

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

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

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

Sound Absorption
RAL™-A23-300

CONDUCTED: 2023-10-17

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ON: 1" TerraCORE Poly Performance

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 C423-23: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-23: "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" TerraCORE Poly Performance. 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

Product Name: 1" TerraCORE Poly Performance
Material ID#: 6602
Core Material: Polyethylene Terephthalate
Core Nominal Thickness: 1"
Core Nominal Density: 6 PCF
Specimen Nominal Thickness: 1"
Manufacturer: FabriTRAK Systems Inc.

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SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

Test Specimen

Dimensions: 8 panels @ 610 mm (24 in.) by 1219 mm (48 in.)
2 panels @ 305 mm (12 in.) by 1219 mm (48 in.)
Thickness: 24.94 mm (0.982 in.)
Overall Weight: 16.67 kg (36.75 lbs)
Mass per Unit Volume: 99.9 kg/m³ (6.24 lbs/ft³)

Overall Specimen Properties

Size: 2.74 m (108.0 in) wide by 2.44 m (96.0 in) long
Thickness: 0.02 m (0.982 in)
Weight: 16.67 kg (36.75 lbs)
Mass per Unit Area: 2.49 kg/m² (0.51 lbs/ft²)
Calculation Area: 6.689 m² (72.0 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 19.1 °C ± 0.2 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 50.85 % ± 0.1 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 99.1 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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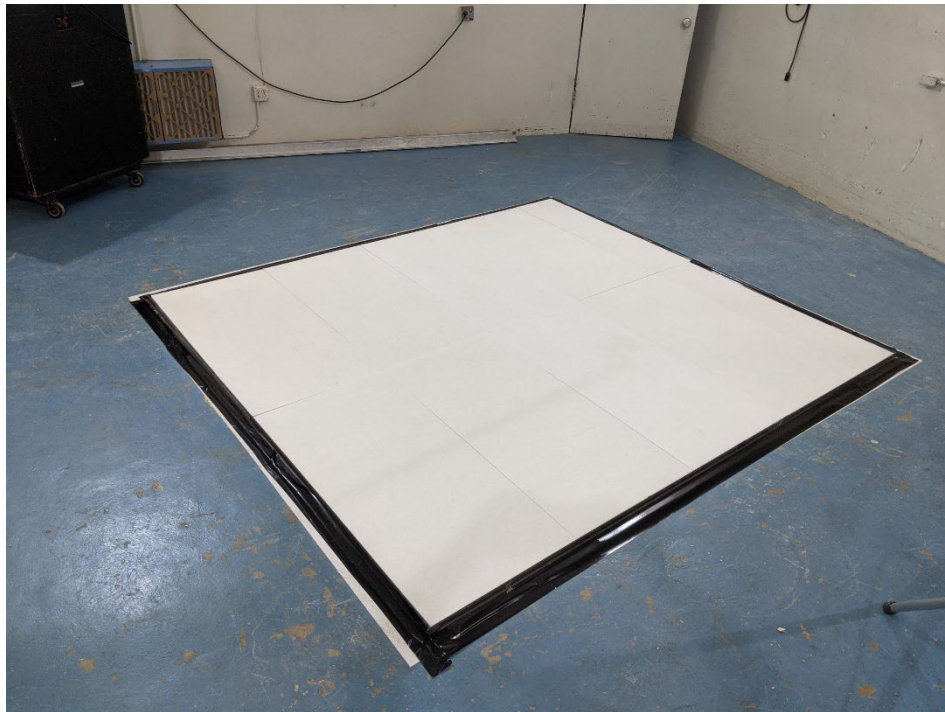


Figure 1 – Specimen mounted in test chamber



Figure 2 – Individual specimen panel

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Figure 3 – Detail of specimen material

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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	0.14	1.49	0.02
** 125	0.24	2.57	0.04
160	0.66	7.07	0.10
200	1.17	12.58	0.17
** 250	1.70	18.28	0.25
315	2.64	28.40	0.39
400	3.04	32.73	0.45
** 500	4.15	44.62	0.62
630	4.84	52.14	0.72
800	5.46	58.74	0.82
** 1000	5.72	61.57	0.86
1250	6.00	64.54	0.90
1600	6.18	66.49	0.92
** 2000	6.47	69.59	0.97
2500	6.64	71.47	0.99
3150	6.52	70.14	0.97
** 4000	6.62	71.26	0.99
5000	6.67	71.83	1.00

SAA = 0.67
NRC = 0.70

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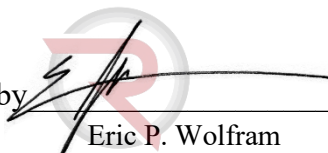
TEST RESULTS (continued)

The sound absorption average (SAA) is defined in ASTM C423-23 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 
Keith Kimberling
Test Engineer

