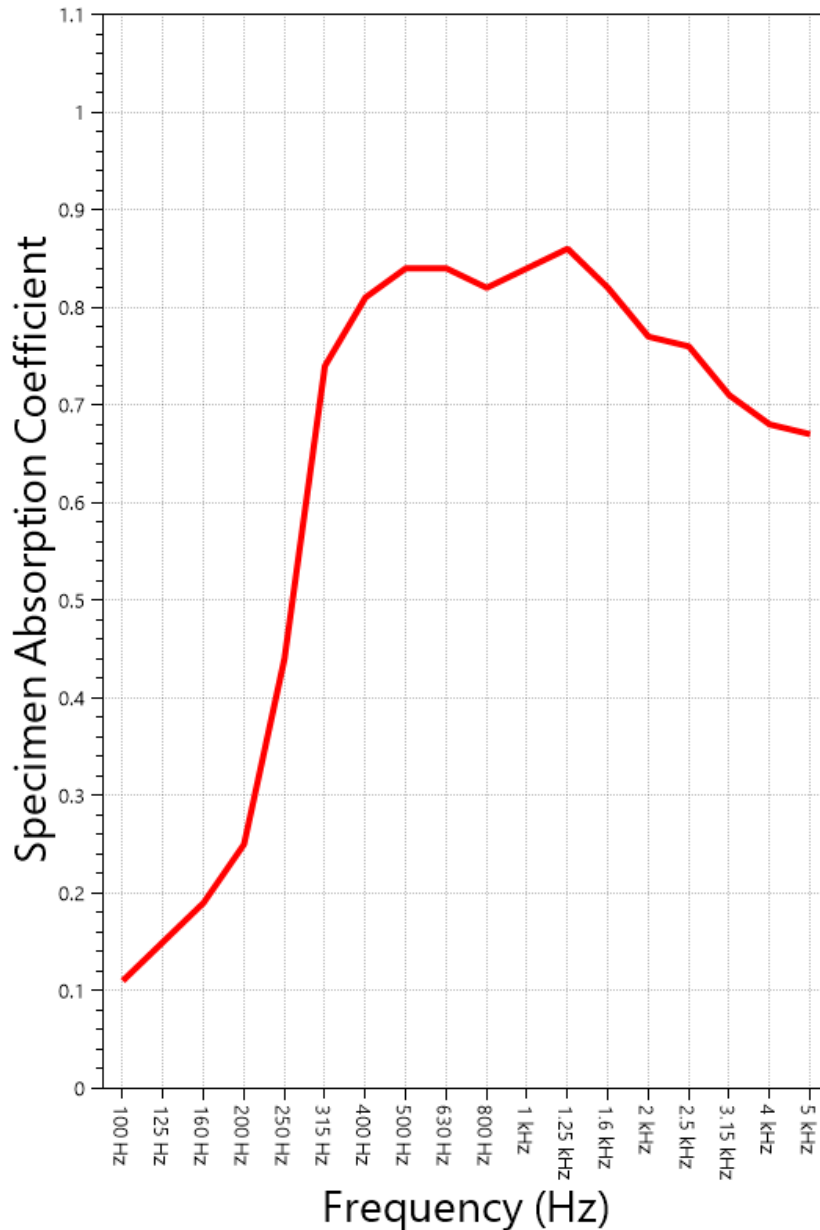
Test Report

RAL™-A20-137

Page 7 of 9

Audimute  
2020-03-23

**SOUND ABSORPTION REPORT**  
eco-C-tex™ panels with loose laid textile facing



**SAA = 0.73**  
**NRC = 0.70**

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

An ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
 WALLACE CLEMENT SABINE

## Test Report

**Audimute**  
 2020-03-23

**RAL™-A20-137**  
 Page 8 of 9

### APPENDIX A: Extended Frequency Range Data

Specimen: eco-C-tex™ panels with loose laid textile facing (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	-6.51	-0.09
40	-5.22	-0.07
50	-4.81	-0.07
63	-1.14	-0.02
80	6.94	0.10
100	8.12	0.11
125	10.47	0.15
160	13.91	0.19
200	18.27	0.25
250	31.54	0.44
315	53.06	0.74
400	58.38	0.81
500	60.82	0.84
630	60.30	0.84
800	59.02	0.82
1000	60.57	0.84
1250	62.12	0.86
1600	59.16	0.82
2000	55.55	0.77
2500	54.70	0.76
3150	51.15	0.71
4000	49.30	0.68
5000	48.02	0.67
6300	46.06	0.64
8000	44.93	0.62
10000	40.22	0.56
12500	33.48	0.47



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

An ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## Test Report

**RAL™-A20-137**

Page 9 of 9

**Audimute**  
2020-03-23

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

Specimen: eco-C-tex™ panels with loose laid textile facing (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	2020-02-18	2021-02-18

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

Specimen: eco-C-tex™ panels with loose laid textile facing (See Full Report)

<b><u>Date</u></b>	<b><u>Revision</u></b>
2020-03-24	Original report issued

---

END