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LOFTWALL, INC.
ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM C423 SOUND ABSORPTION TESTING ON ARBOR/ARBOR SLIM, PET PANELS

REPORT NUMBER
P6681.02-113-11-R1

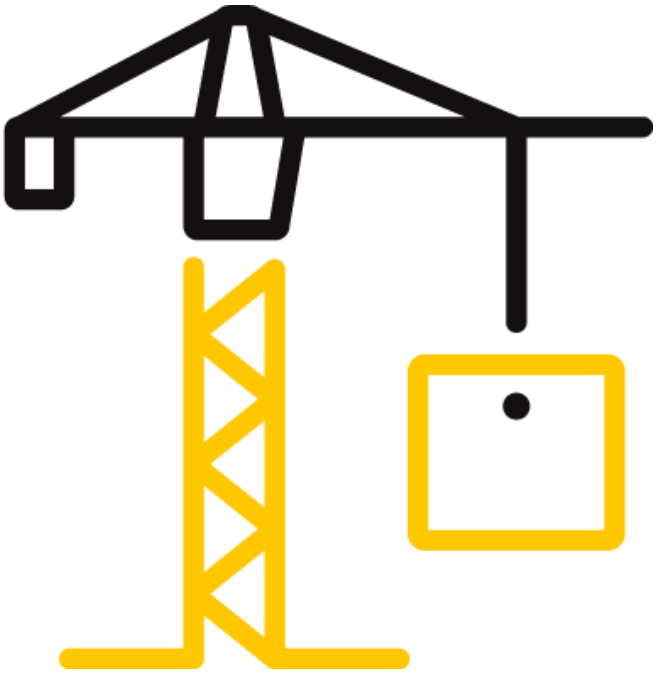
TEST DATE
04/05/23

ISSUE DATE
04/17/23

REVISION 1 DATE
05/04/23

PAGES
20

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2755 (05/16/22)



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TEST REPORT FOR LOFTWALL, INC.
Report No.: P6681.02-113-11-R1
Revision 1 Date: 05/04/23 Date: 04/17/23

REPORT ISSUED TO

LOFTWALL, INC.
2617 N Great SW 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:

COMPLETED BY:	Cody L. French	**REVIEWED BY:**	Kurt A. Golden
TITLE:	Technician Acoustical Testing	**TITLE:**	Manager Acoustical Testing
SIGNATURE:	Digitally Signed by: Cody French	**SIGNATURE:**	Digitally Signed by: Kurt A. Golden
DATE:	05/04/23	**DATE:**	05/04/23

CLF:jmcs

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SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Arbor Slim							
SAMPLE TYPE	PET and Veneer Panels mounted on 25 mm furring strips							
MOUNTING TYPE	Type D-25							
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
P6681.01D	0.05	0.11	0.33	0.82	1.00	0.77	0.55	0.57

SERIES/MODEL	Arbor							
SAMPLE TYPE	PET and MDF and Veneer Panels mounted on 25 mm furring strips							
MOUNTING TYPE	Type D-25							
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
P6681.01E	0.08	0.18	0.52	1.00	0.93	0.72	0.65	0.66

SERIES/MODEL	Arbor							
SAMPLE TYPE	PET and MDF and Veneer Panels mounted on 50 mm furring strips							
MOUNTING TYPE	Type D-50							
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
P6681.01F	0.20	0.38	0.76	1.03	0.84	0.82	0.75	0.76

SERIES/MODEL	Arbor Slim							
SAMPLE TYPE	PET and Veneer Panels mounted on 50 mm furring strips							
MOUNTING TYPE	Type D-50							
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
P6681.01G	0.10	0.27	0.62	0.96	0.91	0.87	0.70	0.69

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SECTION 3
TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM C423-22, *Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method*

ASTM E795-16, *Standard Practices for Mounting Test Specimens During Sound Absorption Tests*

SECTION 4
SPECIMEN MOUNTING

For the Type D mounting, the test specimen was placed on furring strips directly against the reverberation room floor with the absorptive side facing the sound field. The furring strips were spaced 12" on center with all ends capped. The perimeter of the specimen and furring strips were sealed to the floor with duct tape.

