



**G3294.01-113-11-R0
ACOUSTICAL PERFORMANCE TEST REPORT
ASTM C423**

Rendered to

NEW ENGLAND SOUNDPROOFING

SERIES/MODEL: REVRB TRADITIONAL SERIES

TYPE: Acoustic Panels

Summary of Test Results								
Data File No.	1/3 Octave Sound Absorption Coefficients at the Octave Band Frequencies						NRC	SAA
	125	250	500	1000	2000	4000		
G3294.01	0.25	0.84	1.14	1.10	1.04	1.11	1.05	1.03

Reference should be made to Intertek-ATI Report No. G3294.01-113-11 for complete test specimen description. This page alone is not a complete report.



Acoustical Performance Test Report

New England Soundproofing
190 Felton Street
Waltham, Massachusetts 02453

Report	G3294.01-113-11
Test Date	10/07/16
Report Date	10/20/16

Project Scope

Architectural Testing, Inc., an Intertek company ("Intertek-ATI"), was contracted to conduct a sound absorption test. The complete test data is included as Appendix B of this report. The client provided the test specimen.

Test Methods

Testing for this project was conducted in accordance with the following standards. The equipment listed in the attachments meets the requirements of the following standards.

ASTM C423-09a, *Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method*

ASTM E795-05 (2012), *Standard Practices for Mounting Test Specimens During Sound Absorption Tests*

Test Procedure

All measurements were conducted in the HT test chamber receive room at Intertek-ATI located in York, Pennsylvania. The sensitivity of the microphones was checked before measurements were conducted. Empty room sound absorption measurements were conducted before the specimen was installed. Full room sound absorption measurements were conducted after the specimen was installed.

For the empty and full room measurements, ten decay measurements were conducted at each of the five microphone positions. Data was obtained at 1/3 octave band frequencies ranging from 80 to 5000 hertz. The air temperature and relative humidity conditions were monitored and recorded during the measurements.

Specimen Mounting

For the Type F-5 mounting, the test specimen was suspended 5 mm above the floor of the reverberation room with the absorptive side facing the sound field. The perimeter of the specimen was with aluminum angle and duct tape.

Test Calculations

The Sound Absorption Coefficient is the full room absorption minus the empty room absorption divided by the area of the sample in m^2 . The Sound Absorption Coefficient is dimensionless.

The Noise Reduction Coefficient (NRC) rating is the arithmetic average of the sound absorption coefficients at 250, 500, 1000 and 2000 hertz. The average is rounded to the nearest multiple of 0.05.

The Sound Absorption Average (SAA) rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

The Sound Absorption Coefficient is the full room absorption minus the empty room absorption divided by the number of units being tested. The Sound Absorption Coefficient is dimensionless.

Specimen Description

Four, 1.22 m by 1.22 m panels, and two 1.22 m by 0.30 m panels were arranged to produce the 2.44 m by 2.74 m test specimen.

REVRB Traditional Series, acoustic panel is a high end, custom built acoustic panel. Each panel is 2" thick, hard edge, acoustically filled with high absorption insulation and wrapped in an acoustical cloth.*

* - Stated per Client/Manufacturer

The total weight of the specimen was 29.57 kg. Photographs are included in Appendix C.

Comments

The client did not supply a drawing of the test specimen.

Intertek-ATI will service this report for the entire test record retention period. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period. The test record retention period ends four years after the test date.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report is intended to help in the client's quality assurance program, but it does not represent a continuous or exhaustive evaluation of the specimen tested or of other products or materials that were not evaluated. The statements and data provided herein do not constitute approval, disapproval, certification, or acceptance of performance or materials.

This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For INTERTEK-ATI:

Sean G. Close
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Project Lead – Acoustical Testing

SGC:jmcs

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix A: Equipment description (1)

Appendix B: Complete test results (2)

Appendix C: Photographs (1)



Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
R0	10/20/16	N/A	Original Report Issue

Appendix A

Instrumentation:

Instrument	Manufacturer	Model	Description	ATI Number	Date of Calibration
Data Acquisition Unit	National Instruments	PXI-1033	Data Acquisition card	65126	05/16 *
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64902	12/15
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64903	12/15
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	65103	12/15
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64905	12/15
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64906	12/15
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	03/16
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	65105	05/16

*- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.

Test Chamber:

	Volume	Description
Receive Room	234 m ³ (8291.3 ft ³)	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor

N/A-Not Applicable



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Appendix B

Complete Test Results

SOUND ABSORPTION
ASTM C 423

Test Date	10/07/16	
ATI No.	G3294.01	
Client	New England Soundproofing	
Specimen	REVRB Traditional Series Acoustic Panels	
Operator	Sean G. Close	
Sample Area	6.69 m ²	
Mounting Type	F-5	
	Empty	Full
Temp C	23.2	23.6
RH %	55	54
B.P. (mb)	1015	

