

FABRITRAK SYSTEMS, INC. ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM C423 SOUND ABSORPTION TESTING ON A
TERRA CORE POLY™ HI-IMPACT, ABSORPTION PANEL

REPORT NUMBER

J0038.01-113-11-R0

TEST DATE

10/22/18

ISSUE DATE

11/14/18

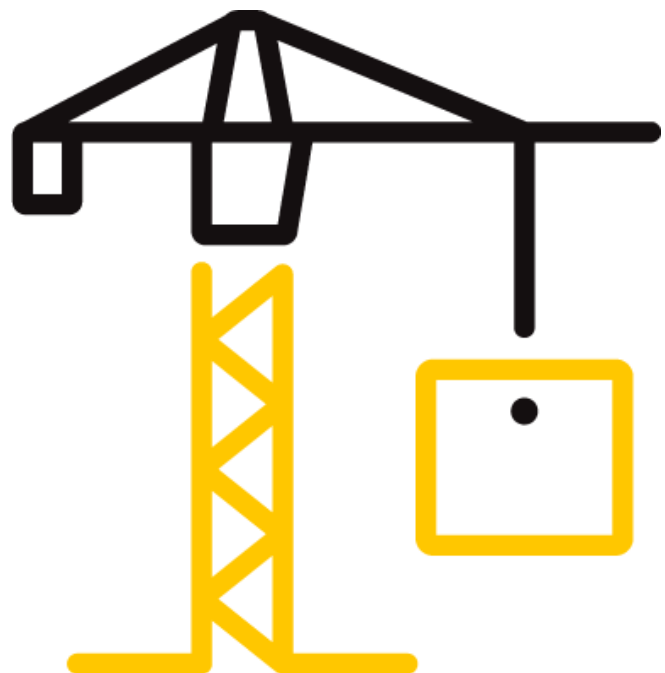
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TEST REPORT FOR FABRITRAK SYSTEMS, INC.

Report No.: J0038.01-113-11-R0

Date: 11/14/18

REPORT ISSUED TO FABRITRAK SYSTEMS, INC.

111 West Park Drive
Mt. 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, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

For INTERTEK B&C:

COMPLETED BY:	Daniel J. Poet	REVIEWED BY:	Kurt A. Golden
TITLE:	Technician II - Acoustical Testing	TITLE:	Project Lead - Acoustical Testing
SIGNATURE:		SIGNATURE:	
DATE:	11/14/18	DATE:	11/14/18

DJP: jmcs

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SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL		Terra Core Poly™ Hi-Impact						
SAMPLE TYPE		Absorption panel						
MOUNTING TYPE		Type A mount						
DATA FILE NO.	1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS						NRC	SAA
	125	250	500	1000	2000	4000		
J0038.01A	0.00	0.18	0.57	0.88	0.96	0.97	0.65	0.66

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 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	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 ³	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor

N/A-Not Applicable

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SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Daniel Poet	Intertek B&C
Kurt 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 m². 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

SERIES/MODEL	Terra Core Poly™ Hi-Impact
SAMPLE TYPE	Absorption panel
MOUNTING TYPE	Type A mount

Four, 1.22 m by 1.22 m (48" by 48"), panels and two, 0.30 m by 1.22 m (12" by 48"), panels were arranged to produce the 2.44 m by 2.74 m (96" by 108") test specimen. The total weight of the specimen was 18.14 kg (40 lbs).

DESCRIPTION	THICKNESS	DENSITY	WEIGHT
Absorption panel	25.91 mm 1.02"	103.64 kg/m ³ 6.47 lbs/ft ³	2.68 kg/m ² 0.55 lbs/ft ²

Photographs are included in Section 11.

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

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SECTION 10

TEST RESULTS

J0038.01A DATA

SPECIMEN AREA	6.69 m ²
MOUNTING TYPE	A MOUNT

	EMPTY	FULL
TEMP °C	22.6	23.2
RH %	51	50
B.P. (mb)	996	996

FREQ (Hz)	EMPTY ROOM ABSORPTION (m ²)	UNCERTAINTY	FULL ROOM ABSORPTION (m ²)	UNCERTAINTY	ABSORPTION COEFFICIENT	RELATIVE UNCERTAINTY
80	5.77	0.519	5.94	0.348	0.02	0.093
100	5.92	0.327	6.00	0.352	0.01	0.072
125	6.29	0.205	6.32	0.182	0.00	0.041
160	5.18	0.115	5.61	0.239	0.06	0.040
200	4.68	0.168	5.45	0.048	0.12	0.026
250	5.15	0.144	6.34	0.062	0.18	0.023
315	5.26	0.085	7.29	0.071	0.30	0.017
400	5.41	0.048	8.29	0.030	0.43	0.008
500	5.53	0.028	9.37	0.282	0.57	0.042
630	5.09	0.046	9.93	0.035	0.72	0.009
800	5.14	0.009	10.58	0.019	0.81	0.003
1000	5.18	0.036	11.05	0.020	0.88	0.006
1250	5.44	0.014	11.64	0.020	0.93	0.004
1600	5.50	0.016	11.91	0.020	0.96	0.004
2000	5.43	0.020	11.82	0.037	0.96	0.006
2500	5.75	0.015	12.61	0.100	1.03	0.015
3150	6.13	0.011	12.70	0.004	0.98	0.002
4000	6.69	0.008	13.17	0.007	0.97	0.002
5000	7.32	0.008	13.67	0.004	0.95	0.001

