



E6458.01-113-11-R0
ACOUSTICAL PERFORMANCE TEST REPORT
ASTM C423

Rendered to

LOFTwall, Inc.

Type: Various Office Screens

Summary of Test Results									
Data File Number	Series / Model	1/3 Octave Sound Absorption Coefficients at the Octave Band Frequencies						NRC	SAA
		125	250	500	1000	2000	4000		
E6458.01A	Wave Screen	0.00	0.06	0.13	0.05	0.02	0.01	0.05	0.07
E6458.01B	Tackable Felt Panel	0.03	0.08	0.09	0.09	0.12	0.25	0.10	0.11
E6458.01C	Recycled Sound Board	0.22	0.38	0.42	0.47	0.52	0.60	0.45	0.46
E6458.01D	Foam Molded Panel	0.05	0.04	0.05	0.07	0.21	0.36	0.10	0.11
E6458.01E	Flex Screen	0.03	0.03	0.03	0.05	0.08	0.23	0.05	0.06
E6458.01F	Monument	0.09	0.19	0.40	0.61	0.69	0.80	0.45	0.49

Reference should be made to Intertek-ATI Report No. E6458.01-113-11 for complete test specimen description. This page alone is not a complete report.



Acoustical Performance Test Report

LOFTwall, Inc.
4705 Vicksburg Street
Dallas, Texas 75207

Report	E6458.01-113-11
Test Date	05/06/15
Report Date	05/20/15

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 K mounting, the test specimens were freestanding in the reverberation room. All units were able to stand independently by design.

Test Calculations

The Sound Absorption Coefficient is the full room absorption minus the empty room absorption divided by the area of the sample in m². 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.

Sample Description

The client identified each test specimen with a series/model. A description of each specimen was not provided. The client did not supply a report drawing of the test specimen. The specimens were returned per the client's request.

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.

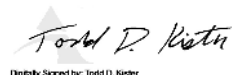
This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report is intended to help in the client's quality assurance program, but it does not 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:


Digitally Signed by: Eric Thompson

Eric A. Thompson
Technician - Acoustical Testing


Digitally Signed by: Todd D. Kister

Todd D. Kister
Laboratory Supervisor – Acoustical Testing

EAT:jmcs

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

- Appendix-A: Equipment description (1)
- Appendix-B: Complete test results (12)
- Appendix-C: Photographs (3)



Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
R0	05/20/15	N/A	Original Report Issue



E6458.01 -113-11

Appendix A

Instrumentation:

Instrument	Manufacturer	Model	Description	ATI Number	Date of Calibration
Data Acquisition Unit	National Instruments	PXI-1033	Data Acquisition card	65127	04/14 *
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64907	11/14
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	11/14
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	11/14
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	11/13
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	11/14
Receive Room Environmental Indicator	Vaisala	HMW92	Temperature Humidity Sensor	64286	06/14
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	65105	04/15

*- 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-Non Applicable



E6458.01-113-11-R0

Appendix B

Complete Test Results



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01A	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Wave Screen	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21	21
RH %	49	48
B.P. (mb)	1023	

Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.52	0.556	4.41	0.544	0.00	0.116
100	4.49	0.499	4.50	0.317	0.00	0.088
125	4.35	0.272	4.36	0.351	0.00	0.066
160	4.26	0.212	4.40	0.167	0.02	0.040
200	4.13	0.130	4.34	0.227	0.03	0.039
250	4.47	0.082	4.87	0.085	0.06	0.018
315	4.84	0.049	5.54	0.075	0.11	0.013
400	5.01	0.054	5.88	0.071	0.13	0.013
500	5.05	0.036	5.91	0.070	0.13	0.012
630	4.63	0.036	5.47	0.026	0.12	0.007
800	4.64	0.030	5.12	0.036	0.07	0.007
1000	4.74	0.028	5.10	0.017	0.05	0.005
1250	5.24	0.016	5.45	0.022	0.03	0.004
1600	5.27	0.030	5.47	0.009	0.03	0.005
2000	5.16	0.004	5.26	0.123	0.02	0.018
2500	5.36	0.018	5.80	0.338	0.07	0.050
3150	5.82	0.003	5.97	0.011	0.02	0.002
4000	6.01	0.008	6.11	0.009	0.01	0.002
5000	6.39	0.006	6.50	0.010	0.02	0.002

