

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

Test Report

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FOUNDED 1918 BY
WALLACE CLEMENT SABINE

SPONSOR: **Carnegie Fabrics, LLC**
Rockville Centre, NY

Sound Absorption
RAL™-A24-396

CONDUCTED: 2024-10-01

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ON: Ramp Tile

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 Ramp Tile. 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: Kirei Ramp Tile
Manufacturer: Carnegie Fabrics, LLC
Product Type: Acoustical PET Tile

SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

Test Specimen

Dimensions: 36 tiles @ 1168 mm (46 in.) long by 152 mm (6 in.) wide
Thickness: Maximum @ 73 mm (2.875 in.)
Minimum @ 38 mm (1.5 in.)
Overall Weight: 41.84 kg (92.25 lbs)

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Overall Specimen Properties

Size: 2.34 m (92.0 in) wide by 2.75 m (108.25 in) long
Thickness: 0.07 m (2.875 in)
Weight: 41.84 kg (92.25 lbs)
Mass per Unit Area: 6.51 kg/m² (1.33 lbs/ft²)
Calculation Area: 6.425 m² (69.16 ft²)

Test Environment

Room Volume: 291.98 m³
Temperature: 22.0 °C ± 0.1 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity: 57.95 % ± 0.1 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure: 99.1 kPa (Requirement not defined)

MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. Per sponsor request, the perimeter edges were left exposed, as would be typical of a field installation of the product under test.

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Figure 1 – Specimen mounted in test chamber

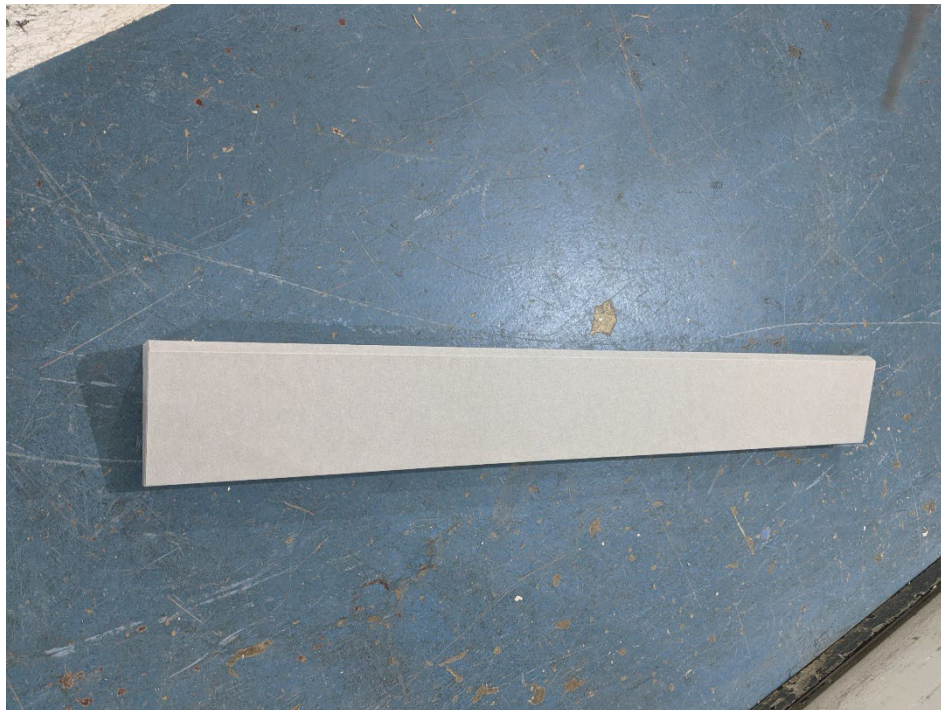


Figure 2 – Individual specimen tile

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Figure 3 – 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	1.24	13.29	0.19
** 125	1.49	16.02	0.23
160	2.76	29.68	0.43
200	3.40	36.55	0.53
** 250	4.53	48.75	0.70
315	6.36	68.46	0.99
400	6.85	73.71	1.07
** 500	7.71	83.03	1.20
630	7.91	85.09	1.23
800	7.80	83.99	1.21
** 1000	7.64	82.24	1.19
1250	7.59	81.66	1.18
1600	7.52	80.99	1.17
** 2000	7.43	80.02	1.16
2500	7.28	78.32	1.13
3150	7.21	77.56	1.12
** 4000	7.12	76.68	1.11
5000	7.36	79.21	1.15

SAA = 1.06
NRC = 1.05

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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.

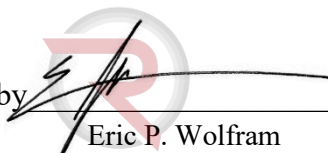
The noise reduction coefficient (NRC) is defined from previous versions of ASTM C423 as the arithmetic average of the sound absorption coefficients at 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz, rounded to the nearest integer multiple of 0.05.