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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	64908	01/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64902	10/22
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64903	08/22
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64907	01/23
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	10/22
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64914	03/23
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	Y002919	04/22

**-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

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SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Cody L. French	Intertek B&C

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^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.

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SECTION 9
TEST SPECIMEN DESCRIPTION

SERIES/MODEL	Arbor/Arbor Slim
SAMPLE TYPES	PET and Veneer Panels/PET and MDF and Veneer Panels mounted on 25 mm/50 mm furring strips
MOUNTING TYPES	D-25/D-50

TEST OPTION P6681.01D
The panels were arranged to produce the 2.44 m by 2.74 m (96" by 108") test specimen. The total weight of the specimen was 13.61 kg (30 lbs).

The panels were mounted on 25 mm furring strips constructed of 38 mm thick wood strips.

TEST OPTION P6681.01E
The panels were arranged to produce the 2.4 m by 2.78 m (94.5" by 109.5") test specimen. The total weight of the specimen was 50.35 kg (111 lbs).

The panels were mounted on 25 mm furring strips constructed of 38 mm thick wood strips.

TEST OPTION P6681.01F
The panels were arranged to produce the 2.4 m by 2.78 m (94.5" by 109.5") test specimen. The total weight of the specimen was 50.35 kg (111 lbs).

The panels were mounted on 50 mm furring strips constructed of 38 mm thick wood strips.

TEST OPTION P6681.01G
The panels were arranged to produce the 2.44 m by 2.74 m (96" by 108") test specimen. The total weight of the specimen was 13.61 kg (30 lbs).

The panels were mounted on 50 mm furring strips constructed of 38 mm thick wood strips.

DESCRIPTION	THICKNESS	WEIGHT
PET and MDF and Veneer Panels	20.80 mm 0.819"	7.86 kg/m^2 1.61 lbs/ft^2
PET and Veneer Panels	10.21 mm 0.402"	2.246 kg/m^2 0.460 lbs/ft^2

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

P6681.01D DATA, Arbor Slim PET and Veneer Panels (25 mm furring strips)

SPECIMEN AREA	6.71 m²	
MOUNTING TYPE	D 25	
	EMPTY	**FULL**
TEMP °C	23.1	23.1
RH %	52	52
B.P. (mb)	1003	1003

FREQ (Hz)	**EMPTY ROOM ABSORPTION** (m^2)	**FULL ROOM ABSORPTION** (m^2)	**ABSORPTION COEFFICIENT**
80	5.65	6.10	0.07
100	6.06	6.55	0.07
125	5.29	5.60	0.05
160	4.80	5.15	0.05
200	5.47	6.02	0.08
250	5.74	6.50	0.11
315	5.30	6.45	0.17
400	5.01	6.63	0.24
500	4.96	7.20	0.33
630	4.85	8.24	0.50
800	5.10	9.54	0.66
1000	5.01	10.49	0.82
1250	5.26	11.69	0.96
1600	5.32	12.19	1.02
2000	5.26	11.95	1.00
2500	5.64	12.27	0.99
3150	6.31	12.05	0.86
4000	6.98	12.16	0.77
5000	7.52	12.39	0.73