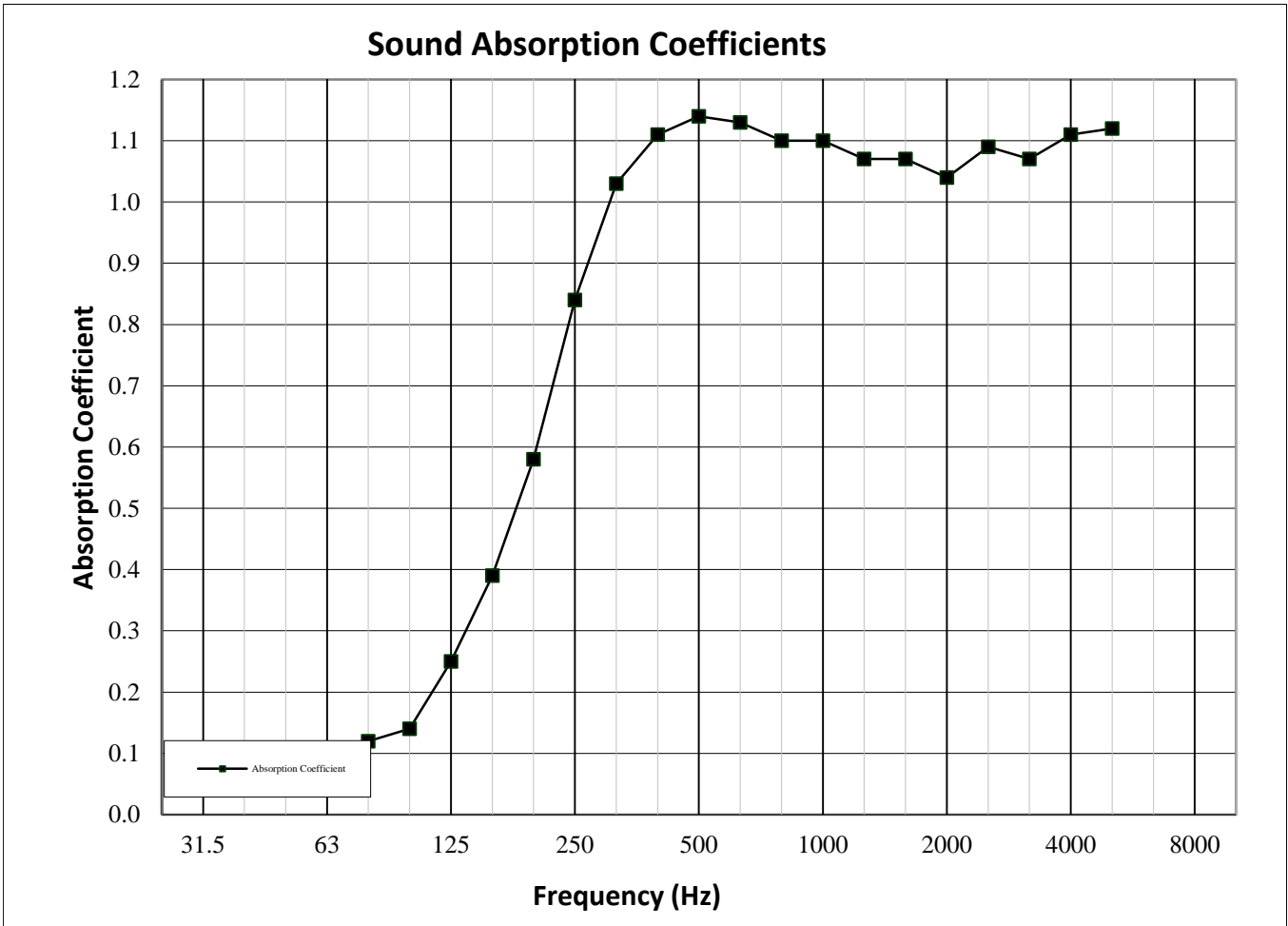
Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.22	0.227	5.00	0.365	0.12	0.064
100	4.89	0.380	5.84	0.338	0.14	0.076
125	4.73	0.368	6.40	0.369	0.25	0.078
160	4.13	0.248	6.74	0.128	0.39	0.042
200	4.15	0.129	8.05	0.119	0.58	0.026
250	4.55	0.067	10.14	0.052	0.84	0.013
315	4.65	0.127	11.51	0.025	1.03	0.019
400	4.82	0.026	12.24	0.046	1.11	0.008
500	4.77	0.067	12.41	0.058	1.14	0.013
630	4.35	0.044	11.91	0.015	1.13	0.007
800	4.46	0.028	11.82	0.030	1.10	0.006
1000	4.42	0.029	11.78	0.025	1.10	0.006
1250	4.74	0.028	11.90	0.015	1.07	0.005
1600	4.74	0.031	11.87	0.018	1.07	0.005
2000	4.58	0.015	11.55	0.024	1.04	0.004
2500	4.76	0.012	12.06	0.117	1.09	0.018
3150	5.23	0.015	12.39	0.005	1.07	0.002
4000	5.41	0.011	12.82	0.006	1.11	0.002
5000	5.76	0.013	13.27	0.003	1.12	0.002

NRC Rating **1.05** *(Noise Reduction Coefficient)*
SAA Rating **1.03** *(Sound Absorption Average)*

- Notes:
- 1) The NRC rating is the arithmetic average of the sound absorption coefficients at 250, 500, 1000, and 2000 hertz. The average is rounded to the nearest multiple of 0.05.
 - 2) The SAA rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

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ASTM C 423

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Specimen	REVRB Traditional Series Acoustic Panels	
Operator	Sean G. Close	
Sample Area	6.69 m ²	
Mounting Type	F-5	
	Empty	Full
Temp C	23.2	23.6
RH %	55	54
B.P. (mb)	1015	



Appendix C

Photographs



View of Installed Specimen



Side View of Specimen