

Test ReportFOR: **ACUSTEC SAS**
Bogota, Colombia**Sound Absorption**
RAL™-A16-296

CONDUCTED: 2016-10-21

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ON: Sonoacoustic® 50 mm

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 Sonoacoustic® 50 mm. A full internal inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Specimen

Material:	Flexible Polyurethane Foam (Espuma de Poliuretano Flexible)
Dimensions:	16 @ 609.6 mm (24 in.) x 609.6 mm (24 in.) 4 @ 304.8 mm (12 in.) x 609.6 mm (24 in.)
Max Thickness:	50 mm (1.969 in.)
Min Thickness:	22.5 mm (0.886 in.)
Nominal Density:	27 kg/m ³ *

Physical Measures

Size:	2.74 m (108.00 in.) wide by 2.44 m (96.00 in.) long
Thickness:	50.80 mm (2.00 in.)
Weight:	7.94 kg (17.50 lbs.)
Mass per Unit Area:	1.17 kg/m ² (0.24 lbs./ft ²)
Area:	6.69 m ² (72.00 ft ²)

Test Environment

Volume:	292.0 m ³ (10,311.0 ft ³)
Temperature:	21.4±0.0°C (70.6±0.0°F) (Requirement: ≥10° C and ≤5° C change)
Humidity:	63.6±1.4% (Requirement: ≥40% RH and ≤5% change)
Barometric Pressure:	99.6 kPa. (Requirement not defined)

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

+ = Approximate measurement; measurement varied.



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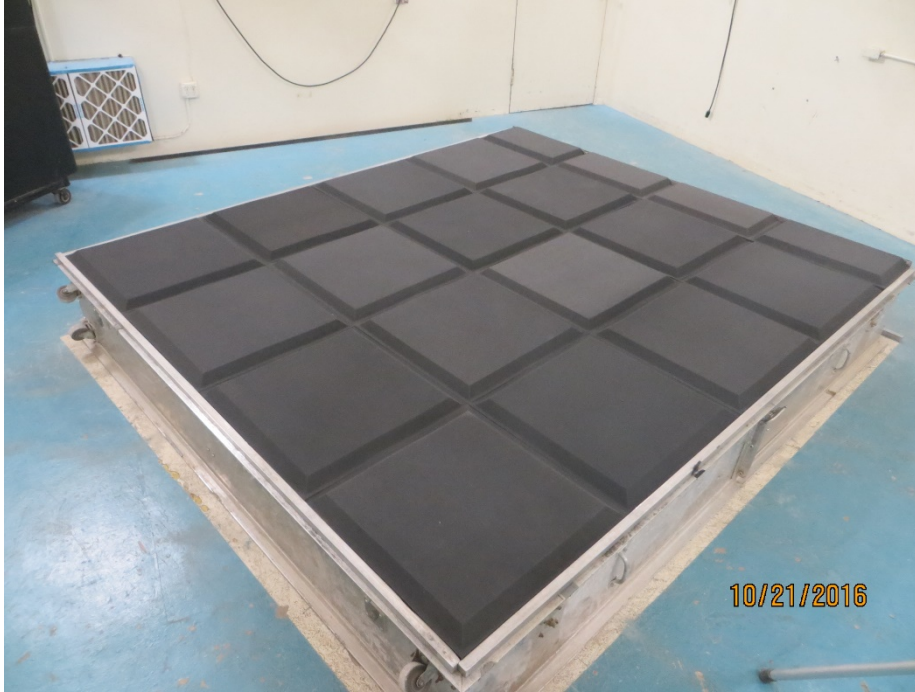


Figure 1 - Specimen mounted in the test chamber.

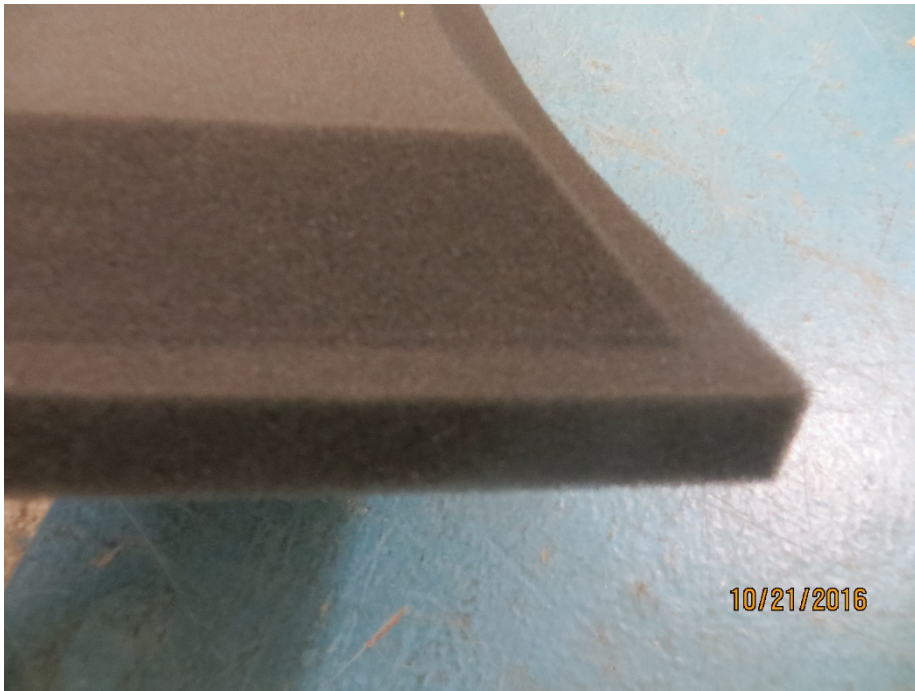


Figure 2 - Detail of the test specimen.



