

1512 S BATAVIA AVENUE
GENEVA, IL 60134
630-232-0104

An ALION Technical Center

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FOUNDED 1918 BY
WALLACE CLEMENT SABINE

Test Report

SPONSOR: **Frasch**
Arlington, TX

CONDUCTED: 2021-07-21

ON: Stratawood LITE panels (Modified Type D-50 mounting)

Sound Absorption
RAL™-A21-421

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TEST METHODOLOGY

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 17025:2017 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM C423-17: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-16: "Standard Practices for Mounting Test Specimens During Sound Absorption Tests," except for modifications detailed in the Mounting Method section on Page 2. A description of the measurement procedure and room specifications are available upon request. The results presented in this report apply to the sample as received from the test sponsor.

INFORMATION PROVIDED BY SPONSOR

The test specimen was designated by the sponsor as Stratawood LITE panels (Modified Type D-50 mounting). The following nominal product information was provided by the sponsor prior to testing. The accuracy of such sponsor-provided information can affect the validity of the test results.

Product Under Test

Trade Name: Stratawood LITE
Thickness: 22 mm (0.866 in.)
Manufacturer: Frasch

SPECIMEN MEASUREMENTS & TEST CONDITIONS

Through a full external visual inspection performed on the test specimen, Riverbank personnel verified the following information:

Test Specimen

Materials: Wood veneer slats adhered to semirigid felt paneling
Dimensions: 5 panels @ 600 mm (23.625 in.) by 2402 mm (94.56 in.)
Slats, 15 per panel @ 25 mm (0.984 in.) wide, spaced 40 mm (1.575 in.) on centers
Thickness: Maximum, over slats @ 10 mm (0.394 in.)
Minimum, between slats @ 5 mm (0.197 in.)
Overall Weight: 12.25 kg (27 lbs)
Installation: Slats exposed to sound field
Edges butted at joints; slat spacing preserved panel to panel

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Overall Specimen Properties

Size: 3. m (118.25 in) wide by 2.4 m (94.562 in) long
Thickness: 0.01 m (0.391 in)
Weight: 12.25 kg (27.0 lbs)
Mass per Unit Area: 1.7 kg/m² (0.35 lbs/ft²)
Calculation Area: 7.214 m² (77.65 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 21.9 °C ± 0.1 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 64.15 % ± 0.9 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 99.4 kPa (Requirement not defined)

MOUNTING METHOD

Modified Type D-50 Mounting: The test specimen was laid over an evenly spaced array of 50.8 mm (2 in.) thick wooden furring strips provided by the test sponsor. Additional furring strips placed perpendicular to the ends of the spaced array served to enclose the resulting air space between the test specimen and the horizontal test surface. The furring strips were spaced 610 mm (24 in.) on centers. The numeral suffix in the mounting designation is defined in ASTM E795-16 as the thickness of the furring strips in millimeters, rounded to the nearest integer multiple of 5. Perimeter edges were additionally sealed with metal framing and tape.

Note: This specimen mounting differs from Type D mounting described in ASTM E795-16 Section 9 in that the furring strip spacing used in the test differs from the spacing of 300 mm (12 in.) on centers specified in Section 9.1.

