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

An A L I O N Technical Center

Test Report

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FOUNDED 1918 BY
WALLACE CLEMENT SABINE

SPONSOR: **Auralex Acoustics**
Indianapolis, IN

Sound Absorption
RAL™-A21-302

CONDUCTED: 2021-05-04

ON: B224 2 in. ProPanel

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 B224 2 in. ProPanel. 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:	Auralex B224 2 in. ProPanel
Face Material:	Guilford of Maine Spinel
Core Material:	Densified fiberglass board, density @ 96.1 kg/m^3 (6 lbs/ft^3)
Thickness:	50.8 mm (2 in.)
Manufacturer:	Auralex Acoustics

SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

Test Specimen

Materials:	Woven textile adhered to rigid fiberglass substrate with beveled edge Substrate exposed at underside
Dimensions:	8 @ 610 mm (24 in.) by 1219 mm (48 in.)
Thickness:	Maximum @ 50.9 mm (2.003 in.) Minimum at beveled edge @ 25 mm (0.984 in.)
Overall Weight:	30.84 kg (68 lbs)
Installation:	Face with exposed substrate mated to horizontal test surface

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Overall Specimen Properties

Size:	2.44 m (96.0 in) wide by 2.44 m (96.0 in) long
Thickness:	50.9 mm (2.003 in)
Weight:	30.84 kg (68.0 lbs)
Mass per Unit Area:	5.19 kg/m² (1.06 lbs/ft²)
Calculation Area:	5.946 m² (64 ft²)

Test Environment

Room Volume:	291.98 m³
Temperature:	21.8 °C ± 0.0 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity:	63.75 % ± 2.7 % (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. Per sponsor request, the perimeter edges were left exposed, as would be typical of a field installation of the product under test.

Figure 1 – Specimen mounted in test chamber

Figure 2 – Detail of face material, beveled edge

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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	1.30	14.04	0.22
** 125	1.83	19.72	0.31
160	2.23	24.01	0.38
200	3.37	36.24	0.57
** 250	3.84	41.32	0.65
315	5.53	59.49	0.93
400	6.34	68.25	1.07
** 500	7.05	75.93	1.19
630	7.18	77.30	1.21
800	7.42	79.85	1.25
** 1000	7.38	79.40	1.24
1250	7.36	79.18	1.24
1600	7.01	75.42	1.18
** 2000	6.78	72.99	1.14
2500	6.76	72.72	1.14
3150	6.56	70.64	1.10
** 4000	6.74	72.57	1.13
5000	6.90	74.30	1.16

SAA = 1.07
NRC = 1.05

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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

