

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

SPONSOR: **ASI**
Chaska, MN

Sound Absorption
RAL™-A25-051

CONDUCTED: 2025-02-07

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ON: Trell - MPA

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 C423-23: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-23: "Standard Practices for Mounting Test Specimens During Sound Absorption Tests." 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 Trell - MPA. 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

Product Name: Trell - MPA
Manufacturer: ASI

SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

Test Specimen

Materials: Equilateral triangular grid constructed from metal corner pieces and wall segments
Dimensions: 23 corner pieces @ 51 mm (2 in.) by 51 mm (2 in.)
50 wall segments @ 29.73 mm (1.1705 in.) by 610 mm (24 in.)
Depth: 254 mm (10 in.)
Overall Weight: 51.94 kg (114.5 lbs)

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SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Overall Specimen Properties

Size: 2.32 m (91.5 in) wide by 2.7 m (106.25 in) long
Thickness: 0.25 m (10.0 in)
Weight: 51.94 kg (114.5 lbs)
Mass per Unit Area: 8.28 kg/m² (1.7 lbs/ft²)
Calculation Area: 6.272 m² (67.51 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 21.4 °C ± 0.0 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 58.7 % ± 2.6 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 99.8 kPa (Requirement not defined)

MOUNTING METHOD

Type E-660 Mounting: The test specimen was mounted across a metal fixture which was open at its top and bottom and enclosed at its sides, creating an enclosed airspace between the test specimen and the horizontal test surface. The numeral suffix in the designation is defined in ASTM E795-23 as the distance in millimeters from the exposed face of the test specimen to the test surface, rounded to the nearest integer multiple of 5. For the purposes of this report, the mounting designation uses the plane tangent to the topmost surfaces of the specimen grid as a reference datum. Perimeter edges were sealed with metal framing and tape.

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Figure 1 – Specimen mounted in test chamber



Figure 2 – Individual specimen wall segment

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Figure 3 – Specimen grid partially constructed in E-mount frame



Figure 4 – Detail of specimen materials

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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	2.78	29.88	0.44
** 125	3.21	34.59	0.51
160	2.94	31.70	0.47
200	2.91	31.27	0.46
** 250	3.05	32.81	0.49
315	4.21	45.33	0.67
400	4.87	52.40	0.78
** 500	5.03	54.10	0.80
630	4.84	52.07	0.77
800	5.20	55.98	0.83
** 1000	5.62	60.46	0.90
1250	6.07	65.38	0.97
1600	6.40	68.89	1.02
** 2000	6.46	69.54	1.03
2500	6.44	69.30	1.03
3150	5.92	63.67	0.94
** 4000	5.39	58.00	0.86
5000	4.80	51.69	0.77

SAA = 0.81
NRC = 0.80

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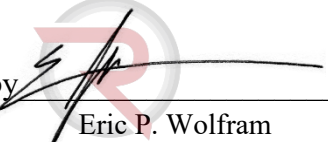
TEST RESULTS (continued)

The sound absorption average (SAA) is defined in ASTM C423-23 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.

