

RIVERBANK ACOUSTICAL LABORATORIES

1512 BATAVIA AVENUE
GENEVA ILLINOIS 60134

OF
IIT RESEARCH INSTITUTE

708/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

REPORT

Auralex™
Sunburst Female
Broadband Absorbers

FOR: USAFoam

Sound Absorption Test
RAL™-A96-227

ON: USAFoam Sunburst™ Three-dimensional
Concave Polyurethane Foam Wedges

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CONDUCTED: 16 July 1996

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 E795-92. 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 by the manufacturer as USAFoam Sunburst™ three-dimensional, concave, polyurethane foam wedges. The overall dimensions of the specimen as measured were 2.44 m (96 in.) wide by 1.83 m (72 in.) long by 152 mm (6 in.) thick. The specimen consisted of twelve units that measured 1.22 m (48 in.) wide by 305 mm (12 in.) long each. The specimen was tested in the laboratory's 292³ (10,311 ft³) test chamber. The manufacturer's description of the specimen was as follows: The Sunburst™ was a three-dimensional, concave, elliptical, open-cell, polyurethane foam; approximately 1.7 lbs density. The wedge side contained a symmetrical pattern of peaks and valleys, seven total (one center and three on each side following on elliptical base), each approximately 51 mm (2 in.) in depth. A visual inspection verified the manufacturer's description of the specimen. The weight of the specimen as measured was 10.4 kg (23 lbs) an average of 2.3 kg/m² (0.48 lbs/ft²). The area used in the calculations was 4.5 m² (48 ft²). The room temperature at the time of the test was 22°C (71°F) and 61% relative humidity.

MOUNTING A

The test specimen was laid directly against the test surface.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.

NVLAP

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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	0.51	24.28	3.05
★★ 125	0.65	31.17	3.07
160	0.60	28.92	2.31
200	0.84	40.35	2.01
★★ 250	1.02	48.88	1.52
315	1.08	51.69	1.40
400	1.06	50.87	1.32
★★ 500	1.00	47.83	1.00
630	1.01	48.43	0.95
800	1.06	51.06	0.73
★★ 1000	1.08	51.83	0.74
1250	1.05	50.21	0.73
1600	1.04	49.84	0.59
★★ 2000	1.05	50.42	0.54
2500	1.06	50.79	0.54
3150	1.08	51.61	0.47
★★ 4000	1.08	51.77	0.44
5000	1.13	54.09	0.42

NRC = 1.05

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