NRC RATING	0.55	*(Noise Reduction Coefficient)*
SAA RATING	0.57	*(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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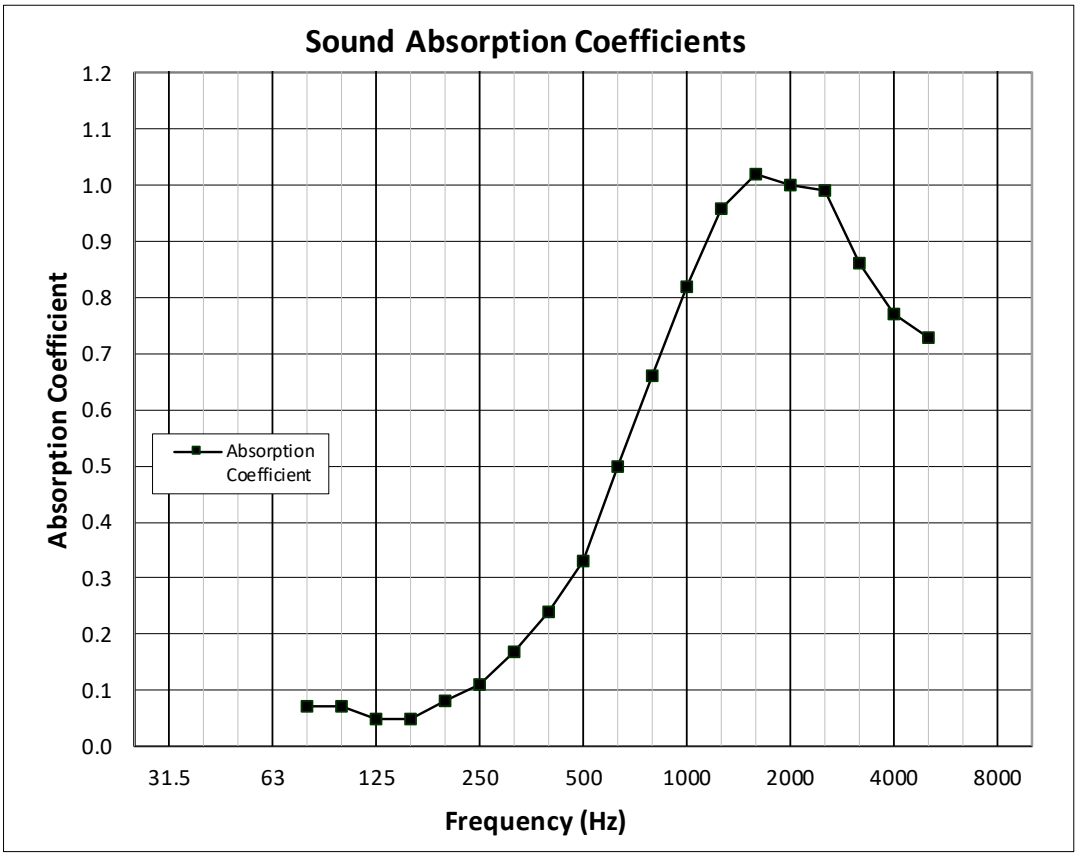
P6681.01D GRAPH, Arbor Slim PET and Veneer Panels (25 mm furring strips)



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P6681.01E DATA, Arbor PET and MDF and Veneer Panels (25 mm furring strips)

SPECIMEN AREA	6.68 m²
MOUNTING TYPE	D 25

	EMPTY	**FULL**
TEMP °C	23.1	23.1
RH %	52	53
B.P. (mb)	1003	1003

FREQ (Hz)	**EMPTY ROOM ABSORPTION** (m^2)	**FULL ROOM ABSORPTION** (m^2)	**ABSORPTION COEFFICIENT**
80	5.65	6.20	0.08
100	6.06	6.38	0.05
125	5.29	5.83	0.08
160	4.80	5.40	0.09
200	5.47	6.32	0.13
250	5.74	6.97	0.18
315	5.30	7.14	0.28
400	5.01	7.50	0.37
500	4.96	8.46	0.52
630	4.85	9.73	0.73
800	5.10	11.13	0.90
1000	5.01	11.71	1.00
1250	5.26	12.35	1.06
1600	5.32	12.09	1.01
2000	5.26	11.44	0.93
2500	5.64	11.34	0.85
3150	6.31	11.21	0.74
4000	6.98	11.80	0.72
5000	7.52	12.64	0.77

