

Test Report

FOR: **Signature Craft, LLC**
St. Louis, MO.

Sound Absorption
RAL™-A15-079

CONDUCTED: 2015-04-08

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ON: Acoustical Wrapped Panel(AWP) - 2 Inch Truetone with Polyester Svelte Face

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 Acoustical Wrapped Panel(AWP) - 2 Inch Truetone with Polyester Svelte Face. A full internal inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description and further disclosed 50.80 mm (2.0 in.) thick rigid fiberglass insulation wrapped with 3.25 mm (0.13 in.) thick polyester fabric. As provided by the manufacturer, the density of the fiberglass was 6.0 lbs/ft³. The specimen was placed over 3.18 mm (0.13 in.) spacers.

The overall dimensions of the specimen as measured were 2.43 m (95.75 in.) wide by 2.73 m (107.63 in.) long and 60.35 mm (2.38 in.) thick. The specimen consisted of 12 pieces measured as 606.55 mm (23.88 in.) wide by 908.05 mm (35.75 in.) long and 60.35 mm (2.38 in.) thick. The area used in the calculations was 6.65 m² (71.60 ft²). The weight of the entire specimen as measured was 37.99 kg (83.75 lbs.), an average of 5.71 kg/m² (1.17 lbs/ft²).

The specimen was tested in the laboratory's 292.0 m³ (10,311.0 ft³) test chamber. The room temperature at the time of the test was 21.5±0.0°C (70.7±0.0°F) and 61.4±1.0% relative humidity. The atmospheric pressure was 98.5 kPa.



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Figure 1 - Specimen mounted in the test chamber.

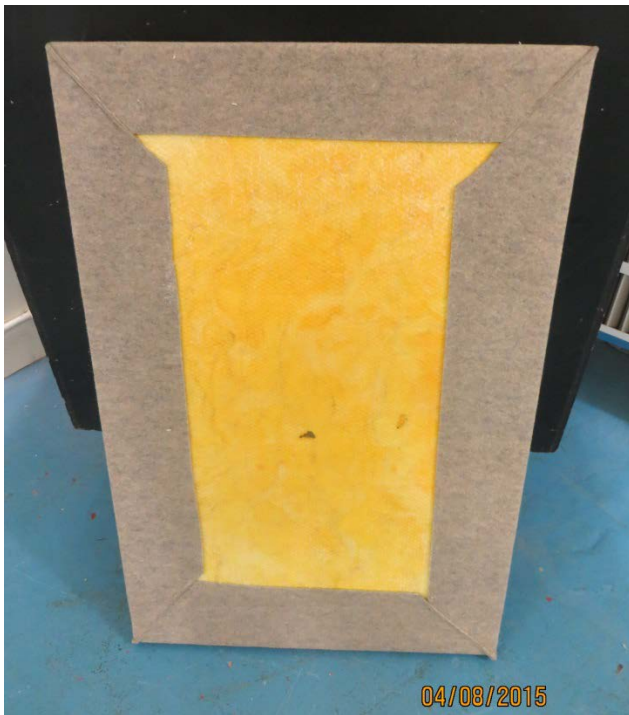


Figure 2 - Detail of the test specimen.



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MOUNTING METHOD

Type F-3 Mounting: The test specimen was laid directly against the test surface, but included a spacer that provided a 3.18 mm (0.13 in.) airspace behind the panel. The perimeter was sealed using metal framing.

TEST RESULTS

| 1/3 Octave Center Frequency (Hz) | Total Absorption (SI) (m ²) | Total Absorption (IP) (Sabins) | Absorption Coefficient (Sabins / ft ²) |
|----------------------------------|---|--------------------------------|--|
| 100 | 2.38 | 25.58 | 0.36 |
| ** 125 | 3.14 | 33.85 | 0.47 |
| 160 | 3.51 | 37.74 | 0.53 |
| 200 | 4.86 | 52.30 | 0.73 |
| ** 250 | 5.92 | 63.72 | 0.89 |
| 315 | 7.07 | 76.16 | 1.06 |
| 400 | 7.95 | 85.62 | 1.20 |
| ** 500 | 7.95 | 85.53 | 1.19 |
| 630 | 7.82 | 84.13 | 1.18 |
| 800 | 7.69 | 82.77 | 1.16 |
| ** 1000 | 7.25 | 78.07 | 1.09 |
| 1250 | 7.26 | 78.19 | 1.09 |
| 1600 | 7.05 | 75.84 | 1.06 |
| ** 2000 | 6.99 | 75.26 | 1.05 |
| 2500 | 6.81 | 73.30 | 1.02 |
| 3150 | 6.92 | 74.48 | 1.04 |
| ** 4000 | 6.90 | 74.29 | 1.04 |
| 5000 | 6.84 | 73.61 | 1.03 |

SAA = 1.06
NRC = 1.05



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630-232-0104

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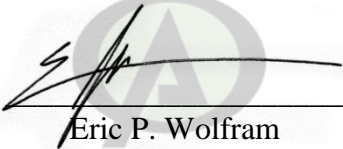
TEST RESULTS (Continued)

