

LOFTWALL, INC. ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM C423 SOUND ABSORPTION TESTING ON
HEDGE, FULL AND LOW HEIGHT STORAGE UNITS

REPORT NUMBER

R4359.01-113-11-R0

TEST DATE

05/30/24

ISSUE DATE

06/05/24

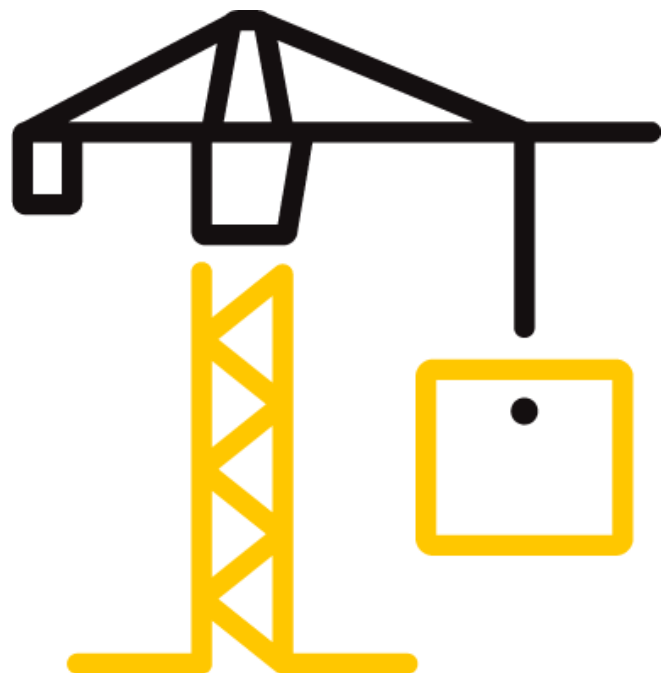
PAGES

10

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TEST REPORT FOR LOFTWALL, INC.

Report No.: R4359.01-113-11-R0

Date: 06/05/24

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.

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For INTERTEK B&C:

COMPLETED BY:	Zachary P. Golden	REVIEWED BY:	Kurt A. Golden
TITLE:	Technician Team Leader	TITLE:	Manager
SIGNATURE:	Acoustical Testing	SIGNATURE:	Acoustical Testing
DATE:	06/05/24	DATE:	06/05/24

ZPG:jmc

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TEST REPORT FOR LOFTWALL, INC.

Report No.: R4359.01-113-11-R0

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SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL		Hedge						
SAMPLE TYPE		Full and Low Height Storage Units						
MOUNTING TYPE		Type JV Mod 00						
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS ABSORPTION/ M ² AT THE OCTAVE BAND FREQUENCIES						Array -NRC	Array -SAA
	125	250	500	1000	2000	4000		
R4359.01D	0.16	0.51	0.41	0.58	0.86	1.04	0.60	0.58

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 J Array mounting, the test panels were standing vertically directly against the floor of the reverberation room. The panels were arranged in one row of two with 0.76 m (30") between each row and 1.52 m (60") between each panel edge.

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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
Data Acquisition Card	National Instruments	NI-9250	Data Acquisition Card	INT02575	06/23
Data Acquisition Card	National Instruments	NI-9250	Data Acquisition Card	INT02576	06/23
Data Acquisition Card	National Instruments	NI-9250	Data Acquisition Card	INT02577	06/23
Receive Room Microphone	PBC Piezotronics	378C20	Microphone and Preamplifier	INT03739	11/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT03720	10/23
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02427	03/24
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	65617	07/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	63745	07/23
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	02/24
Microphone Calibrator	Norsonic	1251	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 ³	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

TEST REPORT FOR LOFTWALL, INC.

Report No.: R4359.01-113-11-R0

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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.

The specimen was returned per the client's request.

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 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.

Sound absorption per M² (SA/ M²), and therefore the reported Single Number Ratings, are highly dependent on the exact sample shape, size, spacing, and extended continuous surface area present in the test and subsequent calculations. Changes to any of these parameters will change the resulting values. These presented results are valid only for the specific configuration present in the test.

TEST REPORT FOR LOFTWALL, INC.

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SECTION 9

TEST SPECIMEN DESCRIPTION

SERIES/MODEL	Hedge
SAMPLE TYPE	Full and Low Height Storage Units
MOUNTING TYPE	Type JV Mod 00

STORAGE UNIT DESCRIPTION

The full height storage unit was 1.22 m (48") wide by 1.72 m (68") tall by 0.46 m (18") deep. The total weight of the specimen was 81.65 kg (180 lbs).

The low height storage unit was 1.22 m (48") wide by 0.89 m (35") tall by 0.46 m (18") deep. The total weight of the specimen was 49.44 kg (109 lbs).

Both panels were standing vertically on their edges as described in Section 4. The area used for the Type JV Mod 00 test specimens was 2.44 m by 2.74 m (96" by 108").

DESCRIPTION	THICKNESS	DENSITY	WEIGHT
Hedge, PET Felt	18.80 mm 0.74"	217.55 kg/m ³ 13.46 lbs/ft ³	4.09 kg/m ² 0.83 lbs/ft ²

Photographs are included in Section 11.

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

TEST REPORT FOR LOFTWALL, INC.

