



**SOUND ABSORPTION TESTING CONDUCTED  
ON SoundSorb Acoustic Panels**

Date:	October 24 <sup>th</sup> , 2019
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Report Number:	ESP032172P-4

Ear Controlled Data

## **Noise Reduction Coefficient (ASTM C423-17)**

### **INTRODUCTION:**

This report presents the results of acoustical testing of SoundSorb Acoustic Panels. This testing was requested by Versare Solutions, LLC and was conducted on October 14, 2019.

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>ASTM C423, 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>
4	SoundSorb Acoustic Panels	45.0	0.70	<b><i>0.60</i></b>	<b><i>0.61</i></b>	

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

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

The material was identified as a set of SoundSorb Acoustic Panels. The core of the panels was not investigated or verified. Nine (9) panels were used with each panel measuring 22" x 47" x ¾" in depth for a total area of 64.6ft<sup>2</sup>. Each panel weighed 5 lbs. The Panels were laid directly on the test surface in a Type A mount with the edges touching. The outside edge was sealed.

## 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 on the floor 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. The reverberant room has a volume of 2948 ft<sup>3</sup> (165m<sup>3</sup>).

## 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-162-108	GRAS/46AD	167994	1/18/20
Microphone Calibrator	PT-162-076	Norsonic/1251	29144	6/18/20
Data Acquisition Module	PT-162-107	National Instruments/NI9234	1735986-1893EB3	6/4/20
Temp and Humidity Transmitter	PT-162-077	Dwyer Instruments/Series RH	M90714-E4SV-Y	6/4/20

## Photo:



## Test Data:

### SOUND ABSORPTION ASTM C423

#### General Information

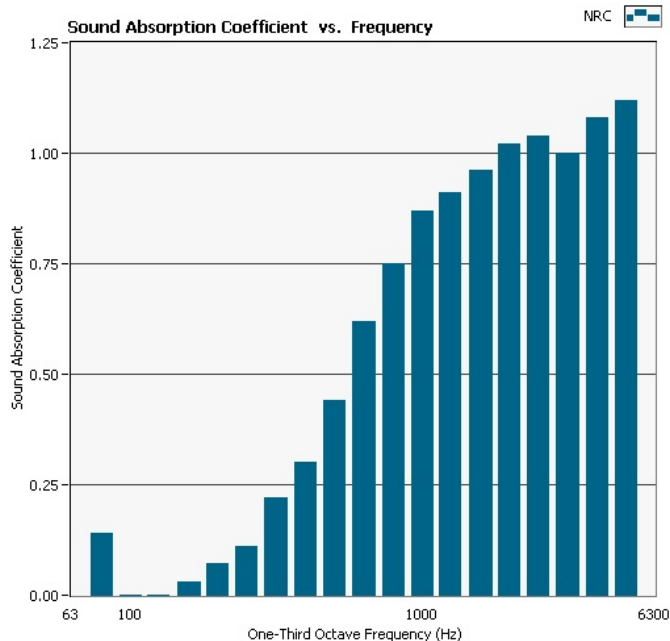
Project No:	ESP032172P-4
Customer:	Versare Solutions Inc
Test Date:	10-14-2019
Specimen ID:	HDW Soundsorb
Specimen Description:	Wall panels
Specimen Dimensions - Area:	66.00" W x 141.00" H - 64.62 ft <sup>2</sup>
Operator:	MJC

#### Data Table

	absorption empty (m <sup>2</sup> )	absorption * sample (m <sup>2</sup> )	Absorption Coefficient
80	4.15	0.81	0.14
100	5.56	-0.09	-0.02
125	3.79	-0.02	-0.00
160	3.47	0.16	0.03
200	4.13	0.42	0.07
250	4.08	0.65	0.11
315	3.92	1.29	0.22
400	4.02	1.80	0.30
500	4.45	2.65	0.44
630	4.66	3.70	0.62
800	5.08	4.49	0.75
1000	5.31	5.25	0.87
1250	5.84	5.49	0.91
1600	6.57	5.77	0.96
2000	7.33	6.14	1.02
2500	8.36	6.23	1.04
3150	9.43	6.01	1.00
4000	11.73	6.47	1.08
5000	13.75	6.72	1.12

#### Room Conditions

Temperature	21.9 °C
R.H.	45 %
ATM	980 hPa



NRC

0.60

SAA

0.61

\* based on an extended plane area of 64.62 ft<sup>2</sup>