

## Test Report

FOR: **Decorative Ceiling Tiles**  
Margate, FL.

**Sound Absorption**  
**RAL™-A15-262**

CONDUCTED: 2015-09-21

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ON: Laural Wreath Faux Tin Ceiling Tiles Over 3/4" Acoustical Ceiling Tiles

### TEST METHOD

Riverbank Acoustical Laboratories™ is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) as an ISO 17025:2005 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM C423-09a: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-05(2012): "Standard Practices for Mounting Test Specimens During Sound Absorption Tests." A description of the measuring procedure and room qualifications is available upon request.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Laural Wreath Faux Tin Ceiling Tiles Over 3/4" Acoustical Ceiling Tiles. A full internal inspection was performed on the test specimen by Riverbank personnel, verifying the manufacturer's description.

#### Detail of Ceiling Tile

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##### **First Layer**

Material: Polyvinyl chloride (PVC)

Dimensions: Sixteen at 603.25 mm (23.75 in.) wide by 603.25 mm (23.75 in.) long  
Four at 330.20 mm (13.0 in.) wide by 603.25 mm (23.75 in.) long

Material Thickness: 0.47 mm (0.02 in.)

*Note: A decorative design was formed into the face of each PCV ceiling tile. The ceiling tiles were placed over USG LUNA™ ClimaPlus™ acoustical ceiling panels.*

##### **Second Layer**

Material: USG LUNA™ ClimaPlus™ acoustical ceiling panels.

Dimensions: Sixteen at 603.25 mm (23.75 in.) wide by 603.25 mm (23.75 in.) long  
Four at 330.20 mm (13.0 in.) wide by 603.25 mm (23.75 in.) long

Material Thickness: 18.13 mm (0.71 in.)

*Note: The material consisted of fine-textured fiberboard tiles with painted face and edges.*



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THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SPECIMEN.

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### Physical Measures

Size: 2.41 m (95.00 in.) wide by 2.74 m (108.00 in.) long  
Thickness: 33.32 mm (1.31 in.)  
Weight: 31.30 kg (69.00 lbs.)  
Mass per Unit Area: 4.74 kg/m<sup>2</sup> (0.97 lbs/ft<sup>2</sup>)  
Area: 6.61 m<sup>2</sup> (71.20 ft<sup>2</sup>)

### Test Environment

Volume: 292.0 m<sup>3</sup> (10,311.0 ft<sup>3</sup>)  
Temperature: 22.0±0.2°C (71.6±0.4°F)  
Humidity: 58.3±0.9%  
Barometric Pressure: 99.1 kPa.

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Figure 1 – Specimen mounted in the test chamber.



Figure 2 – Detail of the test specimen.



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### MOUNTING METHOD

Type E-400 Mounting: The test specimen was mounted with an airspace behind it. The number designates the distance in millimeters from the exposed face of the test specimen to the test surface. The perimeter was sealed using metal framing.

### TEST RESULTS

1/3 Octave Center Frequency (Hz)	Total Absorption (SI) (m <sup>2</sup> )	Total Absorption (IP) (Sabins)	Absorption Coefficient (Sabins / ft <sup>2</sup> )
100	5.13	55.27	0.78
** 125	2.99	32.21	0.45
160	3.11	33.49	0.47
200	3.09	33.30	0.47
** 250	2.74	29.50	0.41
315	3.71	39.95	0.56
400	4.62	49.68	0.70
** 500	6.11	65.81	0.92
630	5.81	62.57	0.88
800	4.41	47.48	0.67
** 1000	3.22	34.62	0.49
1250	2.35	25.25	0.35
1600	1.93	20.83	0.29
** 2000	1.65	17.73	0.25
2500	1.53	16.46	0.23
3150	1.47	15.84	0.22
** 4000	1.28	13.73	0.19
5000	0.93	10.03	0.14

**SAA = 0.52**  
**NRC = 0.50**



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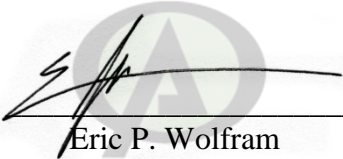
TEST RESULTS (Continued)

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   
Dean Victor  
Senior Experimentalist