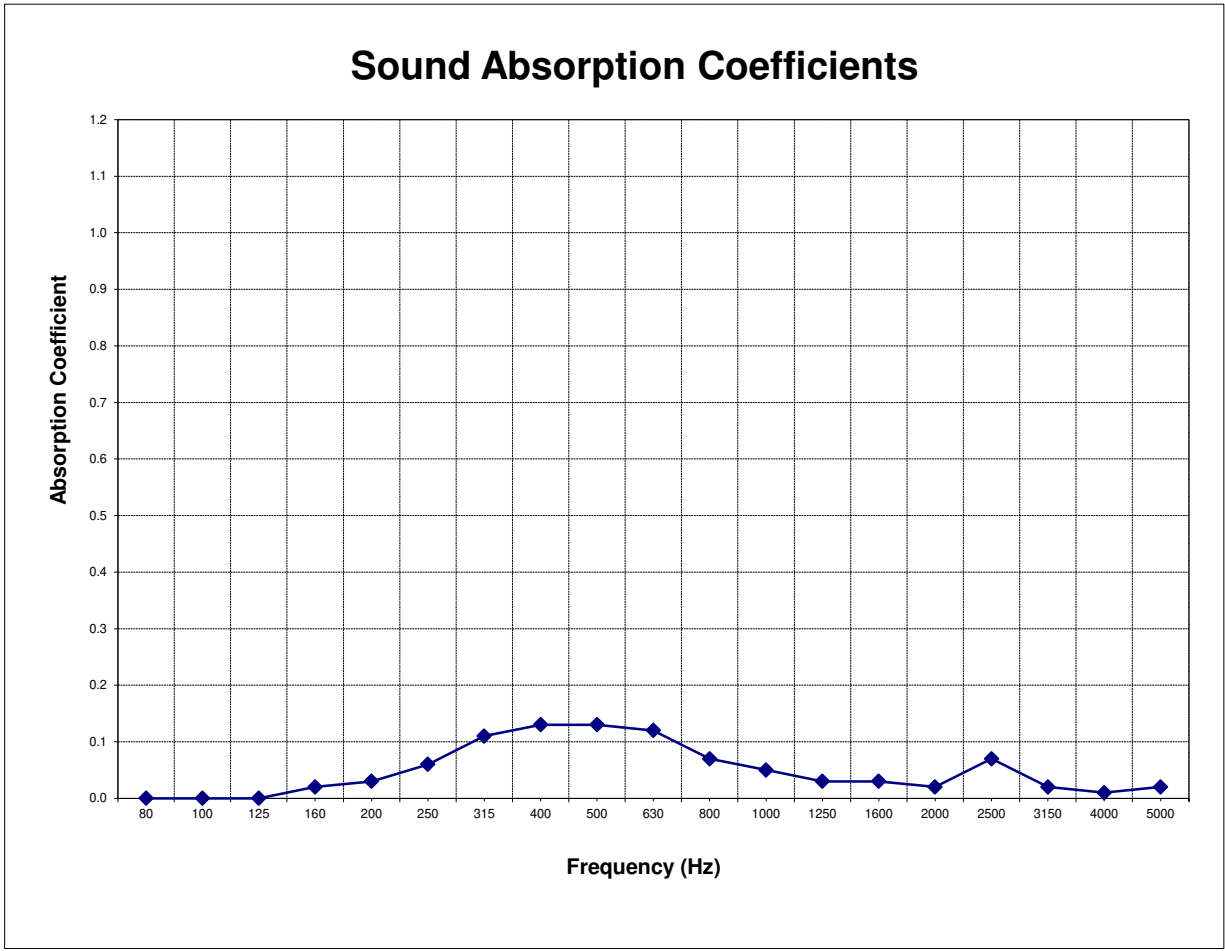
NRC Rating **0.05** *(Noise Reduction Coefficient)*
SAA Rating **0.07** *(Sound Absorption Average)*

- 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.



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01A	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Wave Screen	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21.0	20.9
RH %	49	48
B.P. (mb)	1023	





SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01B	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Tackable Felt Panel	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21	22
RH %	49	48
B.P. (mb)	1023	

Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.52	0.556	4.92	0.270	0.06	0.092
100	4.49	0.499	4.67	0.349	0.03	0.091
125	4.35	0.272	4.54	0.315	0.03	0.062
160	4.26	0.212	4.69	0.164	0.06	0.040
200	4.13	0.130	4.86	0.095	0.11	0.024
250	4.47	0.082	5.03	0.068	0.08	0.016
315	4.84	0.049	5.43	0.079	0.09	0.014
400	5.01	0.054	5.59	0.085	0.09	0.015
500	5.05	0.036	5.63	0.067	0.09	0.011
630	4.63	0.036	5.17	0.024	0.08	0.006
800	4.64	0.030	5.22	0.006	0.09	0.005
1000	4.74	0.028	5.35	0.018	0.09	0.005
1250	5.24	0.016	5.92	0.023	0.10	0.004
1600	5.27	0.030	6.05	0.016	0.12	0.005
2000	5.16	0.004	5.97	0.147	0.12	0.022
2500	5.36	0.018	6.85	0.310	0.22	0.046
3150	5.82	0.003	7.27	0.008	0.22	0.001
4000	6.01	0.008	7.71	0.009	0.25	0.002
5000	6.39	0.006	8.33	0.007	0.29	0.001

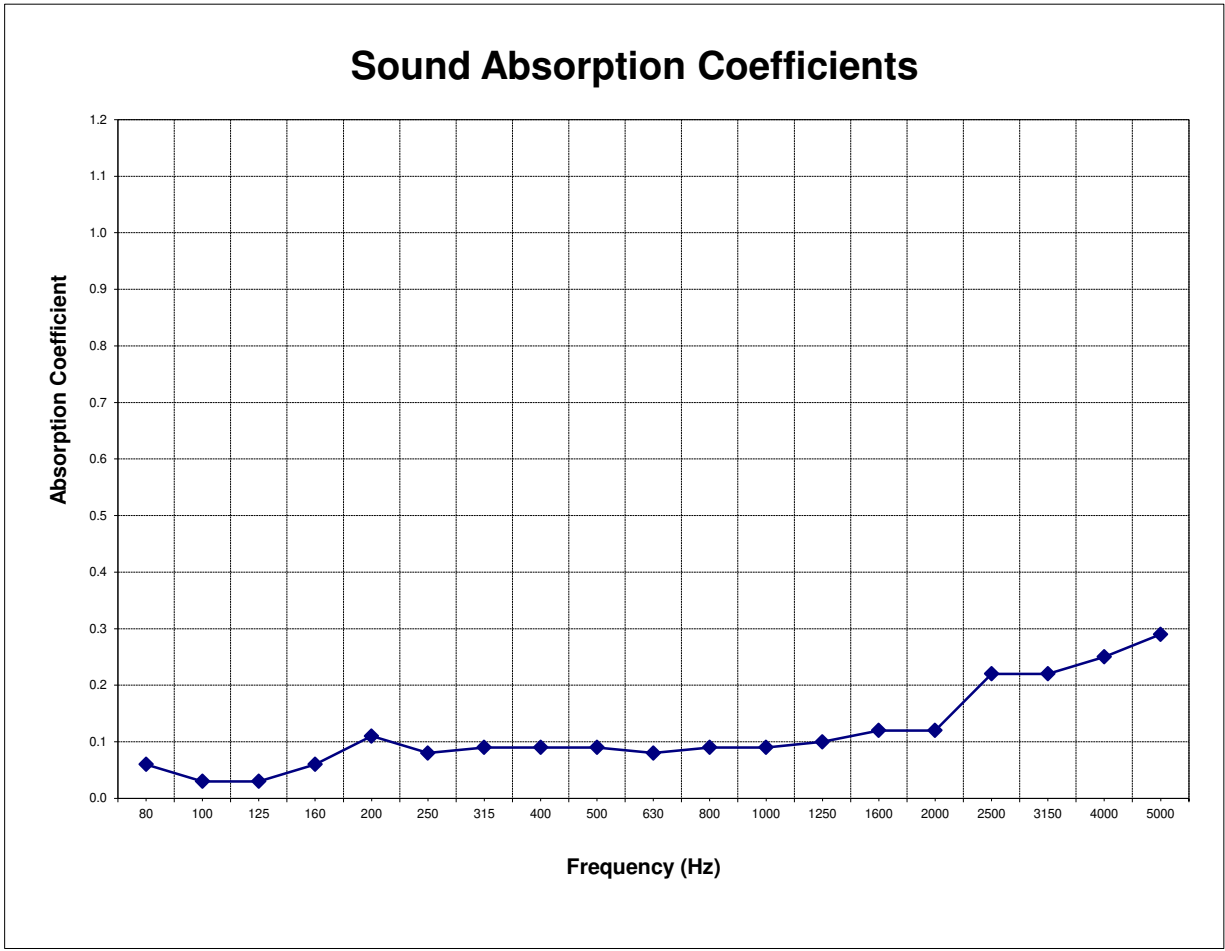
NRC Rating **0.10** *(Noise Reduction Coefficient)*
SAA Rating **0.11** *(Sound Absorption Average)*

- 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.



