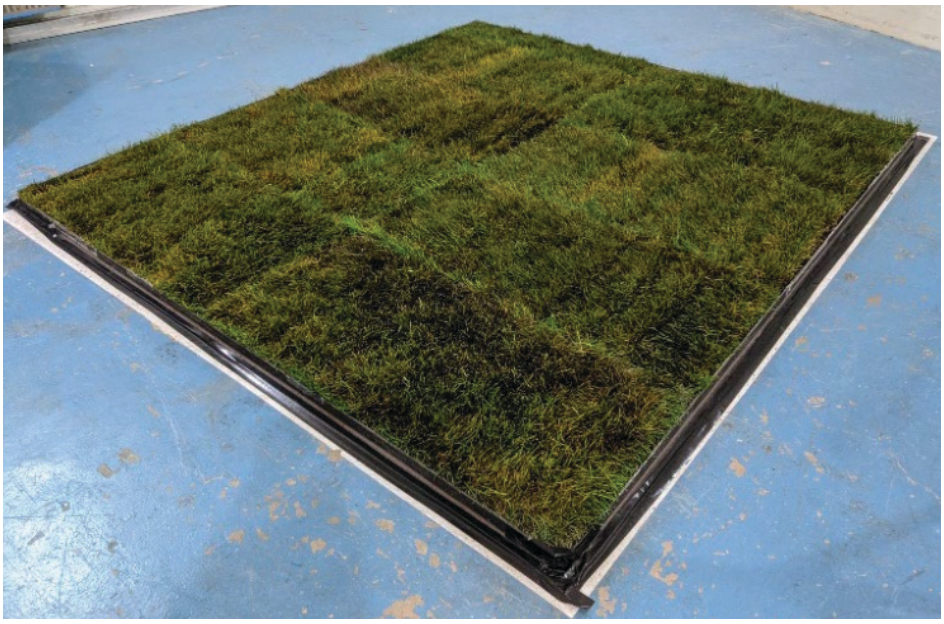
Riverbank Acoustical LABORATORIES®

TEST REPORT

SPONSOR: RIVERBANK ACOUSTICAL LABORATORIES | GENEVA, IL



PRODUCT NAME:

FRESH SOD – FESCUE MIX

TEST DATE:

JUNE 10, 2022

TEST METHOD:

ASTM C423

RATING:

NRC = 0.60

WWW.RIVERBANKACOUSTICS.COM | INFO@RIVERBANKACOUSTICS.COM | 630.232.0104
1512 SOUTH BATAVIA AVENUE | GENEVA, IL | 60134

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

SPONSOR: **Riverbank Acoustical Laboratories**
Geneva, IL

Sound Absorption
RAL™-A22-259

CONDUCTED: 2022-06-10

ON: Fresh Sod - Fescue Mix

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 C423-22: "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.

SPECIMEN MEASUREMENTS & TEST CONDITIONS

The test specimen was designated by the sponsor as Fresh Sod - Fescue Mix. Through a full external visual inspection performed on the test specimen, Riverbank personnel verified the following information:

Test Specimen

Material:	Soil, grass
Dimensions:	8 pieces @ 635 mm (25 in.) by 1219 mm (48 in.)
	2 pieces @ 229 mm (9 in.) by 1219 mm (48 in.)
Thickness:	Soil @ approx. 38 mm (1.5 in.)
	Grass blades @ approx. 51 mm (2 in.)
	Total @ approx. 89 mm (3.5 in.)
Overall Weight:	105.91 kg (233.5 lbs)

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

Overall Specimen Properties

Size:	2.74 m (108.0 in) wide by 2.49 m (98.0 in) long
Thickness:	0.09 m (3.5 in)
Weight:	105.91 kg (233.5 lbs)
Mass per Unit Area:	15.51 kg/m² (3.18 lbs/ft²)
Calculation Area:	6.828 m² (73.5 ft²)

Test Environment

Room Volume:	291.98 m³
Temperature:	21.4 °C ± 0.0 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity:	59.0 % ± 0.4 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure:	98.4 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 and tape.

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

Figure 1 – Specimen mounted in test chamber

Figure 2 – Piece of specimen material

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

Figure 3 – Detail of specimen materials

Figure 4 – Detail of specimen materials

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

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	0.54	5.81	0.08
** 125	0.65	6.99	0.10
160	0.81	8.76	0.12
200	1.14	12.24	0.17
** 250	1.56	16.83	0.23
315	2.04	21.92	0.30
400	2.52	27.15	0.37
** 500	3.48	37.47	0.51
630	4.11	44.23	0.60
800	4.77	51.37	0.70
** 1000	5.30	57.08	0.78
1250	5.64	60.67	0.83
1600	5.85	63.00	0.86
** 2000	6.15	66.22	0.90
2500	6.35	68.37	0.93
3150	6.69	72.01	0.98
** 4000	6.74	72.52	0.99
5000	6.94	74.70	1.02

SAA = 0.60
NRC = 0.60

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

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 _____
Keith Kimberling
Test Engineer

