

# LOFTWALL, INC. ACOUSTICAL PERFORMANCE TEST REPORT

**SCOPE OF WORK**

ASTM C423 SOUND ABSORPTION TESTING ON BONDED PET, BUFFER WALL DIVIDER

**REPORT NUMBER**

Q3732.01-113-11-R0

**TEST DATE**

09/05/23

**ISSUE DATE**

10/19/23

**PAGES**

10

**DOCUMENT CONTROL NUMBER**

RT-R-AMER-Test-2755 (09/05/23)

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## TEST REPORT FOR LOFTWALL, INC.

Report No.: Q3732.01-113-11-R0

Date: 10/19/23

### REPORT ISSUED TO

#### LOFTWALL, INC.

2617 North Great Southwest Parkway, Suite 100

Grand Prairie, Texas 75050

### SECTION 1

#### SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by LOFTwall, Inc. to perform a sound absorption test. Results obtained are tested values and were secured by using the designated test methods. The complete test data is included herein. The client provided the test specimen. All measurements were conducted in the HT test chambers at Intertek B&C located in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

For INTERTEK B&C:

<b>COMPLETED BY:</b>	Zachary P. Golden	<b>REVIEWED BY:</b>	Kurt A. Golden
<b>TITLE:</b>	Technician Team Leader Acoustical Testing	<b>TITLE:</b>	Manager Acoustical Testing
<b>SIGNATURE:</b>		<b>SIGNATURE:</b>	
<b>DATE:</b>	10/19/23	<b>DATE:</b>	10/19/23

ZPG:jmcs

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**SECTION 2**

**SUMMARY OF TEST RESULTS**

<b>SERIES/MODEL</b>		Bonded PET						
<b>SAMPLE TYPE</b>		Buffer Wall Divider						
<b>MOUNTING TYPE</b>		Type K						
<b>DATA FILE NO.</b>	<b>1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES</b>						<b>NRC</b>	<b>SAA</b>
	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>		
Q3732.01A	0.36	0.41	0.50	0.65	0.79	0.98	0.60	0.60

**SECTION 3**

**TEST METHODS**

The specimens were evaluated in accordance with the following:

**ASTM C423-23**, *Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method*

**ASTM E795-23**, *Standard Practices for Mounting Test Specimens During Sound Absorption Tests*

**SECTION 4**

**SPECIMEN MOUNTING**

For the Type K mounting, the test specimen was assembled on a LOFTwall, Inc. metal frame and was able to stand up independently on the floor of the reverberation room.

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### SECTION 5 EQUIPMENT

The equipment listed below meets the requirements of the test methods stated in Section 3 of this report.

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02674	09/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02675	09/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02676	09/22
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65969	03/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	01/23
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT03436	04/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64907	01/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	63745	07/23
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64914	03/23
Microphone Calibrator	Norsonic	Nor 1255	Acoustical Calibrator	INT03566	06/23

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

### TEST CHAMBER

	VOLUME	DESCRIPTION
RECEIVE ROOM	234 m <sup>3</sup>	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor

### SECTION 6 LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Zachary P. Golden	Intertek B&C

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### SECTION 7

#### TEST PROCEDURE

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.

Intertek B&C will store samples of test specimens for four years.

### SECTION 8

#### 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<sup>2</sup>. 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 frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

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### SECTION 9

#### TEST SPECIMEN DESCRIPTION

<b>SERIES/MODEL</b>	Bonded PET
<b>SAMPLE TYPE</b>	Buffer Wall Divider
<b>MOUNTING TYPE</b>	Type K

Two, 0.99 m by 1.73 m (39" by 68-1/8"), panels were assembled on a LOFTwall, Inc. metal frame.

The total weight of the specimen was 18.89 kg (41.64 lbs).

<b>DESCRIPTION</b>	<b>THICKNESS</b>	<b>DENSITY</b>	<b>WEIGHT</b>
Bonded PET (x2)	8.89 mm	219.35 kg/m <sup>3</sup>	1.95 kg/m <sup>2</sup>
Buffer Wall Divider	0.35"	13.71 lbs/ft <sup>3</sup>	0.40 lbs/ft <sup>2</sup>

Photographs are included in Section 11.

