intertek
Total Quality. Assured.

TUDELU, LLC
ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON TUDELU PRIVATE, ACOUSTICAL PANELS

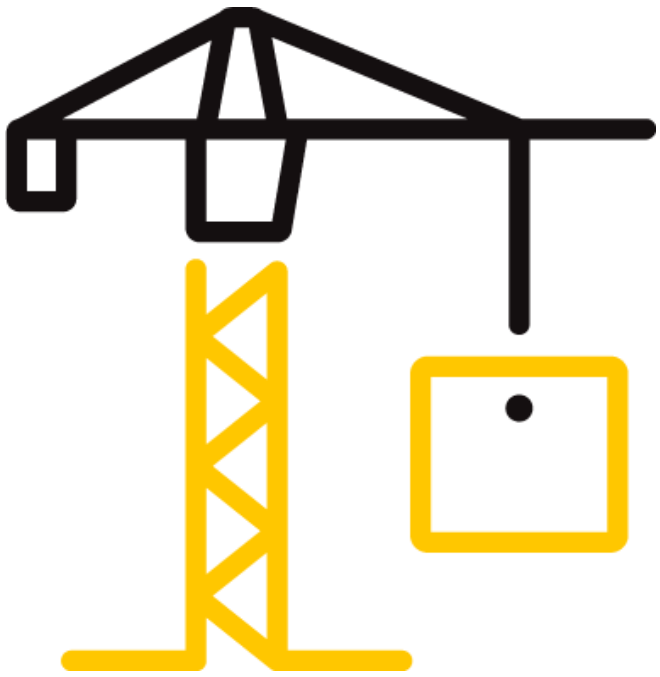
REPORT NUMBER
P3024.05-113-11-R0

TEST DATE
01/23/23

ISSUE DATE
02/22/23

PAGES
10

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2761 (09/09/22)
© 2017 INTERTEK



130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR TUDELU, LLC
Report No.: P3024.05-113-11-R0
Date: 02/22/23

REPORT ISSUED TO

TUDELU, LLC
100 Industrial Avenue #C
Little Ferry, New Jersey 07643

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Tudelu, LLC to conduct a sound transmission loss 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.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

For INTERTEK B&C:

COMPLETED BY:	Cody L. French	**REVIEWED BY:**	Kurt A. Golden
TITLE:	Technician Acoustical Testing	**TITLE:**	Manager Acoustical Testing
SIGNATURE:	Digitally Signed by: Cody French	**SIGNATURE:**	Digitally Signed by: Kurt A. Golden
DATE:	02/22/23	**DATE:**	02/22/23

CLF:jmcs

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample(s) tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

IAS ACCREDITED Testing Laboratory

This page alone is not a complete report.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR TUDELU, LLC
Report No.: P3024.05-113-11-R0
Date: 02/22/23

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Tudelu Private
TYPE	Acoustical Panels
DESCRIPTION	Tudelu Private Panel (3 mm vinyl material, 3 mm non-woven backing on the inner side) 4" Air space Tudelu Private Panel (3 mm vinyl material, 3 mm non-woven backing on the inner side)
DATA FILE NO.	P3024.03C
STC	40
OITC	23

SECTION 3
TEST METHODS

The specimens were evaluated in accordance with the following:

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

ASTM E413-22, *Classification for Rating Sound Insulation*

ASTM E1332-22, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*

ASTM E2235-04 (2020), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

SECTION 4
SPECIMEN INSTALLATION

A sound transmission loss test was initially performed on a filler wall.

The 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. Operable portions of the test specimen, if any, were cycled at least five times prior to testing.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

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
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02580	03/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02581	03/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02581	03/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02583	03/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02584	03/22
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02585	03/22
Source Room Microphone	National Instruments	378C20	Microphone and Preamplifier	INT02910	02/22
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02911	02/22
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64340	10/22
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02427	02/22
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT01089	02/22
Receive Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	INT02912	02/22
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64902	10/22
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64903	08/22
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	02/22
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	10/22
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	02/22
Source Room Environmental Indicator	Comet	T7510	Source Room	64914	03/22
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	Y002919	04/22

**- 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

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR TUDELU, LLC
Report No.: P3024.05-113-11-R0
Date: 02/22/23

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Yanky Fleischman	Tudelu, LLC
Cody L. French	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 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.

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.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 9
SPECIMEN DESCRIPTION

Tudelu Private acoustical panels consisted of one 48" by 72" frame constructed with 1-1/2" thick by 4" wide wood lumber and fastened together with screws. One layer of mass loaded vinyl was screwed to the wood frame on both sides, creating the 4" air space. The backing material faced inward towards the 4" air space.

MEASURED MASS VINYL WEIGHT (lbs/ft^2)	**PANEL TOTAL WEIGHT** (lbs)	**PANEL AVERAGE WEIGHT** (lbs/ft^2)
1.260	83	3.46

Photographs are included in Section 11.

