

## TEST REPORT

for

**Akustus Industries Inc.**  
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Vancouver, BC Canada V5X 4V6  
Isaac Khoo / 604-638-0811

### Sound Absorption Testing

ASTM C 423-09a / E795-05

On

**18 mm Sereno Panels  
Type A Mounting**

Report Number: NGC 4017014

Assignment Number: G-1389

Test Date: 03/20/2017

Report Approval Date: 03/28/2017

Submitted by: \_\_\_\_\_

Anthony J. Rivers  
Test Technician

Reviewed by: \_\_\_\_\_

Robert J. Menchetti  
Director

The results reported above apply to specific samples submitted for measurement. No responsibility is assumed for performance of any other specimen. The laboratory's accreditation or any of its test reports in no way constitute or imply product certification, approval, or endorsement by NVLAP or any agent of the U.S. Government. This report may not be reproduced except in full, without written approval of the laboratory.

**Revision Summary:**

<b>Date</b>	<b>SUMMARY</b>
Approval Date : 03/28/2017	Original issue date: 03/28/2017 Original NGCTS report: NGC 4017014

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Report Number: NGC 4017014

Test Method: This test method conforms explicitly with the American Society for Testing and Materials Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method - Designation: C 423-09a / E795-05.

For the test, a Linear Averaging Mode is used as the Averaging Algorithm when measuring the Decay Times.

Specimen Description: Designated by client as: 18 mm Sereno panels

The test specimens were observed to have the following characteristics:

All weights and dimension are averaged:

Panels are: 18 mm Sereno panels

Face Finish: Brown Felt Board

Back Finish: Brown Felt Board

Measured dimensions: Various sizes, see below:

Unit Size: Eight Units, 609.6 mm x 1219.2 mm (24 in. x 48 in.)  
Four Units, 304.8 mm x 609.6 mm (12 in. x 24 in.)

Overall Panel Thickness and weight: 18.21 mm (0.717 in.), 3.88 kg/m<sup>2</sup> (0.795 PSF)

Mounting: Type A Mounting as per ASTM E795-05.

Total Sample Size: 72.00 Sq. Ft. (6.69 m<sup>2</sup>)

Preconditioning: Minimum 24 hours at 70°F, 55% R.H

Test Results: The results of the tests are given on pages 4 and 5 of the report.

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**Sound Absorption Test Data per C423 - 09a**

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No. of test report: **NGC40170014** Date of test: **3/20/2017**  
 Temp. [°C]: **21.0** Humidity [%]: **55** Spec. Size [m<sup>2</sup>]: **6.689**

Frequency [Hz]	Absorption Coefficients a <sub>s</sub>	Avg. Decay Rate	
		Empty d (empty) [dB/s]	Specimen d (specimen) [dB/s]
100	0.01	9.13	9.24
125	0.04	9.65	9.94
160	0.07	7.74	8.35
200	0.10	7.71	8.55
250	0.12	7.81	8.82
315	0.18	7.16	8.75
400	0.30	6.63	9.26
500	0.44	6.51	10.38
630	0.63	6.29	11.83
800	0.72	5.97	12.32
1000	0.81	6.39	13.58
1250	0.87	6.82	14.53
1600	0.91	7.37	15.45
2000	0.94	8.09	16.40
2500	0.97	8.62	17.21
3150	0.98	8.53	17.15
4000	0.97	8.41	16.98
5000	0.98	8.42	17.12

Reverberation Room Volume: **282.1** m<sup>3</sup>

**Noise Reduction Coefficient NRC: 0.60** Avg. 250, 500, 1000, 2000 Hz : **0.577**  
**Sound Absorption Average SAA: 0.58** Avg. 200 - 2500 Hz: **0.583**

NOTE: Estimates of repeatability and reproducibility for sound absorption coefficients of a specimen are referenced in ASTM C423 - 09a test method.

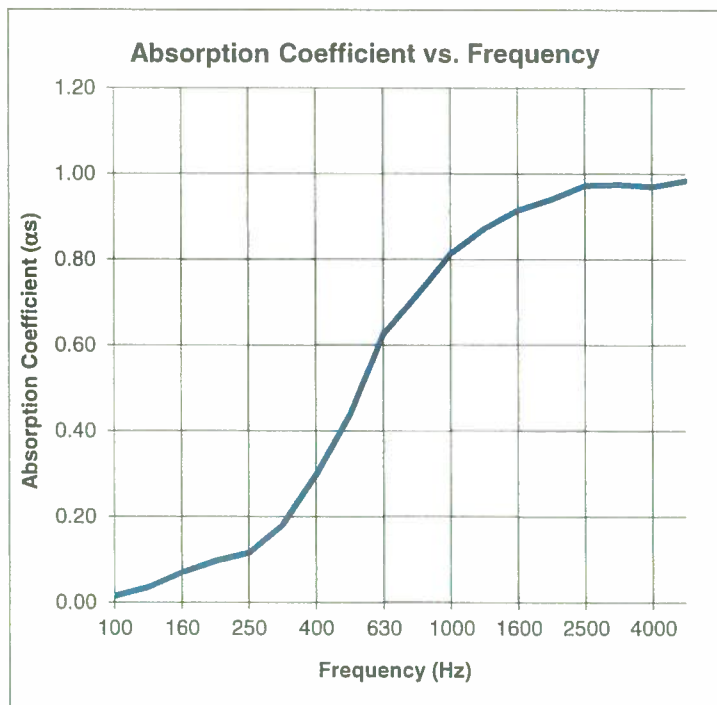
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**Sound Absorption Test Data per C423 - 09a**

Test report: **NGC40170014**  
 Date of test: 3/20/2017  
 Spec. Size [m<sup>2</sup>]: 6.689  
 Room Vol.[m<sup>3</sup>]: 282.1  
 Temp. [°C]: 21.0  
 Humidity [%]: 55

**Noise Reduction Coefficient NRC: 0.60**  
**Sound Absorption Average SAA: 0.58**

Frequency [Hz]	Absorption Coefficients $\alpha_s$
100	0.01
125	0.04
160	0.07
200	0.10
250	0.12
315	0.18
400	0.30
500	0.44
630	0.63
800	0.72
1000	0.81
1250	0.87
1600	0.91
2000	0.94
2500	0.97
3150	0.98
4000	0.97
5000	0.98



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