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COMMERCIAL ACOUSTICS
ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A BASE WALL WITH WALL BLOKKER PRO, ACOUSTICAL SOUND BARRIER AND ISOLATOR

REPORT NUMBER
H0512.01-113-11-R0

TEST DATE
08/25/17

ISSUE DATE
08/31/17

RECORD RETENTION END DATE
08/25/21

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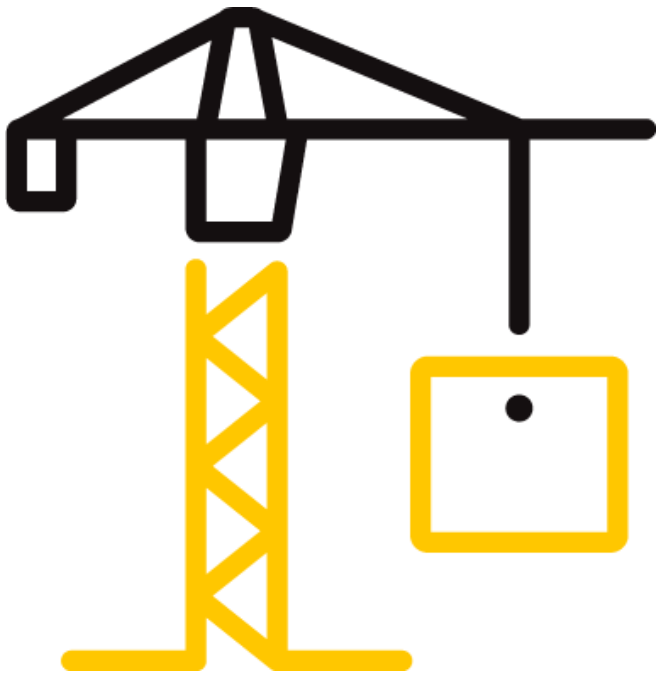

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Date: 08/31/17

REPORT ISSUED TO

COMMERCIAL ACOUSTICS
1519 West Cypress Street
Tampa, Florida 33606

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Commercial Acoustics to conduct a sound transmission loss 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.

SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL	Wall Blokker Pro
TYPE	Base Wall with Acoustical Wall Barrier and Isolator
BASE WALL	12 Gauge 6" Steel Stud 24" OC, Mineral Wool Insulation, Two Layers 5/8" Type X Gypsum Both Sides
DATA FILE NO.	H5012.01A
STC	57
OITC	40

For INTERTEK B&C:

COMPLETED BY:	Sean G. Close	**REVIEWED BY:**	Kurt A. Golden
TITLE:	Technician I Acoustical Testing	**TITLE:**	Project Lead Acoustical Testing
SIGNATURE:	Digitally Signed by: Sean Close	**SIGNATURE:**	Digitally Signed by: Kurt A. Golden
DATE:	08/31/17	**DATE:**	08/31/17

SGC:jmcs

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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 E90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*

ASTM E413-16, *Classification for Rating Sound Insulation*

ASTM E1332-16, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*

ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

SECTION 4
SPECIMEN INSTALLATION

The specimen was constructed in the laboratory. A sound transmission loss test was initially performed on a filler wall. The 96" wide by 96" high specimen plug was removed from the filler wall assembly. The specimen was placed on an isolation pad in the test opening. Duct seal was used to seal the perimeter of the specimen to the test opening on both sides. The interior side of the specimen, when installed, was approximately 1/4" from being flush with the receive room side of the filler wall. A stethoscope was used to check for any abnormal air leaks around the test specimen prior to testing.

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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	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 *
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64902	08/17
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64903	02/17
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65103	02/17
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64905	02/17
Source Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	64906	02/17
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
Source Room Environmental Indicator	Comet	T7510	Source Room	64914	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^3	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor
SOURCE ROOM	207 m^3	Stationary diffusers only Temperature and humidity controlled

	MAXIMUM SIZE	DESCRIPTION
TL TEST OPENING	4.27 m wide by 3.05 m high	Vibration break between source and receive rooms

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SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Mike Rushton	Commercial Acoustics
Sean G. Close	Intertek B&C
Kurt A. Golden	Intertek B&C

SECTION 7
TEST PROCEDURE

The sensitivity of the microphones was checked before measurements were conducted.