Tested by 
Marc Sciaky
Senior Experimentalist

Report by 
Keith Kimberling
Test Engineer

Approved by 
Eric P. Wolfram
Laboratory Manager

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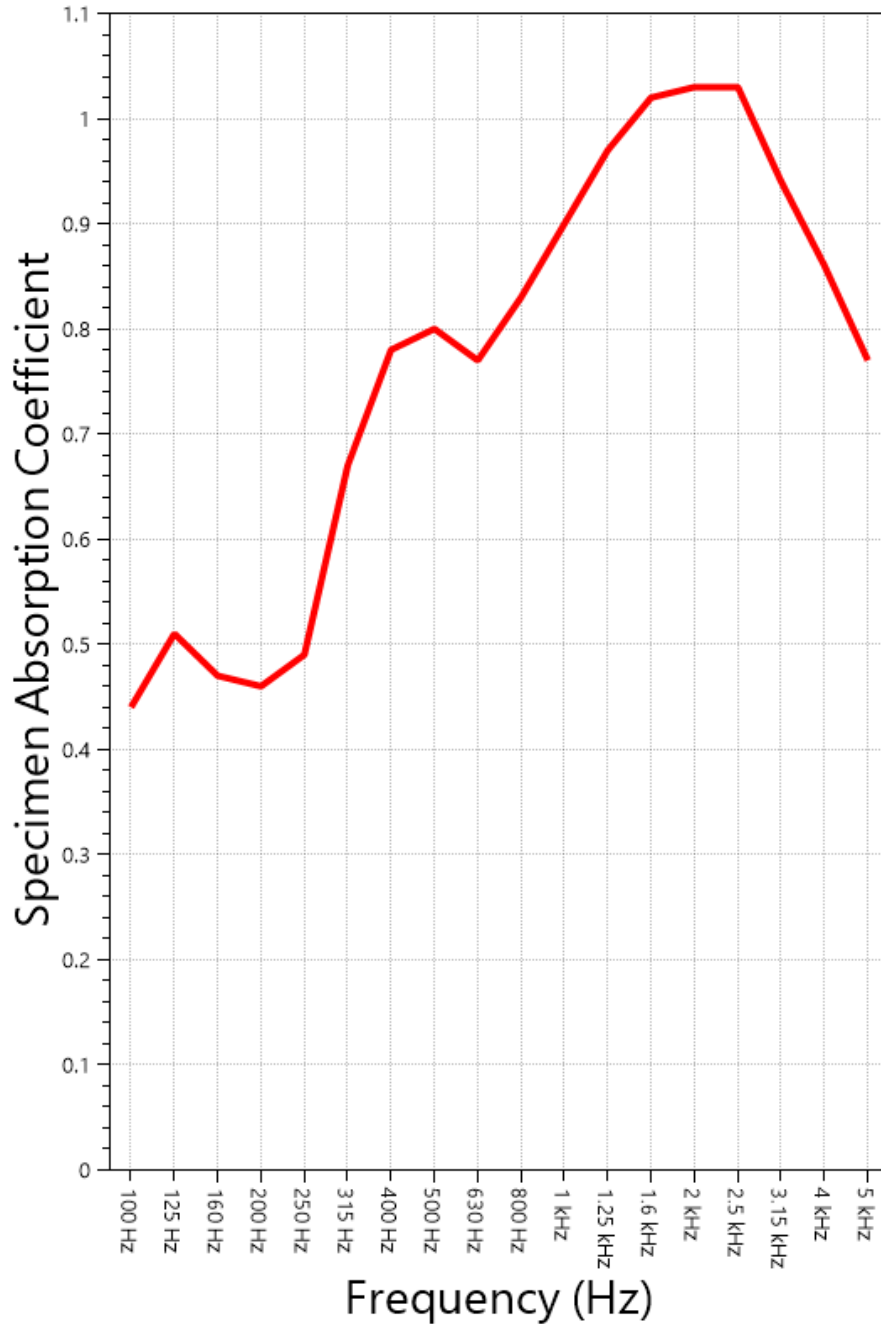
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SOUND ABSORPTION REPORT

Trell - MPA



SAA = 0.81

NRC = 0.80



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APPENDIX A: Extended Frequency Range Data

Specimen: Trell - MPA (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-23, 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	6.35	0.09
40	0.34	0.01
50	-7.79	-0.12
63	13.02	0.19
80	16.39	0.24
100	29.88	0.44
125	34.59	0.51
160	31.70	0.47
200	31.27	0.46
250	32.81	0.49
315	45.33	0.67
400	52.40	0.78
500	54.10	0.80
630	52.07	0.77
800	55.98	0.83
1000	60.46	0.90
1250	65.38	0.97
1600	68.89	1.02
2000	69.54	1.03
2500	69.30	1.03
3150	63.67	0.94
4000	58.00	0.86
5000	51.69	0.77
6300	42.21	0.63
8000	31.68	0.47
10000	22.10	0.33
12500	4.31	0.06

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APPENDIX B: Instruments of Traceability

Specimen: Trell - MPA (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	3160-106974	2024-08-15	2025-08-15
Bruel & Kjaer Mic And Preamp G	Type 4943-B-001	2525858	2024-05-07	2025-05-07
Bruel & Kjaer Pistonphone	Type 4228	2781248	2024-07-19	2025-07-19
EXTECH Hygro 959	SD700	A099959	2024-03-29	2025-03-29

APPENDIX C: Revisions to Original Test Report

Specimen: Trell - MPA (See Full Report)

<u>Date</u>	<u>Revision</u>
2025-02-27	Original report issued

END