

NOVAWALL SYSTEMS, INC. ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM C423 SOUND ABSORPTION TESTING ON A 2" NOVAWALL SQUARE EDGE SYSTEM

REPORT NUMBER

H8708.03-113-11-R0

TEST DATE

12/28/17

ISSUE DATE

01/15/18

RECORD RETENTION END DATE

12/28/21

PAGES

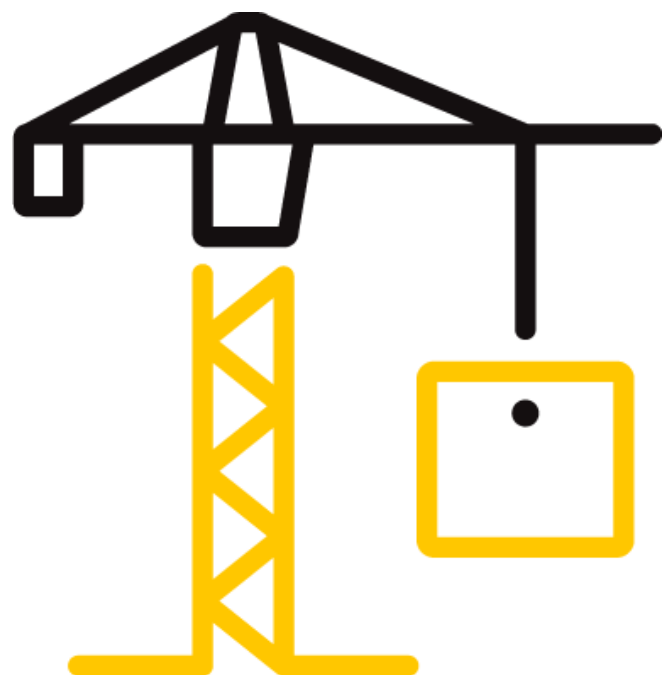
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DOCUMENT CONTROL NUMBER

ATI 00270 (07/24/17)

RT-R-AMER-Test-2755

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TEST REPORT FOR NOVAWALL SYSTEMS, INC.

Report No.: H8708.03-113-11-R0

Date: 01/15/18

REPORT ISSUED TO NOVAWALL SYSTEMS, INC.

885-B South Pickett Street
Alexandria, Virginia 22304

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Novawall Systems, Inc. to perform a sound absorption test. Results obtained are tested values and were secured by using the designated test method(s). 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.

SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL		2" Novawall Square Edge System						
SAMPLE DESCRIPTION		2" - High Impact/Tackable Acoustical Fiberglass (1/8" - 16 PCF Face with 1-7/8" - 6 PCF Core) and Guilford of Maine FR701 fabric						
MOUNTING TYPE		Type A						
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
H8708.01C	0.29	0.96	1.04	0.93	0.84	0.79	0.95	0.93

For INTERTEK B&C:

COMPLETED BY: Zachary P. Golden
Technician I
TITLE: Acoustical Testing
SIGNATURE:
DATE: 01/15/18

REVIEWED BY: Kurt A. Golden
Project Lead
TITLE: Acoustical Testing
SIGNATURE:
DATE: 01/15/18

ZPG:jmcs

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SECTION 3

TEST METHODS

The specimens were evaluated in accordance with the:

ASTM C423-17, *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 A mounting, the test specimen was placed directly against the floor of the reverberation room with the absorptive side facing the sound field. The perimeter of the specimen was sealed to the floor with plywood and 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.

Instrumentation:

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	DATE OF CALIBRATION
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	1643A62	04/16 *
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126	05/16 *
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	065125	05/16 *
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	65969	03/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	65586	02/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	65968	01/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00204	01/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	01/17
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	03/17
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	Y002929	04/17

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

**SECTION 6
LIST OF OFFICIAL OBSERVERS**

NAME	COMPANY
Zachary P. Golden	Intertek B&C
Daniel J. Poet	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 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.

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SECTION 9

TEST SPECIMEN DESCRIPTION

Two, 1.22 m by 2.44 m (48" by 96"), panels and one, 2.44 m by 0.30 m (96" by 12"), panel were arranged to produce the 2.44 m by 2.74 m (96" by 108") test specimen. The total weight of the specimen was 112.49 kg (248 lbs). Photographs are included in Section 12. The client did not supply a report drawing of the test specimen.

DESCRIPTION*	THICKNESS		WEIGHT	
National Type X Gypsum board	0.626"	15.90 mm	2.190 lbs/ft ²	10.69 kg/m ²
High Impact/Tackable Acoustical Fiberglass 1-7/8" - 6 PCF Core	1.810"	45.97 mm	0.745 lbs/ft ²	3.64 kg/m ²
High Impact/Tackable Acoustical Fiberglass 1/8" – 16 PCF Face	0.090"	2.29 mm	0.125 lbs/ft ²	0.61 kg/m ²
Guilford of Maine FR701 fabric	0.033"	0.84 mm	0.060 lbs/ft ²	0.29 kg/m ²

* - Stated per Client/Manufacturer

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SECTION 10

TEST RESULTS

TECHNICIAN	Zachary Golden	
SPECIMEN AREA	6.69 m ²	
MOUNTING TYPE	Type A mount	
	EMPTY	FULL
TEMP °C	20.9	21.7
RH %	49	51
B.P. (mb)	1008	1008

