

**PROJECT NUMBER:** TCT008105P-8  
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**DATE:** October 26, 2011

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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  
 1" SYNTHETIC FIBERBOARD  
 (E-400 Mount)**

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

Please contact Acoustical Surfaces, Inc. for information regarding this test  
 1.800.854.2948

**Prepared By:**

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**Noise Reduction Coefficient (ASTM C423-09)**

**INTRODUCTION:**

This report presents the results of sound absorption testing. The test units were submitted by Mr. Mark Klein. This work was completed on October 21, 2011.

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**TEST RESULTS SUMMARY:**

<i>Noise Reduction Coefficient (NRC)</i>					<b>Test Results</b>		
<b>Test #</b>	<b>Panel Identification</b>	<b>Mounting Type</b>	<b>Weight (lbs)</b>	<b>Weight (psf)</b>	<b>NRC</b>	<b>SAA</b>	<b>--</b>
8-1	1" Synthetic Fiberboard	Type E400 = Box	44.9	0.6	<b><i>0.90</i></b>	<b><i>0.88</i></b>	--

See 'TEST DATA' section for detailed results.

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

The specimens were identified by Acoustical Surfaces Inc. The specimens were identified as '1" Synthetic Fiberboard'. The panels measured 23-3/4" x 47-7/8" x 1" and weighed 5-lbs per panel.

**TEST PROCEDURE****Sound Absorption Test**

ASTM C 423-09," Sound Absorption and Sound Absorption Coefficient by the Reverberation Room Method", was followed in every respect. The panels were tested in Type E-400 mount (with 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 Description</u>	<u>S/N</u>	
NI-ATS	Sound Measuring System	NI-92374-ATS	TCT102709.2
Norsonic	Rotating Microphone Boom	NOR265	
BSWA (Source Rm)	Pressure Condenser Microphone	MP253	450007
GRAS (Term Rm)	Pressure Condenser Microphone	40AD	19220-1244

**REMARKS:**

The test sample will be retained for a period of **10-days** and then discarded unless notified by the client.

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**TEST RESULTS:**

**SOUND ABSORPTION**  
ASTM C423

**General Information**

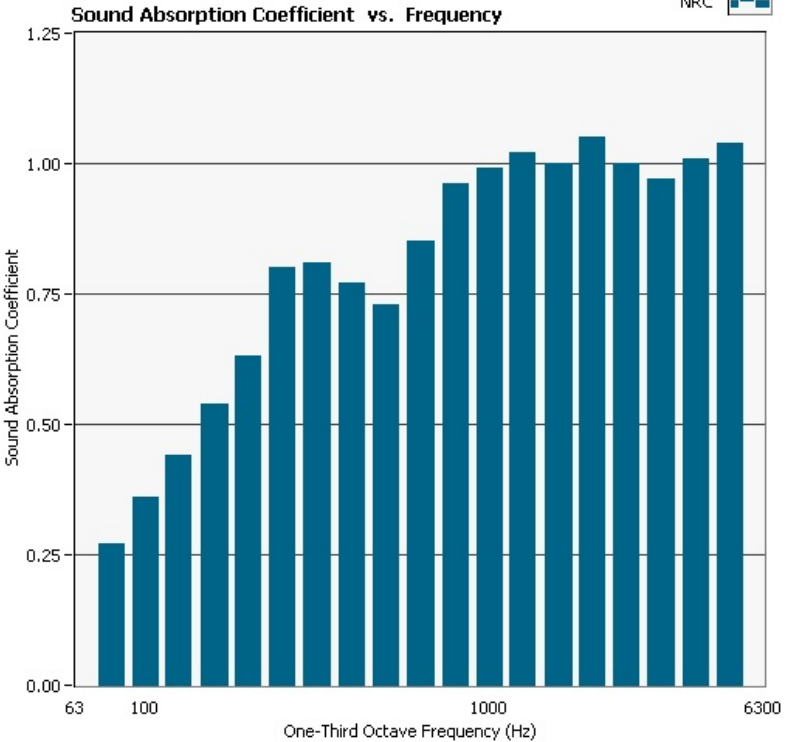
Project No:	ASI-8105-1
Customer:	Acoustical Surfaces Inc.
Test Date:	10-21-2011
Specimen ID:	Test 8
Specimen Description:	1" Synthetic Fiberboard Mounting Type E400 Box
Specimen Dimensions - Area:	108.00" W x 95.75" H - 71.81 ft <sup>2</sup>
Operator:	JMW

**Data Table**

	absorption empty (m <sup>2</sup> )	absorption * sample (m <sup>2</sup> )	Absorption Coefficient
80	6.09	1.82	0.27
100	5.81	2.39	0.36
125	3.56	2.93	0.44
160	3.42	3.58	0.54
200	3.95	4.20	0.63
250	3.72	5.32	0.80
315	3.66	5.38	0.81
400	3.78	5.14	0.77
500	4.10	4.85	0.73
630	4.37	5.70	0.85
800	4.84	6.43	0.96
1000	5.03	6.59	0.99
1250	5.61	6.82	1.02
1600	6.37	6.68	1.00
2000	7.06	7.03	1.05
2500	8.03	6.69	1.00
3150	9.26	6.50	0.97
4000	11.42	6.72	1.01
5000	13.72	6.97	1.04

**Room Conditions**

Temperature	21.4 °C
R.H.	45 %
ATM	981 hPa



**NRC**  
**0.90**

**SAA**  
**0.88**

\* based on an extended plane area of 71.81 ft<sup>2</sup>

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