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FABRITRAK SYSTEMS, INC.
ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM C423 SOUND ABSORPTION TESTING ON A WATERFALL DIGITAL PRINTED FABRIC OVER FIBERGLASS INSULATION

REPORT NUMBER
L3142.01-113-11-R0

TEST DATE
09/10/20

ISSUE DATE
09/18/20

PAGES
10

DOCUMENT CONTROL NUMBER
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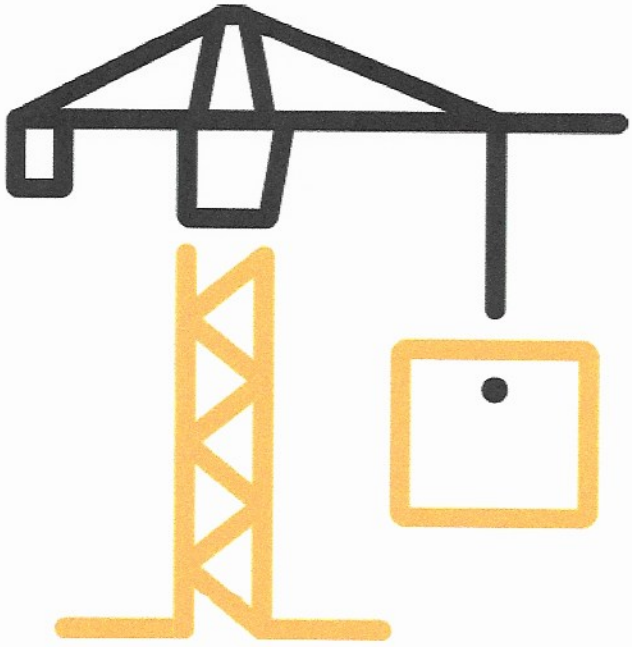

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TEST REPORT FOR FABRITRAK SYSTEMS, INC.
Report No.: L3142.01-113-11-R0
Date: 09/18/20

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 methods. 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:	Andrew M. Johnston	**REVIEWED BY:**	Kurt A. Golden
TITLE:	Technician Acoustical Testing	**TITLE:**	Project Lead Acoustical Testing
SIGNATURE:	Digitally Signed by: Andrew Johnston	**SIGNATURE:**	Digitally Signed by: Kurt A. Golden
DATE:	09/18/20	**DATE:**	09/18/20

AMJ: jmcs

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SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Waterfall Digital Printed Fabric							
SAMPLE TYPE	Fabric over fiberglass insulation							
MOUNTING TYPE	Type A							
DATA FILE NO.	**1/3 OCTAVE SOUND ABSORPTION COEFFICIENTS AT THE OCTAVE BAND FREQUENCIES**						**NRC**	**SAA**
	125	**250**	**500**	**1000**	**2000**	**4000**		
L3142.01	0.29	1.06	1.07	0.78	0.65	0.62	0.90	0.88

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 #	CAL DATE
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	63763-3*	04/20
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65125*	05/20
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126*	05/20
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64907	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	10/19
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	01/20
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	Y002919	04/20

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

TEST CHAMBER

	VOLUME	DESCRIPTION
RECEIVE ROOM	234 m^3	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
Andrew M. Johnston	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^2. 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	Waterfall Digital Printed Fabric
SAMPLE TYPE	Fabric over fiberglass insulation
MOUNTING TYPE	Type A

The test specimen measured 2.47 m by 2.50 m (97-1/4" by 98-1/4"). The total weight of the specimen was 30.84 kg (68 lbs).

DESCRIPTION	THICKNESS	DENSITY	WEIGHT
Waterfall Digital Printed Fabric	0.32 mm 0.0125"	750.00 kg/m^3 48.00 lbs/ft^3	0.24 kg/m^2 0.050 lbs/ft^2
Fiberglass insulation	50.98 mm 2.007"	93.37 kg/m^3 5.86 lbs/ft^3	4.76 kg/m^2 0.98 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