Approved by 
Eric P. Wolfram
Laboratory Manager

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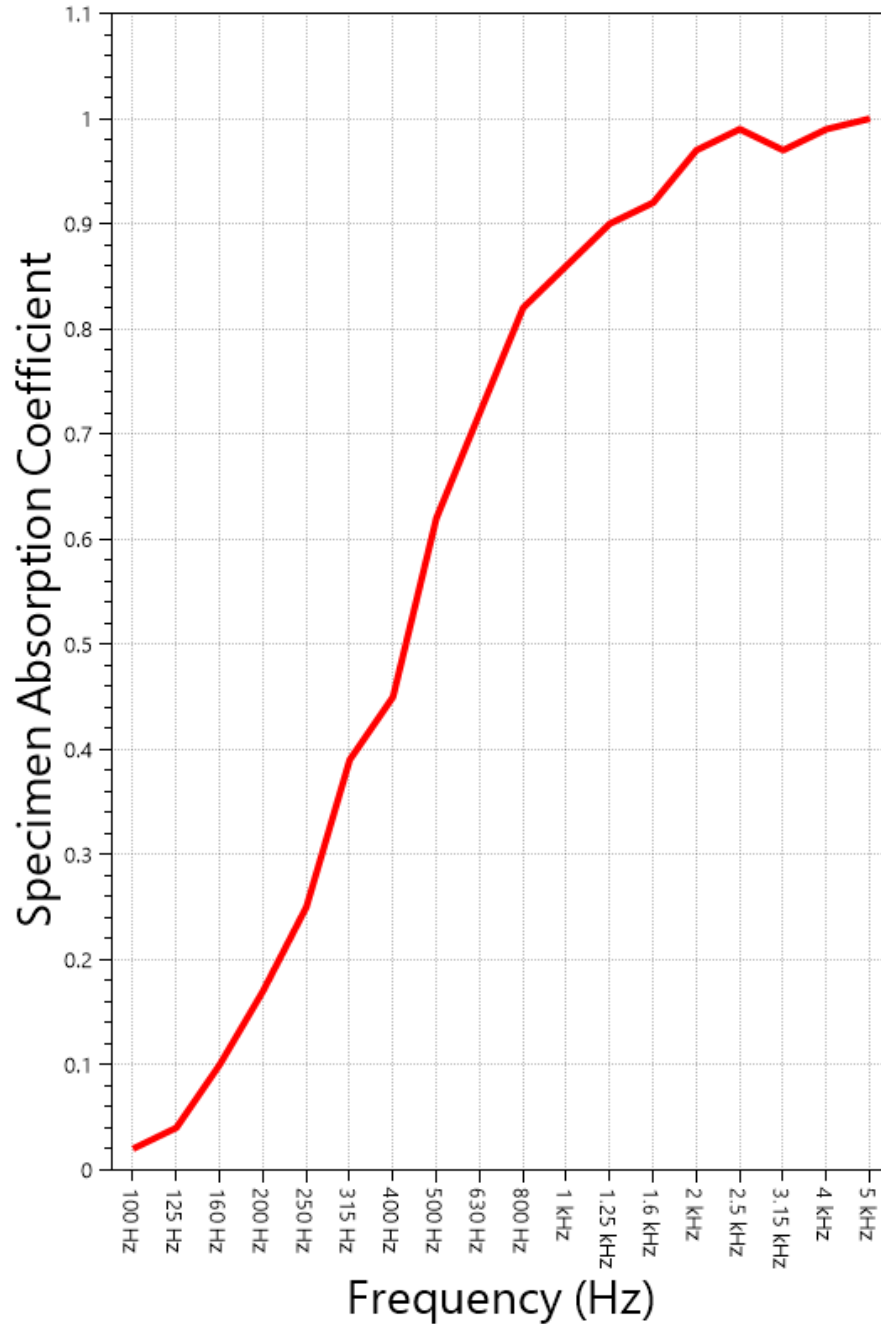
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SOUND ABSORPTION REPORT 1" TerraCORE Poly Performance



SAA = 0.67

NRC = 0.70



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APPENDIX A: Extended Frequency Range Data

Specimen: 1" TerraCORE Poly Performance (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-23, 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	3.01	0.04
40	-0.75	-0.01
50	7.76	0.11
63	5.89	0.08
80	-1.15	-0.02
100	1.49	0.02
125	2.57	0.04
160	7.07	0.10
200	12.58	0.17
250	18.28	0.25
315	28.40	0.39
400	32.73	0.45
500	44.62	0.62
630	52.14	0.72
800	58.74	0.82
1000	61.57	0.86
1250	64.54	0.90
1600	66.49	0.92
2000	69.59	0.97
2500	71.47	0.99
3150	70.14	0.97
4000	71.26	0.99
5000	71.83	1.00
6300	73.83	1.03
8000	76.91	1.07
10000	82.94	1.15
12500	77.51	1.08

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APPENDIX B: Instruments of Traceability

Specimen: 1" TerraCORE Poly Performance (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	2023-07-17	2024-07-17
Bruel & Kjaer Mic And Preamp G	Type 4943-B-001	2525858	2023-05-03	2024-05-03
Bruel & Kjaer Pistonphone	Type 4228	2781248	2023-07-12	2024-07-12
EXTECH Hygro 639	SD700	A.103639	2022-12-07	2023-12-07

APPENDIX C: Revisions to Original Test Report

Specimen: 1" TerraCORE Poly Performance (See Full Report)

<u>Date</u>	<u>Revision</u>
2023-10-20	Original report issued

END