NRC RATING	0.65	*(Noise Reduction Coefficient)*
SAA RATING	0.66	*(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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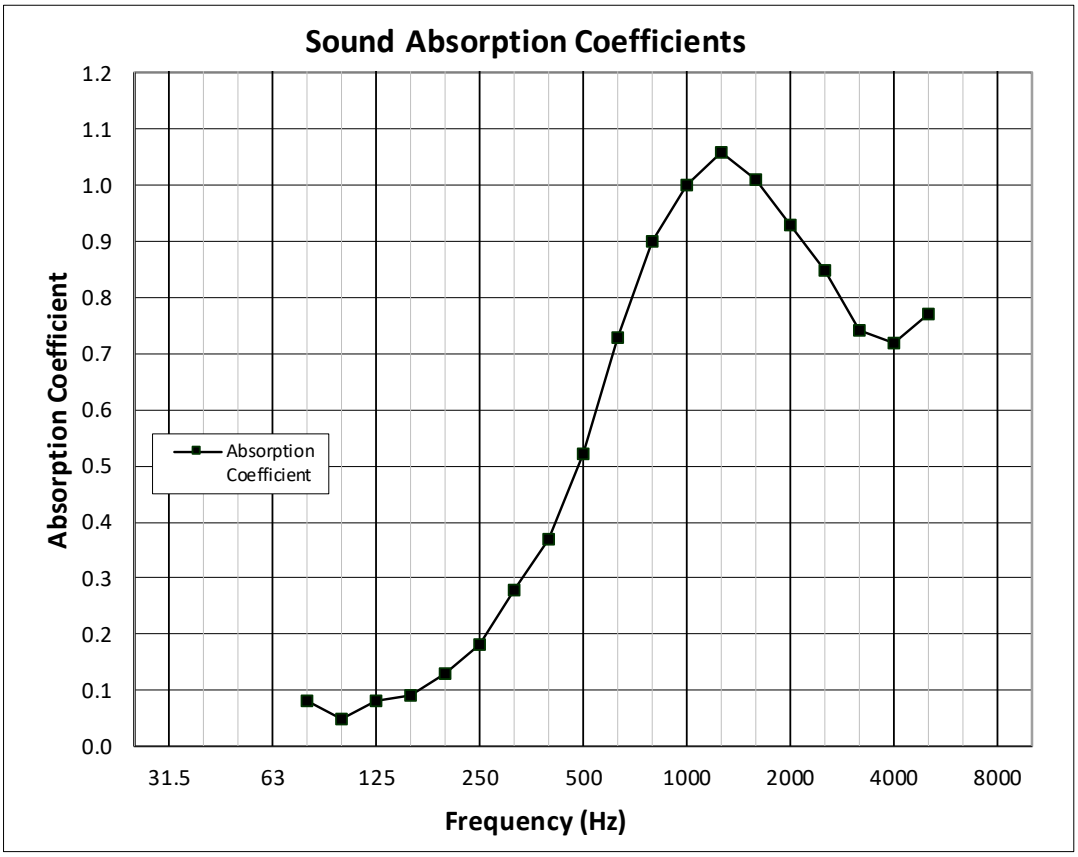
P6681.01E GRAPH, Arbor PET and MDF and Veneer Panels (25 mm furring strips)



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P6681.01F DATA, Arbor PET and MDF and Veneer Panels (50 mm furring strips)

SPECIMEN AREA	6.68 m²
MOUNTING TYPE	D 50

	EMPTY	**FULL**
TEMP °C	23.1	23.3
RH %	52	51
B.P. (mb)	1003	1003

FREQ (Hz)	**EMPTY ROOM ABSORPTION** (m^2)	**FULL ROOM ABSORPTION** (m^2)	**ABSORPTION COEFFICIENT**
80	5.65	6.53	0.13
100	6.06	7.00	0.14
125	5.29	6.59	0.20
160	4.80	6.16	0.20
200	5.47	7.31	0.27
250	5.74	8.25	0.38
315	5.30	8.61	0.50
400	5.01	9.10	0.61
500	4.96	10.01	0.76
630	4.85	11.09	0.93
800	5.10	11.86	1.01
1000	5.01	11.90	1.03
1250	5.26	11.96	1.00
1600	5.32	11.50	0.93
2000	5.26	10.86	0.84
2500	5.64	11.06	0.81
3150	6.31	11.62	0.80
4000	6.98	12.48	0.82
5000	7.52	12.72	0.78

