22 mm

Test Report No. CK309.0101 No. of Pages 5

NOVAWALL® BENELUX
GRAFTERMEERSTR. 42
2131 AC HOOFDDORP

Report of Test on

Sound Absorption Test
on
Novawall™
1 Inch Based Acoustical Panel Assembly
for
Direct Path of Virginia, Inc.

NOISE UNLIMITED, INC.

104 S. Bridge St., Somerville, N.J. 08876

29 May 1990

Checked	Approved
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H. Estrella	[illegible]
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1.0 Introduction

The sound absorption coefficient of a surface in a specified frequency band is, aside from the effects of diffraction, the fraction of randomly incident sound energy absorbed or otherwise not reflected. The unit of measurement is sabin per square foot.

The noise reduction coefficient, NRC, is the average of the sound absorption coefficients at 250, 500, 1000, and 2000 Hz expressed to the nearest integral multiple of 0.05.

2.0 Applicable Standard

Measurements were made according to:

ASTM Designation: C 423-89, "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method."

Standard Mountings are defined in:

ASTM Designation: E 795-83, "Standard Practices for Mounting Test Specimens During Sound Absorption Test."

3.0 Test Specimen

The test specimen consisted of three (3) 48 inch wide by 96 inch long by 2-1/4 inch thick panels placed side by side in type A mounting forming a test specimen 96 inches wide and 144 inches long. The specimen was submitted for testing by Direct Path of Virginia, Inc. and was identified as Novawall™ 1 Inch Eased

Acoustical Panel Assembly. The weight of the panels was 433-1/2 lbs. The area used to calculate sound absorption coefficients was 96 sq.ft., the area of the face of the specimen. The construction of the specimen per Direct Path of Virginia, Inc. was as follows; 5/8 inch drywall (sheetrock) with 1 inch height extruded polymer frame system attached with staples around the perimeter of the side to be tested. A 1/2 inch plywood stiffener was attached behind the drywall layer to provide stability during shipping. Nominal three (3) pound density fiberglass fill, 1 inch in height was attached to the area within the polymer frame. A woolen fabric (Wool Broadcloth Solid by Maharam) was stretched over the entire assembly and secured in the locking channels of the polymer extrusions.

4.0 Test Results

The calculated values of the sound absorption of the specimen and sound absorption coefficients together with the calculated measurement uncertainty for each are Tabulated in Table 1 and shown graphically in Figure 1.

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Table 1. Sound Absorption and Sound Absorption Coefficient vs. Frequency on Novawall™ 1 Inch Based Acoustical Panel Assembly for Direct Path of Virginia, Inc.

Frequency (Hz)	Absorption (Sabin)	Coefficient (Sabin/ft²)
100	8.6 ± 4.9	0.09 ± 0.05
125	9.1 ± 4.1	0.10 ± 0.04
160	17.7 ± 3.1	0.18 ± 0.03
200	24.8 ± 2.6	0.26 ± 0.03
250	43.0 ± 1.8	0.45 ± 0.02
315	54.1 ± 1.8	0.56 ± 0.02
400	68.9 ± 2.7	0.72 ± 0.03
500	83.9 ± 1.9	0.87 ± 0.02
630	93.3 ± 1.6	0.97 ± 0.02
800	97.7 ± 1.5	1.02 ± 0.02
1000	101.3 ± 1.4	1.05 ± 0.01
1250	102.2 ± 1.2	1.06 ± 0.01
1600	103.0 ± 1.2	1.07 ± 0.01
2000	103.5 ± 1.1	1.08 ± 0.01
2500	103.3 ± 1.0	1.08 ± 0.01
3150	103.7 ± 1.3	1.08 ± 0.01
4000	100.2 ± 1.1	1.04 ± 0.01
5000	99.9 ± 1.1	1.04 ± 0.01
Noise Reduction Coefficient, NRC 0.85		

