RIVERBANK ACOUSTICAL LABORATORIES

OF
IIT RESERCH INSTITUTE

1512 BATAVIA AVENUE
GENEVA ILLINOIS 60134

708/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

REPORT

FOR: USAFoam

Auralex™
2" Studiofoam Wedges

Sound Absorption Test
RAL™-A93-58

ON: STUDIOFOAM Sound Absorbent Wedges

CONDUCTED: 4 March 1993

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 E795-91. 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 792729.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as STUDIOFOAM Sound Absorbent Wedges. The overall dimensions of the specimen as measured were 2.44 m (96 in.) wide by 2.74 m (108 in.) long and 51 mm (2.0 in.) thick. The specimen consisted of twelve pieces. Eight pieces as measured were 610 mm (24 in.) wide by 1.22 m (48 in.) long by 51 mm (2 in.) thick. Four pieces measured 305 mm (12 in.) wide by 610 mm (24 in.) long. The specimen was tested in the laboratory's 292 m^3 (10,311 ft^3) test chamber. The description of the specimen was as follows: STUDIOFOAM was formulated of flame-retardant stock designed 4516R, a high density (1.5-1.7 pcf) open cell polyurethane foam rubber that was cut in an anechoic wedge design. Each 610 mm (24 in.) by 1.22 m (48 in.) sheet consisted of thirty peaks and thirty valleys. The thickness was 51 mm (2 in.) at the peaks and 13 mm (0.5 in.) at the base. A visual inspection verified the description of the specimen. The weight of the specimen as measured was 6 kg (13 lbs) an average of 0.9 kg/m^2 (0.18 lbs/ft^2). The area used in the calculations was 6.7 m^2 (72 ft^2) . The room temperature at the time of the test was 23°C (74°F) and 65% relative humidity.

MOUNTING A

The test specimen was laid directly against the test surface.

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TEST RESULTS

	1/3 Octave Center Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins	% Of Uncertainty With 95% Confidence Limit With Specimen
	100	0.17	12.09	2.84
★★	125	0.11	8.22	2.64
	160	0.16	11.23	2.03
	200	0.24	17.02	1.94
★★	250	0.30	21.18	1.53
	315	0.45	31.88	1.18
	400	0.64	46.11	1.35
★★	500	0.91	65.37	1.14
	630	1.01	72.63	0.92
	800	1.06	76.15	0.87
★★	1000	1.05	75.11	0.84
	1250	1.02	73.32	0.74
	1600	1.03	73.74	0.61
★★	2000	0.99	70.92	0.56
	2500	0.97	69.33	0.54
	3150	0.95	67.95	0.56
★★	4000	1.00	71.94	0.47
	5000	1.05	75.48	0.44

NRC = 0.80