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01B	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Tackable Felt Panel	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21.0	21.7
RH %	49	48
B.P. (mb)	1023	





SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01C	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Recycled Sound Board	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21	22
RH %	52	51
B.P. (mb)	1023	

Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.52	0.556	6.01	0.159	0.22	0.086
100	4.50	0.499	5.74	0.445	0.19	0.100
125	4.36	0.272	5.86	0.510	0.22	0.086
160	4.27	0.212	6.25	0.166	0.30	0.040
200	4.14	0.130	6.43	0.160	0.34	0.031
250	4.48	0.082	7.06	0.080	0.38	0.017
315	4.85	0.049	7.50	0.065	0.40	0.012
400	5.02	0.054	7.77	0.041	0.41	0.010
500	5.06	0.036	7.88	0.071	0.42	0.012
630	4.64	0.036	7.61	0.030	0.44	0.007
800	4.64	0.030	7.72	0.024	0.46	0.006
1000	4.74	0.028	7.88	0.014	0.47	0.005
1250	5.25	0.016	8.52	0.023	0.49	0.004
1600	5.29	0.030	8.76	0.025	0.52	0.006
2000	5.21	0.004	8.72	0.066	0.52	0.010
2500	5.44	0.018	9.54	0.182	0.61	0.027
3150	5.97	0.003	9.88	0.011	0.58	0.002
4000	6.26	0.008	10.25	0.005	0.60	0.001
5000	6.77	0.006	10.79	0.011	0.60	0.002

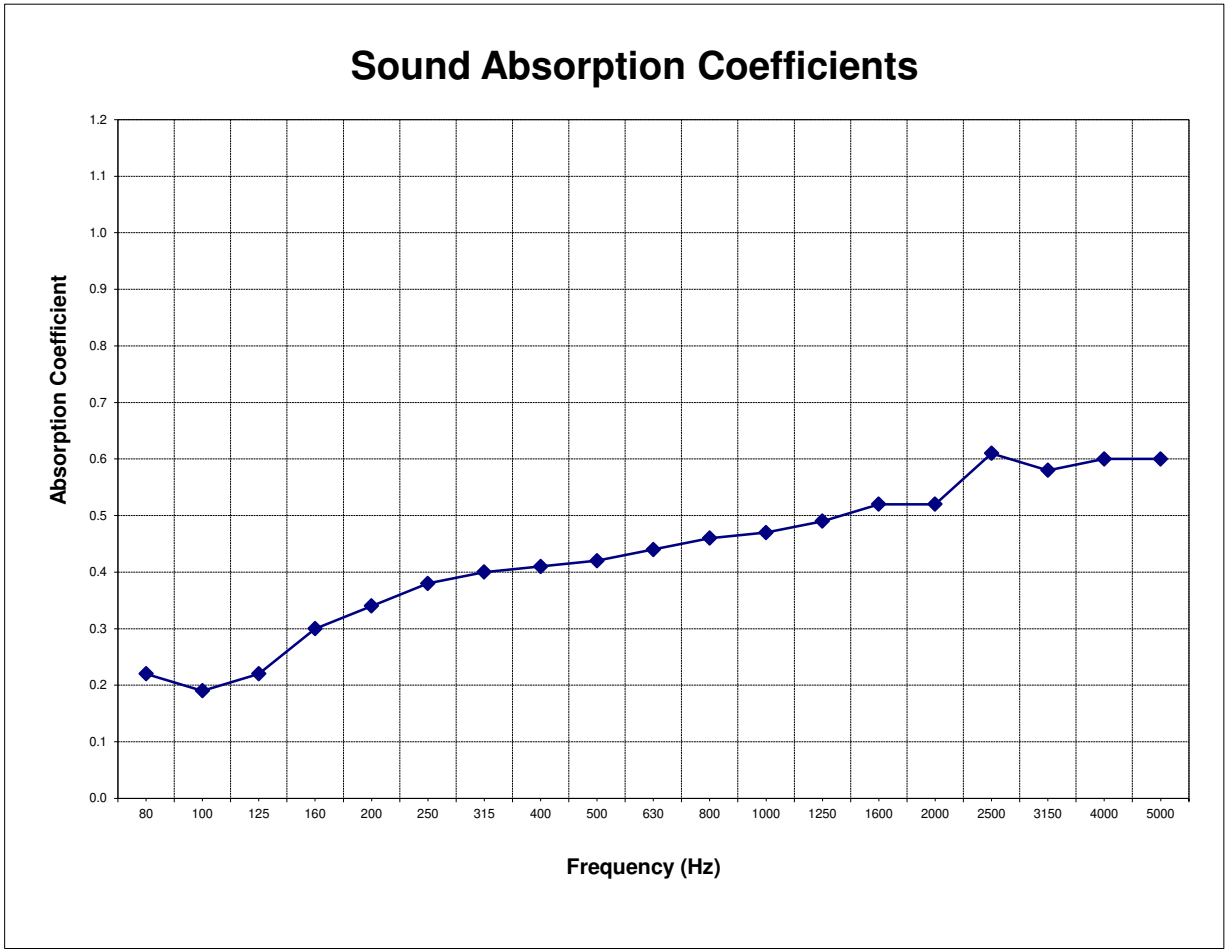
NRC Rating **0.45** *(Noise Reduction Coefficient)*
SAA Rating **0.46** *(Sound Absorption Average)*