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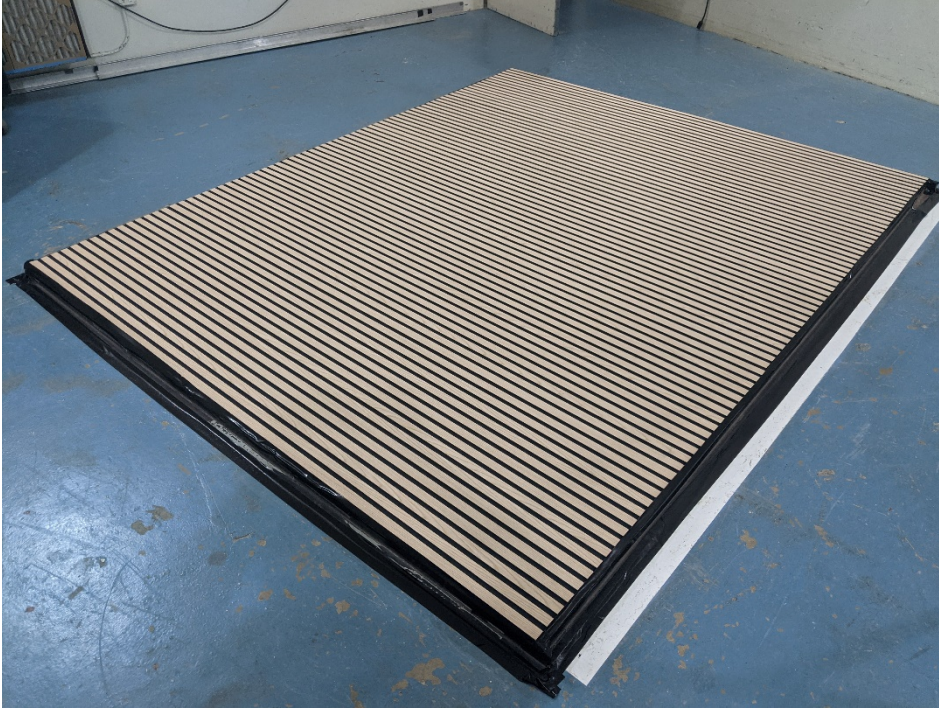


Figure 1 – Specimen mounted in test chamber



Figure 2 – Specimen partially installed over spaced furring strips

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Figure 3 – Individual specimen panel, face oriented toward horizontal test surface



Figure 4 – Detail of specimen materials, as installed over furring strips

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TEST RESULTS

Specimen total absorption and absorption coefficient are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages.

1/3 Octave Center

Frequency (Hz)	Total Absorption (m ²)	Total Absorption (Sabins)	Absorption Coefficient
100	0.89	9.59	0.12
** 125	0.81	8.74	0.11
160	1.09	11.76	0.15
200	1.47	15.79	0.20
** 250	1.94	20.84	0.27
315	2.73	29.34	0.38
400	3.31	35.64	0.46
** 500	4.72	50.81	0.65
630	5.70	61.34	0.79
800	6.87	73.94	0.95
** 1000	7.33	78.89	1.02
1250	7.34	79.02	1.02
1600	7.12	76.65	0.99
** 2000	6.44	69.36	0.89
2500	5.72	61.57	0.79
3150	5.62	60.50	0.78
** 4000	6.26	67.37	0.87
5000	5.48	59.03	0.76

SAA = 0.70

NRC = 0.70

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TEST RESULTS (continued)

The sound absorption average (SAA) is defined in ASTM C423-17 Section 3.1.1 as the arithmetic average of the sound absorption coefficients of a material for the twelve one-third octave bands from 200 Hz through 2500 Hz, inclusive, rounded to the nearest integer multiple of 0.01.

The noise reduction coefficient (NRC) is defined from previous versions of ASTM C423 as the arithmetic average of the sound absorption coefficients at 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz, rounded to the nearest integer multiple of 0.05.