Tested by 

Marc Sciaky
Senior Experimentalist

Report by 

Keith Kimberling
Test Engineer

Approved by 

Eric P. Wolfram
Laboratory Manager

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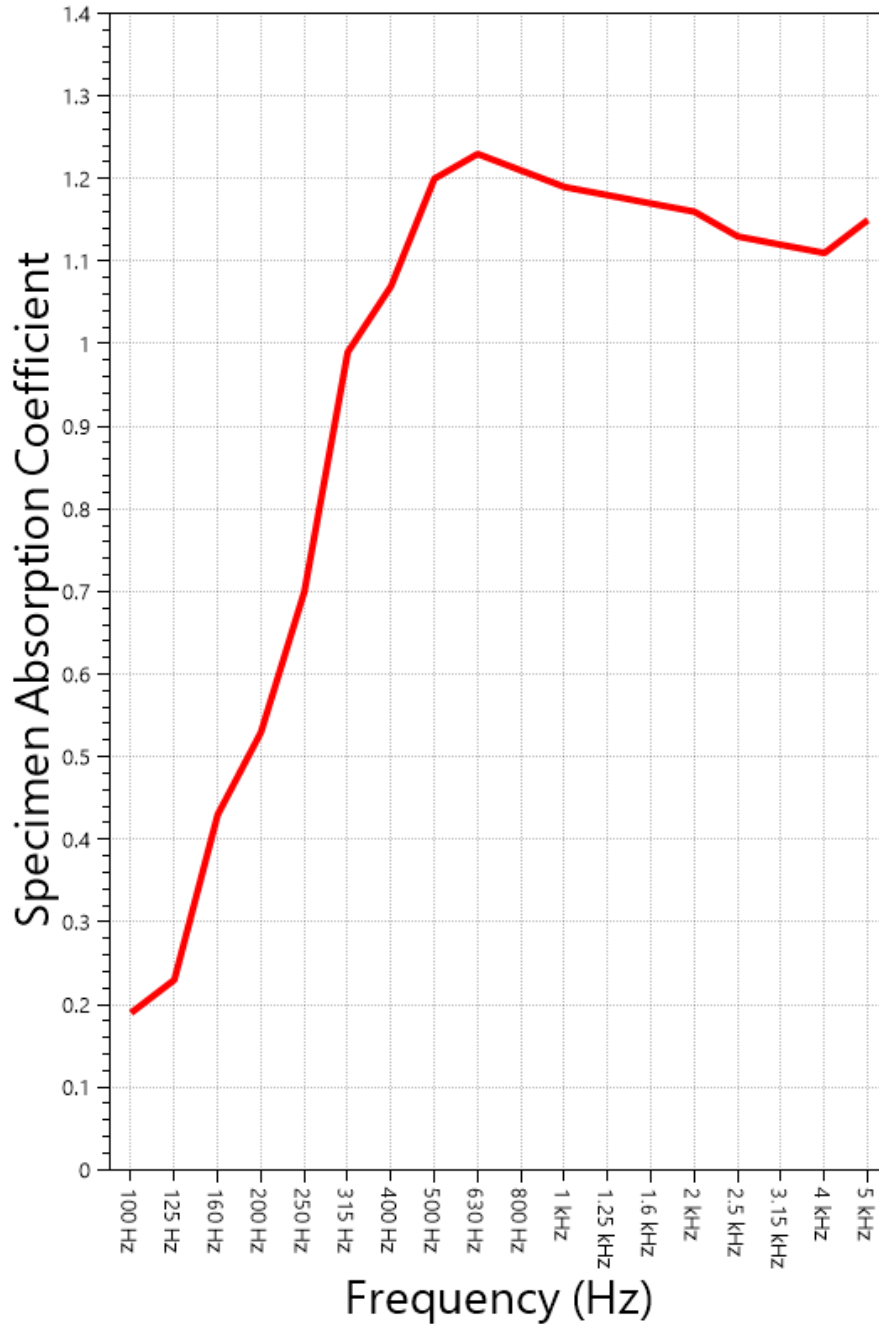
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SOUND ABSORPTION REPORT

Ramp Tile



SAA = 1.06

NRC = 1.05



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APPENDIX A: Extended Frequency Range Data

Specimen: Ramp Tile (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	3.78	0.05
40	-6.57	-0.09
50	5.38	0.08
63	-1.50	-0.02
80	11.12	0.16
100	13.29	0.19
125	16.02	0.23
160	29.68	0.43
200	36.55	0.53
250	48.75	0.70
315	68.46	0.99
400	73.71	1.07
500	83.03	1.20
630	85.09	1.23
800	83.99	1.21
1000	82.24	1.19
1250	81.66	1.18
1600	80.99	1.17
2000	80.02	1.16
2500	78.32	1.13
3150	77.56	1.12
4000	76.68	1.11
5000	79.21	1.15
6300	79.91	1.16
8000	78.09	1.13
10000	76.44	1.11
12500	79.09	1.14

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APPENDIX B: Instruments of Traceability

Specimen: Ramp Tile (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: Ramp Tile (See Full Report)

<u>Date</u>	<u>Revision</u>
2024-10-23	Original report issued

END