- 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.



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01C	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Recycled Sound Board	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	20.7	21.7
RH %	52	51
B.P. (mb)	1023	



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01D	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Foam Molded Panel	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21	22
RH %	52	51
B.P. (mb)	1023	

Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.52	0.556	5.19	0.342	0.10	0.097
100	4.50	0.499	4.85	0.295	0.05	0.086
125	4.36	0.272	4.68	0.279	0.05	0.058
160	4.27	0.212	4.43	0.188	0.02	0.042
200	4.14	0.130	4.37	0.127	0.03	0.027
250	4.48	0.082	4.76	0.073	0.04	0.016
315	4.85	0.049	5.14	0.069	0.04	0.013
400	5.02	0.054	5.32	0.067	0.04	0.013
500	5.06	0.036	5.38	0.087	0.05	0.014
630	4.64	0.036	4.95	0.029	0.05	0.007
800	4.64	0.030	5.06	0.018	0.06	0.005
1000	4.74	0.028	5.23	0.019	0.07	0.005
1250	5.25	0.016	5.94	0.017	0.10	0.004
1600	5.29	0.030	6.34	0.007	0.16	0.005
2000	5.21	0.004	6.62	0.234	0.21	0.035
2500	5.44	0.018	8.42	0.182	0.44	0.027
3150	5.97	0.003	8.47	0.011	0.37	0.002
4000	6.26	0.008	8.69	0.006	0.36	0.002
5000	6.77	0.006	9.02	0.011	0.33	0.002

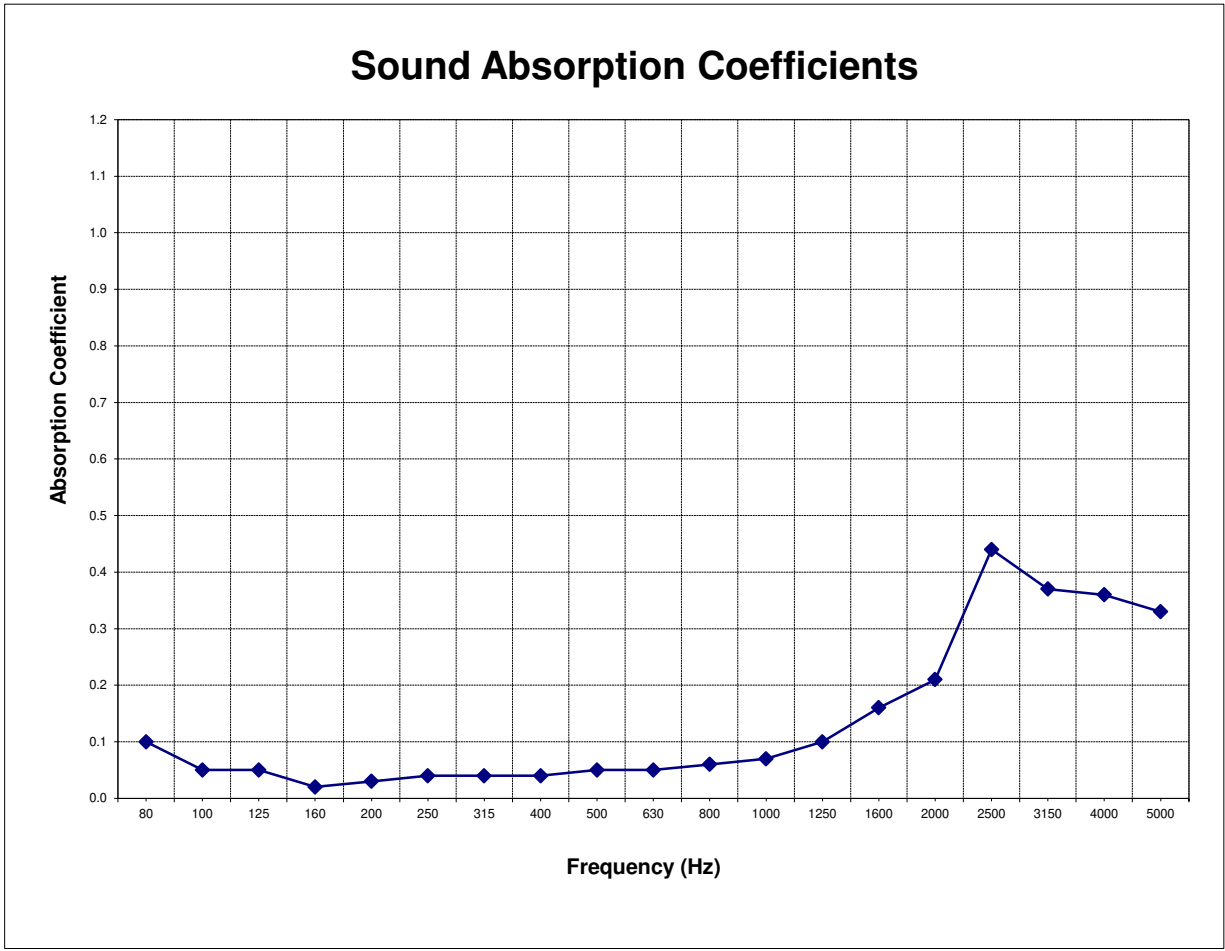
NRC Rating **0.10** *(Noise Reduction Coefficient)*
SAA Rating **0.11** *(Sound Absorption Average)*

