



## Title: Sound Absorption Test Results

### Product: 3/4" Microperf

Application: Ceiling or Wall

Testing Standard: ASTM C423-17 (Type F6 Mount)

Test Date: 6/20/2014

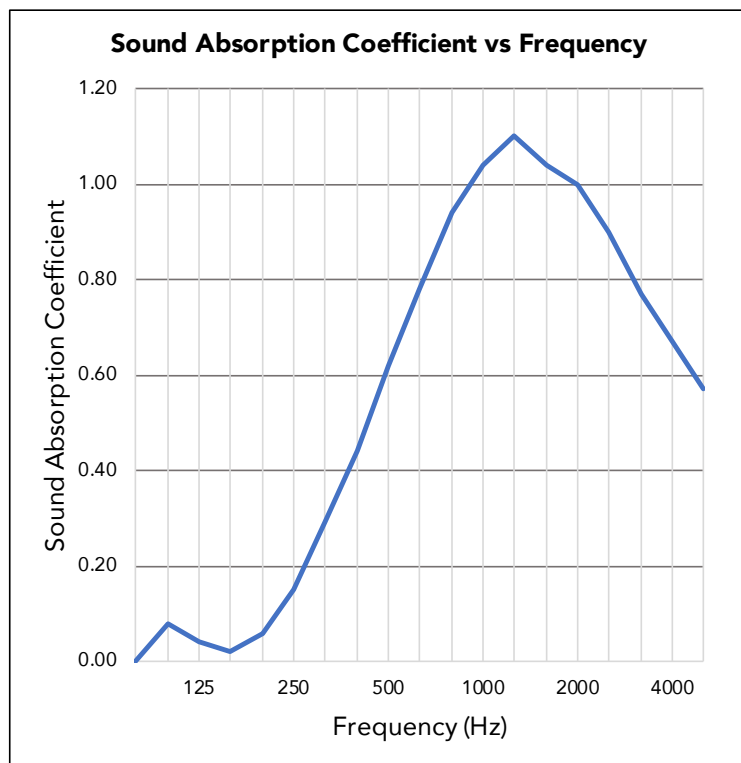
*Why this test:* This test evaluates a products efficiency of absorbing sound at multiple frequencies. The test simulates the product's acoustical performance with a ceiling or wall installation using a mechanical z-clip (6mm airspace).

Test Result Summary: NRC - 0.70; SAA - 0.70

NRC	SAA
0.70	0.70

Frequency (Hz)	Absorption Coefficient
80	0.00
100	0.08
125	0.04
160	0.02
200	0.06
250	0.15
315	0.29
400	0.44
500	0.62
630	0.78
800	0.94
1000	1.04
1250	1.10
1600	1.04
2000	1.00
2500	0.90
3150	0.77
4000	0.67
5000	0.57



Test ID: ESP017104P-1

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## SOUND ABSORPTION TESTING CONDUCTED ON a Micro-perforated Wood Veneer Acoustic Panel

Rendered by Manufacturer and Released to:  
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Report Number: ESP017104P-1Rev.1



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## Noise Reduction Coefficient (ASTM C423-09a)

### INTRODUCTION:

This report presents the results of acoustical testing of a Micro-perforated Wood Veneer Acoustic Panel. This testing was requested by Mr. Darrell VonBergen and was conducted on June 20<sup>th</sup>, 2014.

This report must not be reproduced except in full with 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 F-6 Mount</i>				Test Results		
Test #	Sample Identification	Total Weight (lbs)	Weight (psf)	NRC	SAA	--
1	3/4" Micro-perforated Wood Veneer Acoustical Panel	95.2	1.5	<b>0.70</b>	<b>0.70</b>	--

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

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

The material was identified as 3/4" Micro-perforated Wood Veneer Acoustic Panel. A total of four (4) panels were used measuring 48 x 48" x 3/4" thick. Total sample area was 64 ft<sup>2</sup> with a total weight of approximately 95.2 lbs. The Panel Edges were taped and placed on the test surface floor with a 6mm furring strip. A 1/2" space was used between panel edges.

