intertek
Total Quality. Assured.

ARCONIC ARCHITECTURAL PRODUCTS ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON AN AS3000B, BONDED ALUMINUM SHEET

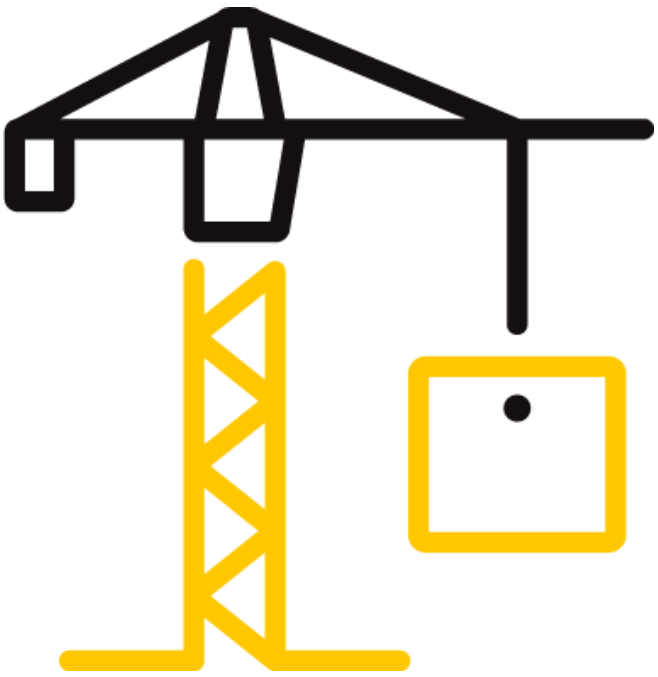
REPORT NUMBER
K9667.01-113-11-R0

TEST DATE
04/29/20

ISSUE DATE
05/08/20

PAGES
10

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2761 (01/24/19)



130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR ARCONIC ARCHITECTURAL PRODUCTS

Report No.: K9667.01-113-11-R0
Date: 05/08/20

REPORT ISSUED TO

ARCONIC ARCHITECTURAL PRODUCTS
50 Industrial Boulevard
Eastman, Georgia 31023

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Arconic Architectural Products 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.

For INTERTEK B&C:

COMPLETED BY:	Zachary P. Golden	**REVIEWED BY:**	Kurt A. Golden
TITLE:	Technician Team Leader Acoustical Testing	**TITLE:**	Project Lead Acoustical Testing
SIGNATURE:	Digitally Signed by: Zachary Golden	**SIGNATURE:**	Digitally Signed by: Kurt A. Golden
DATE:	05/08/20	**DATE:**	05/08/20

ZPG:jmcs

Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR ARCONIC ARCHITECTURAL PRODUCTS
Report No.: K9667.01-113-11-R0
Date: 05/08/20

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	AS3000B
TYPE	Bonded aluminum sheet
DATA FILE NO.	K9667.01A
STC	30
OITC	24

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 E413-16, *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

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
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	INT01524	04/19
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64902	10/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65968	01/20
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65103	03/20
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64905	03/20
Source Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	64906	03/20
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
Source Room Environmental Indicator	Comet	T7510	Source Room	64914	02/20
Microphone Calibrator	Larson Davis	CAL200	Acoustical Calibrator	65327	11/19

**- 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 ARCONIC ARCHITECTURAL PRODUCTS
Report No.: K9667.01-113-11-R0
Date: 05/08/20

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 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

DESCRIPTION	WIDTH	HEIGHT	THICKNESS	WEIGHT
AS3000B, bonded aluminium sheet	1219.20 mm 48"	1828.80 mm 72"	3.22 mm 0.127"	8.34 kg/m^2 1.95 lbs/ft^2

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 ARCONIC ARCHITECTURAL PRODUCTS

Report No.: K9667.01-113-11-R0
Date: 05/08/20

SECTION 10

TEST RESULTS

K9667.01A DATA

SPECIMEN AREA	2.23 m²	**RECEIVE TEMP.**	21.2 °C	**SOURCE TEMP**	21.4 °C
TECHNICIAN	Zachary P. G	**RECEIVE HUMIDITY**	50%	**SOURCE HUMIDIT**	47%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% CONFIDENCE LIMIT	NUMBER OF DEFICIENCIES
80	41.8	5.2	103	88	12	2.57	-
100	40.1	5.5	105	82	19	1.78	-
125	37.7	6.0	105	81	20	1.12	0
160	40.7	5.6	107	86	17	0.94	0
200	40.0	5.3	107	86	18	0.58	2
250	34.9	5.5	104	79	20	0.49	3
315	28.7	5.9	104	77	23	0.64	3
400	25.1	6.0	104	74	25	0.49	4
500	21.6	6.1	103	72	26	0.56	4
630	21.0	5.9	102	70	28	0.47	3
800	18.1	6.1	101	67	29	0.39	3
1000	15.2	6.3	103	67	31	0.23	2
1250	13.1	6.9	101	63	33	0.26	1
1600	10.1	7.2	99	61	34	0.24	0
2000	8.9	7.7	100	60	35	0.25	0
2500	9.0	8.8	101	59	36	0.19	0
3150	9.8	10.4	100	57	36	0.24	0
4000	11.1	12.9	97	60	30	0.27	4
5000	12.3	16.6	98	62	27	0.32	-
STC RATING		30	*(Sound Transmission Class)*				
DEFICIENCIES		29	*(Sum of Deficiencies)*				
OITC RATING		24	*(Outdoor-Indoor Transmission Class)*				