NRC RATING	0.75	*(Noise Reduction Coefficient)*
SAA RATING	0.76	*(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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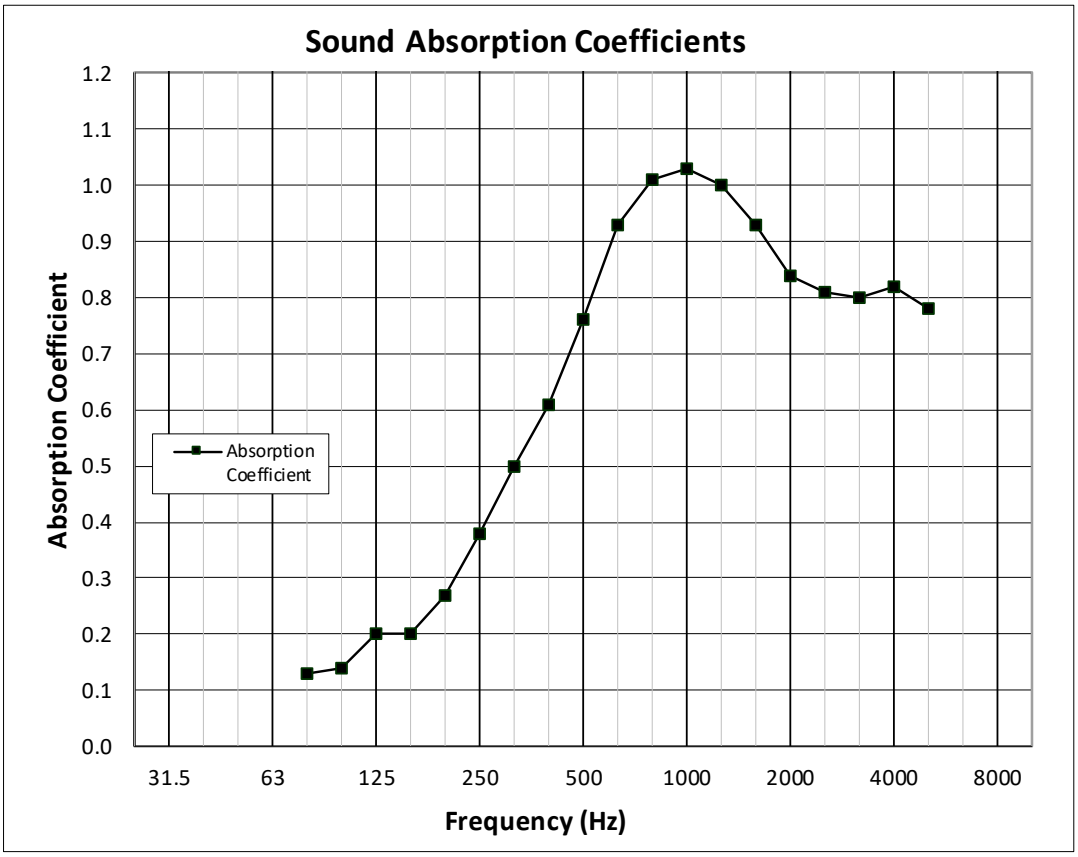
P6681.01F GRAPH, Arbor PET and MDF and Veneer Panels (50 mm furring strips)



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P6681.01G DATA, Arbor Slim PET and Veneer Panels (50 mm furring strips)

SPECIMEN AREA	6.69 m²
MOUNTING TYPE	D 50

	EMPTY	**FULL**
TEMP °C	23.1	23.3
RH %	52	52
B.P. (mb)	1003	1003

FREQ (Hz)	**EMPTY ROOM ABSORPTION** (m^2)	**FULL ROOM ABSORPTION** (m^2)	**ABSORPTION COEFFICIENT**
80	5.65	6.29	0.09
100	6.06	6.68	0.09
125	5.29	5.99	0.10
160	4.80	5.71	0.14
200	5.47	6.76	0.19
250	5.74	7.57	0.27
315	5.30	7.77	0.37
400	5.01	8.18	0.47
500	4.96	9.08	0.62
630	4.85	10.20	0.80
800	5.10	11.13	0.90
1000	5.01	11.45	0.96
1250	5.26	11.91	0.99
1600	5.32	11.86	0.98
2000	5.26	11.34	0.91
2500	5.64	11.40	0.86
3150	6.31	11.61	0.79
4000	6.98	12.80	0.87
5000	7.52	12.77	0.78

