

# RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE  
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104  
FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## TEST REPORT

FOR: Madrid Inc.  
Santa Fe Springs, CA

Sound Absorption Test  
RAL™-A12-123

ON: 2' x 2' Wood Ceiling Tiles with Soundtex Backer - Staggered  
Hole Pattern 1/4" Holes with 1.25" Centers

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CONDUCTED: 16 April 2012

### 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 C423-09a and E795-05. 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 (NVLAP Lab Code: 100227-0). A description of the measuring procedure and room qualifications is available separately.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as 2' x 2' Wood Ceiling Tiles with Soundtex backer - staggered hole pattern 1/4" holes with 1.25" centers. The overall dimensions of the specimen as measured were nominally 2.71 m (106.75 in.) wide by 2.41 m (95 in.) long and 19 mm (0.75 in.) thick. The specimen consisted of twenty (20) pieces. Sixteen (16) pieces were nominally 603 mm (23.75 in.) wide by 603 mm (23.75 in.) long. Four (4) pieces were nominally 298 mm (11.75 in.) wide by 603 mm (23.75 in.) long. The specimen was tested in the laboratory's 292 m<sup>3</sup> (10,311 ft<sup>3</sup>) test chamber.

The weight of the entire specimen as measured was 87.3 kg (192.5 lbs), an average of 13.3 kg/m<sup>2</sup> (2.7 lbs/ft<sup>2</sup>). The area used in the calculations was 6.5 m<sup>2</sup> (70.4 ft<sup>2</sup>). The room temperature at the time of the test was 21°C (71±1°F) and 59±1% relative humidity and the barometric pressure was 738 mm of mercury.

### MOUNTING E-400

The test specimen was mounted with an airspace behind it. The number designates the distance in mm from the exposed face of the test specimen to the test surface. The perimeter was sealed using metal framing.

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NVLAP Lab Code 100227-0

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### TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins
100	0.98	69.34
** 125	0.64	45.11
160	0.71	50.03
200	0.72	50.41
** 250	0.76	53.53
315	0.54	37.75
400	0.54	38.17
** 500	0.53	37.32
630	0.51	35.90
800	0.48	34.06
** 1000	0.42	29.75
1250	0.39	27.60
1600	0.38	26.79
** 2000	0.36	25.58
2500	0.31	21.63
3150	0.35	24.65
** 4000	0.38	26.61
5000	0.40	28.44

SAA = 0.50

NRC = 0.50

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### TEST RESULTS (Continued)

The sound absorption average (SAA) is defined as a single number rating, the average, rounded to the nearest 0.01, of the sound absorption coefficient of a material for the twelve one-third octave bands from 200 through 2500 Hz, inclusive.

The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by

*Marc Sciaky*  
Marc Sciaky  
Experimentalist  
*js*

Approved by

*Dean Victor*  
*EW*

Dean Victor  
Senior Experimentalist

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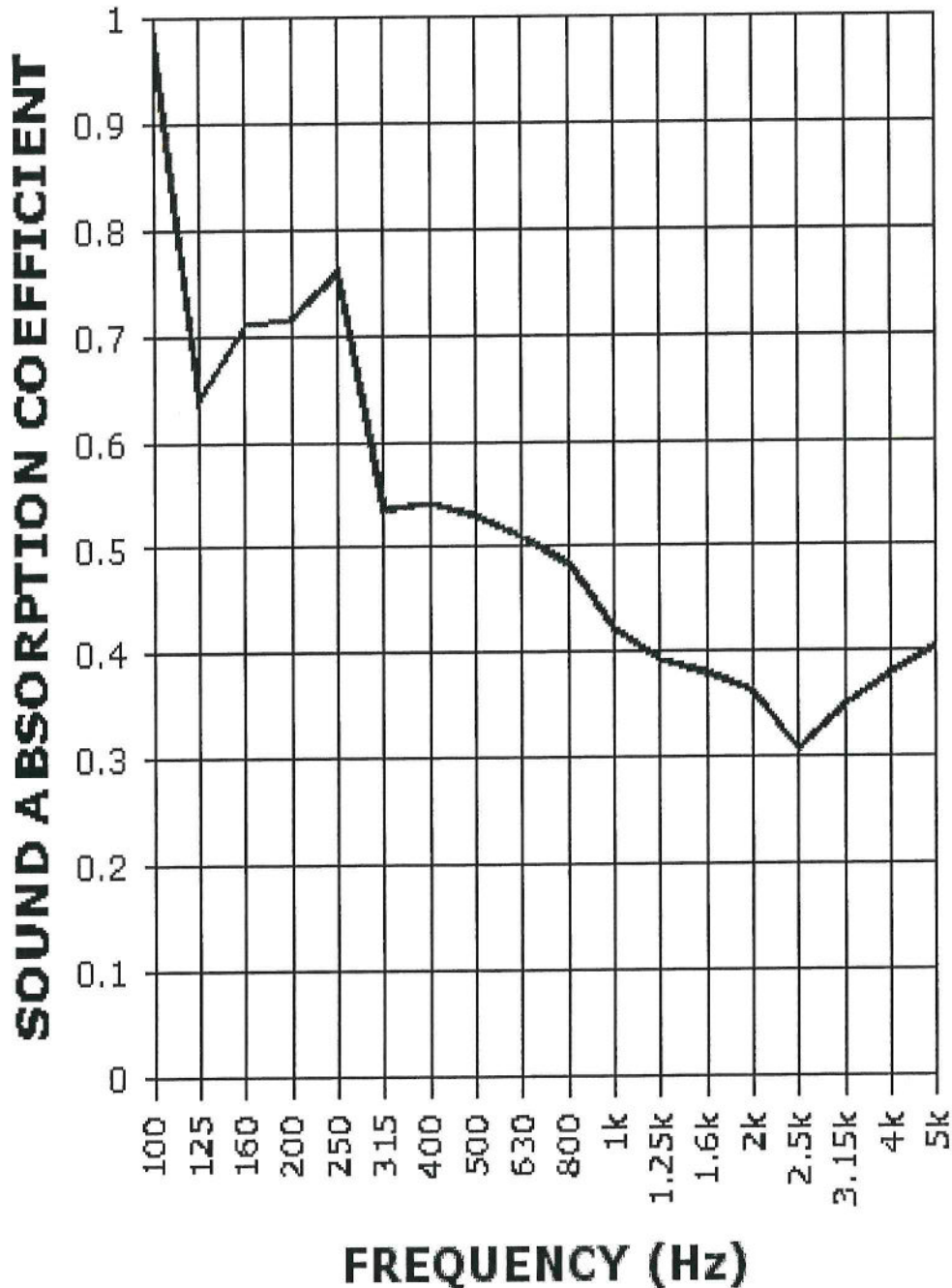


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**TEST REPORT**

**SOUND ABSORPTION REPORT  
RAL-A12-123**



SAA=0.50  
NRC=0.50

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