



**Title: Sound Absorption Test Results**

**Product: 1" Envirocoustic Wood Wool - Micro Strand**

Application: Ceiling or Wall

Testing Standard: ASTM C423-17 (Type A Mount)

Test Date: 6/25/2018

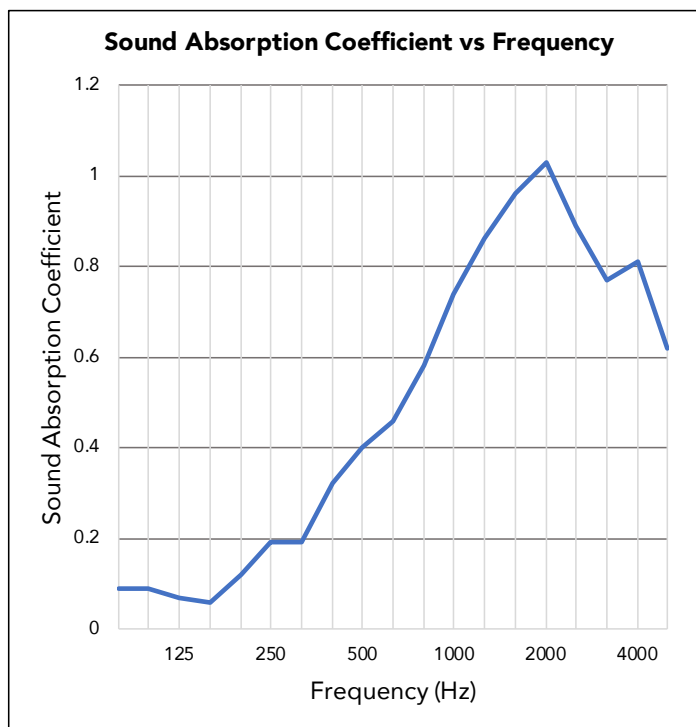
*Why this test:* This test evaluates a products efficiency of absorbing sound at multiple frequencies. The test simulates the product's acoustical performance with a direct-attach ceiling or wall installation.

Test Result Summary: NRC - 0.60; SAA - 0.56

NRC	SAA
0.60	0.56

Frequency (Hz)	Absorption Coefficient
80	0.09
100	0.09
125	0.07
160	0.06
200	0.12
250	0.19
315	0.19
400	0.32
500	0.40
630	0.46
800	0.58
1000	0.74
1250	0.86
1600	0.96
2000	1.03
2500	0.89
3150	0.77
4000	0.81
5000	0.62



Test ID: ESP028637P-1

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## SOUND ABSORPTION TESTING CONDUCTED ON a 1" Micro Strand Cementitious Wood Fiber Acoustic Board

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Date: June 25, 2018  
Author: John Wegscheider  
Report Number: ESP028637P-1



TESTING CERT #1479.01

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## Noise Reduction Coefficient (ASTM C423)

### INTRODUCTION:

This report presents the results of acoustical testing of a 1" Micro Strand Cementitious Wood Fiber Acoustic Board. This testing was requested by Mr. Conor Cook of ASI and was conducted on June 20, 2018.

This report must not be reproduced except in full without the approval of Element Materials Technology. The test results contained in this report pertain only to the specific assemblies tested and not necessarily to all similar constructions.

The results stated in this report represent only the specific construction and acoustical conditions present at the time of the test. Measurements performed in accordance with this standard on nominally identical constructions and acoustical conditions may produce different results.

### TEST RESULTS SUMMARY:

<i>Noise Reduction Coefficient (NRC) Test Type A Mount</i>				<b>Test Results</b>		
<b>Test #</b>	<b>Sample Identification</b>	<b>Weight (lbs)</b>	<b>Weight (psf)</b>	<b>NRC</b>	<b>SAA</b>	<b>--</b>
1	1" Micro Strand Cementitious Wood Fiber Acoustic Board	157.2	2.25	<b>0.60</b>	<b>0.56</b>	--

Tabular and graphical presentations of the data are presented under "TEST RESULTS" below.