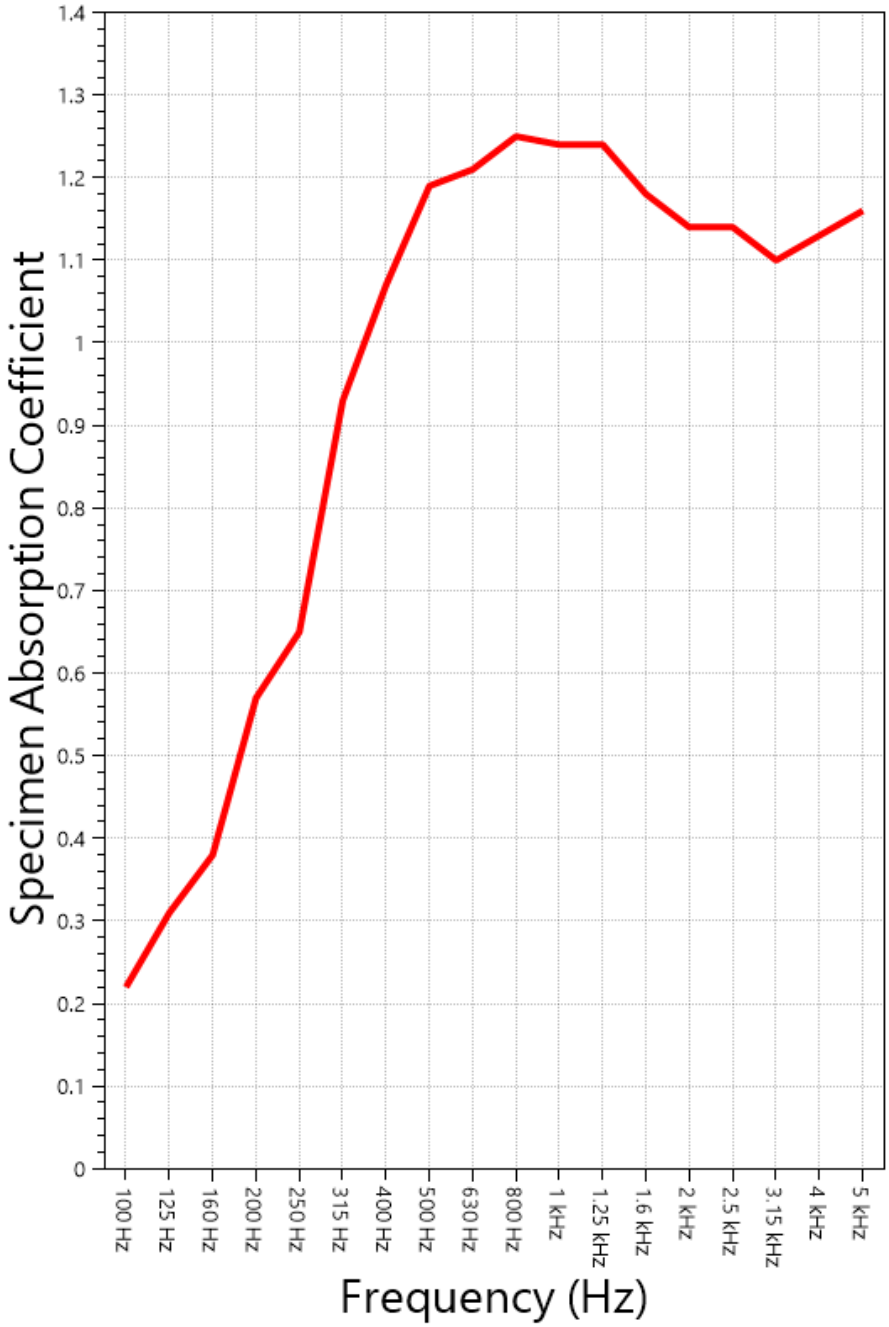
Report by _____
Malcolm Kelly
Acoustical Test Engineer

Approved by _____
Eric P. Wolfram
Laboratory Manager

Digitally signed by Eric P Wolfram
Date: 2021.05.11 15:27:31 -05'00'

SOUND ABSORPTION REPORT

B224 2 in. ProPanel



SAA = 1.07
NRC = 1.05

APPENDIX A: Extended Frequency Range Data

Specimen: B224 2 in. ProPanel (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	-1.51	-0.02
40	1.26	0.02
50	3.97	0.06
63	2.43	0.04
80	-4.94	-0.08
100	14.04	0.22
125	19.72	0.31
160	24.01	0.38
200	36.24	0.57
250	41.32	0.65
315	59.49	0.93
400	68.25	1.07
500	75.93	1.19
630	77.30	1.21
800	79.85	1.25
1000	79.40	1.24
1250	79.18	1.24
1600	75.42	1.18
2000	72.99	1.14
2500	72.72	1.14
3150	70.64	1.10
4000	72.57	1.13
5000	74.30	1.16
6300	73.34	1.15
8000	79.23	1.24
10000	79.30	1.24
12500	85.67	1.34

APPENDIX B: Instruments of Traceability

Specimen: B224 2 in. ProPanel (See Full Report)

Description	Model	Serial Number	Date of Certification	Calibration Due
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
EXTECH Hygro 639	SD700	A.103639	2020-12-18	2021-12-18

APPENDIX C: Revisions to Original Test Report

Specimen: B224 2 in. ProPanel (See Full Report)

Date	Revision
2021-05-11	Original report issued

END