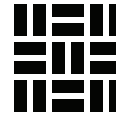


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# ROLLEASE ACMEDA ACOUSTICAL PERFORMANCE TEST REPORT

## SCOPE OF WORK

ASTM C423 SOUND ABSORPTION TESTING ON 3000 HT, ROLLER SHADE FABRIC

## REPORT NUMBER

I7376.01-113-11-R0

## TEST DATE

08/14/18

## ISSUE DATE

09/04/18

## RECORD RETENTION END DATE

08/14/22

## PAGES

12

## DOCUMENT CONTROL NUMBER

ATI 00270 (07/24/17)

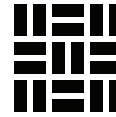
RT-R-AMER-Test-2755

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**TEST REPORT FOR ROLLEASE ACMEDA**  
Report No.: I7376.01-113-11-R0  
Date: 09/04/18

**REPORT ISSUED TO**  
**ROLLEASE ACMEDA**  
200 Harvard Avenue  
Stamford, Connecticut 06902

**SECTION 1**  
**SCOPE**

Intertek Building & Construction (B&C) was contracted by Rollease Acmeda to perform a sound absorption test. Results obtained are tested values and were secured by using the designated test method(s). The complete test data is included herein. The client provided the test specimen. All measurements were conducted in the HT test chambers at Intertek B&C located in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

For INTERTEK B&C:

<b>COMPLETED BY:</b>	Jear N. Mutunda Technician II
<b>TITLE:</b>	Acoustical testing
<b>SIGNATURE:</b>	 <small>Digitally signed by Jear Mutunda</small>
<b>DATE:</b>	09/04/18

<b>REVIEWED BY:</b>	Kurt A. Golden Project Lead
<b>TITLE:</b>	Acoustical Testing
<b>SIGNATURE:</b>	 <small>Digitally signed by Kurt Golden</small>
<b>DATE:</b>	09/04/18

JNM:jmcs

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Version: 07/24/17

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Date: 09/04/18

**SECTION 2**  
**SUMMARY OF TEST RESULTS**

<b>SERIES/MODEL</b>	3000 HT 3%							
<b>SAMPLE TYPE</b>	Roller shade fabric							
<b>MOUNTING TYPE</b>	G							
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
I7376.01A	0.02	0.03	0.10	0.23	0.20	0.23	0.15	0.15

<b>SERIES/MODEL</b>	3000 HT 5%							
<b>SAMPLE TYPE</b>	Roller shade fabric							
<b>MOUNTING TYPE</b>	G							
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES						NRC	SAA
	125	250	500	1000	2000	4000		
I7376.01B	0.01	0.03	0.06	0.14	0.11	0.16	0.10	0.09

**SECTION 3**  
**TEST METHODS**

The specimens were evaluated in accordance with the following:

ASTM C423-17, *Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method*

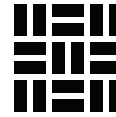
ASTM E795-16, *Standard Practices for Mounting Test Specimens During Sound Absorption Tests*

**SECTION 4**  
**SPECIMEN MOUNTING**

For the Type G mounting, the test specimen was fabric hung from a solid beam parallel to the test surface. The specimen was hung 75 mm (3") from the test surface.

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**TEST REPORT FOR ROLLEASE ACMEDA**  
 Report No.: I7376.01-113-11-R0  
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**SECTION 5**  
**EQUIPMENT**

The equipment listed below meets the requirements of the test methods stated in Section 3 of this report.

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	DATE OF CALIBRATION
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65125	05/18
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126	05/18
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	63763-3	04/18
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	Y002919	04/18
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64907	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	01/18
Receive Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	64915	03/18

**Test Chamber:**

	VOLUME	DESCRIPTION
RECEIVE ROOM	234 m <sup>3</sup>	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor

*N/A-Not Applicable*

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Date: 09/04/18

### SECTION 6 LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Jear N. Mutunda	Intertek B&C
Kurt A. Golden	Intertek B&C

### SECTION 7 TEST PROCEDURE

The sensitivity of the microphones was checked before measurements were conducted. Empty room sound absorption measurements were conducted before the specimen was installed. Full room sound absorption measurements were conducted after the specimen was installed.

