

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

OF
IIT RESEARCH INSTITUTE

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

TEST REPORT

FOR: Auralex Acoustics

Sound Absorption Test
Test RAL™-A00-24

ON: MAX-Wall™ Wedge-Cut
Open-Cell Polyurethane Foam Units
(A-Mount)

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CONDUCTED: 18 January 2000

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 C423-90a and E795-93. 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.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the client as MAX-Wall™ wedge-cut open-cell polyurethane foam units. The overall dimensions of the specimen were 2.44 m (96 in.) wide by 2.44 m (96 in.) long and 108 mm (4.25 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: The specimen consisted of eight pieces of 108 mm (4.25 in.) thick foam, 610 mm (24 in.) wide by nominal 1.22 m (48 in.) long, butted against each other. Each unit of the specimen was described by the manufacturer as a MAX-Wall™ unit, 4' x 2' x 4.25", wedge-cut piece of open-cell polyurethane foam, approximately 1.7 pcf density. The wedges were 1" deep. The weight of the entire specimen as measured was 15.4 kg (34.0 lbs), an average of 2.6 kg/m² (0.53 lbs/ft²). The area used in the calculations was 5.9 m² (64 ft²). The room temperature at the time of the test was 22°C (71°F) and 59% relative humidity.

Mounting A

The test specimen was laid directly against the test surface.

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TEST REPORT

Auralex Acoustics

RAL™-A00-24

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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	0.55	34.93	3.35
** 125	0.81	51.84	2.57
160	0.86	54.90	2.51
200	1.06	67.56	2.53
** 250	1.02	65.18	1.57
315	1.11	71.03	1.56
400	1.06	67.95	1.58
** 500	1.06	67.63	0.95
630	1.07	68.35	0.93
800	1.05	67.44	0.74
** 1000	1.05	66.98	0.76
1250	1.05	67.37	0.63
1600	1.05	66.90	0.63
** 2000	1.02	65.20	0.54
2500	1.00	64.07	0.60
3150	1.00	63.73	0.48
** 4000	1.02	65.26	0.51
5000	1.06	68.07	0.52

NRC = 1.05

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TEST RESULTS (con't)

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.

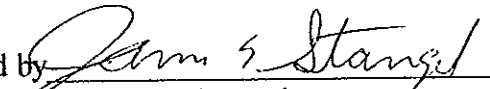
The noise reduction coefficient (NRC) is the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by