NRC RATING	0.70	*(Noise Reduction Coefficient)*
SAA RATING	0.69	*(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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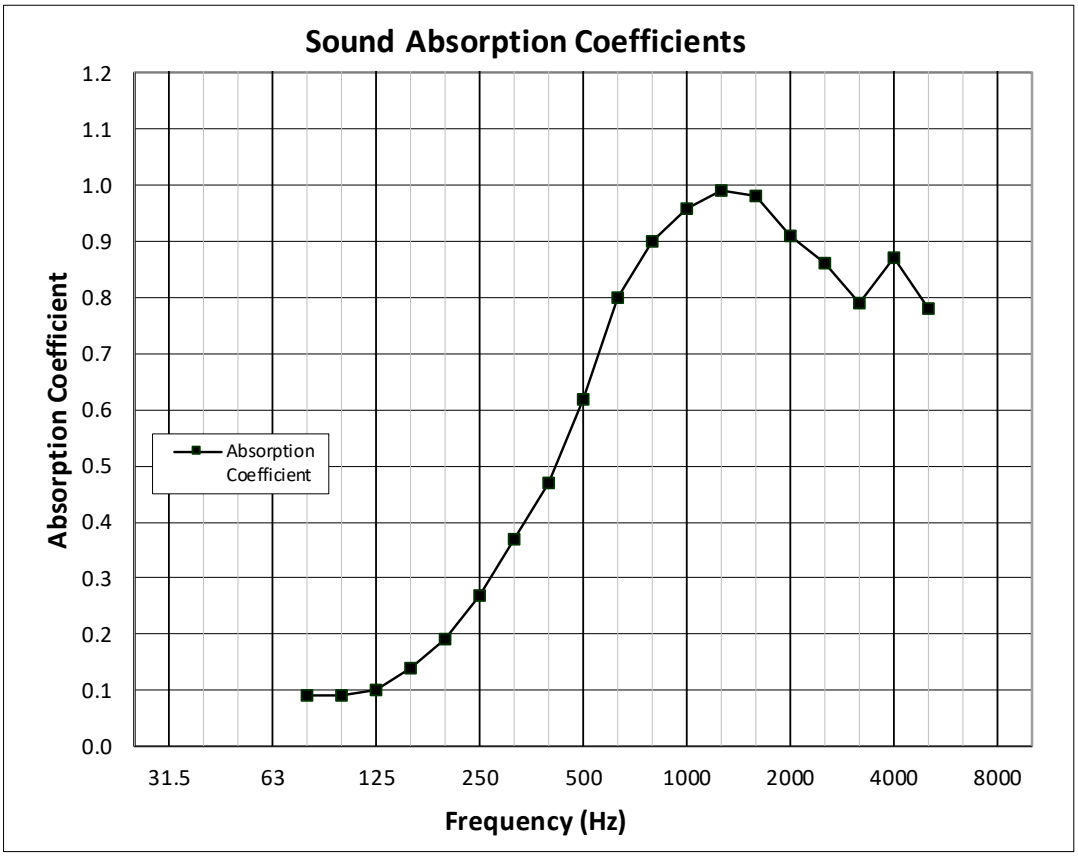
P6681.01G GRAPH, Arbor Slim PET and Veneer Panels (50 mm furring strips)