For the empty and full room measurements, ten decay measurements were conducted at each of the five microphone positions. Data was obtained at 1/3 octave band frequencies ranging from 80 to 5000 hertz. The air temperature and relative humidity conditions were monitored and recorded during the measurements.

Intertek B&C will store samples of test specimens for four years.

### SECTION 8 TEST CALCULATIONS

The Sound Absorption Coefficient is the full room absorption minus the empty room absorption divided by the area of the sample in m<sup>2</sup>. The Sound Absorption Coefficient is dimensionless.

The Noise Reduction Coefficient (NRC) rating is the arithmetic average of the sound absorption coefficients at 250, 500, 1000 and 2000 hertz. The average is rounded to the nearest multiple of 0.05.

The Sound Absorption Average (SAA) rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

The Sound Absorption Coefficient is the full room absorption minus the empty room absorption divided by the number of units being tested. The Sound Absorption Coefficient is dimensionless.

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## SECTION 9 TEST SPECIMEN DESCRIPTION

For the 300HT 3% option the fabric was arranged to produce a 2.44 m by 2.74 m (95-1/2" by 108") test specimen. The total weight of the specimen was 2.76 kg (6.09 lbs).

For the 300HT 5% option the fabric was arranged to produce a 2.44 m by 2.74 m (96" by 108") test specimen. The total weight of each specimen was 2.78 kg (6.12 lbs).

Photographs are included in Section 11.

The client did not supply a report drawing of the test specimen.

DESCRIPTION	AVERAGE WEIGHT	AVERAGE THICKNESS
3000 HT 3% - 75% PVC, 25% polyester screen fabric	0.42 kg/m <sup>2</sup>	0.63 mm
	0.09 lbs/ft <sup>2</sup>	0.02"
3000 HT 5% - 75% PVC, 25% polyester screen fabric	0.42 kg/m <sup>2</sup>	0.63 mm
	0.09 lbs/ft <sup>2</sup>	0.02"

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**SECTION 10**  
**TEST RESULTS**

**I7376.01A DATA**

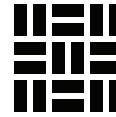
<b>SPECIMEN AREA</b>	6.65 m <sup>2</sup>
<b>MOUNTING TYPE</b>	G

	EMPTY	FULL
<b>TEMP °C</b>	21.8	22.7
<b>RH %</b>	52	50
<b>B.P. (mb)</b>	984	983

FREQ (Hz)	EMPTY ROOM ABSORPTION (m <sup>2</sup> )	UNCERTAINTY	FULL ROOM ABSORPTION (m <sup>2</sup> )	UNCERTAINTY	ABSORPTION COEFFICIENT	RELATIVE UNCERTAINTY
63	3.50	0.667	3.65	0.528	0.02	0.128
80	4.03	0.726	4.04	0.747	0.00	0.157
100	4.79	0.806	4.74	0.736	0.00	0.164
125	4.67	0.366	4.81	0.340	0.02	0.075
160	4.33	0.175	4.49	0.098	0.02	0.030
200	4.27	0.136	4.48	0.149	0.03	0.030
250	4.89	0.056	5.10	0.079	0.03	0.015
315	5.14	0.072	5.52	0.052	0.06	0.013
400	5.19	0.027	5.70	0.033	0.08	0.006
500	5.15	0.041	5.81	0.140	0.10	0.022
630	4.79	0.028	5.76	0.030	0.15	0.006
800	4.96	0.027	6.21	0.014	0.19	0.005
1000	4.90	0.027	6.40	0.015	0.23	0.005
1250	5.18	0.011	6.86	0.014	0.25	0.003
1600	5.27	0.022	6.89	0.002	0.24	0.003
2000	5.18	0.018	6.53	0.031	0.20	0.005
2500	5.39	0.017	6.91	0.287	0.23	0.043
3150	5.94	0.015	7.30	0.010	0.21	0.003
4000	6.31	0.010	7.86	0.004	0.23	0.002
5000	6.83	0.007	8.28	0.008	0.22	0.002
6300	7.01	0.003	8.60	0.008	0.24	0.001
8000	8.01	0.003	9.60	0.006	0.24	0.001
10000	8.30	0.006	9.70	0.004	0.21	0.001

