

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

SPONSOR: **FabriTRAK Systems Inc.**  
Mount Laurel, NJ

**Sound Absorption**  
**RAL™-A20-442**

CONDUCTED: 2020-10-29

Page 1 of 9

ON: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type A mounting)

### 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 1 in. Fiberglass Cloud Covered with Fabri Felt (Type A mounting). 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

Materials: Fiberglass Cloud with Fabri Felt  
Thickness: 25.4 mm (1 in.)  
Manufacturer: FabriTRAK Systems Inc.

### SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

#### Test Specimen

Materials: Fiberglass core, adhered felt fabric exterior, core exposed at one large face  
Dimensions: 4 @ 1219 mm (48 in.) by 1219 mm (48 in.)  
2 @ 305 mm (12 in.) by 1219 mm (48 in.)  
Thickness: 27.3 mm (1.073 in)  
Overall Weight: 20.07 kg (44.25 lbs)  
Installation: Face with exposed core oriented toward test surface

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FabriTRAK Systems Inc.  
2020-10-29

**RAL™-A20-442**

Page 2 of 9

### Overall Specimen Properties

Size: 2.74 m (108.0 in) wide by 2.44 m (96.0 in) long  
Thickness: 27.3 mm (1.073 in)  
Weight: 20.07 kg (44.25 lbs)  
Mass per Unit Area: 3.0 kg/m<sup>2</sup> (0.61 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: 22.0 °C ± 0.2 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)  
Relative Humidity: 57.55 % ± 2.1 % (Requirement: ≥ 40 % and ≤ 5 % change)  
Barometric Pressure: 98.3 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 and tape.

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## Test Report

FabriTRAK Systems Inc.  
2020-10-29

**RAL™-A20-442**

Page 3 of 9



Figure 1 – Specimen mounted in test chamber

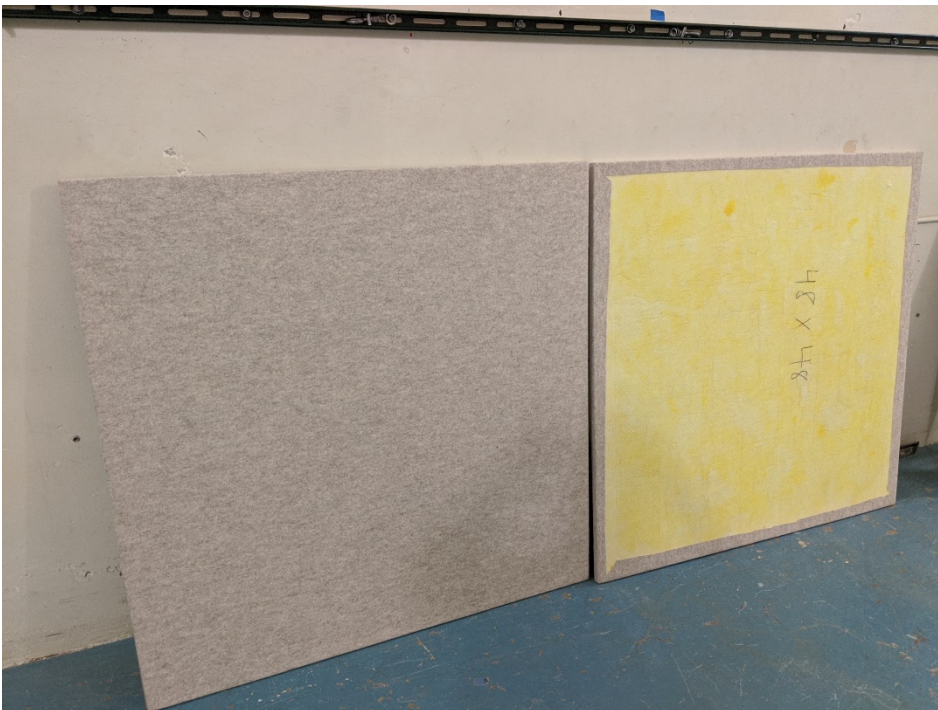


Figure 2 – Individual specimen panels, exposed core material at underside



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## Test Report

FabriTRAK Systems Inc.  
2020-10-29

**RAL™-A20-442**

Page 4 of 9



Figure 3 – Detail of specimen materials

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**FabriTRAK Systems Inc.**  
2020-10-29

**RAL™-A20-442**  
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	0.42	4.53	0.06
** 125	0.31	3.32	0.05
160	1.02	10.95	0.15
200	1.47	15.84	0.22
** 250	1.83	19.66	0.27
315	2.93	31.56	0.44
400	3.70	39.82	0.55
** 500	5.29	56.89	0.79
630	6.00	64.53	0.90
800	6.58	70.78	0.98
** 1000	6.91	74.39	1.03
1250	7.05	75.90	1.05
1600	7.10	76.39	1.06
** 2000	7.10	76.45	1.06
2500	6.98	75.10	1.04
3150	6.78	73.01	1.01
** 4000	6.69	72.00	1.00
5000	6.85	73.73	1.02

