

NOVAWALL SYSTEMS, INC. ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM C423 SOUND ABSORPTION TESTING ON NOVAWALL, BAFFLES

REPORT NUMBER

I4107.01-113-11-R0

TEST DATE

05/15/18

ISSUE DATE

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TEST REPORT FOR NOVAWALL SYSTEMS, INC.

Report No.: I4107.01-113-11-R0

Date: 05/24/18

REPORT ISSUED TO NOVAWALL SYSTEMS, INC.

855-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	Novawall					
SAMPLE TYPE	Baffle					
MOUNTING TYPE	J					
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION M²/unit AT THE OCTAVE BAND FREQUENCIES					
	125	250	500	1000	2000	4000
I4107.01	0.11	0.35	0.62	1.05	1.25	1.19

For INTERTEK B&C:

COMPLETED BY:	Sean G. Close	REVIEWED BY:	Kurt A. Golden
TITLE:	Technician Team Leader - Acoustical Testing	TITLE:	Project Lead - Acoustical Testing
SIGNATURE:		SIGNATURE:	
DATE:	05/24/18	DATE:	05/24/18

SGC:jmcs

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SECTION 3

TEST METHODS

The specimens were evaluated in accordance with the following

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 J mounting, the baffles were suspended vertically 36" from the floor with a 12" spacing between adjacent rows.

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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 #	DATE OF CALIBRATION
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65125	05/18
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126	05/18
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	63763-3	04/18
Microphone Calibrator	Norsonic	1251	Pistonphone calibrator	Y002919	04/18
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64907	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	01/18
Receive Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	64915	03/18

Test Chamber:

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

N/A-Not Applicable

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SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Sean G. Close	Intertek B&C
Kurt A. Golden	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 number of units being tested. The Sound Absorption Coefficient is dimensionless.

SECTION 9

TEST SPECIMEN DESCRIPTION

The test specimen consisted of six, 2.47 m by 0.30 m (97-1/2" by 12"), baffles which were suspended vertically in six parallel rows. The baffles were suspended 36" above the floor of the reverberation room. The baffles were arranged so there were 12" between the baffles. Each baffle was 1-1/2" thick and consisted of two pieces of 6 PCF density, 1/2" fiberglass insulation with a 3/8" air space. The total weight of the test specimen was 30.39 kg (67 lbs).

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

I4107.01 DATA

NO. OF UNITS	6.00	
MOUNTING TYPE	J	
	EMPTY	FULL
TEMP °C	20.1	20.6
RH %	50	51
B.P. (mb)	984	984

FREQ (Hz)	EMPTY ROOM ABSORPTION (m ²)	UNCERTAINTY	FULL ROOM ABSORPTION (m ²)	UNCERTAINTY	ABSORPTION (M ² per Unit)	RELATIVE UNCERTAINTY
80	3.93	0.634	4.30	0.904	0.06	0.099
100	4.79	0.351	5.32	0.661	0.09	0.067
125	4.64	0.226	5.31	0.154	0.11	0.025
160	4.13	0.248	5.00	0.138	0.14	0.026
200	4.31	0.109	5.70	0.145	0.23	0.016
250	4.94	0.079	7.06	0.099	0.35	0.011
315	4.98	0.115	7.74	0.045	0.46	0.011
400	5.19	0.040	8.51	0.067	0.55	0.007
500	5.09	0.029	8.80	0.162	0.62	0.015
630	4.75	0.027	9.13	0.022	0.73	0.003
800	4.93	0.031	10.22	0.019	0.88	0.003
1000	4.90	0.020	11.22	0.017	1.05	0.002
1250	5.21	0.006	12.50	0.015	1.22	0.001
1600	5.20	0.011	12.80	0.013	1.27	0.002
2000	5.11	0.008	12.62	0.033	1.25	0.003
2500	5.31	0.006	13.06	0.098	1.29	0.009
3150	5.87	0.009	13.10	0.007	1.21	0.001
4000	6.20	0.014	13.36	0.011	1.19	0.002
5000	6.70	0.008	13.63	0.006	1.16	0.001