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
Experimentalist

Report by 
Chris Nottoli
Acoustician

Approved by 
Eric P. Wolfram
Laboratory Manager



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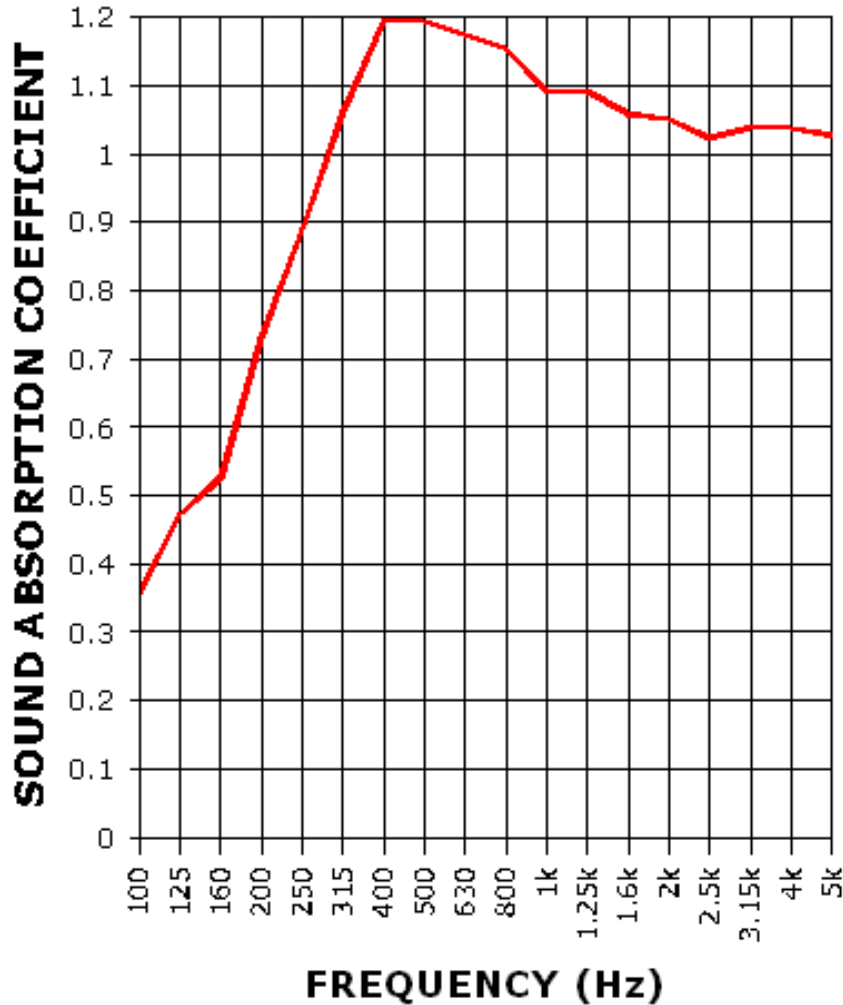
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SOUND ABSORPTION REPORT

Acoustical Wrapped Panel(AWP) - 2 Inch Truetone with Polyester Svelte Face



SAA = 1.06
NRC = 1.05



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APPENDIX A: Extended Frequency Range Data

Specimen: Acoustical Wrapped Panel(AWP) - 2 Inch Truetone with Polyester Svelte Face (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 ²) |
|---|------------------------------|--|
| 31.5 | 2.37 | 0.03 |
| 40 | 3.14 | 0.04 |
| 50 | 4.40 | 0.06 |
| 63 | 6.78 | 0.09 |
| 80 | 4.95 | 0.07 |
| <hr/> | | |
| 100 | 25.58 | 0.36 |
| 125 | 33.85 | 0.47 |
| 160 | 37.74 | 0.53 |
| 200 | 52.30 | 0.73 |
| 250 | 63.72 | 0.89 |
| 315 | 76.16 | 1.06 |
| 400 | 85.62 | 1.20 |
| 500 | 85.53 | 1.19 |
| 630 | 84.13 | 1.18 |
| 800 | 82.77 | 1.16 |
| 1000 | 78.07 | 1.09 |
| 1250 | 78.19 | 1.09 |
| 1600 | 75.84 | 1.06 |
| 2000 | 75.26 | 1.05 |
| 2500 | 73.30 | 1.02 |
| 3150 | 74.48 | 1.04 |
| 4000 | 74.29 | 1.04 |
| 5000 | 73.61 | 1.03 |
| <hr/> | | |
| 6300 | 75.11 | 1.05 |
| 8000 | 76.57 | 1.07 |
| 10000 | 81.47 | 1.14 |
| 12500 | 85.28 | 1.19 |



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APPENDIX B: Instruments of Traceability

Specimen: Acoustical Wrapped Panel(AWP) - 2 Inch Truetone with Polyester Svelte Face (See Full Report)

| <u>Description</u> | <u>Model</u> | <u>Serial Number</u> | <u>Date of Certification</u> | <u>Calibration Due</u> |
|---|-------------------|----------------------|------------------------------|------------------------|
| Bruel & Kjaer Pulse Analyzer | Type 3560-C | 2639093 | 2014-07-21 | 2015-07-21 |
| Bruel & Kjaer Mic And Preamp | Type 4943-B-001 | 2311440 | 2014-09-03 | 2015-09-03 |
| G.R.A.S Pistonphone | Type42AF-1 | 80001 | 2014-08-06 | 2015-08-06 |
| Omega Digital Temp., Humid. And Pressure Recorder | OM-CP-PRHTemp2000 | N11105 | 2014-09-30 | 2015-09-30 |

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