

# FABRITRAK SYSTEMS, INC. ACOUSTICAL PERFORMANCE TEST REPORT

**SCOPE OF WORK**

ASTM C423 SOUND ABSORPTION TESTING ON Terra Core Poly™ HD (NRC .80), Geo Trak®

**REPORT NUMBER**

H5652.01-113-11-R1

**TEST DATE**

09/13/17

**ISSUE DATE**

10/05/17

**REVISION DATE**

03/29/18

**RECORD RETENTION END DATE**

09/13/21

**PAGES**

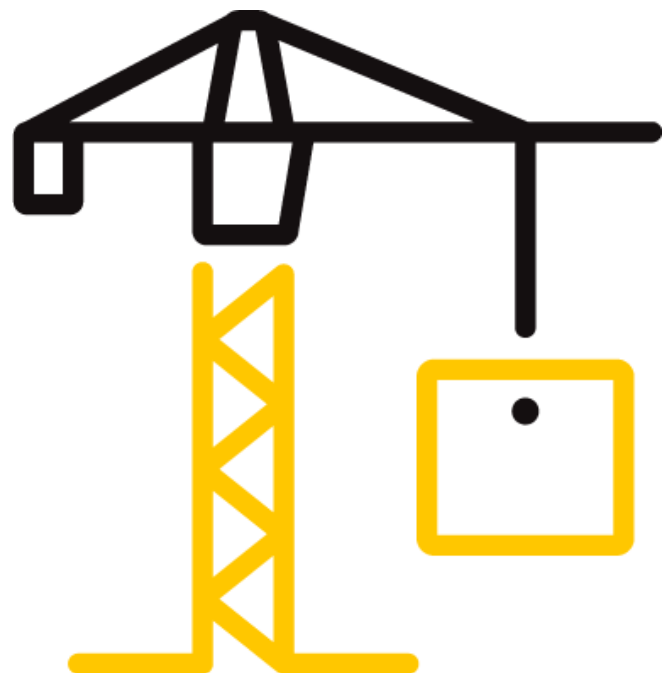
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## TEST REPORT FOR FABRITRAK SYSTEMS, INC.

Report No.: H5652.01-113-11-R1

Date: 10/05/17

Revision 1: 03/29/18

### REPORT ISSUED TO FABRITRAK SYSTEMS, INC.

111 West Park Drive  
Mount Laurel, New Jersey 08054

### SECTION 1 SCOPE

Intertek Building & Construction (B&C) was contracted by FabriTrak Systems, Inc. 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, PA.

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>	Zachary P. Golden Technician	<b>REVIEWED BY:</b>	Kurt A. Golden Project Lead
<b>TITLE:</b>	Acoustical Testing	<b>TITLE:</b>	Acoustical Testing
<b>SIGNATURE:</b>		<b>SIGNATURE:</b>	
<b>DATE:</b>	03/29/18	<b>DATE:</b>	03/29/18

ZPG:jmcs

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**SECTION 2**

**SUMMARY OF TEST RESULTS**

<b>SERIES/MODEL</b>		Terra Core Poly™ HD (NRC .80),						
<b>SAMPLE TYPE</b>		Geo Trak®						
<b>MOUNTING TYPE</b>		Type A						
<b>DATA FILE NO.</b>	<b>1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES</b>						<b>NRC</b>	<b>SAA</b>
	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>		
H5652.01A	0.12	0.36	0.72	0.97	1.05	1.03	0.80	0.78

**SECTION 3**

**TEST METHODS**

The specimens were evaluated in accordance with the following with the exceptions stated in the Test Procedure section of this report:

*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 A mounting, the test specimen was placed directly against the floor of the reverberation room with the absorptive side facing the sound field. The perimeter of the specimen was sealed to the floor with aluminum angle and duct tape.

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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	1643A62	04/16 *
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126	05/16 *
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	065125	05/16 *
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64907	01/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	01/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	01/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	01/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	01/17
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	03/17
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	Y002919	04/17

\*- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.

#### 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

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### SECTION 6

#### LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Zachary P. Golden	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.

The specimen was returned per the client's request.

### 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.

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### SECTION 9

#### TEST SPECIMEN DESCRIPTION

The test specimen measured 2.43 m by 2.72 m (95-1/2" by 107"). The infill had a nominal weight of 1.5 kg per square meter (0.31 lb/ft<sup>2</sup>). The infill was covered with a fabric which had a thickness of 0.53 mm (0.021") and weighed 0.30 kg/m<sup>2</sup> (0.06 lbs/ft<sup>2</sup>).

Photographs are included in Section 13.

DESCRIPTION	THICKNESS	WEIGHT
Terra Core Poly™ HD (NRC .80), 100% polyester infill	24.26 mm 0.955"	0.69 kg/m <sup>2</sup> 0.14 lbs/ft <sup>2</sup>

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### SECTION 10

#### TEST RESULTS

##### H5652.01A DATA

<b>SPECIMEN AREA</b>	6.59 m <sup>2</sup>	
<b>MOUNTING TYPE</b>	Type A	
	<b>EMPTY</b>	<b>FULL</b>
<b>TEMP °C</b>	21.1	19.3
<b>RH %</b>	54	52
<b>B.P. (mb)</b>	1004	1004