## **TEST PROCEDURE AND EQUIPMENT:**

### **Sound Absorption Test**

ASTM C 423-09a, "Sound Absorption and Sound Absorption Coefficient by the Reverberation Room Method", was followed in every respect. The samples were placed on the floor in a Type F-6 mounting method.

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:**

Item Description	ID #	Manufacturer/Model	Serial #	Calibration Due
1/2" Pressure Condenser Microphone	PT-162-075	GRAS/40AD	19220-1244	5/22/15
Microphone Calibrator	PT-162-076	Norsonic/1251	29144	5/22/15
Data Acquisition Module	PT-162-107	National Instruments/NI9234	195551B-01L	8/27/14
Temp and Humidity Transmitter	PT-162-077	Dwyer Instruments/Series RH	M90714-E4SV-Y	6/5/15

A Revision to the original report was made on March 10, 2016 to correct a mistake if dimensional thickness of the sample. The correction to the report was verified by information on the data sheet.

Test Data:

## SOUND ABSORPTION ASTM C423

### General Information

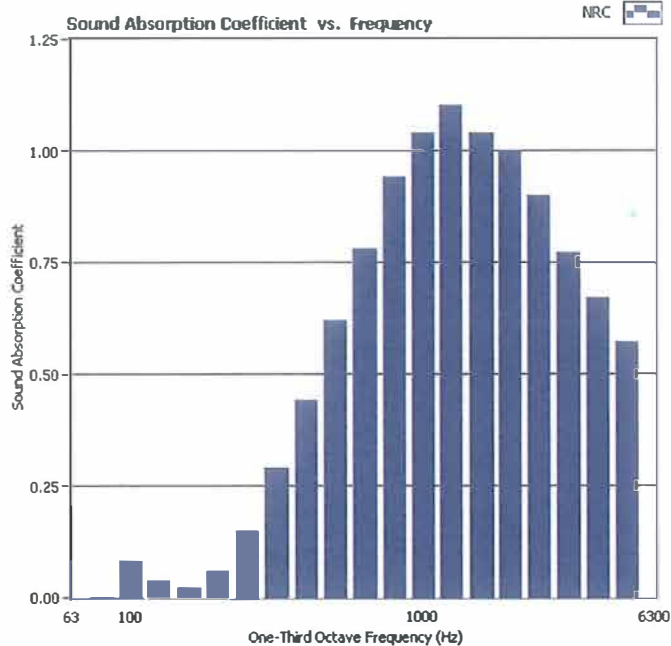
Project No:	ESP017104P-1
Customer:	ASI
Test Date:	06-20-2014
Specimen ID:	3/4" Micro-perforated Acoustic Panel
Specimen Description:	Acoustic Panel
Specimen Dimensions - Area:	48.00" W x 48.00" H - 16.00 ft <sup>2</sup>
Operator:	SJM

### Data Table

	absorption empty (m <sup>2</sup> )	absorption * sample (m <sup>2</sup> )	Absorption Coefficient
80	5.11	0.00	0.00
100	5.46	0.12	0.08
125	2.92	0.06	0.04
160	3.25	0.04	0.02
200	3.95	0.09	0.06
250	3.77	0.22	0.15
315	3.69	0.44	0.29
400	3.77	0.65	0.44
500	4.12	0.91	0.62
630	4.43	1.16	0.78
800	4.86	1.40	0.94
1000	5.20	1.54	1.04
1250	5.69	1.64	1.10
1600	6.34	1.54	1.04
2000	7.18	1.48	1.00
2500	7.66	1.33	0.90
3150	8.73	1.15	0.77
4000	9.84	0.99	0.67
5000	11.56	0.85	0.57

### Room Conditions

Temperature	23.0 °C
R.H.	66 %
ATM	979 hPa



NRC

**0.70**

SAA

**0.70**

\* absorption per unit - 4 units total



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