The transmission loss values were obtained for a single direction of measurement.

Two background noise sound pressure level and five sound absorption measurements were conducted at each of five microphone positions.

Two sound pressure level measurements were made simultaneously in the receive and source rooms at each of five microphone positions.

The air temperature and relative humidity conditions were monitored and recorded during all measurements.

Data for flanking limit tests, repeatability measurements, and reference specimen tests are available upon request.

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

SECTION 8
ACOUSTICAL TEST CALCULATIONS

Transmission loss (TL) at each 1/3 octave frequency is the average source room sound pressure level minus the average receive room sound pressure level, plus, 10 times the log of the specimen area divided by the sound absorption of the receive room with the sample in place.

STC Rating
To obtain the Sound Transmission Class (STC), read the TL of the contour curve at 500 Hz. The sum of the deficiencies below the contour curve must not exceed 32. The maximum deficiency at any one frequency must not exceed 8.

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OITC Rating
The Outdoor-Indoor Transmission Class (OITC) is calculated by subtracting the logarithmic summation of the TL values from the logarithmic summation of the A-weighted transportation noise spectrum stated in ASTM E1332.

SECTION 9
SPECIMEN DESCRIPTION

GYPSUM BOARD	Two Layers, 5/8" Type X
STUDS	12 Gauge, 6" Steel, 24" Centers
INSULATION	Mineral Wool
GYPSUM BOARD	Two Layers, 5/8" Type X

MATERIAL	ACTUAL DIMENSIONS (inches)	ACTUAL THICKNESS (inches)	MANUFACTURER AND SERIES	QUANTITY	AVERAGE WEIGHT
GYPSUM BOARD	48 by 96	0.625	National Gypsum Type X	2 sheets	2.28 lbs/ft^2
	Note: Screws spaced on 24" centers. Perimeter and joints, sealed with acoustical sealant and foil tape. Screw heads sealed with foil tape.				
GYPSUM BOARD	48 by 96	0.625	National Gypsum Type X	2 sheets	2.28 lbs/ft^2
	Note: Screws spaced on 24" centers. Perimeter, joints, and screw heads sealed with acoustical sealant.				
BARRIER SOUND	48 by 96	0.170	Wall Blokker PRO	2 sheets	0.96 lbs/ft^2
	Note: Fastened with the polyethylene scrim facing the gypsum.				
STUD	6 by 96	1-3/4"	Steel, 12 Gauge (0.103")	5 pieces	3.14 lbs/linear ft
	Note: 24" centers. Screwed to top and bottom plates.				
INSULATION	24 by 48	3"	Roxul Safe'n'Sound	8 batts	0.575 lbs/ft^2
	Note: N/A				
INSULATION	24 by 48	3"	Roxul Safe'n'Sound	8 batts	0.575 lbs/ft^2
	Note: N/A				
GYPSUM BOARD	48 by 96	0.625	National Gypsum Type X	2 sheets	2.28 lbs/ft^2
	Note: Screws spaced on 24" centers. Perimeter, joints, and screw heads sealed with acoustical sealant.				

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MATERIAL	ACTUAL DIMENSIONS (inches)	ACTUAL THICKNESS (inches)	MANUFACTURER AND SERIES	QUANTITY	AVERAGE WEIGHT
GYPSUM BOARD	48 by 96	0.625	National Gypsum Type X	2 sheets	2.28 lbs/ft^2
	Note: Screws spaced on 24" centers. Perimeter and joints, sealed with acoustical sealant and foil tape. Screw heads sealed with foil tape.				
	Note: N/A				
TOP PLATES	6 by 96	1-3/4"	Steel, 12 Gauge (0.103")	1 pieces	2.78 lbs/linear ft
	Note: N/A				
BOTTOM PLATES	6 by 96	1-3/4	Steel, 12 Gauge (0.103")	1 pieces	2.78 lbs/linear ft
	Note: N/A				

