

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

## Test Report

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FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

SPONSOR: **GIK Acoustics**  
Atlanta, GA

**Sound Absorption**  
**RAL™-A22-033**

CONDUCTED: 2022-02-02

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ON: TurboTrap

### 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." 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 TurboTrap. 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: TurboTrap  
Manufacturer: GIK Acoustics

### SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

#### Test Specimen

Product Type: Cylindrical bass trap sound absorbers  
Materials: Fabric-wrapped ends with wood finish ends  
Dimensions: 17.0 inch diameter by 38.25 inch long  
Quantity: 5 identical objects  
Overall Weight: Total: 12.97 kg (28.6 lbs.); per object: 2.59 kg (5.72 lbs.)

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### Test Environment

Room Volume: 291.98 m<sup>3</sup>  
Temperature: 20.7 °C ± 0.1 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)  
Relative Humidity: 63.15 % ± 0.1 % (Requirement: ≥ 40 % and ≤ 5 % change)  
Barometric Pressure: 99.6 kPa (Requirement not defined)

Each sound absorbing object had an exposed surface area of 1.61 m<sup>2</sup> (17.34 ft<sup>2</sup>). The total exposed surface area of all sound-absorbing objects was 8.05 m<sup>2</sup> (86.7 ft<sup>2</sup>).

### MOUNTING METHOD

**Non-Standard Corner Mounting:** The specimen is an array of 5 spaced sound absorbing objects distributed across the chamber dihedral corners. The samples were placed on 38mm (1.5 inch) thick wood furring, spacing them 38mm (1.5 inches) from both the wall and floor. This approximates the typical field installation method of a corner bass trap.



Figure 1 – Specimen mounted in test chamber



Figure 2 – Specimen mounted in test chamber



Figure 3 – Detail of specimen material

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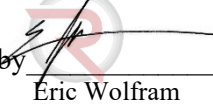
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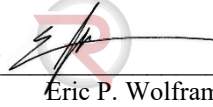
### TEST RESULTS

Note: There is currently no standardized method for calculating Absorption Coefficients from spaced object absorbers. The sound absorption performance of spaced object absorbers should not be compared directly with specimens tested as a single rectangular area (e.g. mounting types A, E, etc.).

1/3 Octave Center Frequency (Hz)	Total Absorption		Absorption per Object	
	(m <sup>2</sup> )	(Sabins)	(m <sup>2</sup> / Object)	(Sabins / Object)
100	4.60	49.48	0.92	9.90
** 125	7.54	81.14	1.51	16.23
160	7.46	80.25	1.49	16.05
200	7.69	82.80	1.54	16.56
** 250	7.98	85.86	1.60	17.17
315	7.42	79.83	1.48	15.97
400	7.33	78.95	1.47	15.79
** 500	6.83	73.53	1.37	14.71
630	6.52	70.14	1.30	14.03
800	6.05	65.11	1.21	13.02
** 1000	5.57	60.01	1.11	12.00
1250	5.57	59.93	1.11	11.99
1600	5.37	57.77	1.07	11.55
** 2000	5.27	56.76	1.05	11.35
2500	4.95	53.27	0.99	10.65
3150	5.15	55.42	1.03	11.08
** 4000	5.19	55.88	1.04	11.18
5000	5.36	57.66	1.07	11.53

Tested by   
Marc Sciaky  
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Report by   
Eric Wolfram  
Laboratory Manager

