

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

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

Sound Absorption
RAL™-A20-441

CONDUCTED: 2020-10-29

Page 1 of 9

ON: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type E-400 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 E-400 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

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

FabriTRAK Systems Inc.
2020-10-29

RAL™-A20-441

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/m² (0.61 lbs/ft²)
Calculation Area: 6.689 m² (72 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 22.1 °C ± 0.3 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 56.3 % ± 0.6 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 98.3 kPa (Requirement not defined)

MOUNTING METHOD

Type E-400 Mounting: The test specimen was mounted across a metal fixture which was open at its top and bottom and enclosed at its sides, creating an enclosed airspace between the test specimen and the horizontal test surface. The specimen was supported across the span of the fixture by an array of metal slats positioned beneath the specimen panel joints. The numeral suffix in the designation is defined in ASTM E795-16 as the distance in millimeters from the exposed face of the test specimen to the test surface, rounded to the nearest integer multiple of 5. 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

FabriTRAK Systems Inc.
2020-10-29

RAL™-A20-441

Page 3 of 9

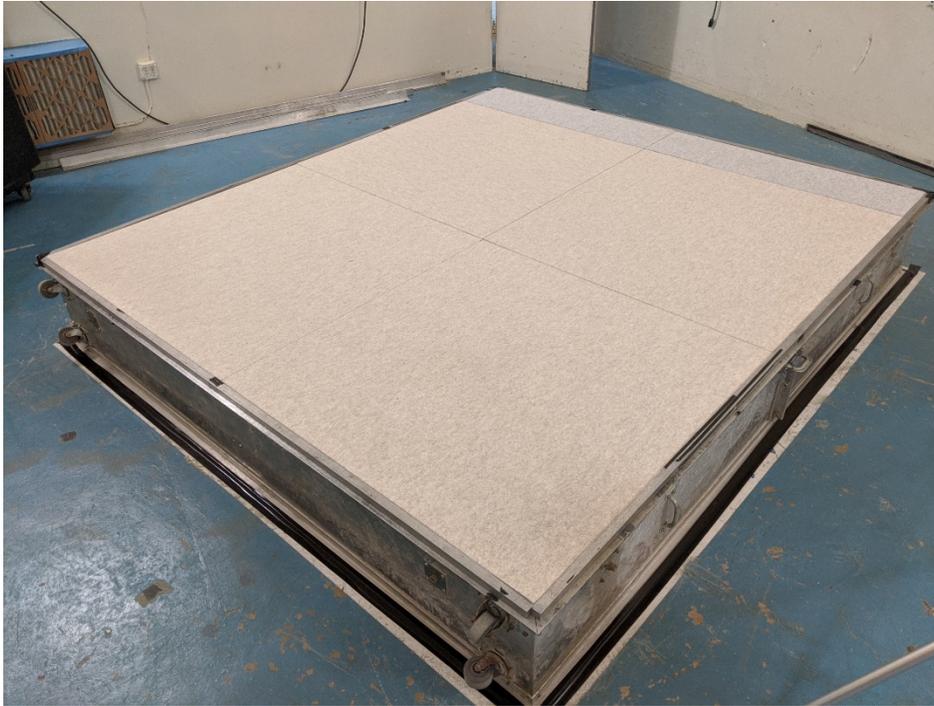


Figure 1 – Specimen mounted in test chamber



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

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

FabriTRAK Systems Inc.
2020-10-29

RAL™-A20-441
Page 4 of 9



Figure 3 – Detail of specimen materials

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

An  ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

Test Report

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

FabriTRAK Systems Inc.
2020-10-29

RAL™-A20-441

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 ²)	Total Absorption (Sabins)	Absorption Coefficient
100	6.46	69.54	0.97
** 125	5.43	58.40	0.81
160	5.31	57.19	0.79
200	6.35	68.31	0.95
** 250	6.59	70.92	0.98
315	6.14	66.10	0.92
400	6.07	65.31	0.91
** 500	5.72	61.58	0.86
630	6.37	68.60	0.95
800	6.76	72.80	1.01
** 1000	6.99	75.22	1.04
1250	7.33	78.91	1.10
1600	7.23	77.79	1.08
** 2000	7.20	77.47	1.08
2500	7.28	78.35	1.09
3150	7.20	77.53	1.08
** 4000	7.08	76.22	1.06
5000	6.94	74.72	1.04

SAA = 1.00
NRC = 1.00

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

FabriTRAK Systems Inc.
2020-10-29

RAL™-A20-441
Page 6 of 9

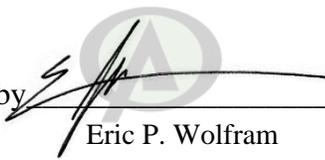
TEST RESULTS (continued)

