FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP LAB
CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 102595959 Date: June 9, 2016

REPORT NO. 102595959CRT-002

**SOUND ABSORPTION TESTING ON
AN ACOUSTICAL PANEL**

RENDERED TO

**COMMERCIAL FURNITURE GROUP
810 WEST HIGHWAY 25/70
NEWPORT, TN 37821**

INTRODUCTION

This report gives the results of Sound Absorption testing and the determination of the Sound Absorption Coefficient on an acoustical panel. The sample was selected and supplied by the client and was received at the laboratories on June 6, 2016. The sample appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Signed Intertek Quotation Number Qu-00693564

TEST METHOD

The specimen was tested in accordance with the American Society for Testing and Materials designation ASTM C423-09a, "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method".

GENERAL

This test method describes the measurement of sound absorption by analyzing the decay rate of sound in a reverberation room. The difference of the decay with and without the specimen in the room is utilized to determine the sound absorption of the specimen under test. Intertek Testing Services Acoustical Facilities utilizes a 16,640 cu. ft. (470 cubic meter) reverberation room.

GENERAL - Cont'd

The sound absorption coefficient is ideally defined as the fraction of the randomly incident sound power absorbed by the material. The greater the coefficient, the greater the sound absorption.

The Sound Absorption Coefficient (α_w) is a single number rating obtained by taking the arithmetic average of the absorption coefficients at the next higher and lower one third octave bands of 250, 500, 1000, and 2000 Hz rounded to the nearest multiple of 0.05. The values are then put on a reference sound absorption curve. The sound absorption is determined by the reference absorption at 500 Hz.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of 35 inch wide by 48 inch high by 2 inch thick acoustical panels. The assembly consisted of a foam substrate covered on one side by fabric. The panels weighed a total of 10 lbs each. A photo of a single panel is shown below. For type “A” mounting the panels were laid directly on the floor of the reverberation room.

RESULTS OF TEST

ACOUSTICAL PANEL – 2 INCH THICK
TYPE A

One Third Octave Band Center Frequency, Hz	Absorption Coefficients Sabins/ft^2	Repeatability, R	Reproducibility, r
80	0.26	0.14	0.14
100	0.11	0.15	0.27
125	**0.00**	0.11	0.22
160	0.50	0.11	0.23
200	0.59	0.09	0.17
250	**0.77**	0.07	0.15
315	0.94	0.09	0.22
400	1.06	0.14	0.16
500	**1.11**	0.09	0.14
630	1.13	0.06	0.14
800	1.06	0.07	0.14
1000	**1.05**	0.06	0.12
1250	0.96	0.05	0.13
1600	0.96	0.05	0.14
2000	**0.94**	0.05	0.13
2500	0.92	0.06	0.14
3150	0.95	0.08	0.15
4000	**0.93**	0.11	0.16
5000	0.90	0.15	0.21
Sound Absorption Average (SAA)	**0.96**	0.08	0.03

	Absorption Coefficients – Sabins/ft.^{2} One-Third Octave Band Center Frequency, Hz						
IDENTIFICATION	125	250	500	1000	2000	4000	NRC
Panel System	0.00	0.77	1.11	1.05	0.94	0.93	0.95

MOUNTING: Type “A” per ASTM Designation E795-05 (Reapproved 2012), “Standard Practices for Mounting Test Specimens During Sound Absorption Tests”.

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RESULTS OF TEST

ACOUSTICAL PANEL – 2 INCH THICK
TYPE J – 12 INCH SPACING

One Third Octave Band Center Frequency, Hz	Absorption Coefficients Sabins/ft^2	Repeatability, R	Reproducibility, r
80	0.13	0.14	0.14
100	0.19	0.15	0.27
125	**0.09**	0.11	0.22
160	0.19	0.11	0.23
200	0.46	0.09	0.17
250	**0.52**	0.07	0.15
315	0.62	0.09	0.22
400	0.55	0.14	0.16
500	**0.61**	0.09	0.14
630	0.64	0.06	0.14
800	0.76	0.07	0.14
1000	**0.72**	0.06	0.12
1250	0.68	0.05	0.13
1600	0.67	0.05	0.14
2000	**0.66**	0.05	0.13
2500	0.67	0.06	0.14
3150	0.67	0.08	0.15
4000	**0.65**	0.11	0.16
5000	0.61	0.15	0.21
Sound Absorption Average (SAA)	**0.63**	0.08	0.03

	Absorption Coefficients – Sabins/ft.^{2} One-Third Octave Band Center Frequency, Hz						
IDENTIFICATION	125	250	500	1000	2000	4000	NRC
Panel System	0.09	0.52	0.61	0.72	0.66	0.65	0.60

MOUNTING: Type “J” per ASTM Designation E795-05 (Reapproved 2012), “Standard Practices for Mounting Test Specimens During Sound Absorption Tests”.

The spacing used for testing was 12 inches from the room surface with the panel edges spaced 6 inches from one another. The panels were tested in the horizontal position with the fabric facing out. The perimeter was open to the room.

REMARKS

1. Ambient Temperature: 70°F
2. Relative Humidity: 43%

CONCLUSION

The test method employed for this test has no pass-fail criteria; therefore, the evaluation of the test results is left to the discretion of the client.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Tests: June 9, 2016

Report Approved by:

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Report Reviewed By:

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Attachments: None