

GAMCO CORPORATION ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A
CW250P SERIES, TWO-LITE CURTAIN WALL

REPORT NUMBER

M2275.01-113-11-R0

TEST DATE

05/11/21

ISSUE DATE

05/20/21

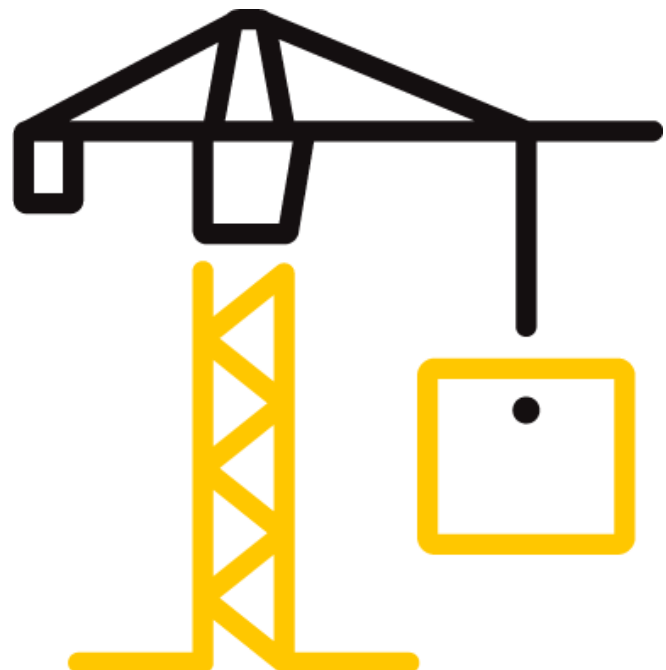
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TEST REPORT FOR GAMCO CORPORATION

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Date: 05/20/21

REPORT ISSUED TO

GAMCO CORPORATION

131-10 Maple Avenue
Flushing, New York 11355

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Gamco Corporation 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	REVIEWED BY:	Kurt A. Golden
TITLE:	Technician Team Leader Acoustical Testing	TITLE:	Project Lead Acoustical Testing
SIGNATURE:		SIGNATURE:	
DATE:	05/20/21	DATE:	05/20/21

ZPG:jmcs

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SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL	CW250P Series
TYPE	Two-Lite Curtain Wall
GLAZING (Nominal Dimensions)	1-1/8" IG (1/4" super neutral 68 tempered exterior, 1/2" argon, 3/8" laminated interior), Glass temperature 75F
DATA FILE NO.	M2275.01
STC	37
OITC	30

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 (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
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
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64902	11/20
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64903	09/20
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	65103	03/21
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64905	03/21
Source Room Microphone	PCB piezotronics	378B20	Microphone and Preamplifier	64906	03/21
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64907	01/21
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64908	01/21
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	01/21
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	01/21
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	11/20
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	01/21
Source Room Environmental Indicator	Comet	T7510	Source Room	64914	02/21
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	Y002919	04/21

*- 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 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.

At the time of the issuance of this report, the disposition of the specimen had not yet been determined.

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

	FRAME
SIZE	78-3/4" by 81-1/4"
THICKNESS	7-7/8"
CORNERS	Butted
FASTENERS	Screws
SEAL METHOD	Sealant
MATERIAL	Aluminum
REINFORCEMENT	N/A
THERMAL BREAK MATERIAL	Polyamide pressure bar with rubber gasket
DAYLIGHT OPENING SIZE (X2)	35-5/8" by 76-1/4"

MEASURED OVERALL INSULATION GLASS UNIT THICKNESS	1.120"
SPACER TYPE	Aluminum

	EXTERIOR SHEET	GAP	INTERIOR SHEET
MEASURED THICKNESS	0.225"	0.498"	0.397"
MUNTIN PATTERN	N/A	N/A	N/A
MATERIAL	Tempered	Argon*	Laminated
LAMINATE MATERIAL	N/A	N/A	PVB

GLAZING METHOD	Pressure
GLAZING MATERIAL	EPDM
GLAZING BEAD MATERIAL	Aluminum

	TYPE	QUANTITY	LOCATION
WEATHERSTRIP	No weatherstrip		
HARDWARE	No hardware		
DRAINAGE	No drainage		