L3142.01 DATA

SPECIMEN AREA	6.16 m²
MOUNTING TYPE	Type A

	EMPTY	FULL
TEMP °C	22.3	22.4
RH %	50	51
B.P. (mb)	995	995

FREQ (Hz)	EMPTY ROOM ABSORPTION (m^2)	UNCERTAINTY	FULL ROOM ABSORPTION (m^2)	UNCERTAINTY	ABSORPTION COEFFICIENT	RELATIVE UNCERTAINTY
80	5.26	0.548	5.90	0.362	0.10	0.107
100	5.34	0.519	6.28	0.436	0.15	0.110
125	5.63	0.461	7.43	0.307	0.29	0.090
160	5.14	0.088	8.32	0.098	0.52	0.021
200	4.87	0.108	9.47	0.077	0.75	0.021
250	5.18	0.101	11.72	0.063	1.06	0.019
315	5.33	0.058	12.56	0.036	1.17	0.011
400	5.40	0.061	12.67	0.038	1.18	0.012
500	5.60	0.031	12.21	0.071	1.07	0.013
630	5.13	0.042	11.12	0.024	0.97	0.008
800	5.17	0.027	10.52	0.013	0.87	0.005
1000	5.21	0.024	10.03	0.015	0.78	0.005
1250	5.52	0.007	9.99	0.025	0.73	0.004
1600	5.55	0.015	9.76	0.010	0.68	0.003
2000	5.49	0.016	9.48	0.036	0.65	0.006
2500	5.80	0.006	10.00	0.141	0.68	0.023
3150	6.19	0.005	10.06	0.005	0.63	0.001
4000	6.74	0.010	10.55	0.004	0.62	0.002
5000	7.37	0.003	11.14	0.002	0.61	0.001

NRC RATING	0.90	*(Noise Reduction Coefficient)*
SAA RATING	0.88	*(Sound Absorption Average)*

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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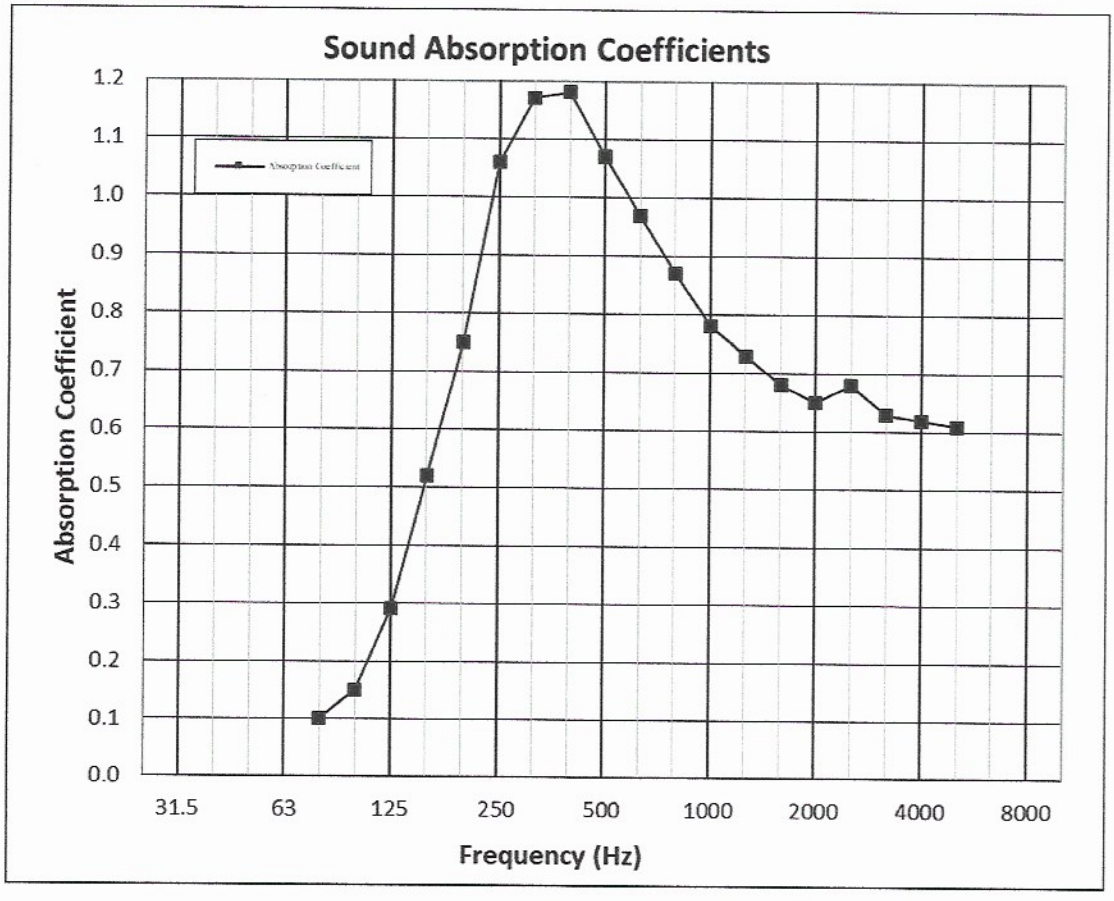
L3142.01 GRAPH



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SECTION 11
PHOTOGRAPHS

Photo No. 1
View of Installed Test Specimen

Photo No. 2
Side View of Installed Test Specimen

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SECTION 12
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	09/18/20	N/A	Original Report Issue