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

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR TUDELU, LLC
Report No.: P3024.05-113-11-R0
Date: 02/22/23

SECTION 10
TEST RESULTS

P3024.03C DATA

SPECIMEN AREA	2.23 m²	**RECEIVE TEMP.**	23.0 °C	**SOURCE TEMP.**	23.3 °C
TECHNICIAN	Cody L. Fren	**RECEIVE HUMIDITY**	50%	**SOURCE HUMIDITY**	49%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT	NUMBER OF DEFICIENCIES
80	36.9	6.5	105	95	5	2.79	-
100	33.5	6.7	106	87	15	1.98	-
125	35.9	5.7	106	87	16	1.28	8
160	38.4	5.0	107	84	20	1.14	7
200	36.5	6.0	107	80	23	0.86	7
250	31.7	6.0	104	68	31	0.46	2
315	26.4	5.8	104	67	33	0.71	3
400	23.2	5.6	103	60	39	0.57	0
500	19.3	5.7	104	59	41	0.44	0
630	18.1	5.7	103	56	44	0.28	0
800	16.8	6.2	102	51	46	0.32	0
1000	14.0	6.3	103	48	51	0.26	0
1250	12.6	6.8	102	43	55	0.24	0
1600	9.8	7.1	101	39	58	0.14	0
2000	7.8	7.5	102	34	63	0.21	0
2500	6.9	8.7	102	31	66	0.22	0
3150	7.1	10.4	101	27	67	0.22	0
4000	8.3	12.9	99	22	70	0.26	0
5000	10.0	16.0	99	19	72	0.67	-
STC RATING		40	*(Sound Transmission Class)*				
DEFICIENCIES		27	*(Sum of Deficiencies)*				
OITC RATING		23	*(Outdoor-Indoor Transmission Class)*				

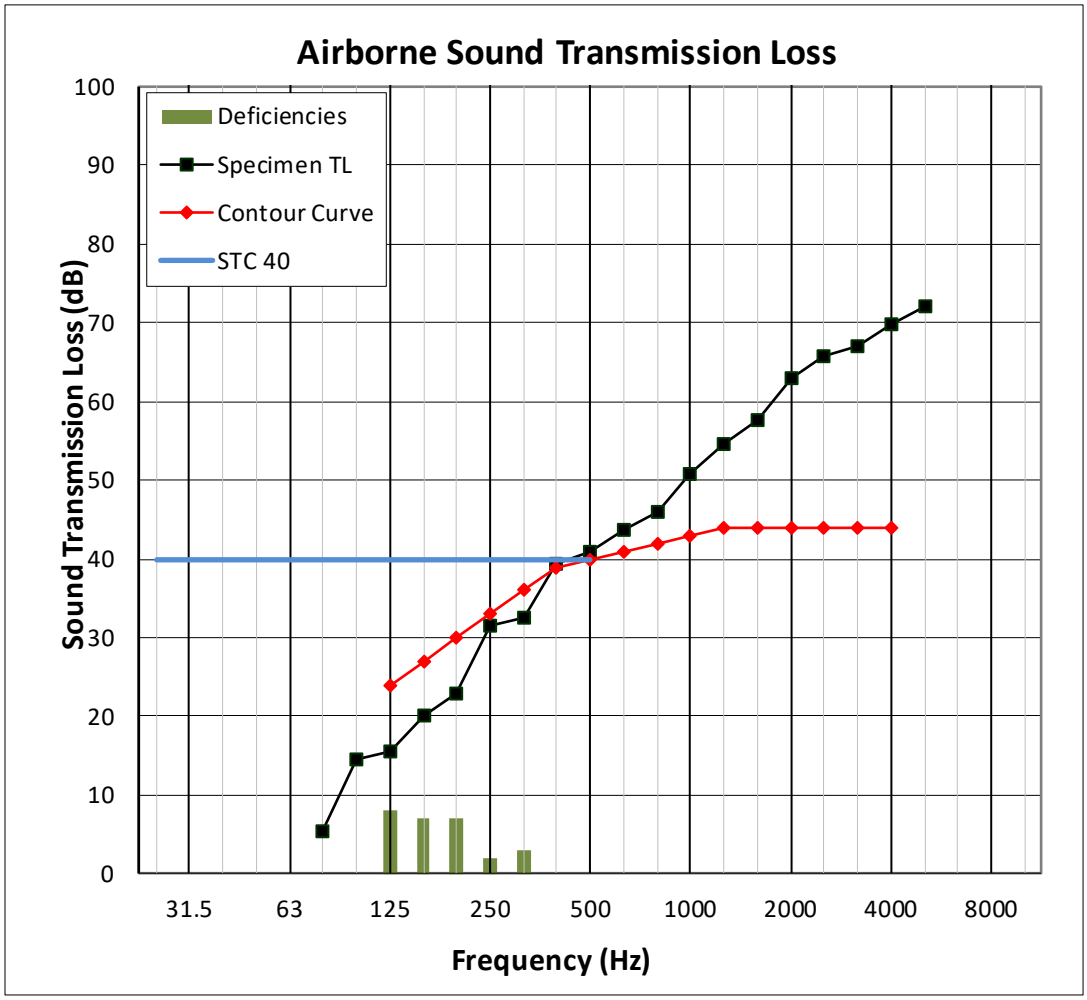
Notes: *1) Receive Room levels less than 5 dB above the Background levels are red.*
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR TUDELU, LLC
Report No.: P3024.05-113-11-R0
Date: 02/22/23

P3024.03C GRAPH



130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 11
PHOTOGRAPHS

Photo No. 1
Receive Room View of Installed Test Specimen

Photo No. 2
Source Room View of Installed Test Specimen

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 12
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	02/22/23	N/A	Original Report Issue