



**Title: Sound Absorption Test Results**

**Product: 1/2" Echo Eliminator - Acoustical Backer (AKA Quiet Liner)**

Application: Ceiling or Wall

Testing Standard: ASTM C423-07 (Type A Mount)

Test Date: 1/21/2008

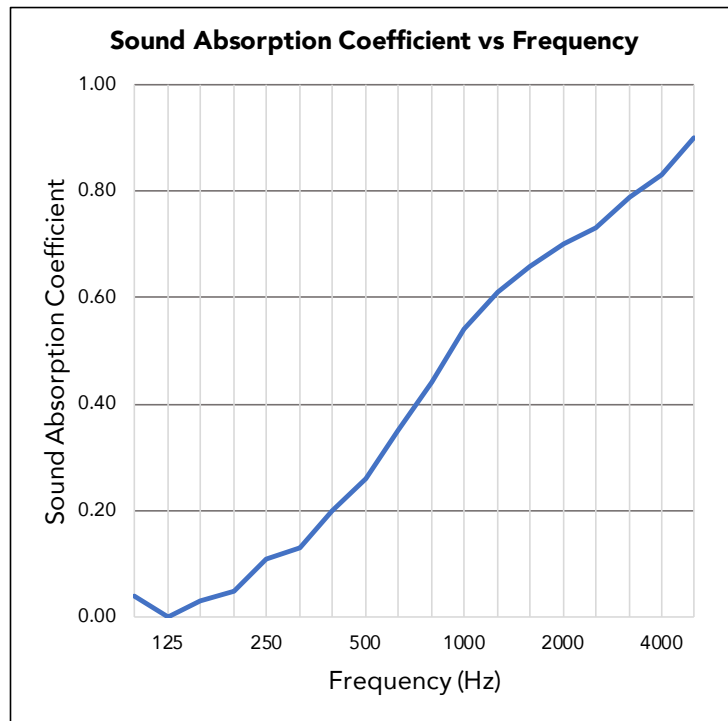
*Why this test:* This test evaluates a products efficiency of absorbing sound at multiple frequencies. The test simulates the product’s acoustical performance with a direct-attach ceiling or wall installation.

Test Result Summary: NRC - 0.40; SAA - 0.40

NRC	SAA
0.40	0.40

Frequency (Hz)	Absorption Coefficient
100	0.04
125	0.00
160	0.03
200	0.05
250	0.11
315	0.13
400	0.20
500	0.26
630	0.35
800	0.44
1000	0.54
1250	0.61
1600	0.66
2000	0.70
2500	0.73
3150	0.79
4000	0.83
5000	0.90



Test ID: 30160-08-92064-1

**ASI TEST RESULT DISCLAIMER**

ASI makes every effort to ensure the accuracy and reliability of the information provided. Laboratory testing is conducted by independent testing organizations. ASI does not guarantee that field tests or independent tests will not vary.

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**PAGE:** 1 of 4  
**DATE:** January 29, 2008

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Investigative Chemistry Geotechnical Construction Materials  
Non Destructive Testing Failure Analysis Product Evaluation  
Metallurgical Analysis Materials Testing Welder Qualification

**SOUND ABSORPTION TESTING CONDUCTED ON THE  
½" QUIET DUCT LINER**

**Prepared for:**  
**Acoustical Surfaces, Inc**  
**Attn: Mr. Mike Mohs**  
**123 Columbia Court North, Suite 201**  
**Chaska, MN 55318**

**Client Purchase Order Number: Contract**

**Prepared By:**



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**Reviewed By:**



**Kyle T. Hall**  
**Sr. Engineering Technician**  
**Product Testing Department**

**The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.**



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**Noise Reduction Coefficient (ASTM C423-07)****INTRODUCTION:**

This report presents the results of the sound absorption testing conducted on ½" Quiet Duct Liner material. The test sample was submitted by Mr. Mike Mohs of Acoustical Surfaces, Inc (ASI). This work was completed on January 21, 2008.

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**TEST RESULTS SUMMARY:**

<i>TYPE A NRC TEST</i>			Test Results		
Test #	SAMPLE DESCRIPTION	ADDITIONAL INFORMATION	NRC	SAA	--
1	1/2" Quiet Duct Liner	Blue/Black Colored Fabric	<i>0.40</i>	<i>0.40</i>	--

See 'TEST DATA' section for detailed results.