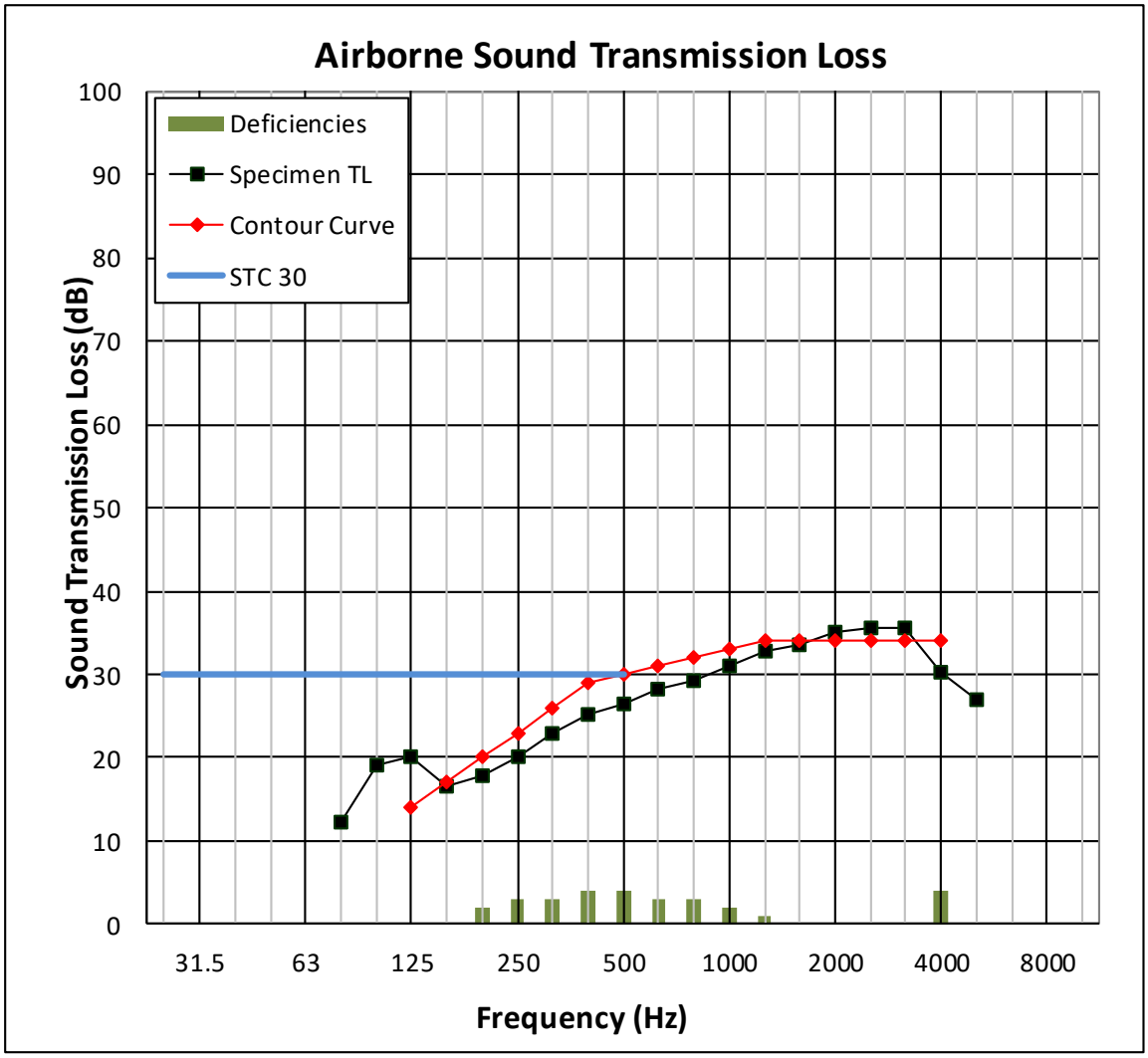
Notes: *1) Receive Room levels less than 5 dB above the Background levels are red.*
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR ARCONIC ARCHITECTURAL PRODUCTS
Report No.: K9667.01-113-11-R0
Date: 05/08/20

K9667.01A GRAPH



130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR ARCONIC ARCHITECTURAL PRODUCTS
Report No.: K9667.01-113-11-R0
Date: 05/08/20

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	05/08/20	N/A	Original Report Issue