

Test Report

FOR: **AcoustiMac, LLC**
Tampa, FL.

Sound Absorption
RAL™-A15-258

CONDUCTED: 2015-09-14

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ON: Sound Lock/Space Divider/Partition - Wood Framed Sound Proofing Panel - Fabric Both Sides

TEST METHOD

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 17025:2005 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM C423-09a: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-05(2012): "Standard Practices for Mounting Test Specimens During Sound Absorption Tests." A description of the measuring procedure and room qualifications is available upon request.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Sound Lock/Space Divider/Partition - Wood Framed Sound Proofing Panel -Fabric Both Sides. A full internal inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Frame

Overall Size: 1.21 m (47.75 in.) wide by 2.43 m (95.75 in.) long

Overall Thickness: 57.15 mm (2.25 in.)

Note: A 54.0 mm (2.13 in.) wide by 5.0 mm (0.20 in.) thick plywood lined the perimeter of the frame on one side only.

Insulated Core

Layer 1:

Material: Mineral wool insulation

Thickness: 25.40 mm (1.0 in.)⁺

Density: 96.11 kg/m³ (6.0 lbs./ft³)

Layer 2:

Material: Mass-loaded vinyl

Thickness: 2.48 m (0.10 in.)

Density: 16.02 kg/m³ (1.0 lbs./ft³)*

Layer 3:

Material: Mineral wool insulation

Thickness: 25.40 mm (1.0 in.)⁺

Density: 96.11 kg/m³ (6.0 lbs./ft³)



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Fabric Face

Material: Permiabile fabric
Thickness: 1.36 mm (0.05 in.)⁺

Note: The entire specimen was wrapped in the permiabile fabric. The fabric was fastened to the frame using staples.

Physical Measures

Size: 1.21 m (47.75 in.) wide by 2.43 m (95.75 in.) long
Thickness: 59.88 mm (2.36 in.)⁺
Weight: 27.67 kg (61.00 lbs.)
Mass per Unit Area: 9.37 kg/m² (1.92 lbs./ft²)
Area: 5.90 m² (63.50 ft²)

Test Environment

Volume: 292.0 m³ (10,311.0 ft³)
Temperature: 22.3±0.0°C (72.2±0.0°F)
Humidity: 57.4±0.1%
Barometric Pressure: 98.9 kPa.

* = Information provided by manufacturer and not verified by RAL.

+ = Approximate measurement; measurement varied.



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Figure 1 - Specimen mounted in the test chamber.



Figure 2 - Detail of the test specimen.



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Figure 3 - Detail of the insulated core.



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MOUNTING METHOD

Type K Mounting: The specimen was placed in the reverberation room in the upright position at an oblique angle to and at least 1.52 m (60 in.) from all walls. The perimeter edges were exposed, as would be typical of an actual installation of this specimen.

TEST RESULTS

1/3 Octave Center Frequency (Hz)	Total Absorption (SI) (m ²)	Total Absorption (IP) (Sabins)	Absorption Coefficient (Sabins / ft ²)
100	1.10	11.81	0.19
** 125	1.01	10.92	0.17
160	1.46	15.66	0.25
200	1.85	19.95	0.31
** 250	2.15	23.12	0.36
315	2.96	31.85	0.50
400	3.58	38.52	0.61
** 500	4.82	51.86	0.82
630	5.33	57.34	0.90
800	5.57	59.94	0.94
** 1000	5.73	61.69	0.97
1250	5.67	61.05	0.96
1600	5.64	60.67	0.96
** 2000	5.45	58.65	0.92
2500	5.26	56.58	0.89
3150	5.39	58.00	0.91
** 4000	5.34	57.44	0.90
5000	5.39	58.05	0.91

SAA = 0.76
NRC = 0.75



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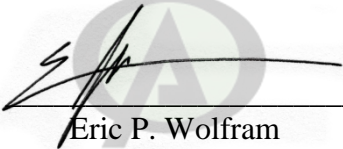
TEST RESULTS (Continued)

The sound absorption average (SAA) is defined as a single number rating, the average, rounded to the nearest 0.01, of the sound absorption coefficient of a material for the twelve one-third octave bands from 200 through 2500 Hz, inclusive.