- 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.



SOUND ABSORPTION ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01D	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Foam Molded Panel	
Operator	Eric A. Thompson	
Sample Area	6.71 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	20.7	21.7
RH %	52	51
B.P. (mb)	1023	





SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01E	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Flex Screen	
Operator	Eric A. Thompson	
Sample Area	6.96 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21	21
RH %	52	52
B.P. (mb)	1023	

Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.52	0.556	4.95	0.432	0.06	0.101
100	4.50	0.499	4.68	0.555	0.03	0.107
125	4.36	0.272	4.54	0.279	0.03	0.056
160	4.27	0.212	4.39	0.214	0.02	0.043
200	4.14	0.130	4.39	0.129	0.04	0.026
250	4.48	0.082	4.67	0.104	0.03	0.019
315	4.85	0.049	5.01	0.059	0.02	0.011
400	5.02	0.054	5.22	0.049	0.03	0.010
500	5.06	0.036	5.29	0.151	0.03	0.022
630	4.64	0.036	4.92	0.020	0.04	0.006
800	4.64	0.030	4.99	0.036	0.05	0.007
1000	4.74	0.028	5.11	0.020	0.05	0.005
1250	5.25	0.016	5.66	0.026	0.06	0.004
1600	5.29	0.030	5.78	0.019	0.07	0.005
2000	5.21	0.004	5.74	0.176	0.08	0.025
2500	5.44	0.018	7.13	0.378	0.24	0.054
3150	5.97	0.003	8.15	0.003	0.31	0.001
4000	6.26	0.008	7.85	0.011	0.23	0.002
5000	6.77	0.006	8.76	0.009	0.29	0.002

