

SHAPES UNLIMITED

ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A
PRIMEALUX HORIZONTAL PRIVACY PLUS FENCE

REPORT NUMBER

S8904.01-113-11-R0

TEST DATE

08/14/25

ISSUE DATE

08/21/25

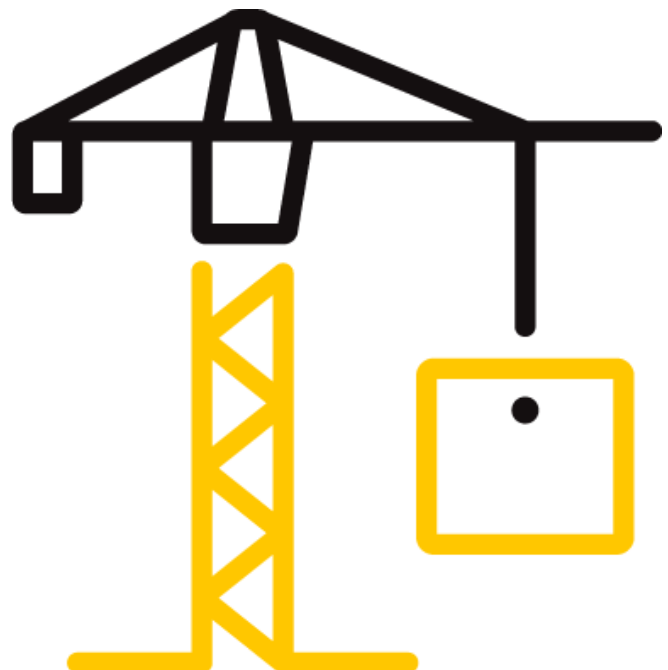
PAGES

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TEST REPORT FOR SHAPES UNLIMITED

Report No.: S8904.01-113-11-R0

Date: 08/21/25

REPORT ISSUED TO

SHAPES UNLIMITED

590 E Western Reserve Road
Youngstown, Ohio 44514

SECTION 1

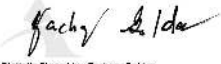
SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by SHAPES UNLIMITED 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.

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For INTERTEK B&C:

COMPLETED BY	Zachary P. Golden
TITLE	Technician Team Leader Acoustical Testing
SIGNATURE	 Digitally Signed by: Zachary Golden
DATE	08/21/25

REVIEWED BY	Kurt A. Golden
TITLE	Manager Acoustical Testing
SIGNATURE	 Digitally Signed by: Kurt A. Golden
DATE	08/21/25

ZPG:jmc

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SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL	PrimeAlux Horizontal Privacy Plus 6'W x 6'H
TYPE	Fence
DATA FILE NO.	S8904.01A
STC	22
OITC	19

SECTION 3

TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM E90-23, *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.

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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
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02587	03/25
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02588	03/25
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02608	03/25
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02609	03/25
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02610	03/25
2-Channel Analog Input	National Instruments	NI-9250	2-Channel Analog Input	INT02612	03/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02427	03/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02911	02/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02912	03/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT01089	02/25
Source Room Microphone	PCB piezotronics	378B20	Microphone and Preamplifier	65103	02/25
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	63740	02/25
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT03905	04/25
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT02256	01/25
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64905	02/25
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	02/25
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	01/25
Source Room Environmental Indicator	Comet	T7510	Source Room	64914	04/25
Microphone Calibrator	Larson Davis	Cal-200	Acoustical Calibrator	65327	02/25

*- 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
Zachary P. 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 levels 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.

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SECTION 9

SPECIMEN DESCRIPTION

The test specimen included fifteen interlocking horizontal slats. Each slat was 68-7/8" wide by 7/8" high by 7/8" thick. An H rail was placed between each slat to interlock them. The aluminum horizontal slats were 68-7/8" wide by 4" high by 7/8" thick and were filled with foam.

There was a hollow horizontal top and bottom starter rail that was 4-3/4" wide by 68-7/8" high by 7/8" thick. There were two end posts at both sides of the fence that were 3-1/8" wide by 72" high by 3-1/8" thick. The overall size of the fence was 75-1/4" wide by 72" high which included the posts.

TOTAL WEIGHT (lbs)	AVERAGE WEIGHT (lbs/ft ²)
70	1.86

Photographs are included in Section 11.

A drawing of the test specimen is included in Section 12.

