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CR LAURENCE CO., INC.

ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A SERIES/MODEL FALLBROOK, INTERIOR WALL PARTITION

REPORT NUMBER
Q5611.01-303-11-R1

TEST DATE
02/07/24

ISSUE DATE
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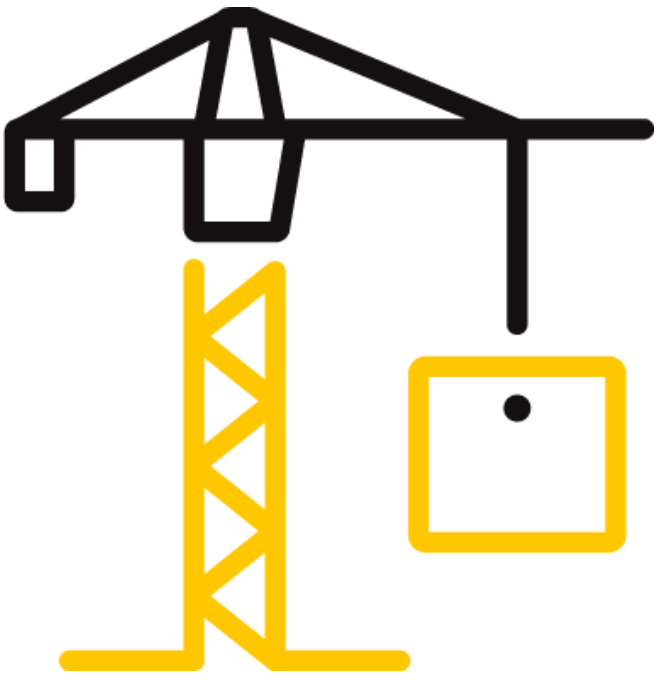

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REPORT ISSUED TO

CR LAURENCE CO., INC.
2200 E. 55th Street
Los Angeles, CA 90058

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by CR Laurence Co., Inc. 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 Lake Forest, CA.

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:	Kurt A. Golden	**REVIEWED BY:**	Todd D. Kister
TITLE:	Manager Acoustical Testing	**TITLE:**	Senior Regional Manager Acoustical Testing
SIGNATURE:	Kurt A. Golden Digitally Signed by: Kurt A. Golden	**SIGNATURE:**	Todd D. Kister Digitally Signed by: Todd D. Kister
DATE:	05/14/24	**DATE:**	05/14/24

KAG:jlc

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SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Fallbrook
TYPE	Interior partition system

GLAZING (Nominal Dimensions)	9/16" Laminated with 0.060" PVB interlayer, Glass temperature 75F
DATA FILE NO.	Q5611.01A1
STC	34
OITC	31

GLAZING (Nominal Dimensions)	1/2" Tempered
DATA FILE NO.	Q5611.01B1
STC	32
OITC	31

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
Data Acquisition Card	National Instruments	PXIe-4464	Data Acquisition Card*	INT00396	08/23
Data Acquisition Card	National Instruments	PXIe-4464	Data Acquisition Card*	INT00652	04/23
Data Acquisition Card	National Instruments	PXIe-4464	Data Acquisition Card*	INT00383	08/23
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00229	04/23
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00230	04/23
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT01542	04/23
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00232	04/23
Source Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	INT00233	04/23
Receive Room Microphone	PBC Piezotronics	378C20	Microphone and Preamplifier	INT00239	04/23
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00240	04/23
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00241	04/23
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00242	04/23
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00243	04/23
Receive Room Environmental Indicator	Comet	T7510	Receive Room	INT00299	06/23
Source Room Environmental Indicator	Comet	T7510	Source Room	INT00300	06/23
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	INT00288	05/23

**- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.*

TEST CHAMBER

	VOLUME	DESCRIPTION
RECEIVE ROOM	231 m³	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor
SOURCE ROOM	196 m³	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

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Michael Richie	Intertek-B&C

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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 3 months.