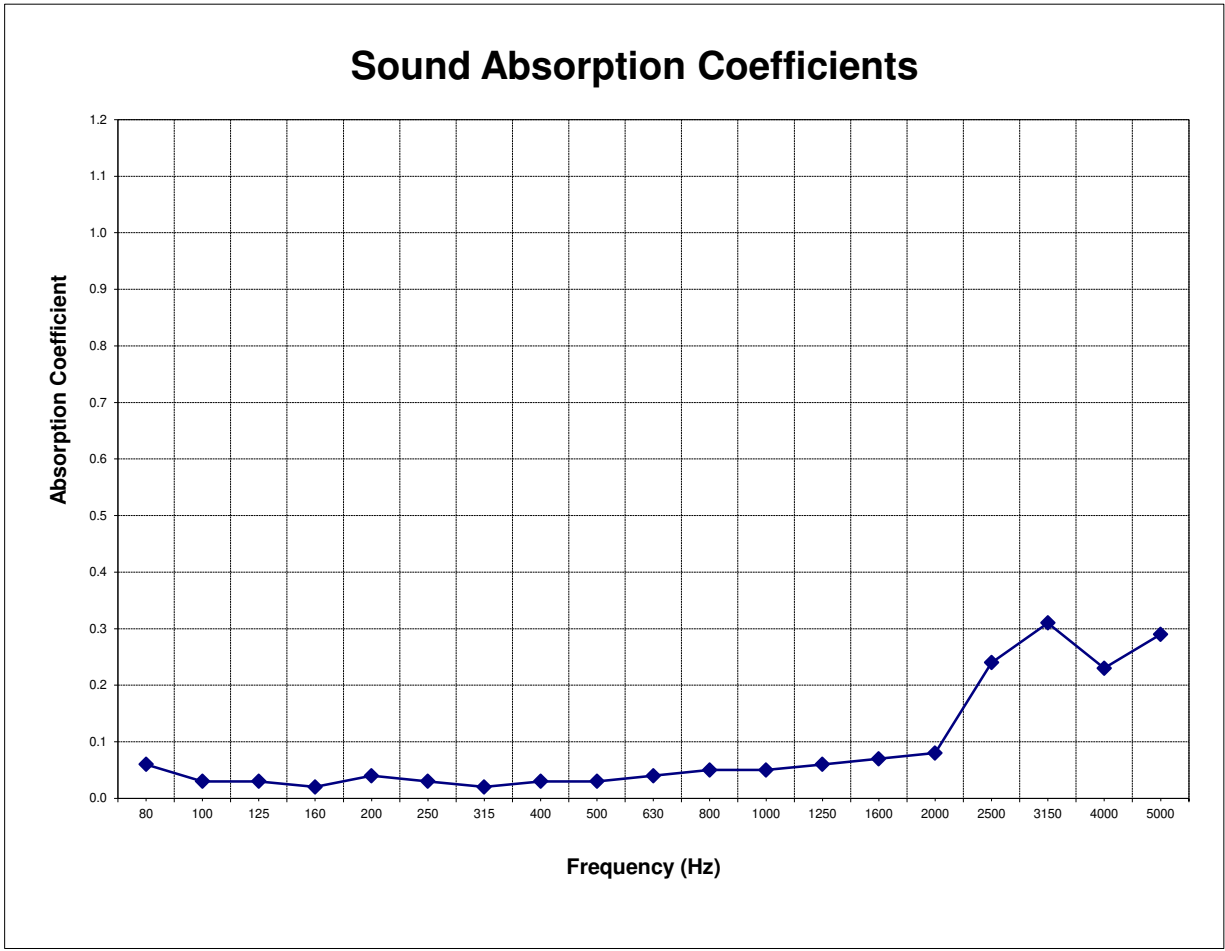
NRC Rating **0.05** *(Noise Reduction Coefficient)*
SAA Rating **0.06** *(Sound Absorption Average)*

- 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.



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01E	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Flex Screen	
Operator	Eric A. Thompson	
Sample Area	6.96 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	20.7	21.4
RH %	52	52
B.P. (mb)	1023	





SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01F	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Monument	
Operator	Eric A. Thompson	
Sample Area	5.33 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	21	21
RH %	52	52
B.P. (mb)	1023	

Freq (Hz)	Empty Room Absorption (m ²)	Uncertainty	Full Room Absorption (m ²)	Uncertainty	Absorption Coefficient	Relative Uncertainty
80	4.52	0.556	4.64	0.392	0.02	0.128
100	4.50	0.499	4.76	0.559	0.05	0.141
125	4.36	0.272	4.85	0.376	0.09	0.087
160	4.27	0.212	4.77	0.137	0.09	0.047
200	4.14	0.130	4.87	0.195	0.14	0.044
250	4.48	0.082	5.51	0.092	0.19	0.023
315	4.85	0.049	6.17	0.085	0.25	0.018
400	5.02	0.054	6.72	0.031	0.32	0.012
500	5.06	0.036	7.22	0.228	0.40	0.043
630	4.64	0.036	7.37	0.030	0.51	0.009
800	4.64	0.030	7.77	0.021	0.59	0.007
1000	4.74	0.028	7.99	0.018	0.61	0.006
1250	5.25	0.016	8.66	0.010	0.64	0.004
1600	5.29	0.030	8.78	0.022	0.65	0.007
2000	5.21	0.004	8.88	0.109	0.69	0.020
2500	5.44	0.018	9.94	0.186	0.84	0.035
3150	5.97	0.003	10.30	0.008	0.81	0.002
4000	6.26	0.008	10.50	0.004	0.80	0.002
5000	6.77	0.006	11.00	0.006	0.79	0.002