Approved by _____
Eric P. Wolfram
Laboratory Manager

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

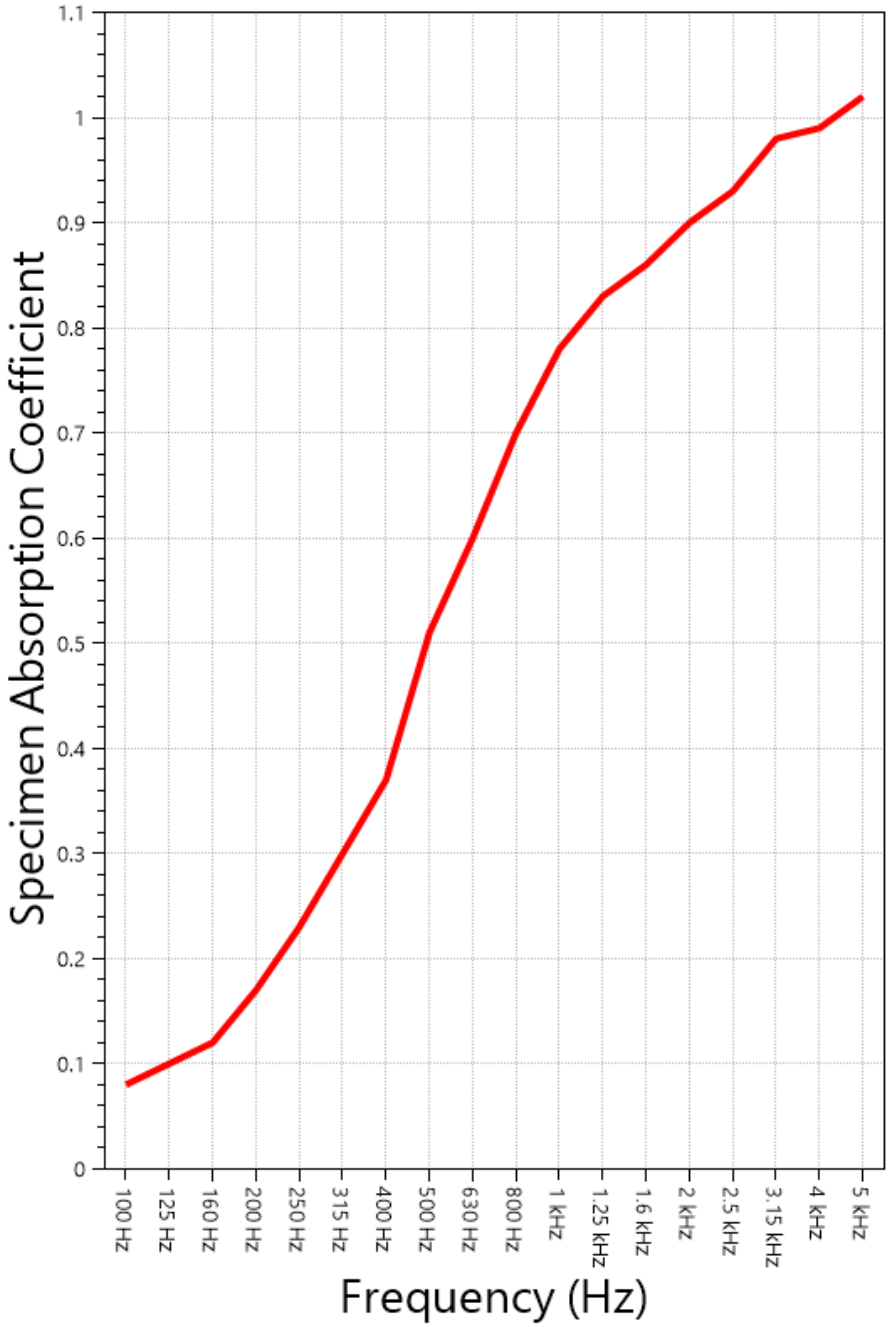
Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

SOUND ABSORPTION REPORT

Fresh Sod - Fescue Mix



SAA = 0.60
NRC = 0.60

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

APPENDIX A: Extended Frequency Range Data

Specimen: Fresh Sod - Fescue Mix (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-22, 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	-16.71	-0.23
40	-0.47	-0.01
50	-2.27	-0.03
63	-1.50	-0.02
80	12.36	0.17
100	5.81	0.08
125	6.99	0.10
160	8.76	0.12
200	12.24	0.17
250	16.83	0.23
315	21.92	0.30
400	27.15	0.37
500	37.47	0.51
630	44.23	0.60
800	51.37	0.70
1000	57.08	0.78
1250	60.67	0.83
1600	63.00	0.86
2000	66.22	0.90
2500	68.37	0.93
3150	72.01	0.98
4000	72.52	0.99
5000	74.70	1.02
6300	80.17	1.09
8000	80.91	1.10
10000	80.85	1.10
12500	86.90	1.18

1512 S BATAVIA AVENUE
GENEVA, IL 60134

630-232-0104

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

APPENDIX B: Instruments of Traceability

Specimen: Fresh Sod - Fescue Mix (See Full Report)

Description	Model	Serial Number	Date of Certification	Calibration Due
System 1	Type 3160-A-042	3160-106968	2021-07-01	2022-07-01
Bruel & Kjaer Mic And Preamp A	Type 4943-B-001	2311428	2021-07-13	2022-07-13
Bruel & Kjaer Pistonphone	Type 4228	2781248	2021-08-13	2022-08-13
EXTECH Hygro 959	SD700	A099959	2022-03-22	2023-03-22

APPENDIX C: Revisions to Original Test Report

Specimen: Fresh Sod - Fescue Mix (See Full Report)

Date	Revision
2022-06-15	Original report issued

END