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Page 3 of 7**MOUNTING METHOD**

Type E-400 Mounting: The test specimen was mounted with an airspace behind it. The number designates the distance in mm from the exposed face of the test specimen to the test surface. The perimeter was sealed using metal framing.

TEST RESULTS

1/3 Octave Center Frequency (Hz)	Total Absorption (SI) (m ²)	Total Absorption (IP) (Sabins)	Absorption Coefficient (Sabins / ft ²)
100	6.36	68.49	0.95
** 125	5.56	59.82	0.83
160	3.81	41.04	0.57
200	5.20	55.98	0.78
** 250	4.94	53.19	0.74
315	4.12	44.30	0.62
400	3.88	41.71	0.58
** 500	4.17	44.86	0.62
630	5.00	53.86	0.75
800	5.25	56.52	0.78
** 1000	5.61	60.34	0.84
1250	5.65	60.80	0.84
1600	5.76	62.05	0.86
** 2000	5.97	64.25	0.89
2500	6.30	67.85	0.94
3150	6.50	69.98	0.97
** 4000	6.84	73.63	1.02
5000	7.07	76.08	1.06

SAA = 0.77
NRC = 0.75

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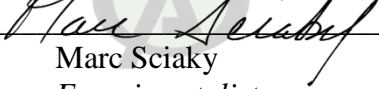
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TEST RESULTS (Continued)

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 
Miles Possing
Acoustician

Approved by 
Eric P. Wolfram
Laboratory Manager



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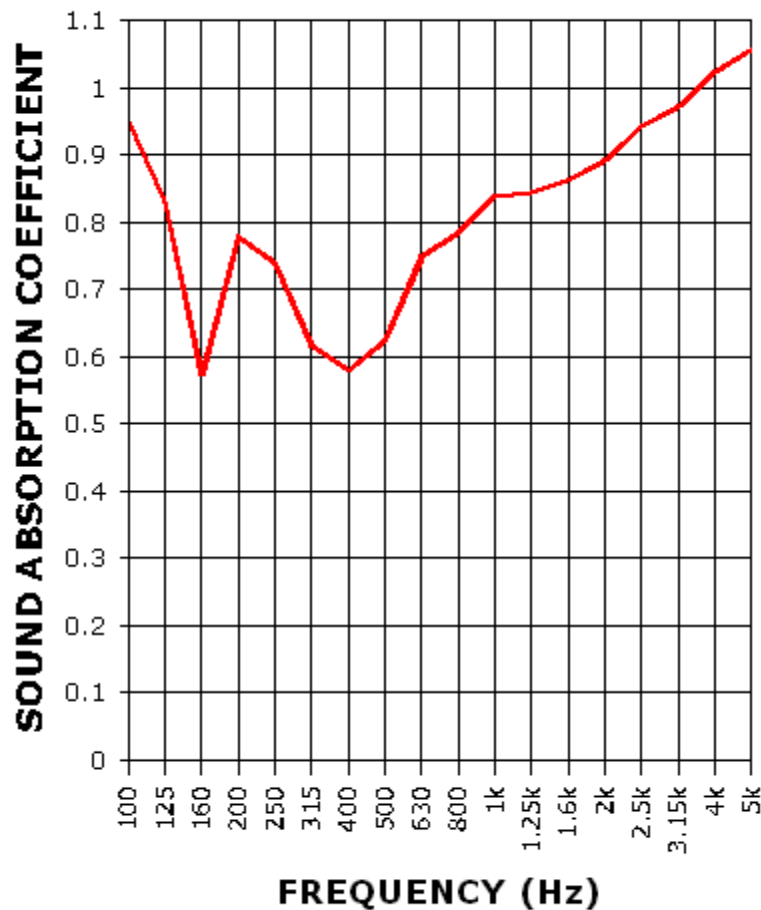
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SOUND ABSORPTION REPORT Sonoacoustic® 50 mm



SAA = 0.77

NRC = 0.75



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APPENDIX A: Extended Frequency Range Data

Specimen: Sonoacoustic® 50 mm (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	13.56	0.19
40	7.91	0.11
50	27.18	0.38
63	12.17	0.17
80	23.96	0.33
100	68.49	0.95
125	59.82	0.83
160	41.04	0.57
200	55.98	0.78
250	53.19	0.74
315	44.30	0.62
400	41.71	0.58
500	44.86	0.62
630	53.86	0.75
800	56.52	0.78
1000	60.34	0.84
1250	60.80	0.84
1600	62.05	0.86
2000	64.25	0.89
2500	67.85	0.94
3150	69.98	0.97
4000	73.63	1.02
5000	76.08	1.06
6300	79.77	1.11
8000	82.15	1.14
10000	84.23	1.17
12500	86.34	1.20



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APPENDIX B: Instruments of Traceability

Specimen: Sonoacoustic® 50 mm (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
EXTECH-Temp	SD700	A074985	2016-10-03	2017-10-03

END



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