<b>NRC RATING</b>	0.15	<i>(Noise Reduction Coefficient)</i>
<b>SAA RATING</b>	0.15	<i>(Sound Absorption Average)</i>

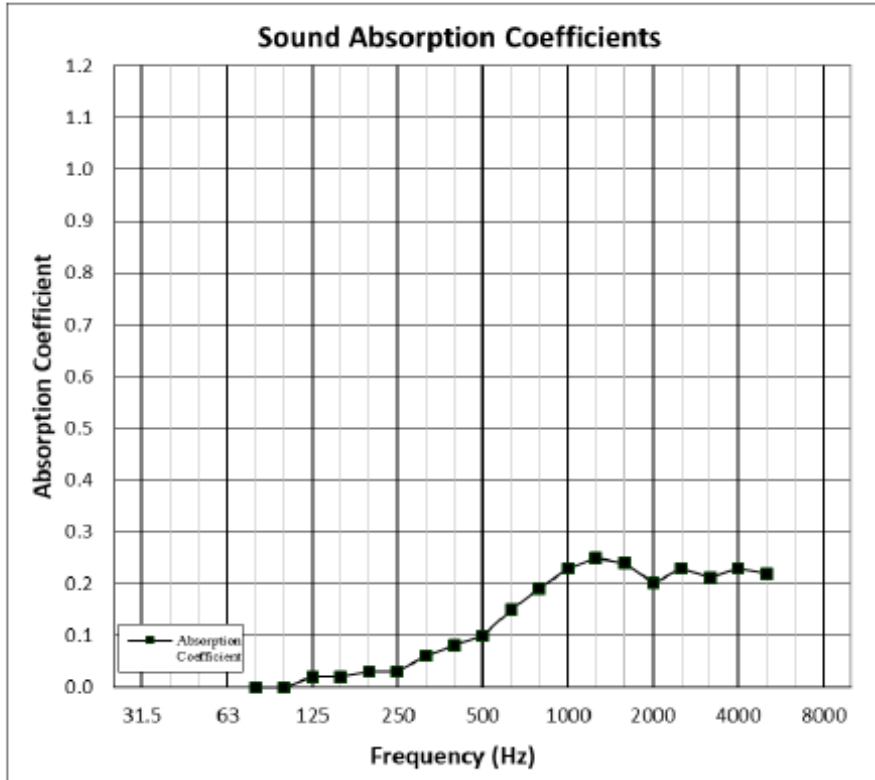
2) The SAA rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.



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### I7376.01A GRAPH





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**I7376.01B DATA**

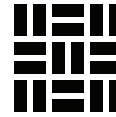
<b>SPECIMEN AREA</b>	6.69 m <sup>2</sup>
<b>MOUNTING TYPE</b>	G