TOTAL WEIGHT (lbs)	AVERAGE WEIGHT (lbs/ft ²)
436	9.81

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

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

M2275.01 DATA

SPECIMEN AREA	4.13 m ²	RECEIVE TEMP.	21.5 °C	SOURCE TEMP	22.3 °C
TECHNICIAN	Zachary Gol	RECEIVE HUMIDITY	48%	SOURCE HUMIDIT	51%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m ²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% CONFIDENCE LIMIT	NUMBER OF DEFICIENCIES
80	41.6	6.0	108	80	27	1.23	-
100	37.5	5.4	109	81	28	1.89	-
125	37.1	6.6	108	84	22	1.39	0
160	40.1	5.7	110	83	26	0.85	0
200	37.8	5.5	110	89	19	1.28	8
250	31.8	5.7	106	81	24	0.86	6
315	25.4	6.1	109	77	30	0.58	3
400	22.8	6.0	110	74	34	0.40	2
500	18.3	6.3	108	70	36	0.29	1
630	20.3	6.0	107	65	40	0.33	0
800	16.6	6.4	107	68	37	0.36	2
1000	12.2	6.6	107	68	37	0.32	3
1250	8.8	6.9	106	62	42	0.34	0
1600	7.7	7.2	105	58	44	0.31	0
2000	7.1	7.8	105	60	42	0.26	0
2500	7.1	8.9	106	61	42	0.28	0
3150	7.4	10.5	104	60	40	0.22	1
4000	8.2	13.2	102	51	46	0.21	0
5000	8.9	16.8	103	46	51	0.35	-
STC RATING	37 (Sound Transmission Class)						
DEFICIENCIES	26 (Sum of Deficiencies)						
OITC RATING	30 (Outdoor-Indoor Transmission Class)						

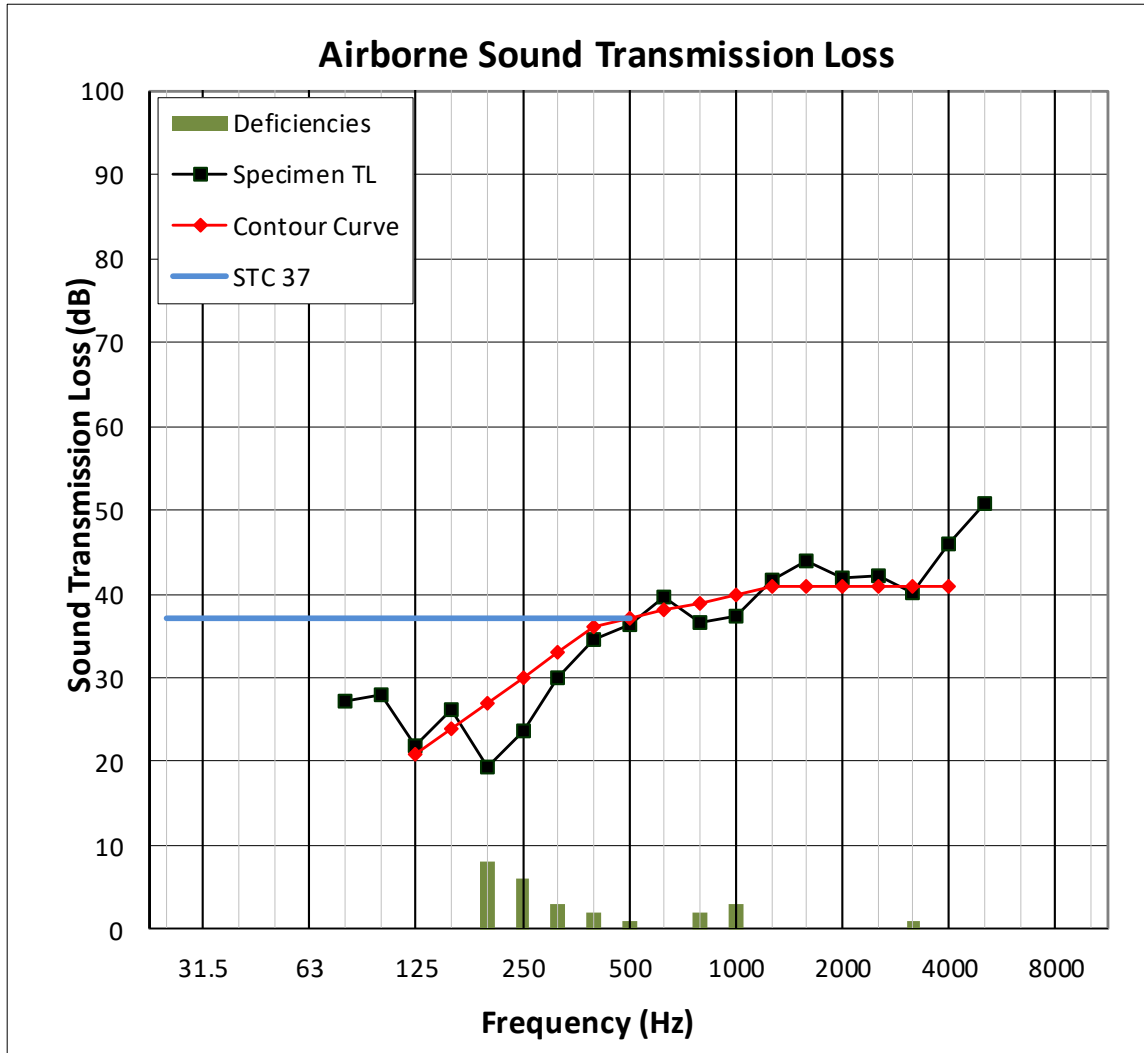
- Notes:**
- 1) Receive Room levels less than 5 dB above the Background levels are red.
 - 2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
 - 3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

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M2275.01 GRAPH



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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



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

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SECTION 12

REVISION LOG

REVISION #	DATE	PAGES	REVISION
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