Notes:

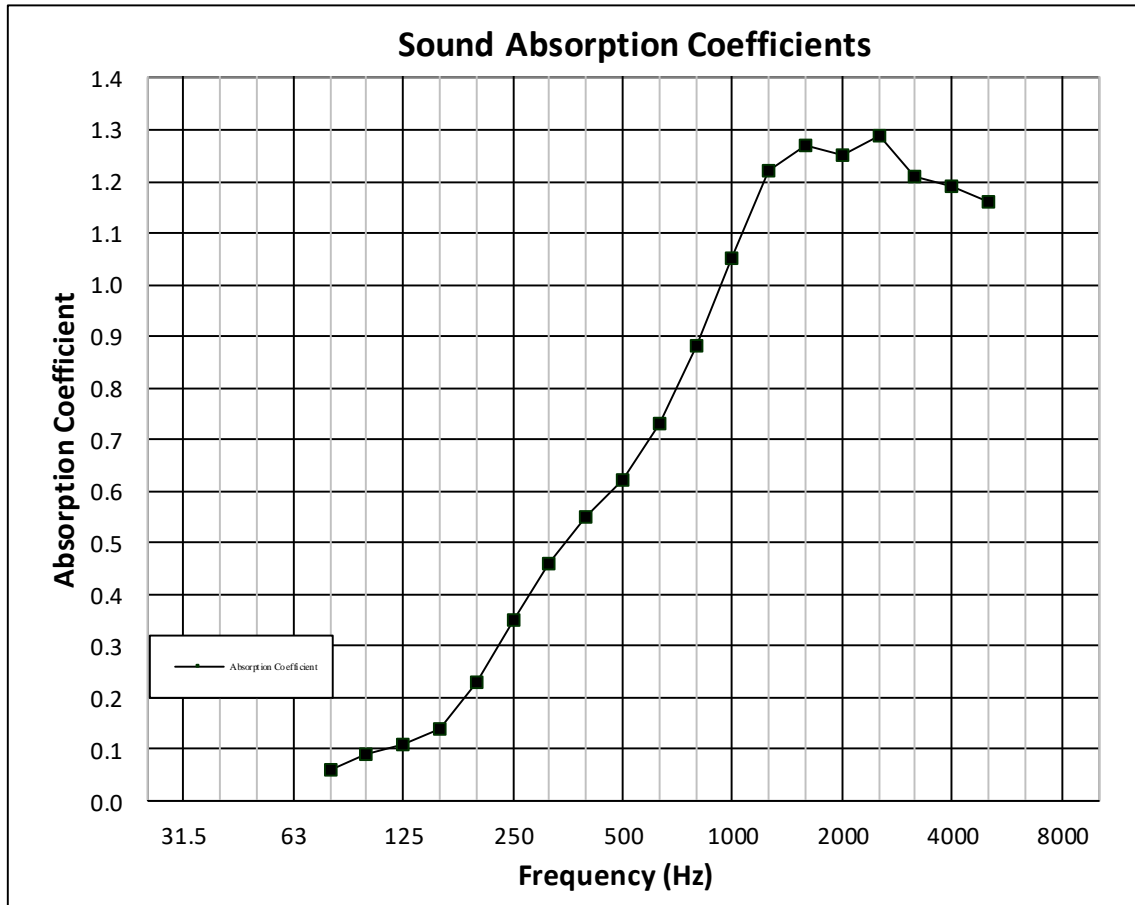
- 1) The NRC rating is the arithmetic average of the sound absorption coefficients at 250, 500, 1000, and 2000 hertz. The average is rounded to the nearest multiple of 0.05.
- 2) The SAA rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500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

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I4107.01 GRAPH



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SECTION 11 PHOTOGRAPHS



Photo No. 1
View of Installed Specimen



Photo No. 2
Cross Section View of Specimen



Total Quality. Assured.

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SECTION 12

REVISION LOG

REVISION #	DATE	PAGES	REVISION
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