

Test Report

FOR: **GIK Acoustics**
Atlanta, GA

Sound Absorption
RAL™-A16-291

CONDUCTED: 2016-10-14

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ON: D-GIK Panels

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 D-GIK Panels. A full internal inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Specimen

Overall Dimensions: 8 @ 1219.2 mm (48 in.) x 603.25 mm (23.75 in.)
Overall Thickness: 109.73 mm (4.32 in.)
Weight: 67.02 kg (147.75 lbs.)
Face Material: Wood
Face Thickness: 5.66 mm (0.223 in.)
Backing: Fiberglass
Backing Thickness: 102.5 mm (4.035 in.)
Face Perforations:
Diameter: 9 @ 74.68 mm (2.94 in.), 8 @ 125.48 mm (4.94 in.)
4 @ 176.28 mm (6.94 in.), 8 @ 49.28 mm (1.94 in.)
Open Area: 0.25 m² (2.70 ft²)



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THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SPECIMEN.

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Physical Measures

Size: 2.41 m (95.00 in.) wide by 2.44 m (96.00 in.) long
Thickness: 111.13 mm (4.38 in.)
Weight: 67.02 kg (147.75 lbs.)
Mass per Unit Area: 11.38 kg/m² (2.33 lbs./ft²)
Area: 5.88 m² (63.30 ft²)

Test Environment

Volume: 292.0 m³ (10,311.0 ft³)
Temperature: 21.1±0.0°C (70.0±0.0°F) (Requirement: ≥10° C and ≤ 5° C change)
Humidity: 59.5±0.5% (Requirement: ≥40% RH and ≤ 5% change)
Barometric Pressure: 99.5 kPa. (Requirement not defined)



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Figure 1 - Specimen mounted in the test chamber.

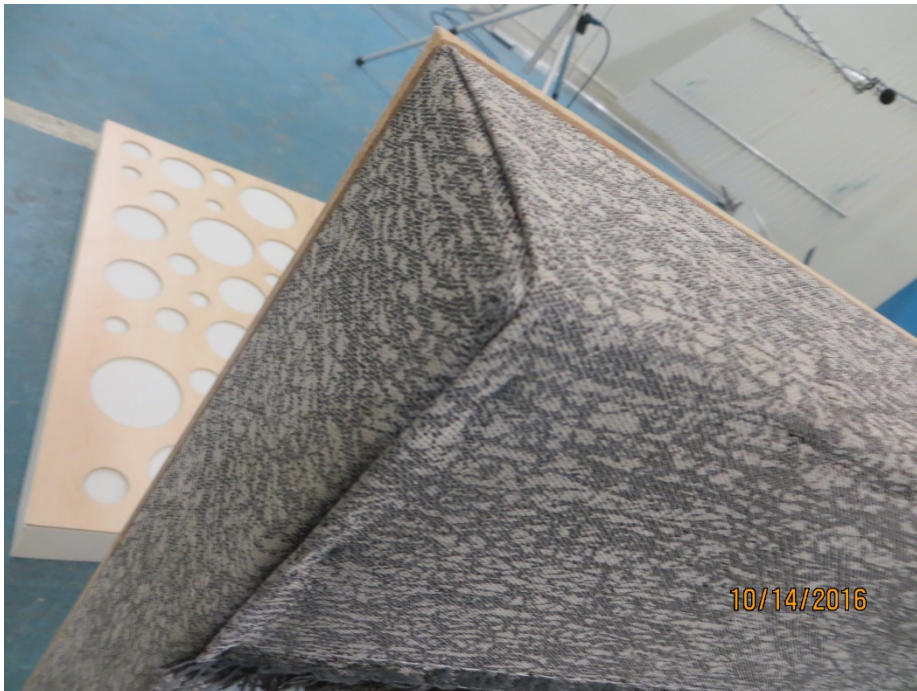


Figure 2 - Detail of the test specimen.



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MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. 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	6.21	66.90	1.06
** 125	6.81	73.31	1.16
160	6.36	68.41	1.08
200	7.20	77.48	1.22
** 250	7.17	77.23	1.22
315	6.58	70.79	1.12
400	6.34	68.29	1.08
** 500	5.79	62.30	0.98
630	5.55	59.73	0.94
800	5.24	56.43	0.89
** 1000	4.98	53.55	0.85
1250	4.59	49.38	0.78
1600	4.26	45.89	0.72
** 2000	3.93	42.33	0.67
2500	3.69	39.69	0.63
3150	3.43	36.92	0.58
** 4000	3.28	35.29	0.56
5000	3.30	35.54	0.56

SAA = 0.93
NRC = 0.95



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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.