FREQ (Hz)	EMPTY ROOM ABSORPTION (m <sup>2</sup> )	UNCERTAINTY	FULL ROOM ABSORPTION (m <sup>2</sup> )	UNCERTAINTY	ABSORPTION COEFFICIENT	RELATIVE UNCERTAINTY
80	4.83	1.017	4.74	0.897	0.00	0.206
100	5.30	0.441	5.63	0.319	0.05	0.082
125	4.96	0.242	5.78	0.134	0.12	0.042
160	4.09	0.117	5.24	0.212	0.17	0.037
200	4.41	0.110	6.12	0.168	0.26	0.030
250	4.91	0.029	7.31	0.066	0.36	0.011
315	4.99	0.056	8.30	0.033	0.50	0.010
400	5.12	0.023	9.20	0.026	0.62	0.005
500	5.06	0.030	9.80	0.144	0.72	0.022
630	4.72	0.032	10.15	0.022	0.82	0.006
800	4.87	0.025	10.82	0.024	0.90	0.005
1000	4.86	0.011	11.27	0.018	0.97	0.003
1250	5.13	0.031	11.86	0.032	1.02	0.007
1600	5.18	0.012	12.11	0.013	1.05	0.003
2000	5.07	0.009	11.97	0.043	1.05	0.007
2500	5.17	0.018	12.53	0.101	1.12	0.016
3150	5.69	0.017	12.67	0.009	1.06	0.003
4000	5.96	0.009	12.73	0.007	1.03	0.002
5000	7.19	0.008	13.61	0.009	0.97	0.002

<b>NRC RATING</b>	0.80	<i>(Noise Reduction Coefficient)</i>
<b>SAA RATING</b>	0.78	<i>(Sound Absorption Average)</i>

Notes:

- 1) The 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.
- 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.

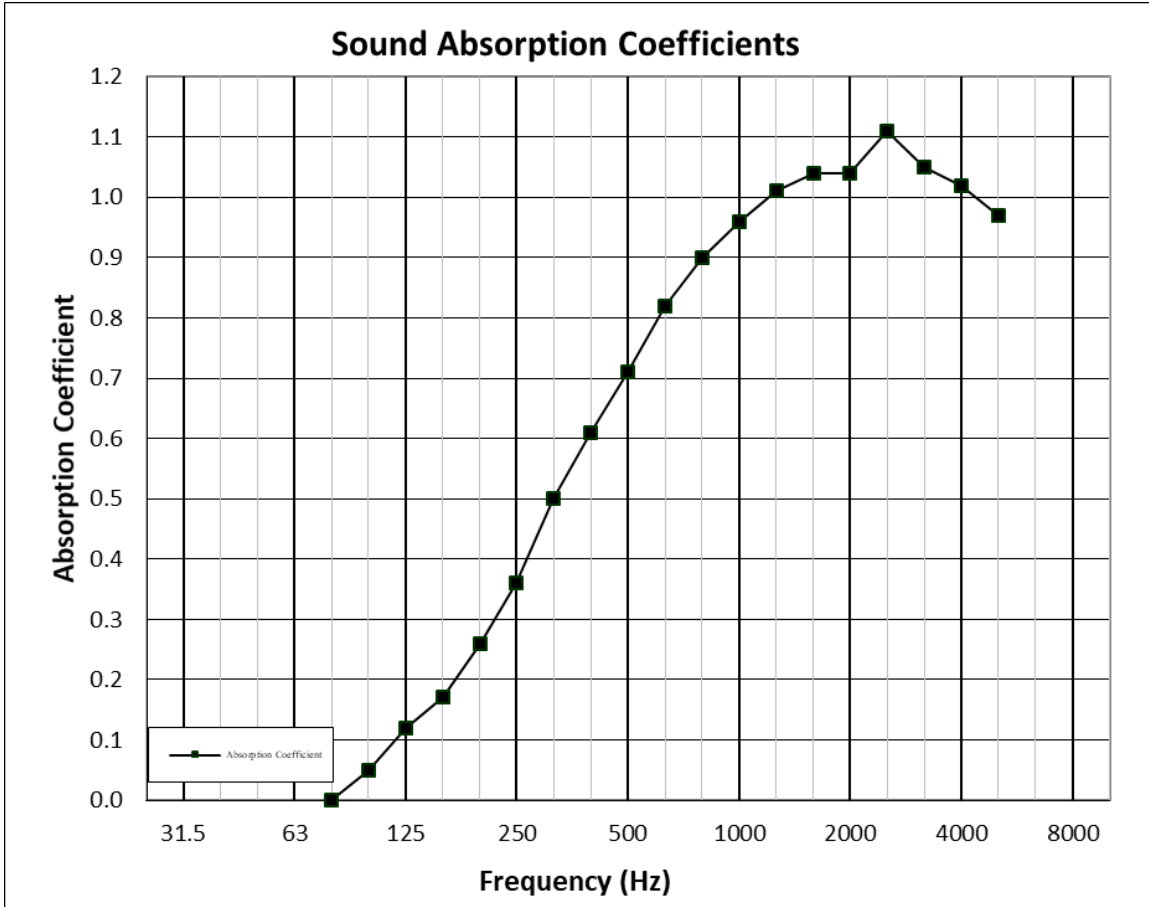
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### H5652.01A GRAPH





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### SECTION 11

#### PHOTOGRAPHS



**Photo No. 1**  
**Receive Room View of Test Specimen**



**Photo No. 2**  
**Cross View of Test Specimen**



Total Quality. Assured.

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**SECTION 12**

**REVISION LOG**

REVISION #	DATE	PAGES	REVISION
0	10/05/17	N/A	Original Report Issue
1	03/29/18	6	Removed density and measured weight, added nominal weight