NRC RATING	0.65	<i>(Noise Reduction Coefficient)</i>
SAA RATING	0.66	<i>(Sound Absorption Average)</i>

Notes:

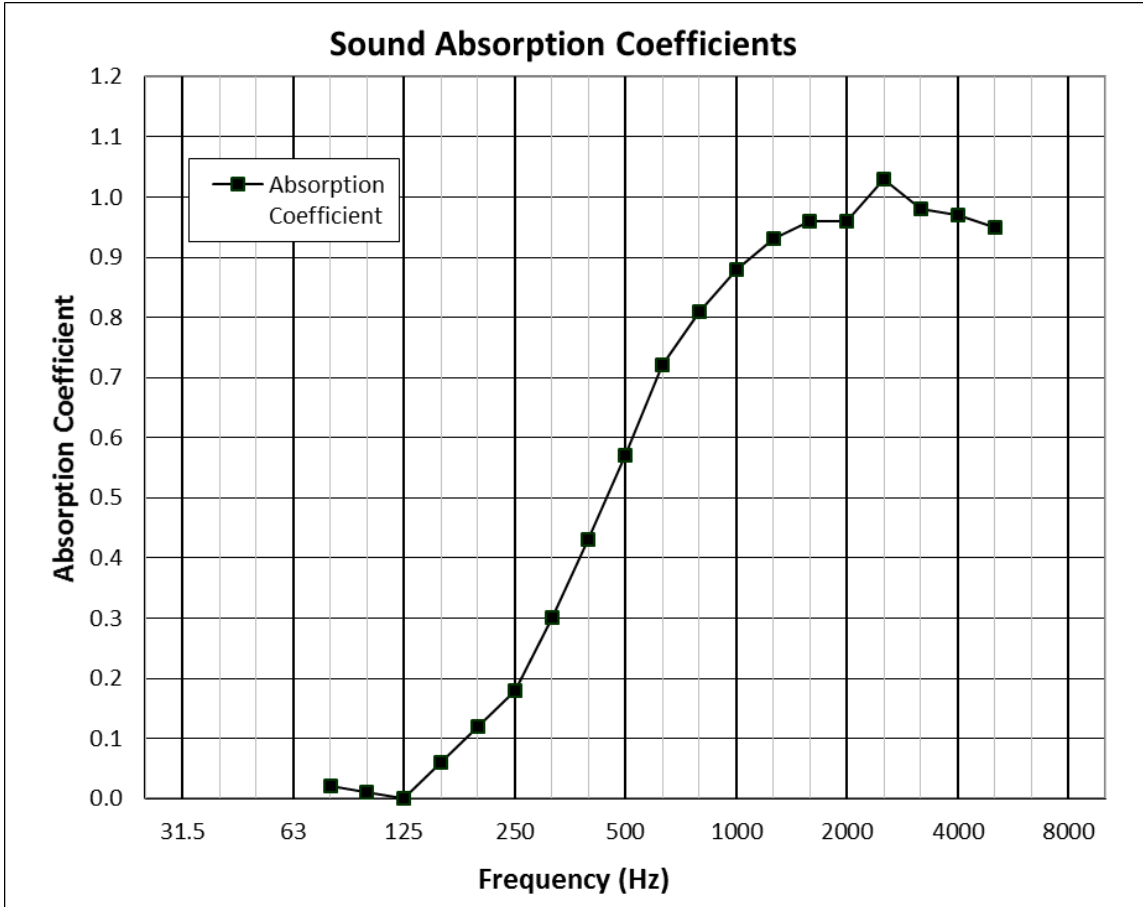
- 1) The NRC rating is the arithmetic average of the sound absorption coefficients at 250, 500, 1000, and 2000 hertz. The average is rounded to the nearest multiple of 0.05.
- 2) The SAA rating is the arithmetic average of the sound absorption coefficients at the frequencies ranging from 200 to 2500 hertz. The average is rounded to the nearest multiple of 0.01.

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J0038.01 GRAPH



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SECTION 11 PHOTOGRAPHS



Photo No. 1
View of Installed Specimen



Photo No. 2
Cross Section View of Specimen



Total Quality. Assured.

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SECTION 12

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	11/14/18	N/A	Original Report Issue