



# Acoustical Surfaces, Inc.

**SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS**

123 Columbia Court North • Suite 201 • Chaska, MN 55318

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SINCE 1896

## REPORT

**Intertek ETL SEMKO**

3933 US ROUTE 11 CORTLAND, NEW YORK 13045



Accredited by the National Voluntary  
Laboratory Accreditation Program for  
the Specific Accreditation under Lab  
Code 100402-0.

Order No.3124189

Date: May 24, 2007

**REPORT NO. 3124189CRT-001**

**SOUND ABSORPTION TEST ON  
ACOUSTI-BOARD Ultra™**

RENDERED BY MANUFACTURER AND RELEASED TO:

Acoustical Surfaces, Inc.  
123 Columbia Court North  
Chaska, MN 55318

### INTRODUCTION

This report gives the results of a Sound Absorption test and the determination of the Noise Reduction Coefficient on ACOUSTI-BOARD Ultra™. The panels were selected and supplied by the client and received at the laboratories on April 12, 2007. The sample appeared to be in a new, unused condition.

### AUTHORIZATION

Signed Intertek Quotation No. 500033342.

### TEST METHOD

The panels were tested in accordance with the American Society for Testing and Materials designation ASTM C423-02, "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method". The test was conducted using Type A Mounting as described in ASTM E795-05, "Standard Practices for Mounting Test Specimens During Absorption Tests".

### GENERAL

This test method describes the measurement of sound absorption by analyzing the decay rate of sound in a reverberation room. The difference of the decay with and without the specimen in the room is utilized to determine the sound absorption of the specimen under test. Intertek Testing Services Acoustical Facilities utilizes a 16,640 cu. ft. (470 cubic meter) reverberation room.

An independent organization testing for safety, performance, and certification.

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## GENERAL cont'd

The sound absorption coefficient is ideally defined as the fraction of the randomly incident sound power absorbed by the material. The greater the coefficient, the greater the sound absorption.

The Noise Reduction Coefficient (NRC) is a single number rating obtained by taking the arithmetic average of the absorption coefficients at 250, 500, 1000, and 2000 Hz rounded to the nearest multiple of 0.05.

The Sound Absorption Average (SAA) is a single number rating obtained by taking the arithmetic average of the one-third octave bands from 200 through 2500 Hz rounded to the nearest 0.01.

## DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of 36 inch wide by 60 inch long by nominal ½ inch thick ACOUSTI-BOARD Ultra™, laid on the concrete floor of the reverberation room. The panels were butted together to make up the test specimen. They weighed 1.2 pounds per square foot.



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## RESULTS OF MEASUREMENTS

<u>1/3 Octave Band Center Frequency, Hz</u>	<u>Absorption Coefficients Sabins/ft<sup>2</sup></u>	<u>Percent Uncertainty</u>
125	0.05	3.28
160	0.01	2.99
200	0.08	2.82
250	0.12	1.95
315	0.13	1.90
400	0.19	1.84
500	0.32	1.58
630	0.45	1.84
800	0.54	1.24
1000	0.69	0.91
1250	0.79	0.76
1600	0.83	0.71
2000	0.83	0.44
2500	0.86	0.65
3150	0.80	0.80
4000	0.87	0.57

Sound Absorption  
Average (SAA) 0.49

<u>Identification</u>	<u>Absorption Coefficients – Sabins/ft<sup>2</sup></u>							<u>NRC</u>
	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>		
Panels	0.05	0.12	0.32	0.69	0.83	0.87	0.50	
Precision ±	0.05	.002	0.02	0.01	0.01	0.02		

Mounting: Type "A" per ASTM Designation E795-05, "Standard Practices for Mounting Test Specimens During Sound Absorption Tests".



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## REMARKS

1. Aging Period: None
2. Ambient Temperature: 69° F
3. Relative Humidity: 46%

## CONCLUSION

The test method employed for these tests has no pass-fail criteria; therefore, the evaluation of the test results is left to the discretion of the client.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government

Date of Test: May 17, 2007

Report Approved by:

Patrick J. Schoof  
Engineering Team Leader  
Acoustical Testing

Report Reviewed By:

James R. Kline  
Engineer/Quality Supervisor  
Acoustical Testing

Attachments: None



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