Dean Victor
Senior Experimentalist

Approved by



James E. Stangel
Laboratory Manager

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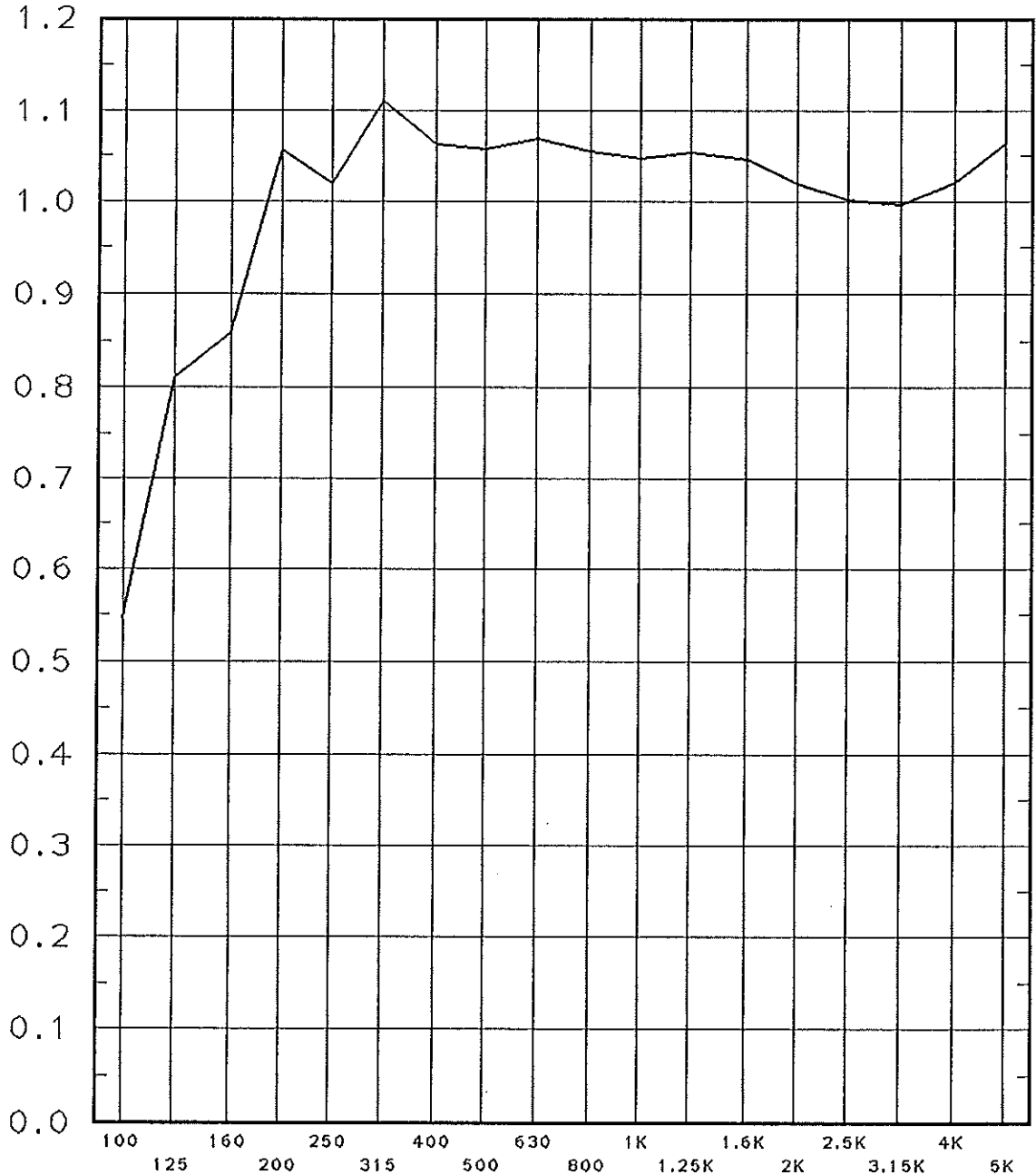
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SOUND ABSORPTION COEFFICIENT



FREQUENCY (Hz)

NRC = 1.05

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FOR: Auralex Acoustics

Sound Absorption Test
Test RAL™-A00-25

ON: MAX-Wall™ Wedge-Cut
Open-Cell Polyurethane Foam Units
(Free Standing, Individual Units)

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CONDUCTED: 18 January 2000

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 C423-90a and E795-93. 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.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the client as MAX-Wall™ wedge-cut open-cell polyurethane foam units. The test was conducted on eight units. Each unit measured 610 mm (24 in.) wide by nominal 1.22 m (48 in.) long, and 108 mm (4.25 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 unit was described by the manufacturer as a MAX-Wall™ unit, 4' x 2' x 4.25", wedge-cut piece of open-cell polyurethane foam, approximately 1.7 pcf density. The wedges were 1" deep. The weight of the entire specimen as measured was 15.4 kg (34.0 lbs), an average of 1.93 kg/unit (4.25 lbs/unit). The room temperature at the time of the test was 22 C (71 F) and 56% relative humidity.

MOUNTING

The eight units were aligned in two rows of four units each, with the wedges all facing the same direction (wedges were on one side of the foam unit only; the other side was flat). The units were set on the 1.22 m (48 in.) long edge, with 610 mm (24 in.) spacing both face-to-face and end-to-end.

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TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Per Unit in Sabins	Total Absorption In Sabins	% Of Uncertainty With 95% Confidence Limit With Specimen
100	3.70	29.59	3.35
** 125	6.39	51.11	2.69
160	6.05	48.42	3.05
200	6.46	51.71	1.68
** 250	7.28	58.21	1.60
315	9.31	74.47	1.31
400	10.62	84.97	1.65
** 500	11.98	95.83	1.22
630	13.06	104.51	0.90
800	13.70	109.58	1.07
** 1000	14.32	114.54	0.82
1250	14.12	112.96	0.86
1600	14.06	112.47	0.74
** 2000	13.70	109.58	0.61
2500	13.57	108.58	0.59
3150	13.25	105.98	0.52
** 4000	13.22	105.78	0.62
5000	13.59	108.71	0.50

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TEST RESULTS (con't)

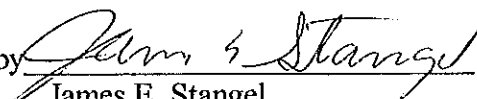
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