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SECTION 11
PHOTOGRAPHS

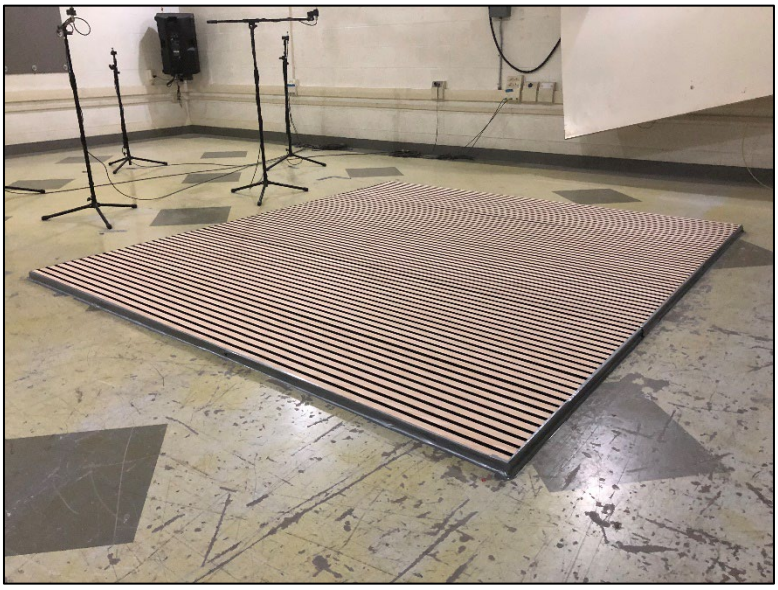

Photo No. 1
View of Installed Test Option P6681.01D

Photo No. 21
Side View of Test Option P6681.01D

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Photo No. 3
View of Installed Test Option P6681.01E

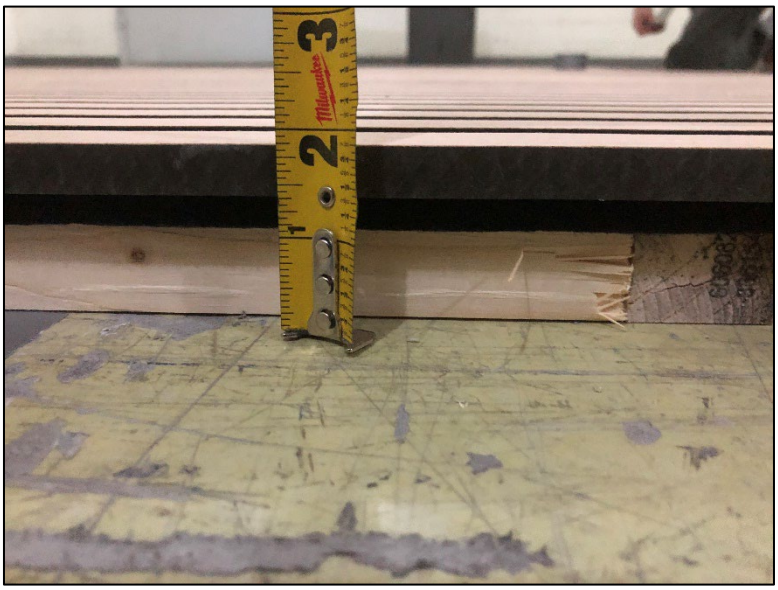

Photo No. 4
Side View of Test Option P6681.01E

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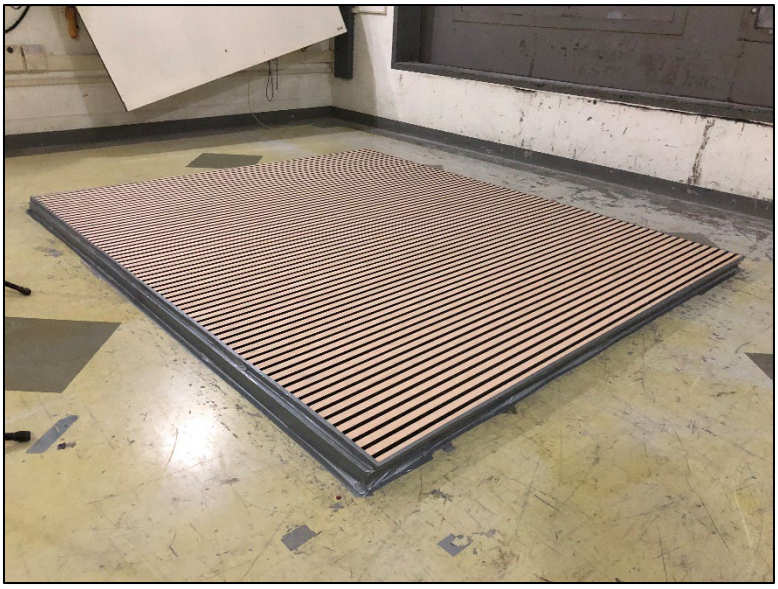