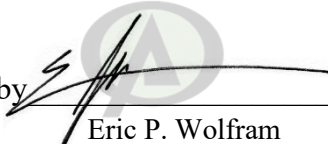
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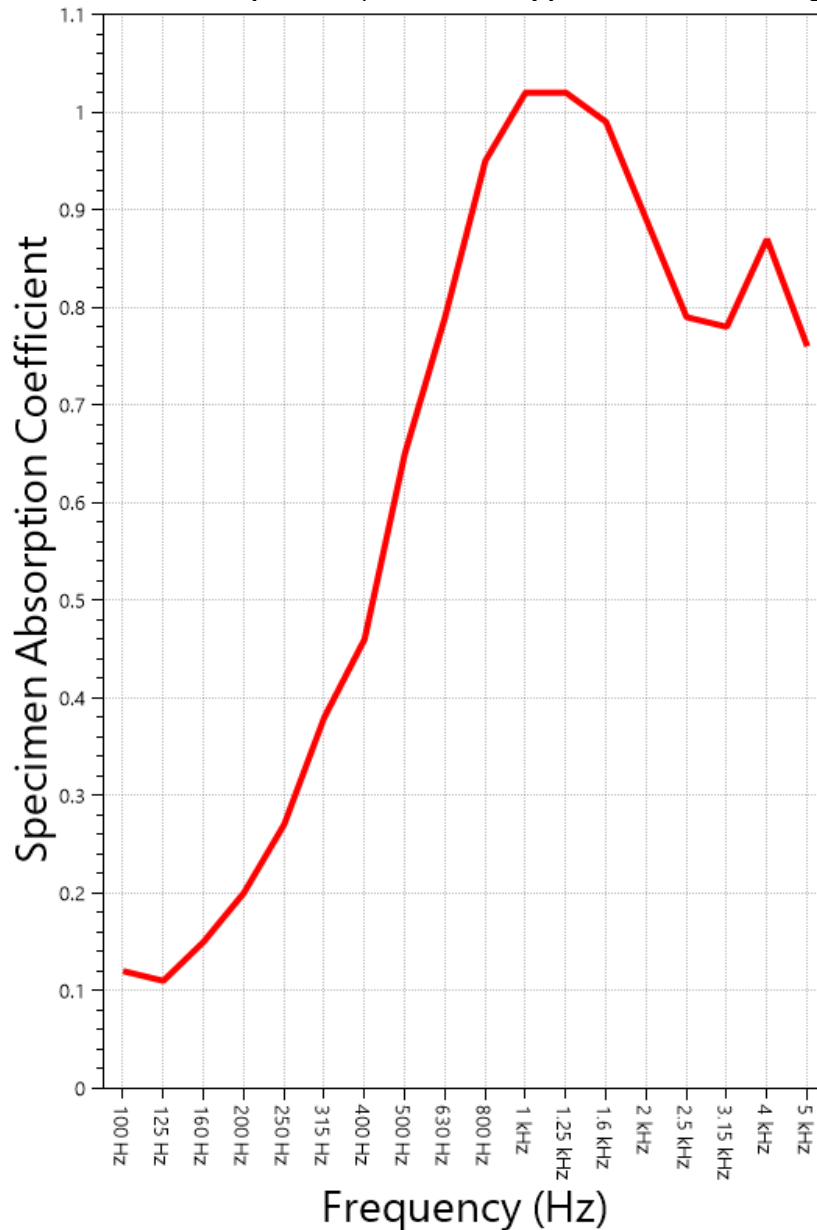
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SOUND ABSORPTION REPORT

Stratawood LITE panels (Modified Type D-50 mounting)



SAA = 0.70

NRC = 0.70

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APPENDIX A: Extended Frequency Range Data

Specimen: Stratawood LITE panels (Modified Type D-50 mounting) (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-17, 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
31.5	6.33	0.08
40	0.12	0.00
50	-1.27	-0.02
63	10.38	0.13
80	6.42	0.08
100	9.59	0.12
125	8.74	0.11
160	11.76	0.15
200	15.79	0.20
250	20.84	0.27
315	29.34	0.38
400	35.64	0.46
500	50.81	0.65
630	61.34	0.79
800	73.94	0.95
1000	78.89	1.02
1250	79.02	1.02
1600	76.65	0.99
2000	69.36	0.89
2500	61.57	0.79
3150	60.50	0.78
4000	67.37	0.87
5000	59.03	0.76
6300	53.97	0.70
8000	48.66	0.63
10000	43.07	0.55
12500	37.10	0.48

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APPENDIX B: Instruments of Traceability

Specimen: Stratawood LITE panels (Modified Type D-50 mounting) (See Full Report)

<u>Description</u>	<u>Model</u>	<u>Serial Number</u>	<u>Date of Certification</u>	<u>Calibration Due</u>
System 1	Type 3160-A-042	3160- 106968	2021-07-01	2022-07-01
Bruel & Kjaer Mic And Preamp A	Type 4943-B-001	2311428	2020-09-30	2021-09-30
Bruel & Kjaer Pistonphone	Type 4228	2781248	2020-08-12	2021-08-12
EXTECH Hygro 639	SD700	A.103639	2020-12-18	2021-12-18

APPENDIX C: Revisions to Original Test Report

Specimen: Stratawood LITE panels (Modified Type D-50 mounting) (See Full Report)

<u>Date</u>	<u>Revision</u>
2021-07-23	Original report issued

END