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SECTION 10

TEST RESULTS

ASTM E90

AIRBORNE SOUND TRANSMISSION LOSS



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TEST DATE	08/14/25				
DATA FILE NO.	S8904.01A				
CLIENT	SHAPES UNLIMITED				
DESCRIPTION	Series/Model: PrimeAlux Horizontal Privacy Plus fence				
SPECIMEN AREA	3.50 m ²	RECEIVE TEMP.	23.7 °C	SOURCE TEMP.	22.7 °C
TECHNICIAN	Timothy J. F.	RECEIVE HUMIDITY	46%	SOURCE HUMIDITY	48%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m ²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT (dB)	NUMBER OF DEFICIENCIES
80	36.9	7.2	99	85	11	4.98	-
100	31.4	7.5	100	81	16	2.50	-
125	34.9	7.2	102	82	16	2.45	0
160	38.2	6.3	103	84	17	1.31	0
200	36.4	6.6	102	84	15	0.90	0
250	32.7	6.9	99	80	16	1.11	0
315	28.7	6.5	99	79	18	0.90	0
400	25.4	6.5	98	77	19	0.35	2
500	23.9	6.3	99	78	19	0.82	3
630	20.5	6.4	98	76	20	0.84	3
800	21.3	6.7	97	75	19	0.74	5
1000	20.2	6.8	98	74	21	0.54	4
1250	19.0	7.0	97	69	25	0.29	1
1600	17.1	7.5	95	65	26	0.54	0
2000	14.9	8.0	97	68	25	0.18	1
2500	12.7	9.2	97	68	25	0.69	1
3150	12.3	11.1	96	65	26	0.76	0
4000	11.6	13.6	94	63	24	0.59	2
5000	11.0	17.4	93	66	20	0.80	-
STC RATING	22 (Sound Transmission Class)						
DEFICIENCIES	22 (Sum of Deficiencies)						
OITC RATING	19 (Outdoor-Indoor Transmission Class)						

- Notes:**
- 1) Receive Room levels less than 6 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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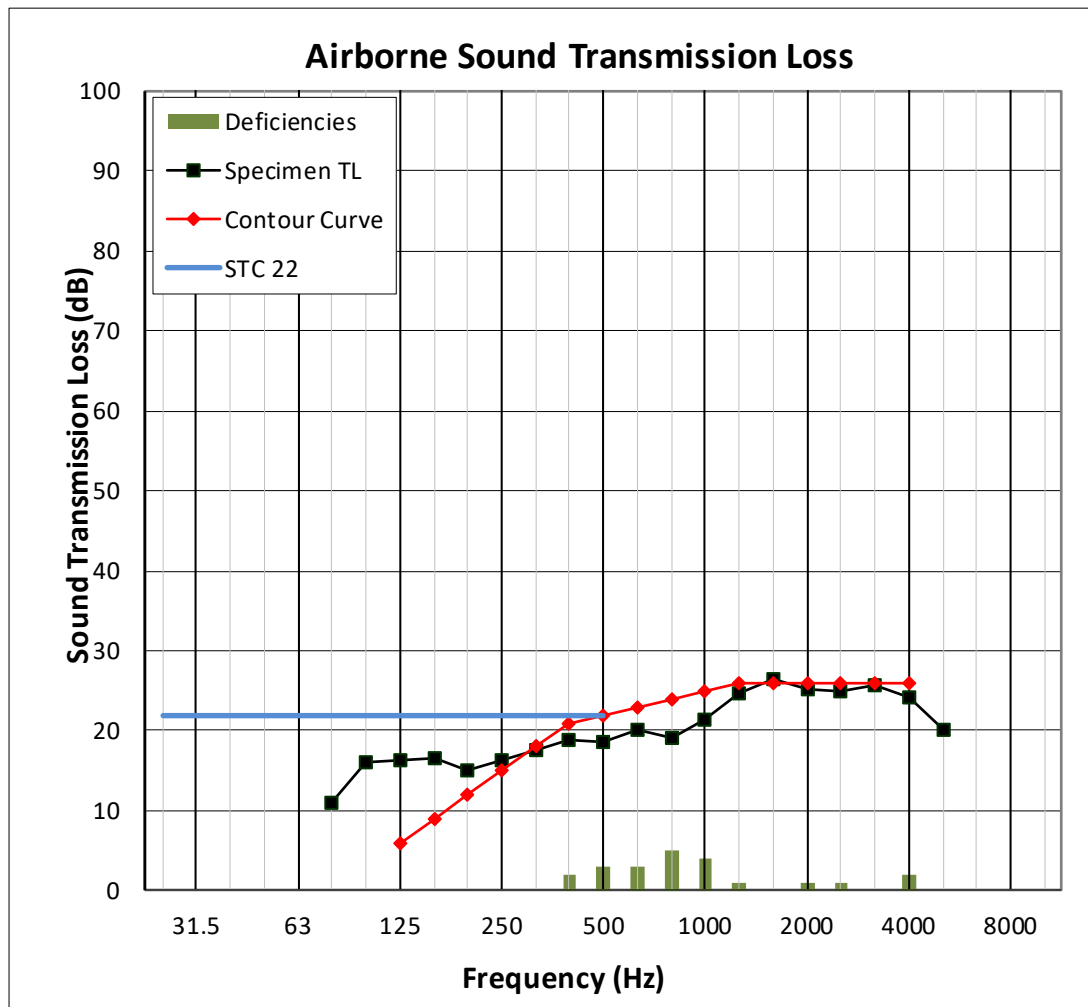
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ASTM E90 AIRBORNE SOUND TRANSMISSION LOSS



