

## REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 103363452

Date: January 19, 2018

**REPORT NO. 103363452CRT-001a**

**SOUND ABSORPTION TEST ON  
TEST NUMBER 243485 ID: GA-100W  
WITH SOFT BACK PLUS**

**RENDERED TO**

**TOLI CORPORATION**

### **INTRODUCTION**

This report gives the results of a Sound Absorption test and the determination of the Sound Absorption Coefficient on Test #243485 ID: GA-100W with Soft Back Plus. The sample was selected and supplied by the client and received at the laboratories on January 10, 2018. The flooring appeared to be in new, unused condition upon arrival.

### **AUTHORIZATION**

Signed Intertek Quotation No. Qu-00846939.

### **TEST METHOD**

The specimen was tested in accordance with the American Society for Testing and Materials designation ASTM C423-2017, "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 ( $\alpha_w$ ) 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 Test #243485 ID: GA-100W with Soft Back Plus. The 0.5 meter square TOLI Corporation carpet tiles were a nominal 3/8 inch thick and weighed 5.17 kg/m<sup>2</sup>.

## RESULTS OF TEST

### TEST NUMBER 243485 ID: GA-100W WITH SOFT BACK PLUS

<u>One Third Octave Band Center Frequency, Hz</u>	<u>Absorption Coefficients Sabins/m<sup>2</sup></u>	<u>Repeatability, R</u>	<u>Reproducibility, r</u>
80	0.00	0.14	0.14
100	0.00	0.15	0.27
125	<b><u>0.00</u></b>	0.11	0.22
160	0.02	0.11	0.23
200	0.11	0.09	0.17
250	<b><u>0.13</u></b>	0.07	0.15
315	0.07	0.09	0.22
400	0.35	0.14	0.16
500	<b><u>0.46</u></b>	0.09	0.14
630	0.31	0.06	0.14
800	0.24	0.07	0.14
1000	<b><u>0.20</u></b>	0.06	0.12
1250	0.25	0.05	0.13
1600	0.29	0.05	0.14
2000	<b><u>0.29</u></b>	0.05	0.13
2500	0.30	0.06	0.14
3150	0.36	0.08	0.15
4000	<b><u>0.35</u></b>	0.11	0.16
5000	0.45	0.15	0.21
<u>Sound Absorption Average (SAA)</u>	<b>0.25</b>	0.08	0.03

<u>Absorption Coefficients – Sabins/m<sup>2</sup></u>							
<u>One-Third Octave Band Center Frequency, Hz</u>							
<b><u>IDENTIFICATION</u></b>	<b><u>125</u></b>	<b><u>250</u></b>	<b><u>500</u></b>	<b><u>1000</u></b>	<b><u>2000</u></b>	<b><u>4000</u></b>	<b><u>NRC</u></b>
Flooring	0.00	0.13	0.46	0.20	0.29	0.35	0.25

**MOUNTING:** Type “A” per ASTM Designation E795-16, “Standard Practices for Mounting Test Specimens During Sound Absorption Tests”.

**REMARKS**

1. Ambient Temperature: 70°F
2. Relative Humidity: 42%

**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.

Date of Test: January 12, 2018

Report Approved by:



Brian Cyr  
Engineer  
Acoustical Testing

Report Reviewed By:



James R. Kline  
Engineer/Quality Supervisor  
Acoustical Testing

Attachments: None