Approved by   
Eric P. Wolfram  
Laboratory Manager

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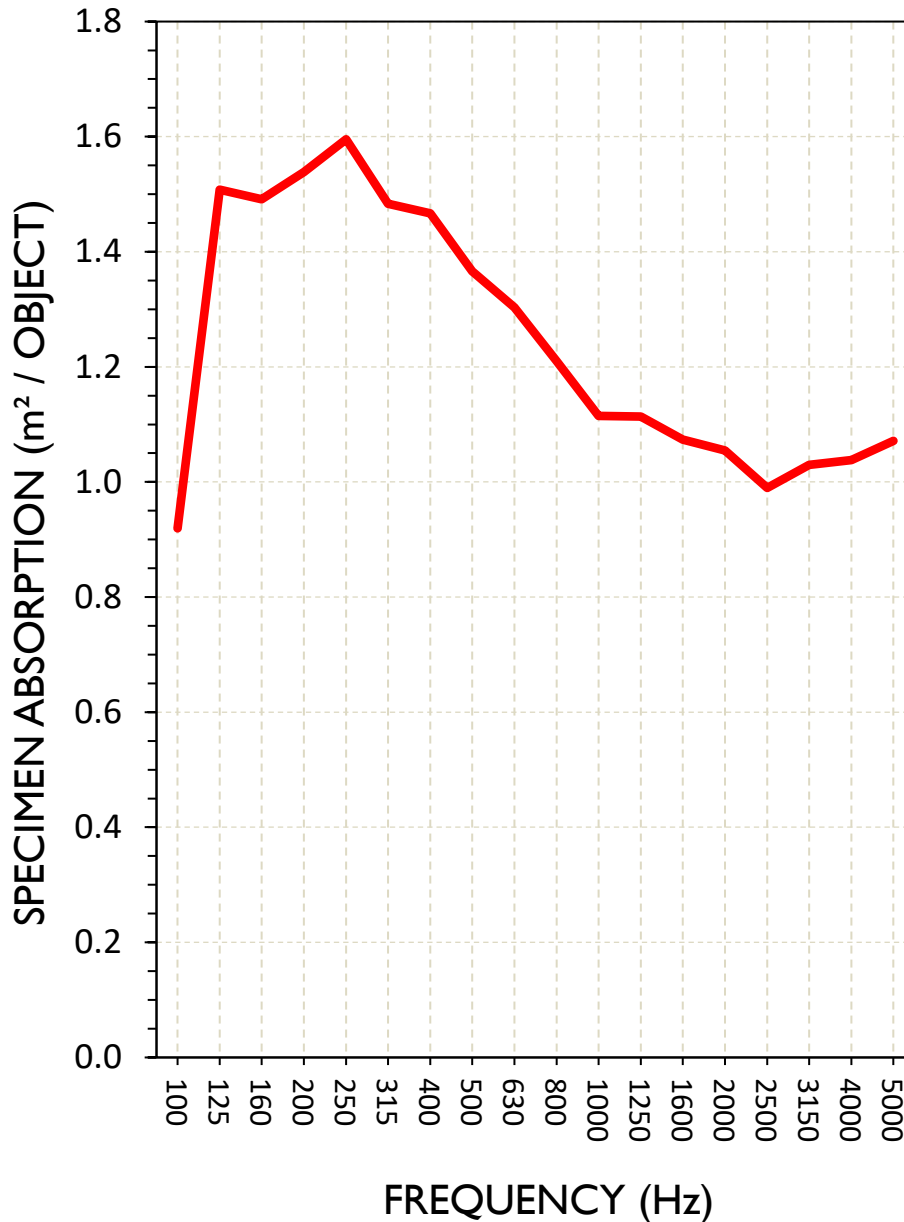
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SOUND ABSORPTION REPORT  
TurboTrap



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### APPENDIX A: Extended Frequency Range Data

Specimen: TurboTrap (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		Absorption per Object	
	(m <sup>2</sup> )	(Sabins)	(m <sup>2</sup> / Object)	(Sabins / Object)
31.5	1.49	16.01	0.30	3.20
40	1.03	11.10	0.21	2.22
50	1.83	19.74	0.37	3.95
63	3.52	37.87	0.70	7.57
80	5.72	61.62	1.14	12.32
100	4.60	49.48	0.92	9.90
125	7.54	81.14	1.51	16.23
160	7.46	80.25	1.49	16.05
200	7.69	82.80	1.54	16.56
250	7.98	85.86	1.60	17.17
315	7.42	79.83	1.48	15.97
400	7.33	78.95	1.47	15.79
500	6.83	73.53	1.37	14.71
630	6.52	70.14	1.30	14.03
800	6.05	65.11	1.21	13.02
1000	5.57	60.01	1.11	12.00
1250	5.57	59.93	1.11	11.99
1600	5.37	57.77	1.07	11.55
2000	5.27	56.76	1.05	11.35
2500	4.95	53.27	0.99	10.65
3150	5.15	55.42	1.03	11.08
4000	5.19	55.88	1.04	11.18
5000	5.36	57.66	1.07	11.53
6300	5.66	60.94	1.13	12.19
8000	6.12	65.84	1.22	13.17
10000	6.82	73.40	1.36	14.68
12500	8.31	89.39	1.66	17.88



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### APPENDIX B: Instruments of Traceability

Specimen: TurboTrap (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	2021-07-13	2022-07-13
Bruel & Kjaer Pistonphone	Type 4228	2781248	2021-08-13	2022-08-13
EXTECH Hygro 999	SD700	A.106999	2021-05-11	2022-05-11

### APPENDIX C: Revisions to Original Test Report

Specimen: TurboTrap (See Full Report)

<u>Date</u>	<u>Revision</u>
2022-02-15	Original report issued

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END