



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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We Identify and **S.T.O.P.** Your Noise Problems

RIVERBANK ACOUSTICAL LABORATORIES

1512 BATAVIA AVENUE
GENEVA, ILLINOIS 60134

OF
IIT RESEARCH INSTITUTE

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

REPORT

ON: 2 Inch, 3 PCF Fabric Baffles

Sound Absorption Test
RAL™-A97-49

Page 1 of 3

CONDUCTED: 20 March 1997

TEST METHOD

The test method conformed explicitly with the requirements of the ASTM Standard Test Method for Sound absorption and Sound Absorption Coefficients by the Reverberation Room Method: ASTM C 423-90a and E795-92. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure. A description of the measuring technique is available separately. The microphone used was a Bruel & Kjaer serial number 1330828.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated as 2", 3 pcf fabric baffles. The specimen consisted of ten baffles that each measured 610 mm (24 in.) wide by 1.22 m (48 in.) long 51 mm (2 in.) thick. The specimen was tested in the laboratory's 292 m³ (10,311 ft³) test chamber. The description of the specimen was as follows: Each baffle consisted of a 51 mm (2 in.) thick, 3 pcf density fiberglass core wrapped in 2.5 mil sailcloth fabric. A visual inspection verified the description of the specimen. The weight of the baffles as measured was 17.7 kg (39 lbs.) an average of 2.4 kg/m² (0.48 lbs/ft²). The room temperature at the time of the test was 21°C (70° F) and 62% relative humidity.

MOUNTING

The ten baffles were in four rows in a 3-2-3-2 pattern. The rows (face to face) were 610 mm (24 in.) apart. The first and third rows contained three baffles each and the second and fourth row contained two baffle each. The baffles were spaced 305 mm (12 in.) apart end to end and the bottom edges were suspended 914 m (36 in.) off the floor.

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TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins	% Of Uncertainty With 95% Confidence Limit With Specimen
100	1.76	17.65	2.82
** 125	1.73	17.30	3.51
160	2.68	26.81	2.49
200	3.95	39.50	1.82
** 250	5.14	51.45	1.56
315	6.44	64.41	1.25
400	8.41	84.13	1.54
** 500	10.79	107.88	1.44
630	13.01	130.07	1.03
800	13.59	135.88	0.98
** 1000	13.12	131.18	0.97
1250	11.99	119.92	0.80
1600	10.21	102.10	0.79
** 2000	8.69	86.88	0.64
2500	6.94	69.43	0.63
3150	5.71	57.12	0.51
** 4000	4.60	46.03	0.42
5000	3.65	36.52	0.49

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TEST METHOD (cont'd)

The percentage of uncertainty for the required 95% confidence limits indicated above must fall within the prescribed limits designated in par. 13.2 of ASTM C423-90a. It states that for the absorption of the reverberation room containing the specimen the testing laboratory shall obtain data with less than 4% uncertainty at 125 (hertz and 2% uncertainty at 250, 500, 1000, 2000, and 4000 (hertz). The method of calculation is described in ASTM STP 15D and outlined in section 13 of the standard.

Tested by
Reviewed by

Dean Victor
Senior Experimentalist

Submitted by

Peter E. Straus
Senior Experimentalist

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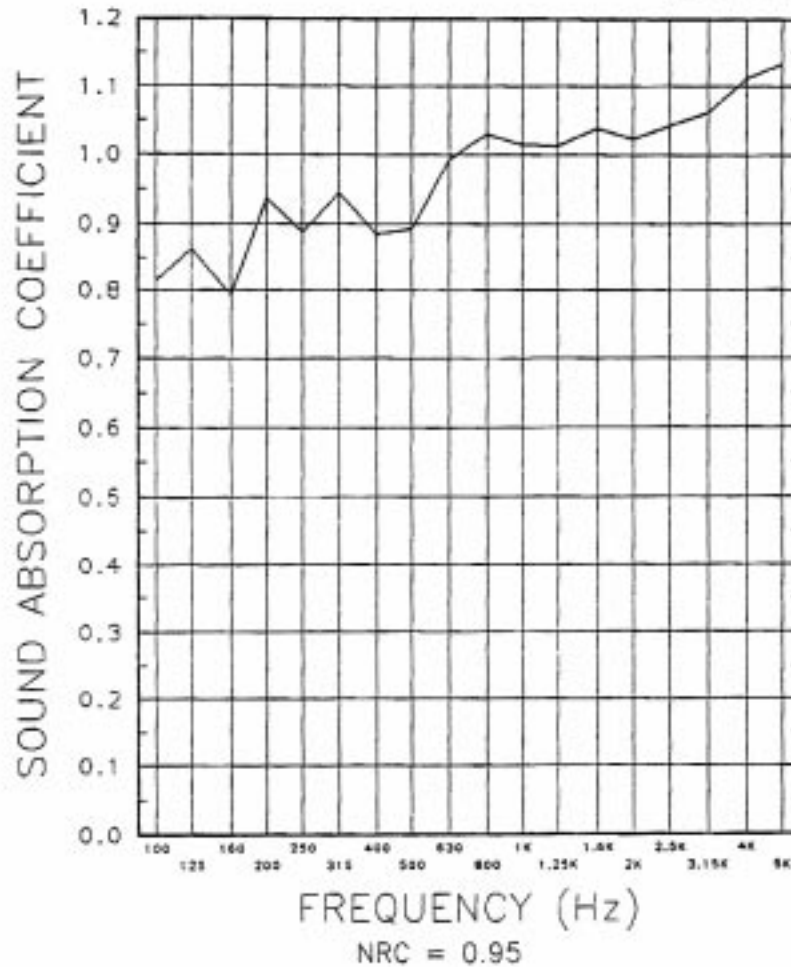
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TEST REPORT

SOUND ABSORPTION REPORT
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