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 78-3/4"
THICKNESS	1-3/16"
CORNERS	Butted
FASTENERS	Screws
SEAL METHOD	N/A
MATERIAL	Aluminum
REINFORCEMENT	N/A
THERMAL BREAK MATERIAL	N/A
DAYLIGHT OPENING SIZE	76-1/2" by 76-1/2"

OPTION A1 GLAZING

	SHEET
MEASURED THICKNESS	0.509" (0.224" annealed, 0.061" interlayer, 0.224" annealed)
MATERIAL	Laminated
LAMINATE MATERIAL	PVB
GLAZING STRIP	CRL P/N: EZCC128

OPTION B1 GLAZING

	SHEET
MEASURED THICKNESS	0.475"
MATERIAL	Tempered
LAMINATE MATERIAL	N/A
GLAZING STRIP	CRL P/N: EZCC12

GLAZING METHOD	Sill and jambs exterior, head channel
GLAZING MATERIAL	Flexible gasket
GLAZING BEAD MATERIAL	Aluminum

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

Note: Each glazing consisted of two glass panels joined by the glazing components referenced above.

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	TYPE	QUANTITY	LOCATION
WEATHERSTRIP	No weatherstrip	N/A	N/A
HARDWARE	No hardware	N/A	N/A
DRAINAGE	No drainage	N/A	N/A

N/A-Not Applicable

Photographs are included in Section 11.

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

A weight of the test specimen could not be obtained.

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SECTION 10

TEST RESULTS

ASTM E90
AIRBORNE SOUND TRANSMISSION LOSS

IAS ACCREDITED Testing Laboratory

TEST DATE	02/07/24				
DATA FILE NO.	Q5611.01A1				
CLIENT	CR Laurence				
DESCRIPTION	Series/Mode: Fallbrook, interior partion system with 9/16" laminated (1/4" tempered, 0.060" PVB, 1/4" tempered), Glass temperature 75F				
SPECIMEN AREA	4.00 m²	**RECEIVE TEMP.**	20.7 °C	**SOURCE TEMP**	22.0 °C
TECHNICIAN	Michael Ric	**RECEIVE HUMIDITY**	51%	**SOURCE HUMIDIT**	48%

FREQ (Hz)	**BACKGROUND SPL** (dB)	**ABSORPTION** (m²)	**SOURCE SPL** (dB)	**RECEIVE SPL** (dB)	**SPECIMEN TL** (dB)	**95% SAMPLING LIMIT**	**NUMBER OF DEFICIENCIES**
80	26.8	5.7	97	71	24	2.33	-
100	32.8	5.8	95	69	25	1.49	-
125	39.3	6.1	97	71	25	1.01	0
160	37.7	5.8	99	71	28	1.07	0
200	38.7	6.1	101	72	27	0.64	0
250	23.2	7.2	101	70	28	0.33	0
315	22.2	7.2	102	70	30	0.50	0
400	23.3	6.1	104	71	31	0.47	2
500	21.6	5.5	102	68	32	0.40	2
630	22.8	6.0	105	69	34	0.33	1
800	24.6	6.3	103	68	34	0.17	2
1000	30.8	6.2	104	70	32	0.38	5
1250	24.4	6.5	102	68	31	0.20	7
1600	16.2	7.0	100	64	33	0.18	5
2000	13.9	7.9	98	58	37	0.26	1
2500	12.9	8.7	96	54	39	0.19	0
3150	13.8	10.1	97	53	40	0.24	0
4000	10.7	12.4	97	52	41	0.25	0
5000	10.9	15.8	93	48	39	0.25	-
STC RATING		34	*(Sound Transmission Class)*				
DEFICIENCIES		25	*(Sum of Deficiencies)*				
OITC RATING		31	*(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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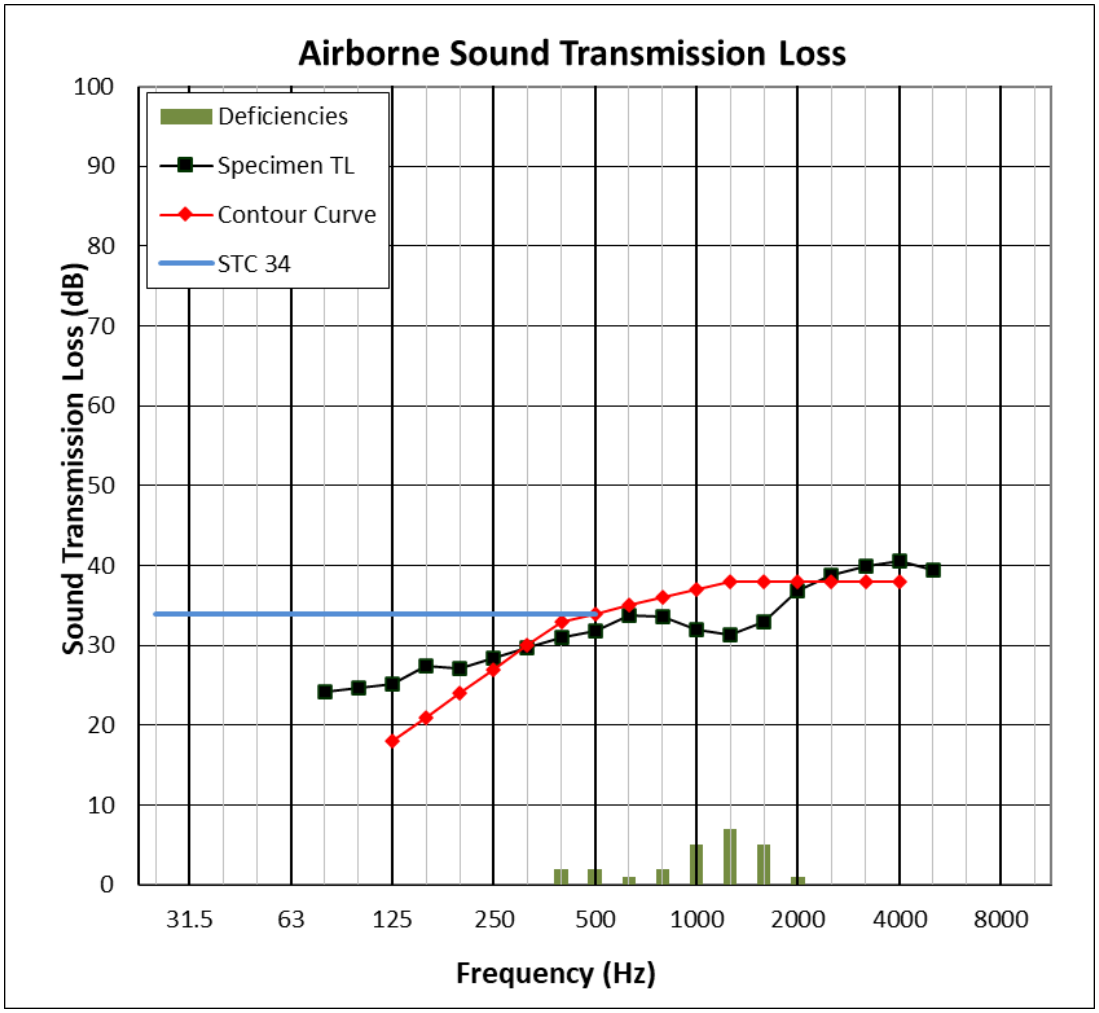

