

Test Report

FOR: **Turf Design Inc.**
Elgin, IL

Sound Absorption
RAL-A16-104

CONDUCTED: 2016-05-31

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ON: Rigid PET felt board

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 Rigid PET felt board. A full internal inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Panel

Material: Felt
Thickness: 9.5 mm (0.38 in.)

Physical Measures

Overall Dimensions: 2.74 m (108.00 in.) wide by 2.42 m (95.38 in.) long
Overall Thickness: 9.52 mm (0.375 in.)
Overall Weight: 11.57 kg (25.50 lbs.)
Area: 6.64 m² (71.50 ft²)
Mass per Unit Area: 1.76 kg/m² (0.36 lbs./ft²)

Test Environment

Volume: 292.0 m³ (10,311.0 ft³)
Temperature: 23.6±0.0°C (74.5±0.0°F)
Humidity: 55.6±0.5%
Barometric Pressure: 98.7 kPa.



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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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Figure 1 - Specimen mounted in the test chamber.



Figure 2 - Detail of the test specimen.



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MOUNTING METHOD

Type D-50 Mounting: The test specimen was mounted on 50 mm (1.969 in.) thick wood furring strips spaced 300 mm (12 in.) on centers and laid directly against the test surface. The furring strips produced a 50 mm (1.969 in.) thick air space behind the test specimen. The perimeter was sealed with tape and 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	0.63	6.77	0.09
** 125	0.82	8.86	0.12
160	1.30	13.96	0.20
200	1.57	16.92	0.24
** 250	2.20	23.66	0.33
315	3.01	32.45	0.45
400	3.95	42.50	0.59
** 500	5.02	54.03	0.76
630	5.68	61.13	0.85
800	5.88	63.34	0.89
** 1000	6.65	71.56	1.00
1250	7.06	75.96	1.06
1600	7.06	76.04	1.06
** 2000	6.58	70.83	0.99
2500	5.91	63.58	0.89
3150	5.54	59.63	0.83
** 4000	6.28	67.56	0.94
5000	6.90	74.24	1.04

SAA = 0.76
NRC = 0.75



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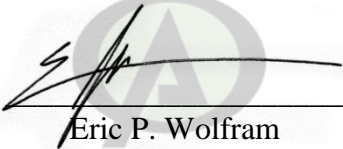
TEST RESULTS (Continued)

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 
Miles Possing
Acoustician

Approved by 
Eric P. Wolfram
Laboratory Manager



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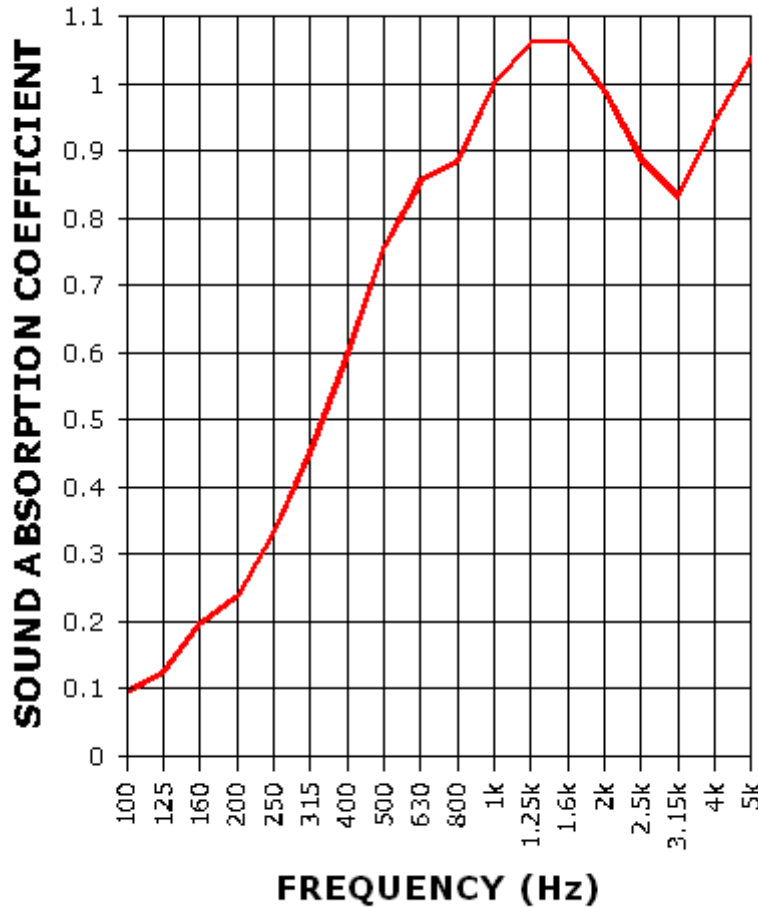
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SOUND ABSORPTION REPORT
Rigid PET felt board



SAA = 0.76
NRC = 0.75



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APPENDIX A: Extended Frequency Range Data

Specimen: Rigid PET felt board (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	1.95	0.03
40	0.47	0.01
50	-1.30	-0.02
63	-4.65	-0.07
80	4.19	0.06
100	6.77	0.09
125	8.86	0.12
160	13.96	0.20
200	16.92	0.24
250	23.66	0.33
315	32.45	0.45
400	42.50	0.59
500	54.03	0.76
630	61.13	0.85
800	63.34	0.89
1000	71.56	1.00
1250	75.96	1.06
1600	76.04	1.06
2000	70.83	0.99
2500	63.58	0.89
3150	59.63	0.83
4000	67.56	0.94
5000	74.24	1.04
6300	71.34	1.00
8000	75.31	1.05
10000	76.38	1.07
12500	76.65	1.07



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APPENDIX B: Instruments of Traceability

Specimen: Rigid PET felt board (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 - System3	Type 3560-C	2647140	2016-04-12	2017-04-12
Bruel & Kjaer Mic And Preamp B	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	2015-09-30	2016-09-30

END



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