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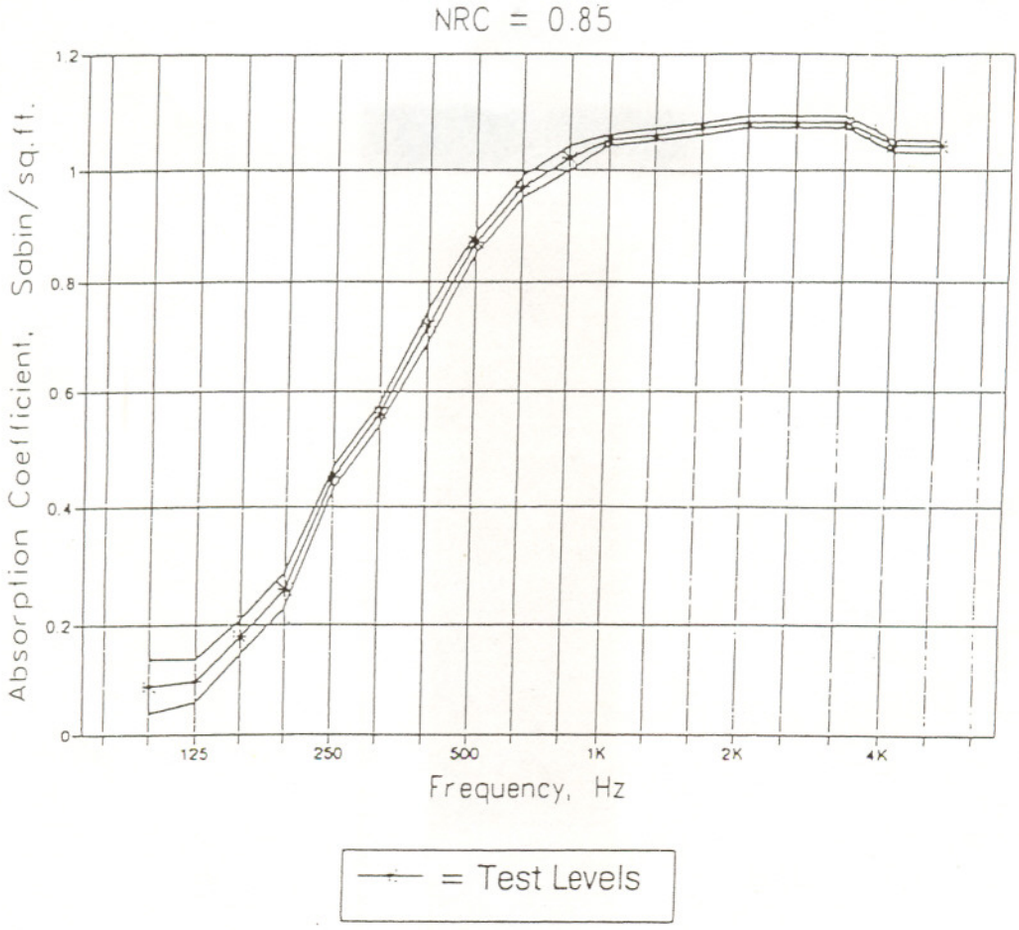


Sound Absorption Coefficient (Sab/ft²) vs. Frequency (Hz)
on Novawall™ 1 Inch Eased Acoustical Panel Assembly