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TEST DATE	02/07/24				
DATA FILE NO.	Q5611.01B1				
CLIENT	CR Laurence				
DESCRIPTION	Series/Model: Fallbrook, interior partion system with 1/2" tempered				
SPECIMEN AREA	4.00 m²	**RECEIVE TEMP.**	20.6 °C	**SOURCE TEMP**	21.1 °C
TECHNICIAN	Michael Ric	**RECEIVE HUMIDITY**	49%	**SOURCE HUMIDIT**	46%

FREQ (Hz)	**BACKGROUND SPL** (dB)	**ABSORPTION** (m²)	**SOURCE SPL** (dB)	**RECEIVE SPL** (dB)	**SPECIMEN TL** (dB)	**95% SAMPLING LIMIT**	**NUMBER OF DEFICIENCIES**
80	27.1	5.1	97	70	26	2.06	-
100	35.0	5.0	95	68	27	1.46	-
125	40.3	5.2	98	72	25	1.21	0
160	38.1	4.2	99	71	29	0.89	0
200	38.2	4.9	101	70	30	0.66	0
250	23.4	6.6	101	68	31	0.37	0
315	21.1	6.7	102	68	32	0.50	0
400	20.9	5.9	104	69	33	0.65	0
500	19.9	5.2	102	65	35	0.36	0
630	23.7	5.4	105	67	37	0.23	0
800	24.7	5.7	104	67	35	0.22	0
1000	23.6	5.8	104	76	27	0.40	8
1250	21.2	6.0	102	72	28	0.20	8
1600	15.3	6.4	99	65	32	0.28	4
2000	12.0	7.7	98	58	36	0.27	0
2500	11.7	8.5	96	52	40	0.21	0
3150	11.0	10.1	97	50	43	0.26	0
4000	9.0	12.6	97	46	46	0.27	0
5000	9.2	16.1	93	42	45	0.36	-
STC RATING	32	*(Sound Transmission Class)*					
DEFICIENCIES	20	*(Sum of Deficiencies)*					
OITC RATING	31	*(Outdoor-Indoor Transmission Class)*					