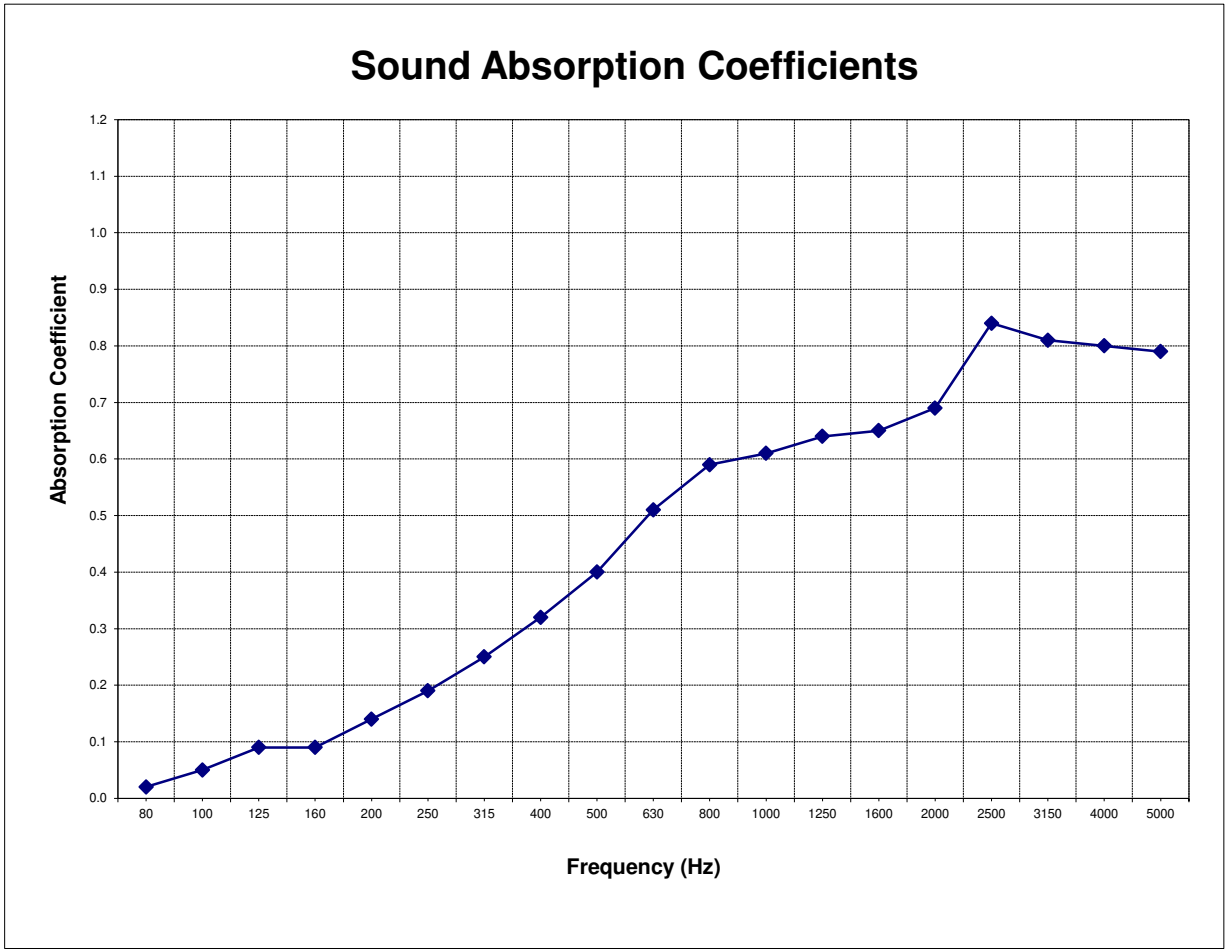
NRC Rating **0.45** *(Noise Reduction Coefficient)*
SAA Rating **0.49** *(Sound Absorption Average)*

- 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.



SOUND ABSORPTION
ASTM C 423

Test Date	05/06/15	
ATI No.	E6458.01F	
Client	LOFTwall, Inc.	
Specimen	Series/Model: Monument	
Operator	Eric A. Thompson	
Sample Area	5.33 m ²	
Mounting Type	Type K	
	Empty	Full
Temp C	20.7	21.4
RH %	52	52
B.P. (mb)	1023	



Appendix C

Photographs



Test Option A



Test Option B



Test Option C



Test Option D



Test Option E



Test Option F