Lab Code 600388-0

TEST DATE	08/14/25				
DATA FILE NO.	S8904.01A				
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DESCRIPTION	Series/Model: PrimeAlux Horizontal Privacy Plus fence				
SPECIMEN AREA	3.50 m ²	RECEIVE TEMP.	23.7 °C	SOURCE TEMP.	22.7 °C
TECHNICIAN	Timothy J. F.	RECEIVE HUMIDITY	46%	SOURCE HUMIDITY	48%



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SECTION 11

PHOTOGRAPHS



Photo No. 1

Receive Room View of Installed Test Specimen



Photo No. 2

Source Room View of Installed Test Specimen

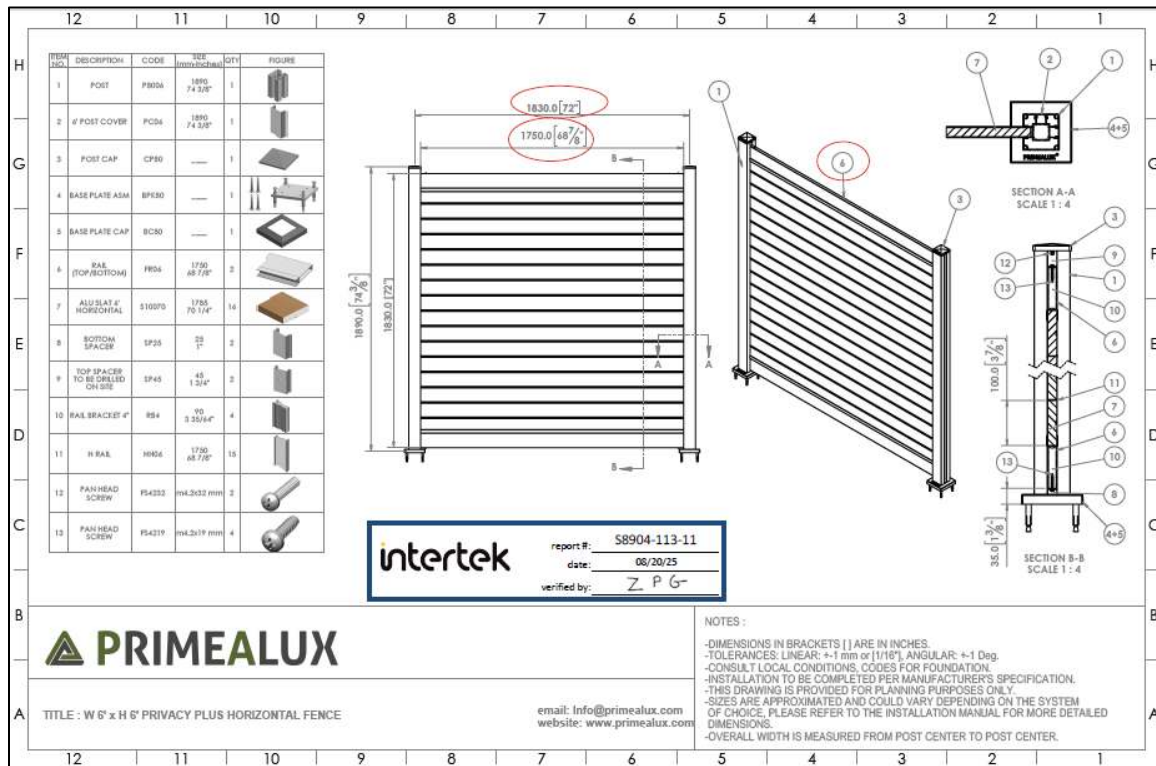
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SECTION 12

DRAWING





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SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	08/21/25	N/A	Original Report Issue