**SPECIMEN DESCRIPTION:** (Also see "Test Results")

The test specimens was identified by ASI as ½" Quiet Duct Liner. The material was received in roll form. A test area of 72-ft<sup>2</sup> was collected from the roll, and weighed 7-lbs (0.1-psf).

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**PROJECT NUMBER:** 30160-08-92064-1**PAGE:** 3 of 4**DATE:** January 29, 2008**TEST PROCEDURE****Sound Absorption Test**

ASTM C 423-07," Sound Absorption and Sound Absorption Coefficient by the Reverberation Room Method", was followed in every respect. The test sample was tested in a Type A Mounting style. The material was tested on the test chamber surface with an overall sample dimension of 8'x 9' (72-ft<sup>2</sup>).

NRC was calculated by rounding the sound absorption coefficients for 250, 500, 1000 and 2000 Hz to the nearest 0.05. SAA was calculated by rounding the sound absorption coefficients for the twelve frequencies from 200 Hz to 2500 Hz to the nearest 0.01.

**TEST EQUIPMENT:**

<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>S/N</u>
Norwegian Electronics	NE830	Real Time Analyzer	11511
Brüel & Kjær	3923	Rotating Microphone Boom	815424
Norsonic (Source Rm)	1230	Pressure Condenser Microphone	26361
Brüel & Kjær (Term Rm)	4192	Pressure Condenser Microphone	2360314

**REMARKS:**

The test sample will be retained for a period of **15-days** and then discarded unless notified by the client.

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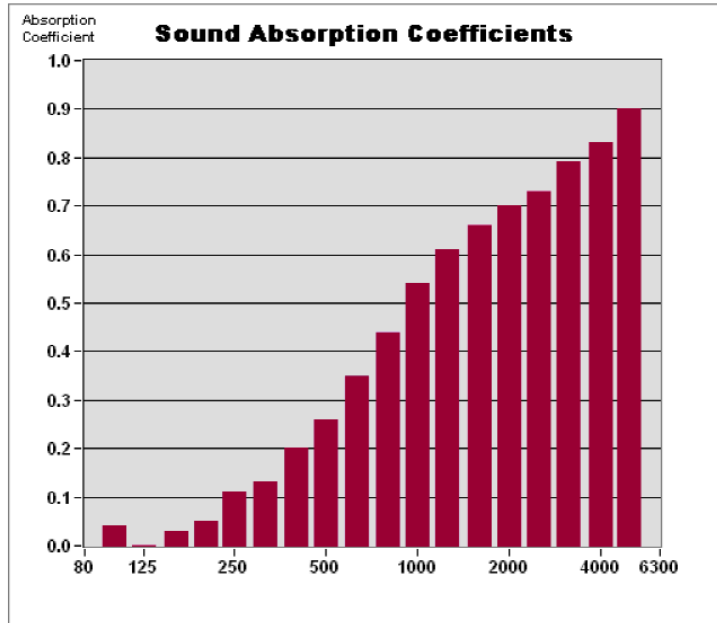
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**TEST RESULTS:**

Filename <b>test #1</b>		<b>ASTM C423 - Sound Absorption</b>			
Client <b>Acoustical</b>	Product <b>1/2" Quiet Duct Liner</b>	Model # 	Quantity <b>1</b>	Comment <b>Type A Mounting</b>	
Sample Size - Wt. <b>108.0 in x 96.0 in x 1/2" - 7 lbs</b>		Sample Description <b>Acoustical Surfaces: 8' x 9' x 1/2" Pure Blue Wool Face &amp; Black Fabric Backing: 1/2" Quiet Duct Liner :</b>			
Time Stamp <b>Mon, Jan 21, 2008 - 1:38 PM</b>		Total Sample Area <b>72.0 ft<sup>2</sup></b>			

F (Hz)	Absorption Coefficient	Absorption (Sabins)*
100	0.04	2.94
125	0.00	0.19
160	0.03	2.28
200	0.05	3.61
250	0.11	7.85
315	0.13	9.58
400	0.20	14.25
500	0.26	19.05
630	0.35	24.90
800	0.44	31.60
1000	0.54	38.83
1250	0.61	43.58
1600	0.66	47.63
2000	0.70	50.36
2500	0.73	52.57
3150	0.79	56.84
4000	0.83	60.11
5000	0.90	64.69



Temp (°C) **20.9** R.H. (%) **56** ATM (mbar) **998**

**SAA = 0.40    NRC = 0.40**

\* total absorption based on 72.0 ft<sup>2</sup>

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