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

The Specimen was described as a 1" Micro Strand Cementitious Wood Fiber Acoustic Board. The overall sample size was 70.875" x 141.75" or 69.8 ft<sup>2</sup>. Nine (9) Panels were used and butted together. Each Panel measured 23.6875" x 47.25" and weighed 17.5 lbs.. The edges of the specimen were sealed with tape.

**TEST PROCEDURE AND EQUIPMENT:**

*Sound Absorption Test*

ASTM C 423-17, "Sound Absorption and Sound Absorption Coefficient by the Reverberation Room Method", was followed in every respect. The samples were placed in a Type A mounting method in accordance with ASTM E795-16.

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:**

Acoustic Lab Calibrated Test Equipment For NRC Tests (Reverb Chamber Only)

Item Description	ID #	Manufacturer/Model	Serial #	Calibration Due
1/2" Pressure Condenser Microphone	PT-162-216	BSWA/MP253	450005	11/2/18
Microphone Calibrator	MM440-003	Bruel & Kjaer/4230	282266	11/2/18
Data Acquisition Module	PT-162-107	National Instruments/NI9234	1735986-1893EB3	6/6/19
Temp and Humidity Transmitter	PT-162-077	Dwyer Instruments/Series RH	M90714-E4SV-Y	5/31/19

**Test Result:**

**SOUND ABSORPTION**  
ASTM C423

**General Information**

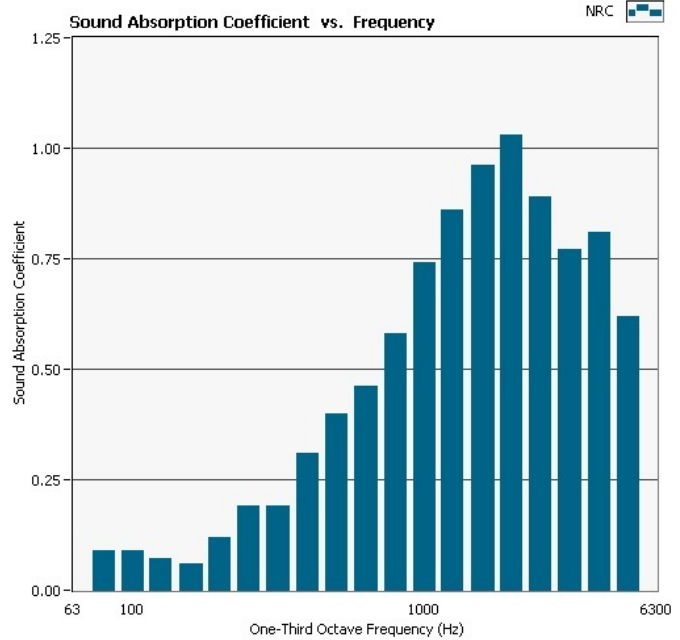
Project No:	ESP028637P-1
Customer:	ASI
Test Date:	06-20-2018
Specimen ID:	1 Inch Micro Strand
Specimen Description:	Cementitious Wood Fiber Acoustic Board 1" x 23 11/16" x 47 1/4" Panel
Specimen Dimensions - Area:	70.87" W x 141.75" H - 69.77 ft <sup>2</sup>
Operator:	MJC

**Data Table**

	absorption empty (m <sup>2</sup> )	absorption * sample (m <sup>2</sup> )	Absorption Coefficient
80	3.79	0.61	0.09
100	4.84	0.56	0.09
125	3.81	0.45	0.07
160	3.49	0.37	0.06
200	3.98	0.81	0.12
250	4.08	1.24	0.19
315	3.96	1.24	0.19
400	4.02	2.00	0.31
500	4.37	2.58	0.40
630	4.65	2.98	0.46
800	5.11	3.78	0.58
1000	5.54	4.78	0.74
1250	5.88	5.60	0.86
1600	6.44	6.20	0.96
2000	7.20	6.70	1.03
2500	7.88	5.80	0.89
3150	8.98	4.99	0.77
4000	10.48	5.24	0.81
5000	13.27	3.99	0.62

**Room Conditions**

Temperature	22.5 °C
R.H.	55 %
ATM	976 hPa



**NRC**  
**0.60**

**SAA**  
**0.56**

\* based on an extended plane area of 69.77 ft<sup>2</sup>



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