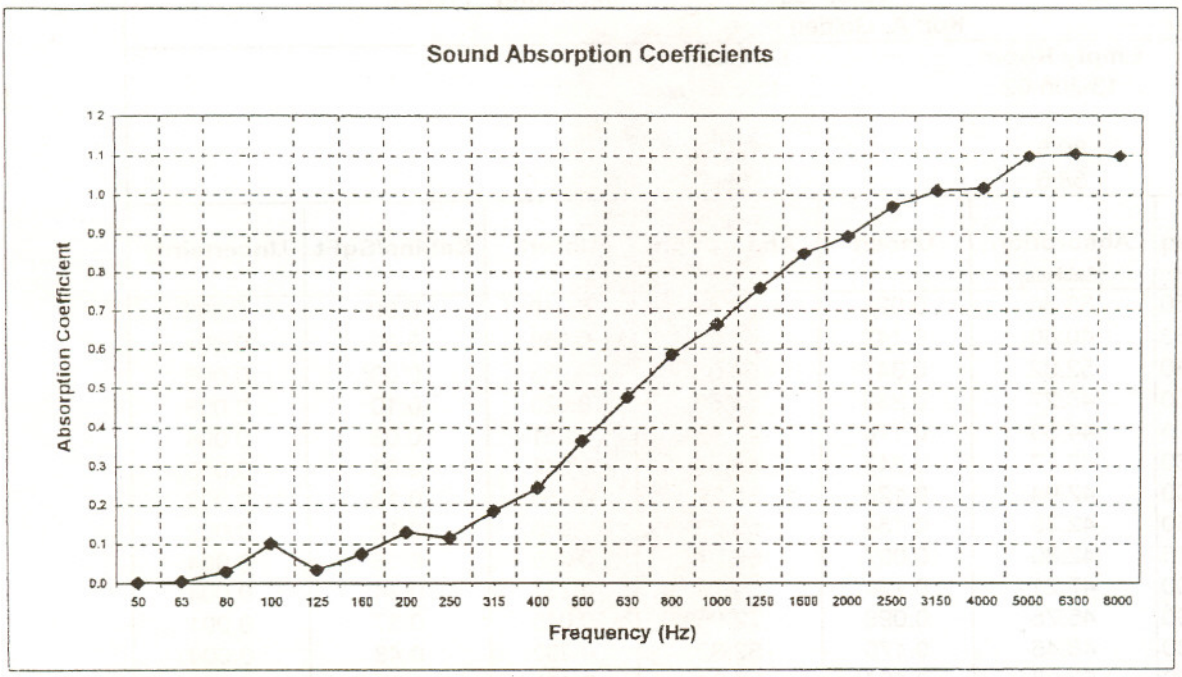
Figure 1

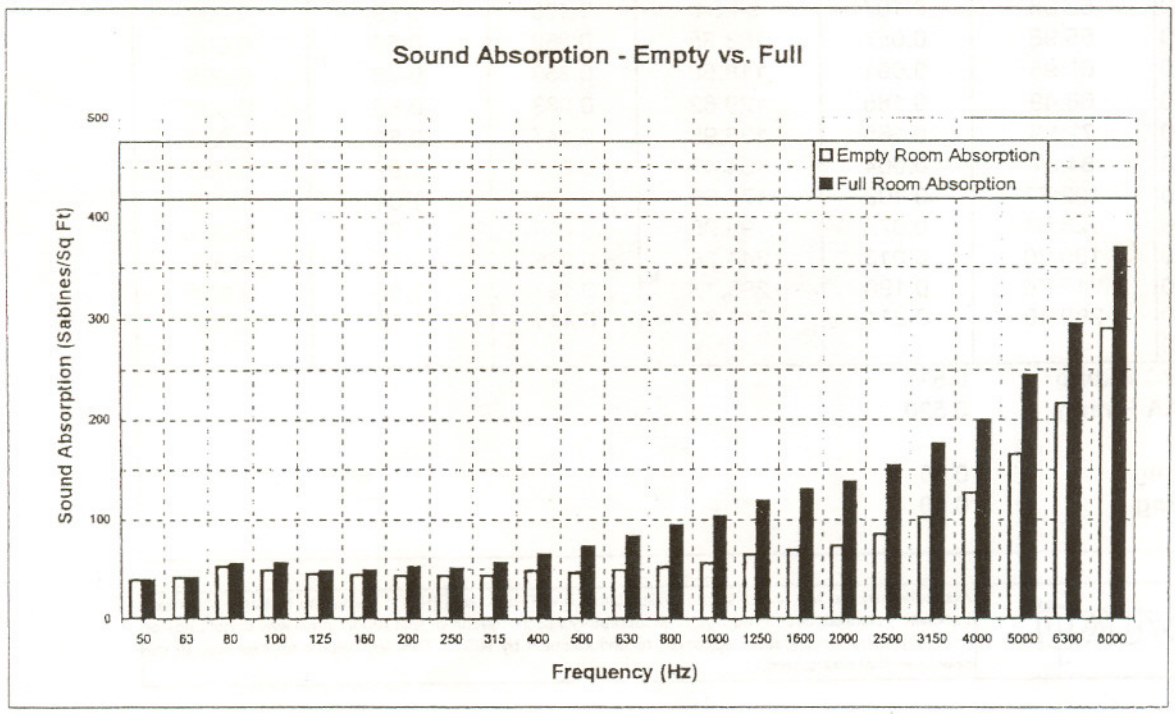
12 Inch

NVLAP

Architectural Testing

ATI No.	01-41817.01
Client	Novawall Systems, Inc.
Specimen	1/2" Fiber Glass Panel Novawall System
Specimen Area	72.00 Sq Ft **Mounting** Type A
Operator	Kurt A. Golden





NOVAWALL® BENELUX
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Architectural Testing

SOUND ABSORPTION
ASTM C423

ATI No.	01-41817.01		
Client	Novawall Systems, Inc.		
Specimen	1/2" Fiber Glass Panel Novawall System		
Specimen Area	72.00 Sq Ft	**Mounting**	Type A
Operator	Kurt A. Golden		

	Empty Room	Full Room
Date	13-Jun-02	13-Jun-02
Temp F	80.5	79.9
RH %	58.6	58.1

Freq (Hz)	Absorption (Sabines)	Uncert	Absorption (Sabines)	Uncert	Sabins/SqFt	Uncertainty
50	38.34	0.024	38.48	0.210	0.00	0.003
63	40.80	0.142	41.15	0.259	0.00	0.004
80	52.82	0.341	54.93	0.236	0.03	0.006
100	48.27	0.230	55.56	0.020	0.10	0.003
125	44.38	0.170	46.87	0.251	0.03	0.004
160	43.17	0.243	48.58	0.241	0.08	0.005
200	42.94	0.123	52.29	0.050	0.13	0.002
250	42.39	0.154	50.68	0.046	0.12	0.002
315	42.80	0.007	56.07	0.268	0.18	0.004
400	47.21	0.124	64.74	0.237	0.24	0.004
500	45.75	0.098	72.06	0.045	0.37	0.001
630	48.45	0.170	82.82	0.200	0.48	0.004
800	52.08	0.107	94.34	0.125	0.59	0.002
1000	55.98	0.057	103.85	0.360	0.66	0.005
1250	63.95	0.091	118.50	0.350	0.76	0.005
1600	68.49	0.185	129.62	0.083	0.85	0.003
2000	72.59	0.165	136.95	0.147	0.89	0.003
2500	84.57	0.004	154.47	0.001	0.97	0.000
3150	102.77	0.102	175.63	0.063	1.01	0.002
4000	126.61	0.072	199.95	0.055	1.02	0.001
5000	165.26	0.013	244.38	0.099	1.10	0.001
6300	215.66	0.196	295.17	0.183	1.10	0.004
8000	290.49	0.211	369.61	0.419	1.10	0.007
10000						

Exact NRC Rating	0.510
Exact SAA Rating	0.520
NRC Rating	0.50
SAA Rating	0.50

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