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

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

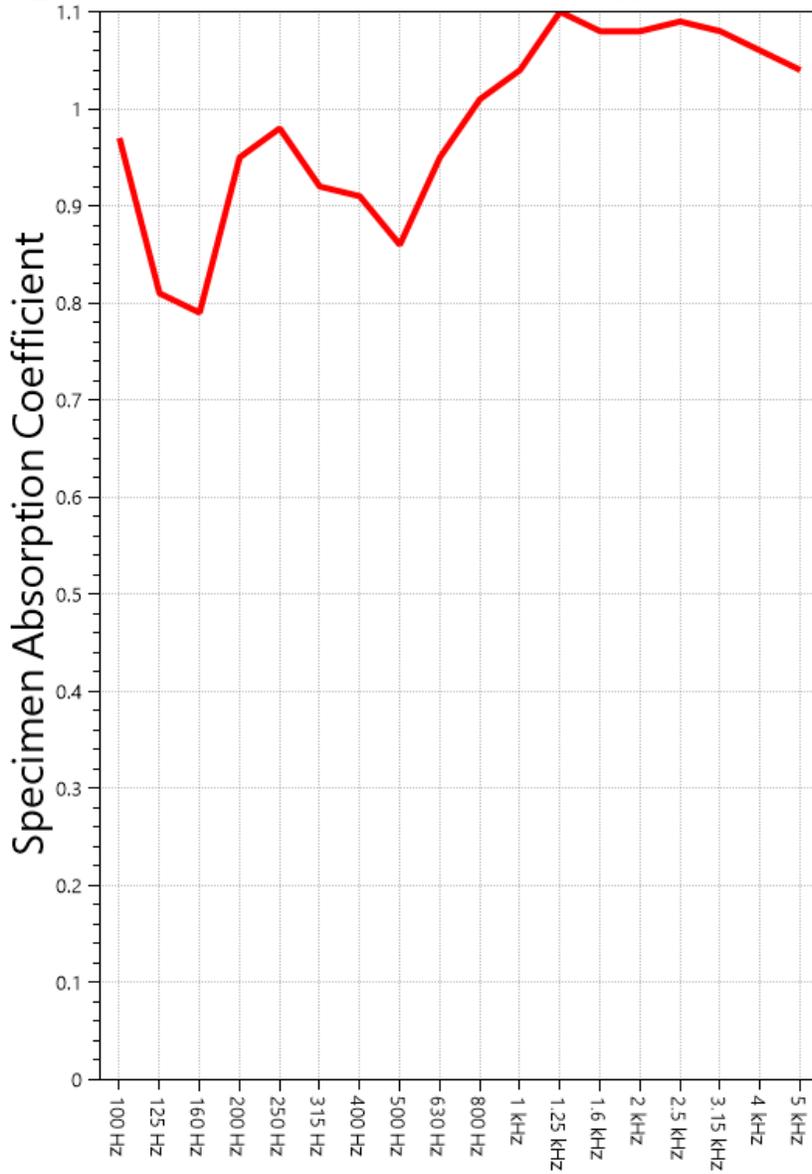
RAL™-A20-441

Page 7 of 9

FabriTRAK Systems Inc.
2020-10-29

SOUND ABSORPTION REPORT

1 in. Fiberglass Cloud Covered with Fabri Felt (Type E-400 mounting)



Frequency (Hz)

SAA = 1.00

NRC = 1.00



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

An  ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM

Test Report

FOUNDED 1918 BY
 WALLACE CLEMENT SABINE

FabriTRAK Systems Inc.
 2020-10-29

RAL™-A20-441
 Page 8 of 9

APPENDIX A: Extended Frequency Range Data

Specimen: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type E-400 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
31.5	36.86	0.51
40	35.84	0.50
50	88.95	1.24
63	42.56	0.59
80	52.36	0.73
100	69.54	0.97
125	58.40	0.81
160	57.19	0.79
200	68.31	0.95
250	70.92	0.98
315	66.10	0.92
400	65.31	0.91
500	61.58	0.86
630	68.60	0.95
800	72.80	1.01
1000	75.22	1.04
1250	78.91	1.10
1600	77.79	1.08
2000	77.47	1.08
2500	78.35	1.09
3150	77.53	1.08
4000	76.22	1.06
5000	74.72	1.04
6300	72.08	1.00
8000	67.09	0.93
10000	58.86	0.82
12500	53.51	0.74

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

FabriTRAK Systems Inc.
2020-10-29

RAL™-A20-441
Page 9 of 9

APPENDIX B: Instruments of Traceability

Specimen: 1 in. Fiberglass Cloud Covered with Fabri Felt (Type E-400 mounting) (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	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 E-400 mounting) (See Full Report)

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

END