Notes: *1) Receive Room levels less than 5 dB above the Background levels are red.*
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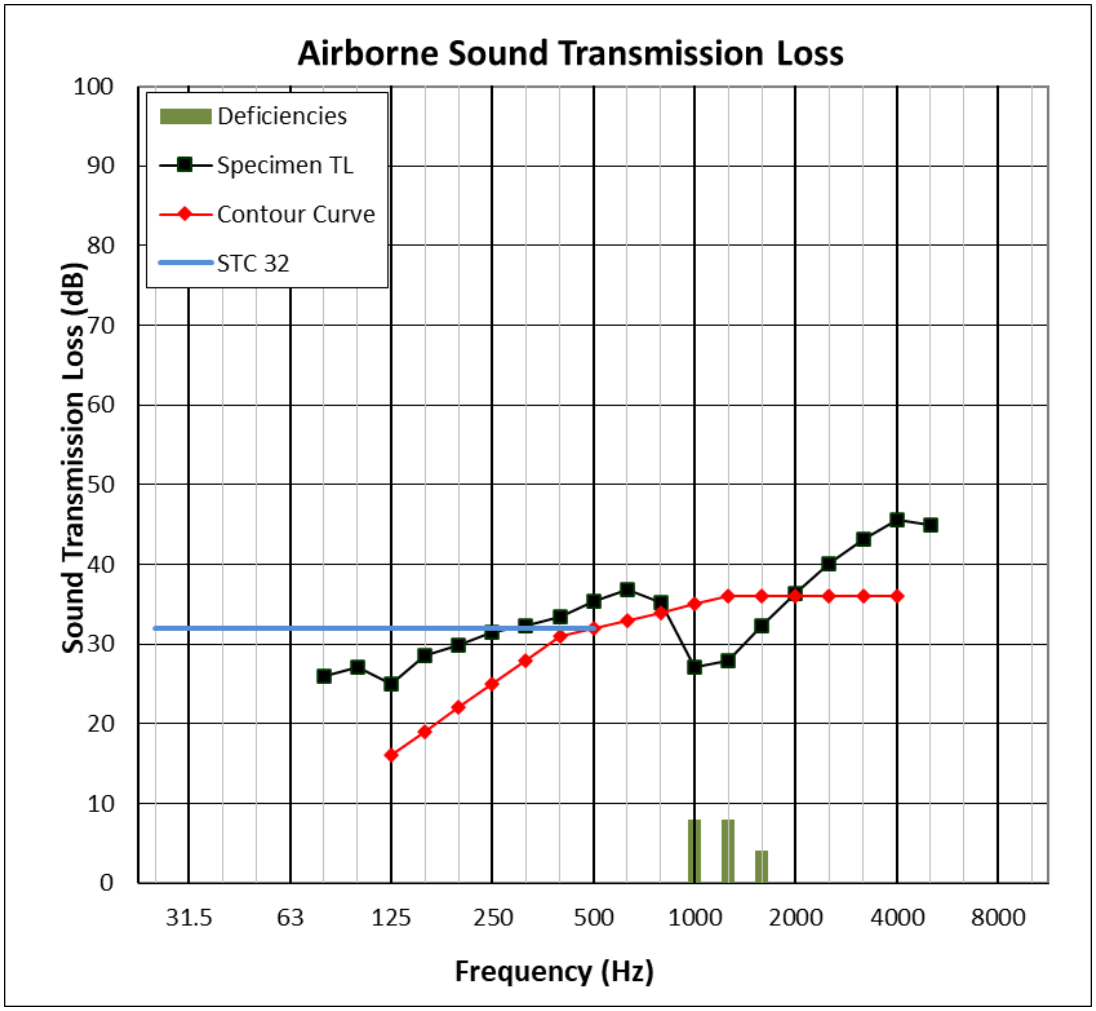

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SECTION 11
PHOTOGRAPHS

Photo No. 1
Receive Room View of Installed Test Specimen

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Photo No. 2
Source Room View of Installed Test Specimen

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SECTION 12

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	05/09/24	N/A	Original Report Issue
1	05/14/2024	6	Added glazing component details