	EMPTY	FULL
<b>TEMP °C</b>	21.8	22.9
<b>RH %</b>	52	50
<b>B.P. (mb)</b>	984	983

FREQ (Hz)	EMPTY ROOM ABSORPTION (m <sup>2</sup> )	UNCERTAINTY	FULL ROOM ABSORPTION (m <sup>2</sup> )	UNCERTAINTY	ABSORPTION COEFFICIENT	RELATIVE UNCERTAINTY
63	3.50	0.667	3.57	0.625	0.01	0.137
80	4.03	0.726	4.06	0.745	0.00	0.156
100	4.79	0.806	4.73	0.491	0.00	0.141
125	4.67	0.366	4.75	0.419	0.01	0.083
160	4.33	0.175	4.43	0.143	0.01	0.034
200	4.27	0.136	4.43	0.148	0.02	0.030
250	4.89	0.056	5.07	0.052	0.03	0.011
315	5.14	0.072	5.40	0.036	0.04	0.012
400	5.19	0.027	5.52	0.025	0.05	0.005
500	5.15	0.041	5.54	0.108	0.06	0.017
630	4.79	0.028	5.42	0.014	0.09	0.005
800	4.96	0.027	5.74	0.028	0.12	0.006
1000	4.90	0.027	5.84	0.012	0.14	0.004
1250	5.18	0.011	6.23	0.020	0.16	0.003
1600	5.27	0.022	6.23	0.016	0.14	0.004
2000	5.18	0.018	5.92	0.041	0.11	0.007
2500	5.39	0.017	6.42	0.327	0.15	0.049
3150	5.94	0.015	6.89	0.006	0.14	0.002
4000	6.31	0.010	7.36	0.007	0.16	0.002
5000	6.83	0.007	7.88	0.005	0.16	0.001
6300	7.01	0.003	8.08	0.003	0.16	0.001
8000	8.01	0.003	9.21	0.002	0.18	0.001
10000	8.30	0.006	9.46	0.005	0.17	0.001

<b>NRC RATING</b>	0.10	(Noise Reduction Coefficient)
<b>SAA RATING</b>	0.09	(Sound Absorption Average)

2) The SAA rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

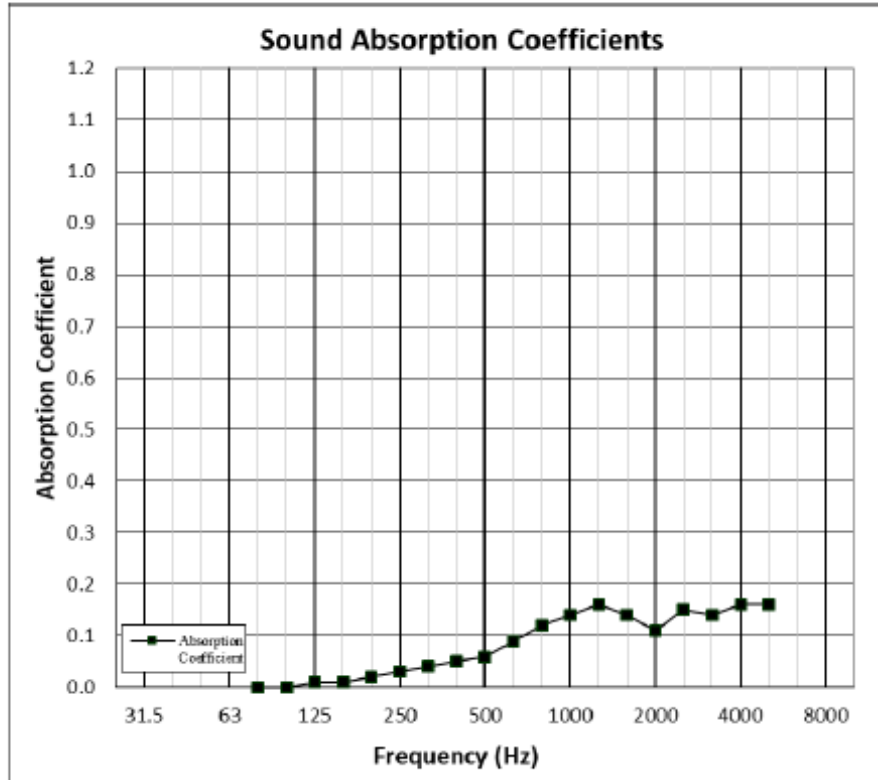


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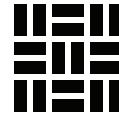
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### I7376.01B GRAPH



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## SECTION 11 PHOTOGRAPHS



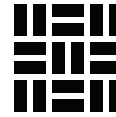
Photo No. 1  
View of Installed Specimen



Photo No. 2  
Side View of Installed Specimen

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**SECTION 12**  
**REVISION LOG**

REVISION #	DATE	PAGES	REVISION
0	09/04/18	N/A	Original Report Issue