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

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### SECTION 10

#### TEST RESULTS

#### Q3732.01A DATA

<b>TECHNICIAN</b>	Zachary P. Golden	
<b>SPECIMEN AREA</b>	6.86 m <sup>2</sup>	
<b>MOUNTING TYPE</b>	K	
	<b>EMPTY</b>	<b>FULL</b>
<b>TEMP °C</b>	22.3	22.0
<b>RH %</b>	51	48
<b>B.P. (mb)</b>	999	999

<b>FREQ</b> (Hz)	<b>EMPTY ROOM</b> <b>ABSORPTION</b> (m <sup>2</sup> )	<b>FULL ROOM</b> <b>ABSORPTION</b> (m <sup>2</sup> )	<b>ABSORPTION</b> <b>COEFFICIENT</b>
80	6.25	7.38	0.16
100	6.41	8.73	0.34
125	5.70	8.15	0.36
160	5.03	7.29	0.33
200	5.39	7.96	0.37
250	5.71	8.49	0.41
315	5.35	8.40	0.45
400	5.15	8.45	0.48
500	5.05	8.45	0.50
630	5.01	8.86	0.56
800	5.26	9.39	0.60
1000	5.14	9.56	0.65
1250	5.32	10.25	0.72
1600	5.36	10.66	0.77
2000	5.31	10.75	0.79
2500	5.69	12.05	0.93
3150	6.33	12.69	0.93
4000	6.88	13.62	0.98
5000	7.30	14.39	1.03

<b>NRC RATING</b>	0.60	<i>(Noise Reduction Coefficient)</i>
<b>SAA RATING</b>	0.60	<i>(Sound Absorption Average)</i>

**Notes:**

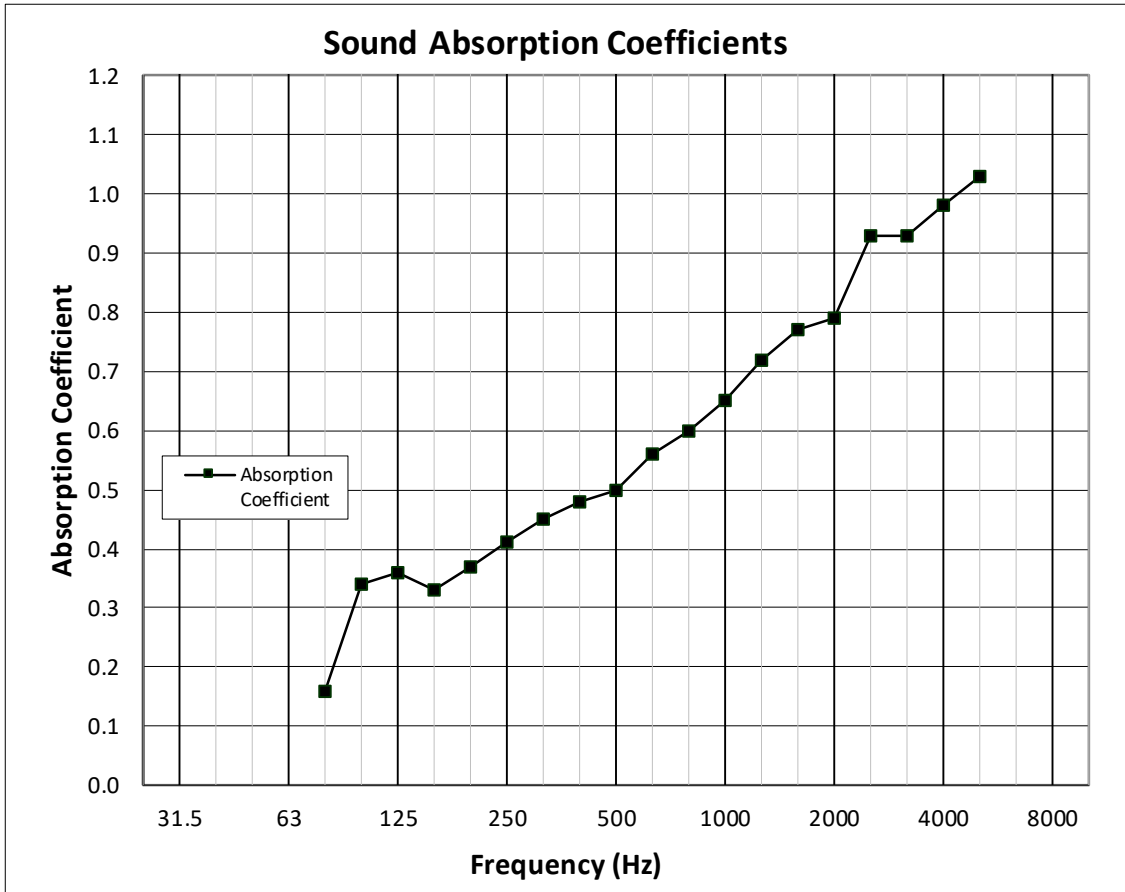
- 1) The NRC rating is the arithmetic average of the sound absorption coefficients at 250, 500, 1000, and 2000 hertz. The average is rounded to the nearest multiple of 0.05.
- 2) The SAA rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500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

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### Q3732.01A GRAPH





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### SECTION 11 PHOTOGRAPHS



**Photo No. 1**  
**View of Installed Test Specimen**



**Photo No. 2**  
**Side View of Test Specimen**



Total Quality. Assured.

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**SECTION 12**

**REVISION LOG**

REVISION #	DATE	PAGES	REVISION
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