**SAA = 0.78**

**NRC = 0.80**

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## Test Report


**FabriTRAK Systems Inc.**  
2020-10-29

**RAL™-A20-442**  
Page 6 of 9

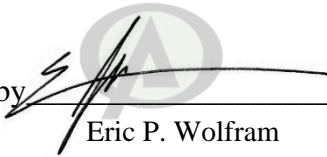
### TEST RESULTS (continued)

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   
Malcolm Kelly  
Acoustical Test Engineer

Approved by   
Eric P. Wolfram  
Laboratory Manager

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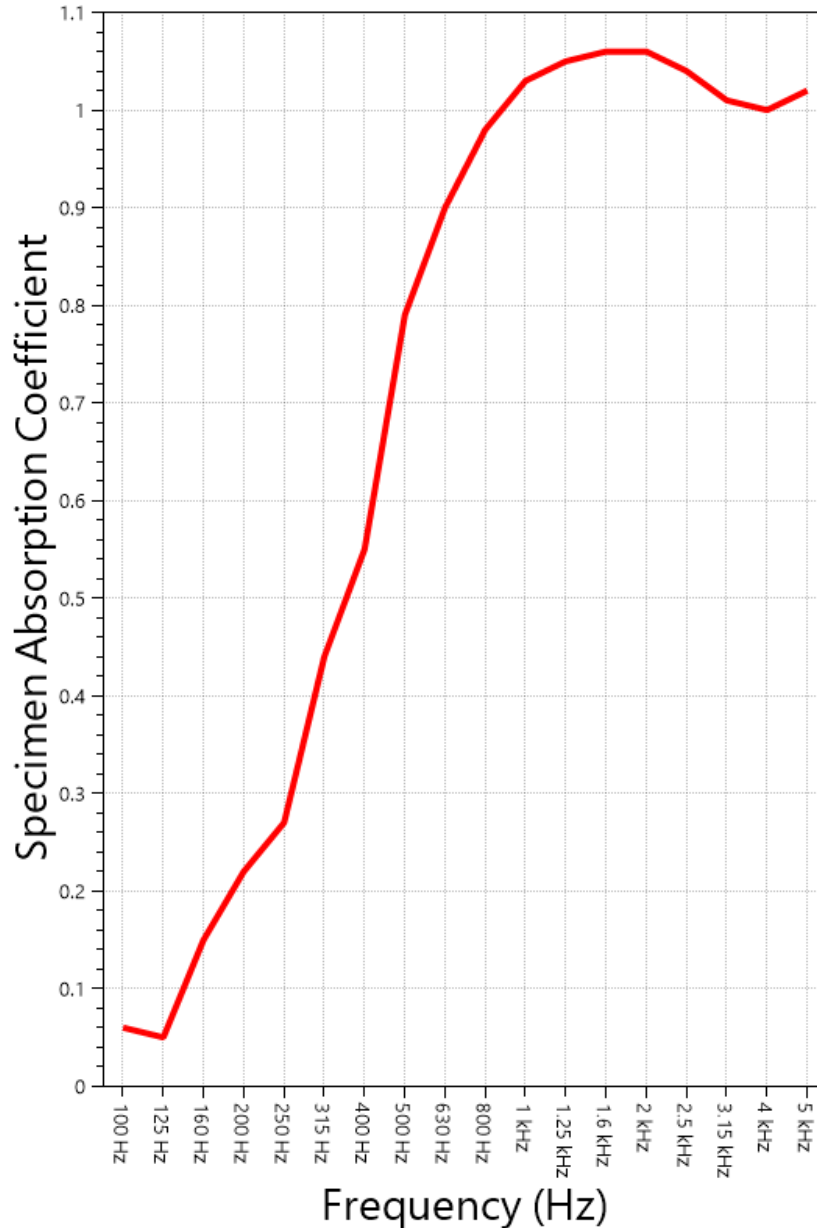
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2020-10-29

**RAL™-A20-442**

Page 7 of 9

### SOUND ABSORPTION REPORT

1 in. Fiberglass Cloud Covered with Fabri Felt (Type A mounting)



**SAA = 0.78**

**NRC = 0.80**

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2020-10-29

**RAL™-A20-442**  
Page 8 of 9

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

Specimen: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type A mounting) (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
63	3.00	0.04
80	1.87	0.03
100	4.53	0.06
125	3.32	0.05
160	10.95	0.15
200	15.84	0.22
250	19.66	0.27
315	31.56	0.44
400	39.82	0.55
500	56.89	0.79
630	64.53	0.90
800	70.78	0.98
1000	74.39	1.03
1250	75.90	1.05
1600	76.39	1.06
2000	76.45	1.06
2500	75.10	1.04
3150	73.01	1.01
4000	72.00	1.00
5000	73.73	1.02
6300	71.38	0.99
8000	70.87	0.98
10000	66.25	0.92
12500	64.46	0.90



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FabriTRAK Systems Inc.  
2020-10-29

**RAL™-A20-442**  
Page 9 of 9

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

Specimen: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type A mounting) (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	2020-06-26	2021-06-26
Bruel & Kjaer Mic And Preamp A	Type 4943-B-001	2311428	2020-09-30	2021-09-30
Bruel & Kjaer Pistonphone	Type 4228	2781248	2020-08-12	2021-08-12
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: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type A mounting) (See Full Report)

<b><u>Date</u></b>	<b><u>Revision</u></b>
2020-11-04	Original report issued

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END