The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by 
Marc Sciaky
Experimentalist

Report by 
Chris Nottoli
Acoustician

Approved by 
Eric P. Wolfram
Laboratory Manager



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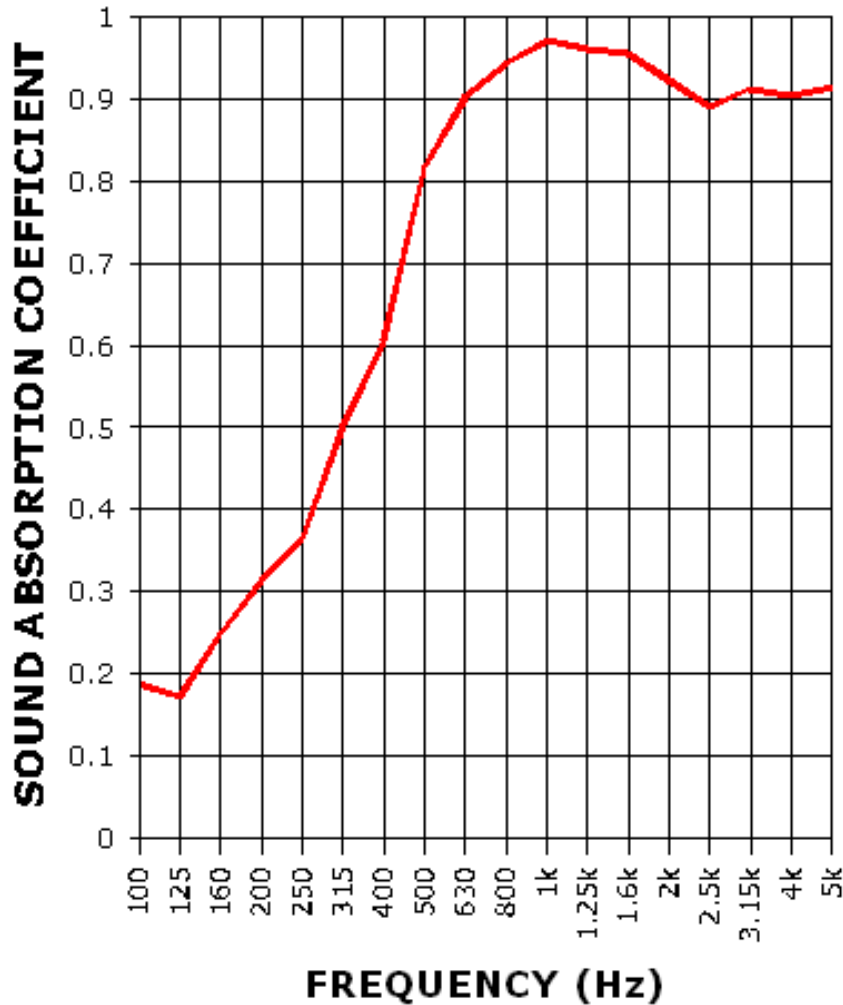
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SOUND ABSORPTION REPORT

Sound Lock/Space Divider/Partition - Wood Framed Sound Proofing Panel -Fabric Both Sides



SAA = 0.76
NRC = 0.75



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APPENDIX A: Extended Frequency Range Data

Specimen: Sound Lock/Space Divider/Partition - Wood Framed Sound Proofing Panel -Fabric Both Sides
 (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-09a, 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 (Sabins / ft ²)
31.5	25.23	0.40
40	-9.24	-0.15
50	24.49	0.39
63	14.00	0.22
80	5.54	0.09
100	11.81	0.19
125	10.92	0.17
160	15.66	0.25
200	19.95	0.31
250	23.12	0.36
315	31.85	0.50
400	38.52	0.61
500	51.86	0.82
630	57.34	0.90
800	59.94	0.94
1000	61.69	0.97
1250	61.05	0.96
1600	60.67	0.96
2000	58.65	0.92
2500	56.58	0.89
3150	58.00	0.91
4000	57.44	0.90
5000	58.05	0.91
6300	56.48	0.89
8000	59.76	0.94
10000	61.33	0.97
12500	54.31	0.86



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APPENDIX B: Instruments of Traceability

Specimen: Sound Lock/Space Divider/Partition - Wood Framed Sound Proofing Panel -Fabric Both Sides
(See Full Report)

<u>Description</u>	<u>Model</u>	<u>Serial Number</u>	<u>Date of Certification</u>	<u>Calibration Due</u>
Bruel & Kjaer Pulse Analyzer	Type 3560-C	2647140	2015-04-08	2016-04-08
Bruel & Kjaer Mic And Preamp	Type 4943-B-001	2311427	2015-07-27	2016-07-27
Bruel & Kjaer Sound Level Calibrator	Type 4230	861609	2015-03-17	2016-03-17
Omega Digital Temp., Humid. And Pressure Recorder	OM-CP-PRHTemp2000	N11105	2014-09-30	2015-09-30

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