Report No.: R4359.01-113-11-R0

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SECTION 10
TEST RESULTS
ASTM C423
SOUND ABSORPTION TEST


TEST DATE	05/30/24	
DATA FILE NO.	R4359.01D	
CLIENT	LOFTwall, Inc.	
DESCRIPTION	Series/Model: Hedge, Full and Low height Storage units	
TECHNICIAN	Zachary P. Golden	
SPECIMEN ARRAY	6.69 m ²	
MOUNTING TYPE	JV Mod 00	
	EMPTY	FULL
TEMP °C	21.0	21.6
RH %	49	48
B.P. (mb)	1002	1002

FREQ (Hz)	EMPTY ROOM ABSORPTION (m ²)	FULL ROOM ABSORPTION (m ²)	ABSORPTION PER m² (SA/m ²)
80	5.42	6.66	0.19
100	5.78	7.33	0.23
125	5.66	6.73	0.16
160	4.85	6.69	0.27
200	5.46	8.32	0.43
250	5.54	8.93	0.51
315	5.46	8.10	0.39
400	5.45	7.81	0.35
500	5.05	7.78	0.41
630	4.99	7.84	0.43
800	5.18	8.57	0.51
1000	5.14	9.03	0.58
1250	5.29	10.05	0.71
1600	5.38	10.87	0.82
2000	5.35	11.07	0.86
2500	5.79	12.49	1.00
3150	6.47	13.12	0.99
4000	7.09	14.07	1.04
5000	7.49	14.77	1.09

Array-NRC	0.60	<i>Array-(Noise Reduction Coefficient)</i>
Array-SAA	0.58	<i>Array-(Sound Absorption Average)</i>

Notes:

- 1) The Array-NRC rating is the arithmetic average of the sound absorption per m² at 250, 500, 1000, and 2000 hertz. The average is rounded to the nearest multiple of 0.05.
- 2) The Array-SAA rating is the arithmetic average of the sound absorption per m² at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

TEST REPORT FOR LOFTWALL, INC.

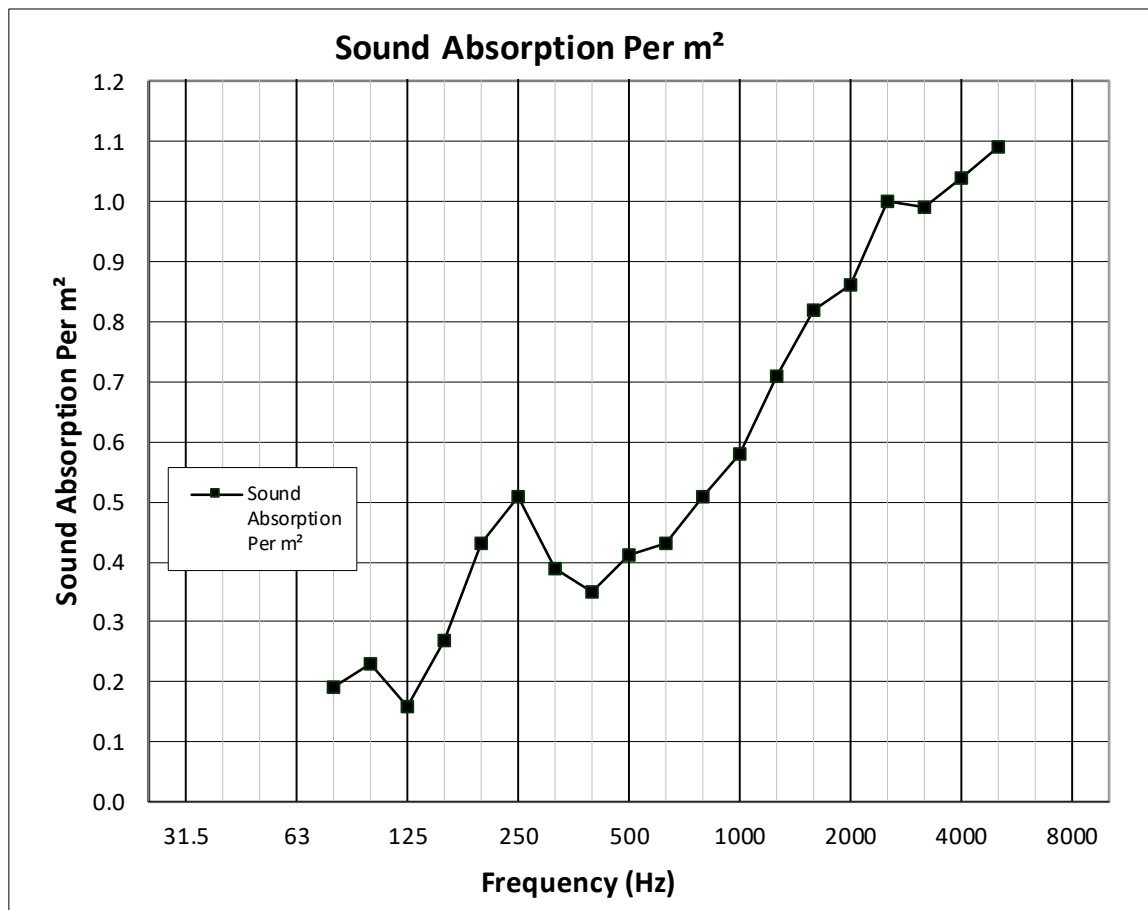
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TEST DATE	05/30/24	
DATA FILE NO.	R4359.01D	
CLIENT	LOFTwall, Inc.	
DESCRIPTION	Series/Model: Hedge, Full and Low height Storage units	
TECHNICIAN	Zachary P. Golden	
SPECIMEN ARRAY	6.69 m ²	
MOUNTING TYPE	JV Mod 00	
	EMPTY	FULL
TEMP °C	21.0	21.6
RH %	49	48
B.P. (mb)	1002	1002



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Report No.: R4359.01-113-11-R0

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SECTION 11

PHOTOGRAPHS



Photo No. 1
View of Installed Test Specimen



Photo No. 2
Side View of Installed Test Specimen



Total Quality. Assured.

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Date: 06/05/24

SECTION 12

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	06/05/24	N/A	Original Report Issue