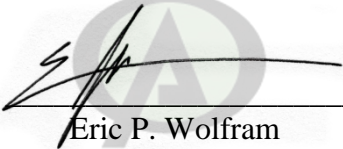
The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by 

Dean Victor
Senior Experimentalist

Report by 

Miles Possing
Acoustician

Approved by 

Eric P. Wolfram
Laboratory Manager



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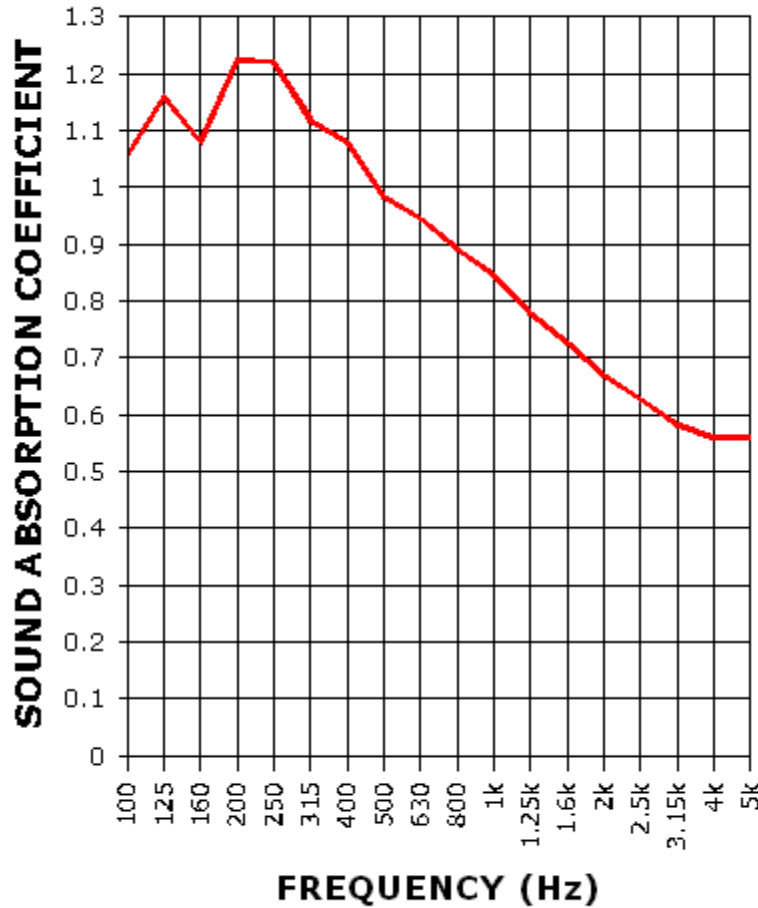
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SOUND ABSORPTION REPORT
D-GIK Panels



SAA = 0.93
NRC = 0.95



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APPENDIX A: Extended Frequency Range Data

Specimen: D-GIK Panels (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	3.05	0.05
40	11.76	0.19
50	4.19	0.07
63	8.78	0.14
80	30.63	0.48
100	66.90	1.06
125	73.31	1.16
160	68.41	1.08
200	77.48	1.22
250	77.23	1.22
315	70.79	1.12
400	68.29	1.08
500	62.30	0.98
630	59.73	0.94
800	56.43	0.89
1000	53.55	0.85
1250	49.38	0.78
1600	45.89	0.72
2000	42.33	0.67
2500	39.69	0.63
3150	36.92	0.58
4000	35.29	0.56
5000	35.54	0.56
6300	34.68	0.55
8000	36.72	0.58
10000	34.52	0.55
12500	36.95	0.58



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APPENDIX B: Instruments of Traceability

Specimen: D-GIK Panels (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 - System3	Type 3560-C	2647140	2016-04-12	2017-04-12
Bruel & Kjaer Mic And Preamp C	Type 4943-B-001	2311439	2016-03-17	2017-03-17
Bruel & Kjaer Pistonphone	Type 4228	2781248	2016-07-25	2017-07-25
Bruel & Kjaer type 4228	UZ 0004	27812248	2016-07-25	2017-07-25

END



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