TOTAL WEIGHT (lbs)	**AVERAGE WEIGHT** (lbs / ft^2)
892.3	13.94

** - Stated per Client/Manufacturer, N/A-Not Applicable*

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

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SECTION 10
TEST RESULTS

SPECIMEN AREA	5.95 m²	**RECEIVE TEMP.**	21.6 °C	**SOURCE TEMP**	21.7 °C
TECHNICIAN	Sean G. Clos	**RECEIVE HUMIDITY**	48%	**SOURCE HUMIDIT**	50%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% CONFIDENCE LIMIT	NUMBER OF DEFICIENCIES
80	38.7	4.6	107	88	21	2.05	-
100	36.8	4.8	107	74	35	1.85	-
125	38.3	4.9	107	65	43	1.77	0
160	37.7	4.5	107	63	45	0.78	0
200	33.8	4.7	108	62	48	0.74	0
250	31.1	5.2	108	58	52	0.68	0
315	27.4	5.6	101	52	50	0.28	3
400	24.2	5.8	99	47	53	0.46	3
500	18.7	5.9	99	45	55	0.32	2
630	19.5	5.8	103	47	56	0.32	2
800	15.1	6.0	102	43	59	0.37	0
1000	11.1	6.2	99	37	62	0.39	0
1250	10.2	6.7	100	36	63	0.40	0
1600	7.6	7.2	104	41	62	0.35	0
2000	6.2	7.6	97	41	55	0.30	6
2500	6.3	8.5	96	41	54	0.25	7
3150	6.6	10.1	98	38	58	0.31	3
4000	7.5	12.5	97	32	62	0.35	0
5000	8.2	16.6	96	27	65	0.31	-

STC RATING	57	*(Sound Transmission Class)*
DEFICIENCIES	26	*(Sum of Deficiencies)*
OITC RATING	40	*(Outdoor-Indoor Transmission Class)*

Notes:
1) Receive Room levels less than 5 dB above the Background levels are red.
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

