



# Acoustical Surfaces, Inc.

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

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

(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121

Email: [sales@acousticalsurfaces.com](mailto:sales@acousticalsurfaces.com)

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**We Identify and S.T.O.P. Your Noise Problem**

**STORK®**

## Materials Technology

## Stork Twin City Testing Corporation

**PROJECT NUMBER:** 30160-08-93799-3  
**PAGE:** 1 of 4  
**DATE:** April 1, 2008

662 Cromwell Avenue Telephone : (651) 645-3601  
Saint Paul, MN 55114 Toll Free : (888) 645-TEST  
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Website : [www.storksmt.com](http://www.storksmt.com)

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

**SOUND ABSORPTION TESTING CONDUCTED ON THE  
ACOUSTI-METAL PANELS**

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:

**Mathew N. Botz**  
Project Manager  
Product Testing Department  
(651) 659-7353

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 Acousti-Metal Panels. The test sample was submitted by Mr. Mike Mohs of Acoustical Surfaces, Inc (ASI). This work was completed on March 21, 2008.

This report must not be reproduced except in full with the approval of Stork Twin City Testing Corporation. The data in this report relates only to the items tested.

Stork Twin City Testing Corporation has been accredited by the U.S. Department of Commerce and the National Institute of Standards and Technology (NIST, formerly NBS) under their National Voluntary Laboratory Accreditation Program (NVLAP) for conducting ASTM C423 test procedures. This report may not be used to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

### TEST RESULTS SUMMARY:

TYPE E400 NRC TEST			Test Results		
Test #	SAMPLE DESCRIPTION	ADDITIONAL INFORMATION	NRC	SAA	--
3	Acousti-Metal Panels	with 1" Echo Eliminator Panels	<b>0.85</b>	<b>0.87</b>	--

See 'TEST DATA' section for detailed results.

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

The test specimen was identified by ASI as Acousti-Metal Panels tested with 1" Echo Eliminator backer panels. Each Acousti-Metal panel had dimensions of 24" x 24" x 0.05" and weighed 1.5-lbs (0.38-psf). The Acousti-Metal panels contained 1/8" penetrations in a staggered formation. The panels sat into standard 2x2 T-bar gridwork. The test was completed with 1" Echo Eliminator backer panels behind the Acousti-Metal Panels.

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**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 E400 Mounting style (ceiling tile box with a 16" airspace).

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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**TEST RESULTS:**

Filename  
test #3

**ASTM C423 - Sound Absorption**

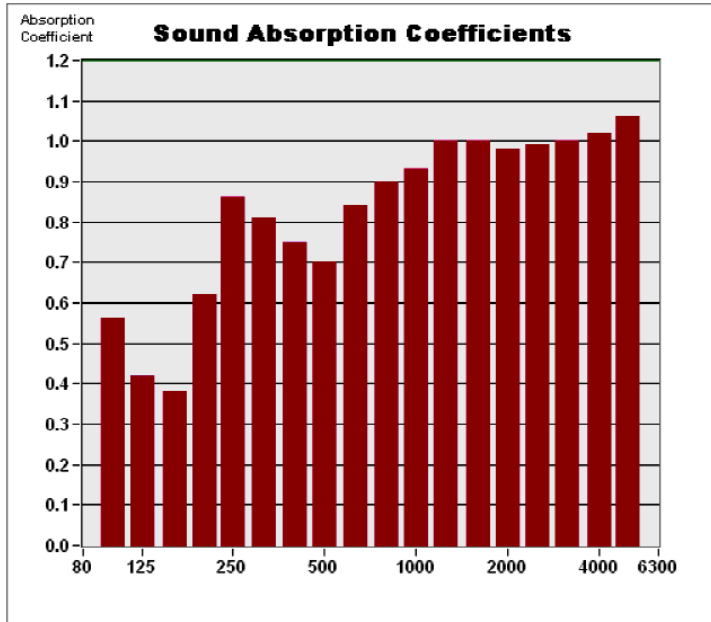
Client <b>Acoustical</b>	Product <b>Ceiling Tiles</b>	Model # <b>Acoustimetal Panels</b>	Quantity <b>1</b>	Comment
-----------------------------	---------------------------------	---------------------------------------	----------------------	---------

Sample Size - Wt. <b>96.0 in x 108.0 in x 1" - 36 lbs</b>	Sample Description <b>Acoustical Surfaces: 8' x 9' x 1" Sample Acoustimetal Panels with 1" Echo Eliminator Panels 18 Panels, 24" x 24" each :</b>
--	--

Time Stamp  
**Fri, Mar 21, 2008 - 10:56 AM**

Total Sample Area **72.0 ft<sup>2</sup>**

F (Hz)	Absorption Coefficient	Absorption (Sabins)*
100	0.56	40.24
125	0.42	30.03
160	0.38	27.58
200	0.62	44.93
250	0.86	62.05
315	0.81	58.04
400	0.75	54.09
500	0.70	50.14
630	0.84	60.54
800	0.90	64.56
1000	0.93	67.13
1250	1.00	72.06
1600	1.00	72.16
2000	0.98	70.65
2500	0.99	71.00
3150	1.00	71.72
4000	1.02	73.25
5000	1.06	76.34



Temp (°C) **21.0** R.H. (%) **56** ATM (mbar) **995**

**SAA = 0.87 NRC = 0.85**

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

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