Report by   
Chris Nottoli  
Acoustician

Approved by   
Eric P. Wolfram  
Laboratory Manager



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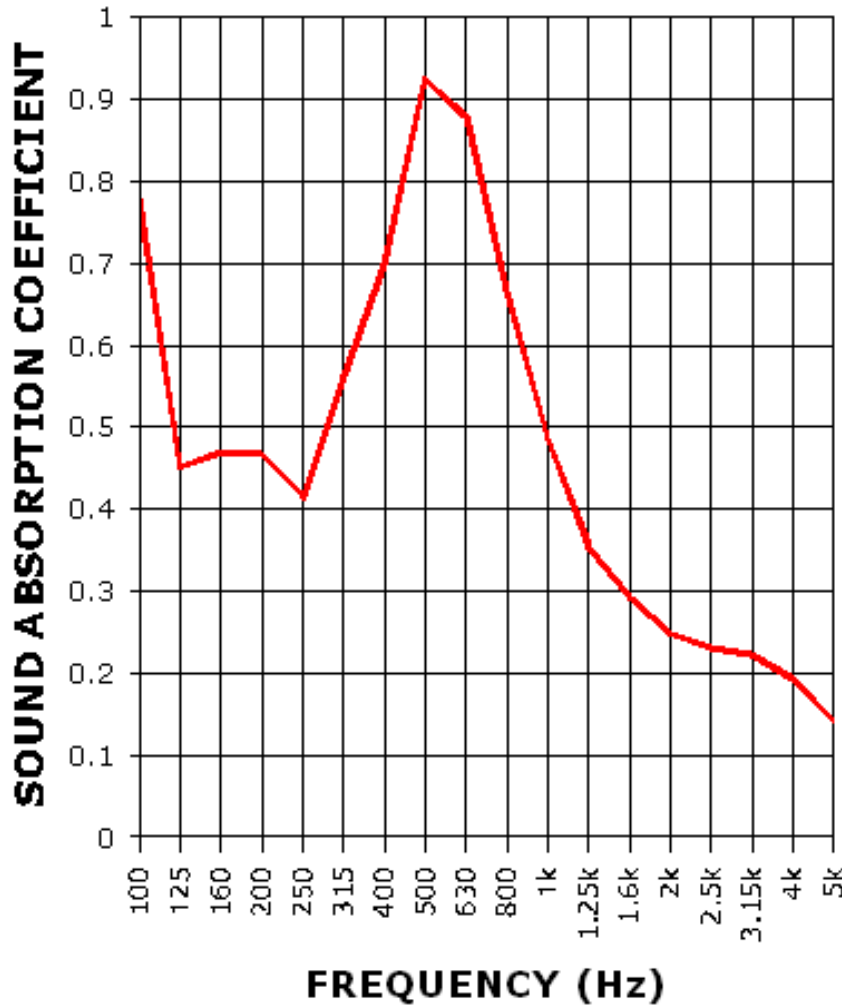
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SOUND ABSORPTION REPORT

Laural Wreath Faux Tin Ceiling Tiles Over 3/4" Acoustical Ceiling Tiles



SAA = 0.52  
NRC = 0.50



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### **APPENDIX A: Extended Frequency Range Data**

Specimen: Laural Wreath Faux Tin Ceiling Tiles Over 3/4" Acoustical Ceiling Tiles (See Full Report)

*The following non-accredited data were obtained in accordance with ASTM C423-09a, but extend beyond the defined frequency range of 100Hz to 5,000Hz. These unofficial results are representative of the RAL test environment only and intended for research & comparison purposes.*

1/3 Octave Band Center Frequency (Hz)	Total Absorption (Sabins)	Absorption Coefficient (Sabins / ft <sup>2</sup> )
31.5	34.49	0.48
40	53.39	0.75
50	105.92	1.49
63	34.19	0.48
80	48.58	0.68
100	55.27	0.78
125	32.21	0.45
160	33.49	0.47
200	33.30	0.47
250	29.50	0.41
315	39.95	0.56
400	49.68	0.70
500	65.81	0.92
630	62.57	0.88
800	47.48	0.67
1000	34.62	0.49
1250	25.25	0.35
1600	20.83	0.29
2000	17.73	0.25
2500	16.46	0.23
3150	15.84	0.22
4000	13.73	0.19
5000	10.03	0.14
6300	7.05	0.10
8000	0.53	0.01
10000	-5.34	-0.08
12500	-16.36	-0.23



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**APPENDIX B: Instruments of Traceability**

Specimen: Latural Wreath Faux Tin Ceiling Tiles Over 3/4" Acoustical Ceiling Tiles (See Full Report)

<b><u>Description</u></b>	<b><u>Model</u></b>	<b><u>Serial Number</u></b>	<b><u>Date of Certification</u></b>	<b><u>Calibration Due</u></b>
Bruel & Kjaer Pulse Analyzer	Type 3560-C	2647140	2015-04-08	2016-04-08
Bruel & Kjaer Mic And Preamp	Type 4943-B-001	2311427	2015-07-27	2016-07-27
G.R.A.S Pistonphone	Type42AF-1	80001	2015-08-14	2016-08-14
Omega Digital Temp., Humid. And Pressure Recorder	OM-CP-PRHTemp2000	N11105	2014-09-30	2015-09-30

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