Photo No. 5
View of Installed Test Option P6681.01F

Photo No. 6
Side View of Test Option P6681.01F

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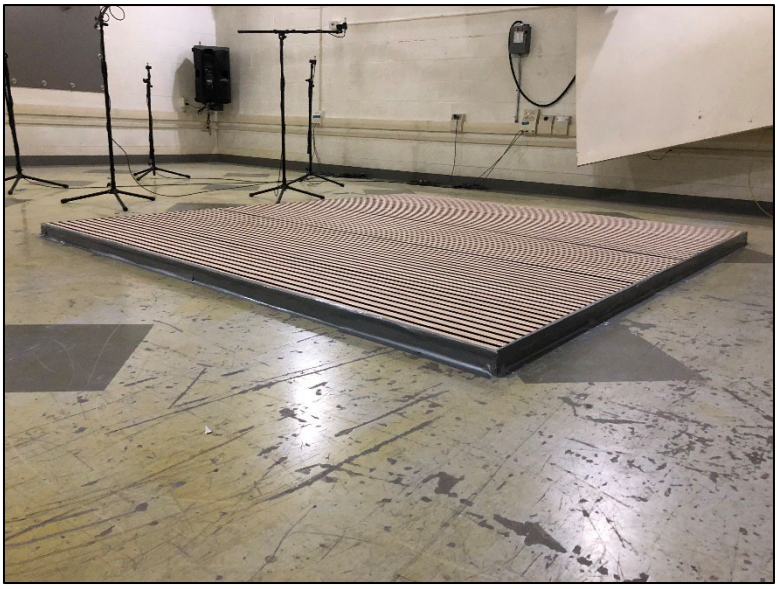

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View of Installed Test Option P6681.01G

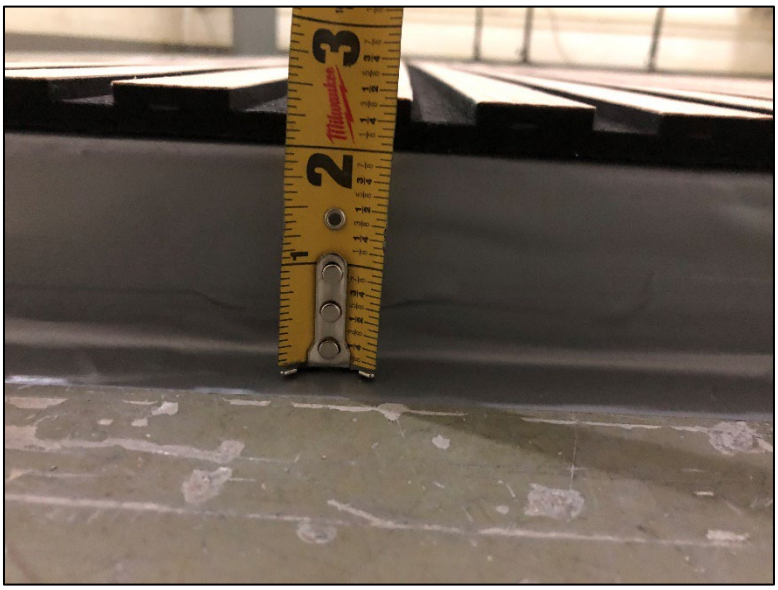

Photo No. 8
Side View of Test Option P6681.01G

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SECTION 12
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	04/17/23	N/A	Original Report Issue
1	05/04/23	5	Corrected the Equipment list