FREQ (Hz)	EMPTY ROOM ABSORPTION (m ²)	UNCERTAINTY	FULL ROOM ABSORPTION (m ²)	UNCERTAINTY	ABSORPTION COEFFICIENT	RELATIVE UNCERTAINTY
80	4.67	0.418	5.60	0.160	0.14	0.067
100	5.29	0.456	6.32	0.480	0.15	0.099
125	5.16	0.095	7.09	0.177	0.29	0.030
160	4.33	0.257	7.45	0.174	0.47	0.046
200	4.34	0.186	9.21	0.046	0.73	0.029
250	4.86	0.108	11.26	0.049	0.96	0.018
315	4.98	0.062	11.79	0.041	1.02	0.011
400	5.22	0.031	12.10	0.030	1.03	0.007
500	5.17	0.038	12.10	0.034	1.04	0.008
630	4.85	0.058	11.64	0.021	1.01	0.009
800	5.02	0.022	11.45	0.025	0.96	0.005
1000	5.01	0.024	11.21	0.013	0.93	0.004
1250	5.37	0.014	11.38	0.013	0.90	0.003
1600	5.43	0.012	11.26	0.009	0.87	0.002
2000	5.37	0.010	10.97	0.031	0.84	0.005
2500	5.61	0.012	11.48	0.133	0.88	0.020
3150	6.26	0.009	11.63	0.012	0.80	0.002
4000	6.58	0.005	11.87	0.008	0.79	0.001
5000	7.15	0.009	12.37	0.008	0.78	0.002

NRC RATING	0.95	(Noise Reduction Coefficient)
SAA RATING	0.93	(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.

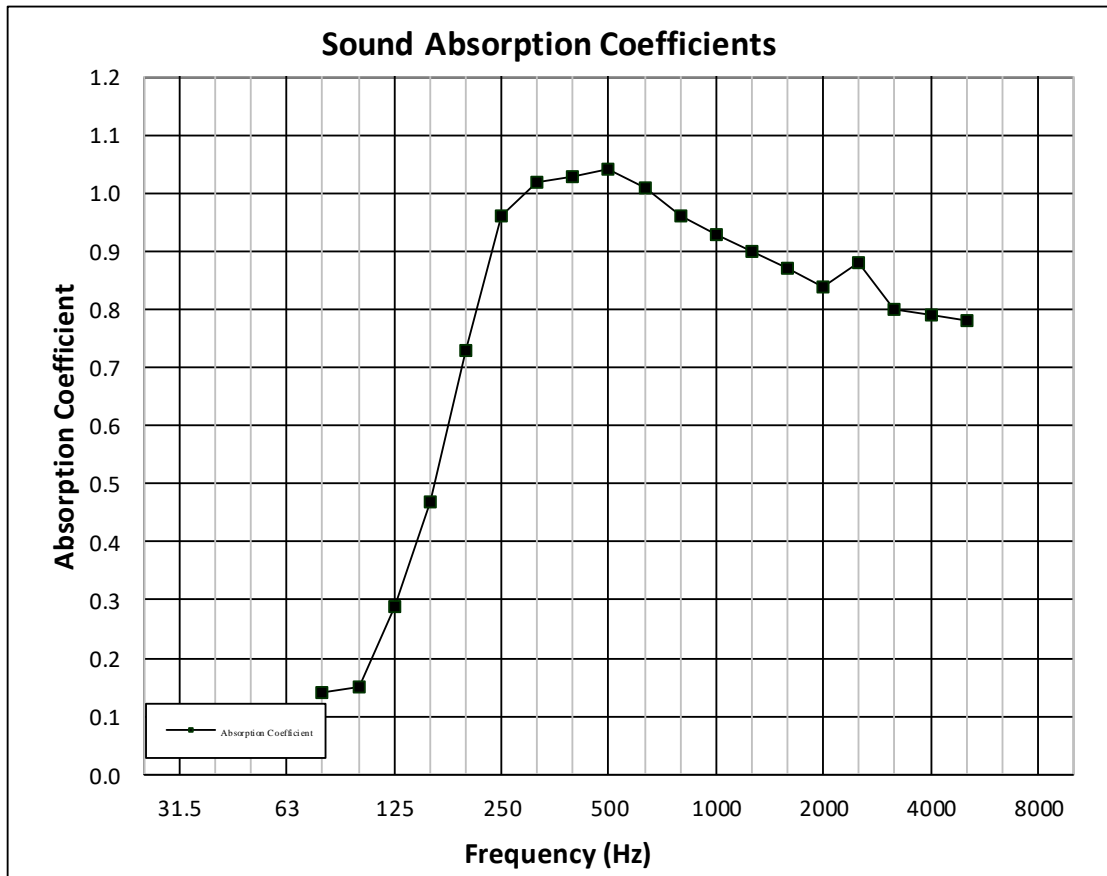
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SECTION 11

RESULTS GRAPH



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SECTION 12

PHOTOGRAPHS



Photo No. 1
Receive Room View of Installed Test Specimen



Photo No. 2
Cross Section View of Test Specimen



Total Quality. Assured.

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SECTION 13

REVISION LOG

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