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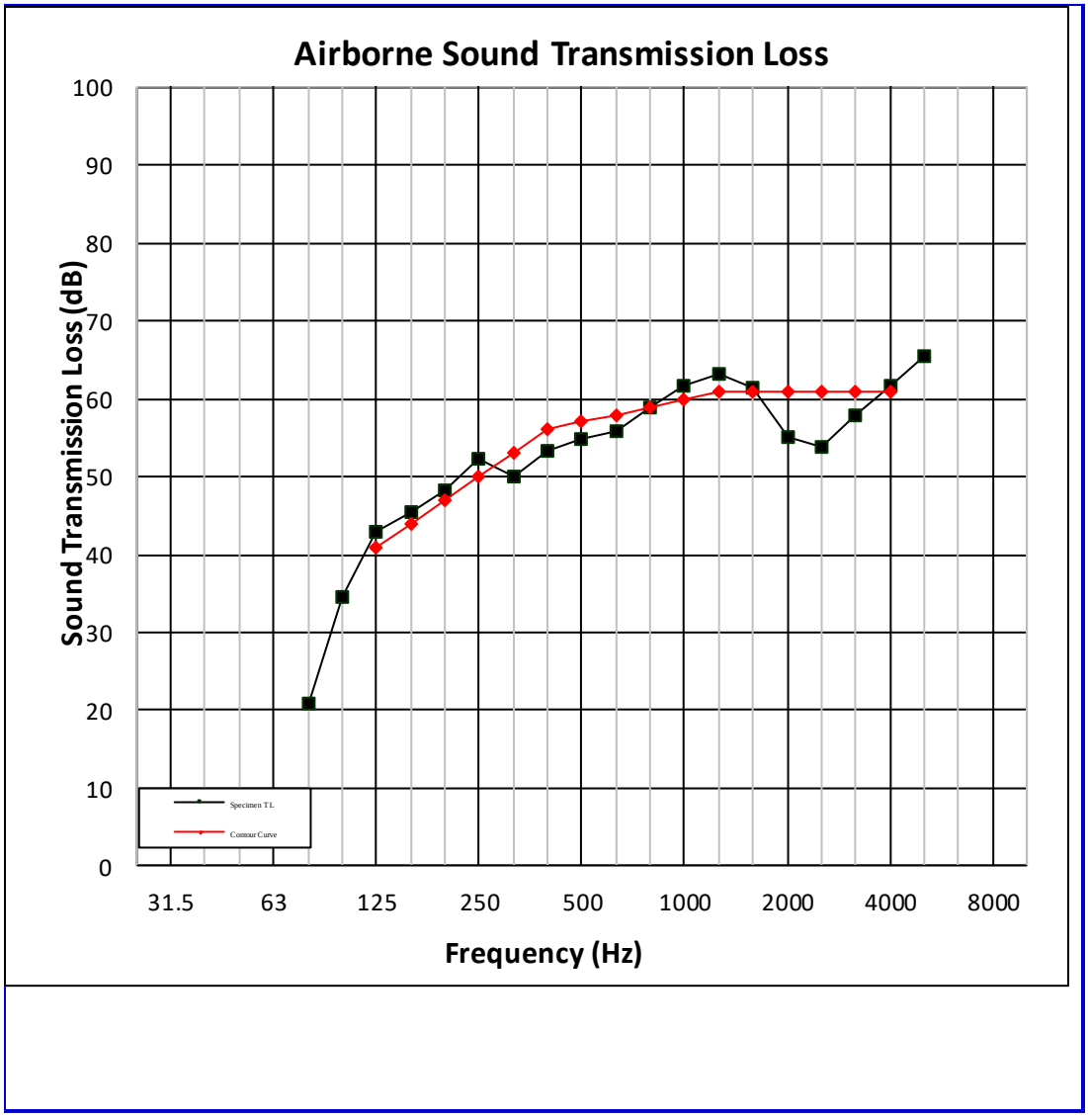
SECTION 11
RESULTS GRAPH



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SECTION 12
PHOTOGRAPHS

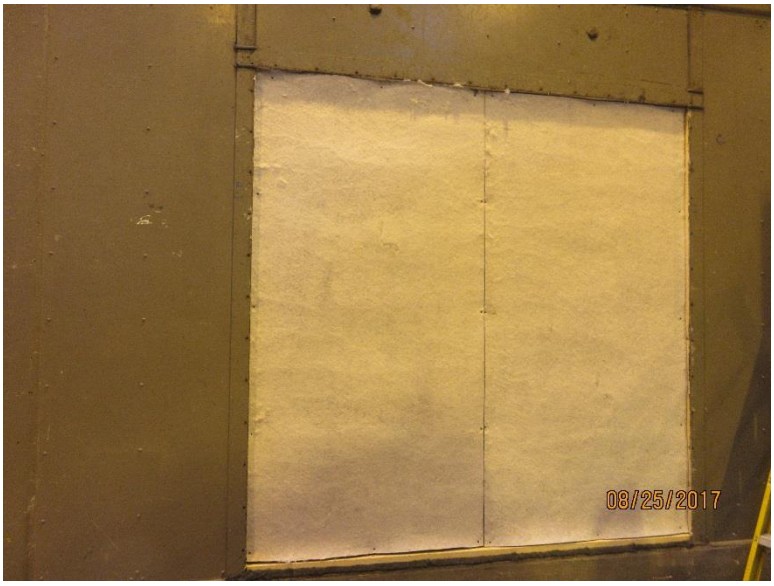

Photo No. 1
View of Installed Wall Blokker Pro

Photo No. 2
Receive Room View of Installed Specimen

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Photo No. 3
Source Room View of Installed Specimen

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	08/31/17	N/A	Original Report Issue