

# CR LAURENCE CO., INC.

## ACOUSTICAL PERFORMANCE TEST REPORT

### SCOPE OF WORK

ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A FALLBROOK XL, INTERIOR WALL PARTITION

### REPORT NUMBER

Q5612.01-303-11-R1

### TEST DATE

02/05/24

### ISSUE DATE

05/09/24

### REVISION DATE

05/14/24

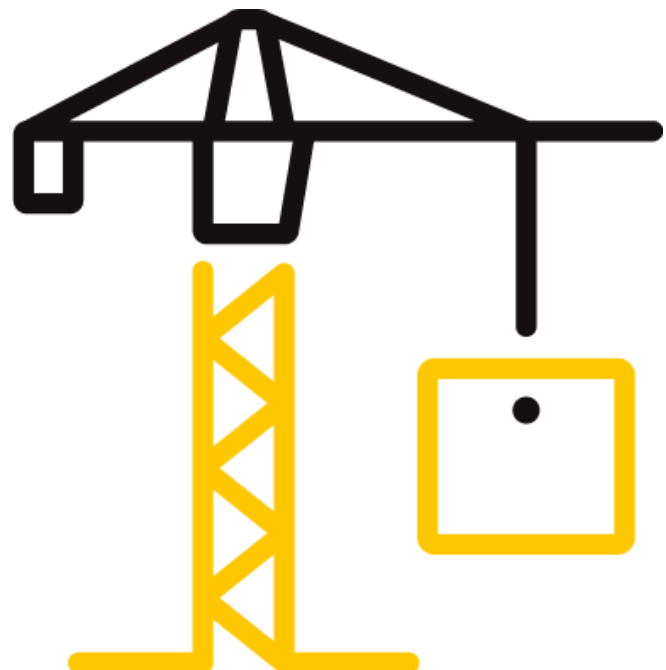
### PAGES

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### DOCUMENT CONTROL NUMBER

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### REPORT ISSUED TO

#### CR LAURENCE CO., INC.

2200 E. 55<sup>th</sup> 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:

<b>COMPLETED BY:</b>	Kurt A. Golden	<b>REVIEWED BY:</b>	Todd D. Kister
	Manager		Senior Regional Manager
<b>TITLE:</b>	Acoustical Testing	<b>TITLE:</b>	Acoustical Testing
<b>SIGNATURE:</b>		<b>SIGNATURE:</b>	
<b>DATE:</b>	05/14/24	<b>DATE:</b>	05/14/24

KAG:jlc

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### SECTION 2

#### SUMMARY OF TEST RESULTS

<b>SERIES/MODEL</b>	Fallbrook XL
<b>TYPE</b>	Interior partition system

<b>GLAZING (Nominal Dimensions)</b>	1-1/8" IG (3/8" tempered, 1/2" air space, 1/4" tempered)
<b>DATA FILE NO.</b>	Q5612.01A1
<b>STC</b>	36
<b>OITC</b>	30

<b>GLAZING (Nominal Dimensions)</b>	1-1/8" IG (11/32" laminated exterior, 1/2" air, 9/32" laminated interior), Glass temperature 75°F
<b>DATA FILE NO.</b>	Q5612.01B1
<b>STC</b>	42
<b>OITC</b>	33

### 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

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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.

### 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 m <sup>3</sup>	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor
SOURCE ROOM	196 m <sup>3</sup>	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	1-11/16"
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

MEASURED OVERALL INSULATION GLASS UNIT THICKNESS	1.088"
SPACER TYPE	Aluminum

	EXTERIOR SHEET	GAP	INTERIOR SHEET
MEASURED THICKNESS	0.365"	0.498"	0.225"
MUNTIN PATTERN	N/A	N/A	N/A
MATERIAL	Tempered	Air*	Tempered
LAMINATE MATERIAL	N/A	N/A	N/A

#### OPTION A2 GLAZING

MEASURED OVERALL INSULATION GLASS UNIT THICKNESS	1.100"
SPACER TYPE	Aluminum

	EXTERIOR SHEET	GAP	INTERIOR SHEET
MEASURED THICKNESS	0.154", 0.030", 0.154"	0.484"	0.124", 0.030", 0.124"
MUNTIN PATTERN	N/A	N/A	N/A
MATERIAL	Laminated	Air*	Laminated
LAMINATE MATERIAL	Saflex QS41	N/A	Saflex QS41

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

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<b>GLAZING METHOD</b>	Sill and jambs exterior, head channel
<b>GLAZING MATERIAL</b>	Flexible gasket
<b>GLAZING BEAD MATERIAL</b>	Aluminum

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

*N/A-Not Applicable*

*Note: Each glazing consisted of two glass panels joined by vertical mullion.*

*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



<b>TEST DATE</b>	02/05/24				
<b>DATA FILE NO.</b>	Q5612.01.A1				
<b>CLIENT</b>	CR Laurence Co., Inc.				
<b>DESCRIPTION</b>	Series/Model: Fallbrook XL, interior partition system with 1-1/8" IG (3/8" tempered exterior, 1/2" air space, 1/4" tempered interior)				
<b>SPECIMEN AREA</b>	4.00 m <sup>2</sup>	<b>RECEIVE TEMP.</b>	21.1 °C	<b>SOURCE TEMP</b>	22.8 °C
<b>TECHNICIAN</b>	Michael Ric	<b>RECEIVE HUMIDITY</b>	52%	<b>SOURCE HUMIDIT</b>	51%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m <sup>2</sup> )	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT	NUMBER OF DEFICIENCIES
80	29.8	4.9	97	70	26	2.29	-
100	39.8	4.8	95	70	25	1.60	-
125	41.7	5.5	98	77	19	2.00	1
160	39.6	4.6	99	74	25	0.92	0
200	40.4	6.0	101	77	22	0.96	4
250	25.0	6.9	101	73	26	0.43	3
315	22.3	6.5	102	70	30	0.71	2
400	21.4	5.9	104	68	34	0.48	1
500	20.4	5.2	102	64	37	0.23	0
630	22.6	5.4	105	65	39	0.24	0
800	22.9	5.8	103	63	39	0.16	0
1000	20.8	5.8	104	65	37	0.33	2
1250	19.8	5.9	101	63	37	0.23	3
1600	13.7	6.5	100	62	36	0.19	4
2000	12.4	7.7	98	59	36	0.35	4
2500	10.4	8.5	96	56	36	0.16	4
3150	11.0	9.7	97	53	41	0.22	0
4000	9.4	11.8	97	46	47	0.32	0
5000	9.4	14.4	93	37	51	0.31	-
<b>STC RATING</b>	36 (Sound Transmission Class)						
<b>DEFICIENCIES</b>	28 (Sum of Deficiencies)						
<b>OITC RATING</b>	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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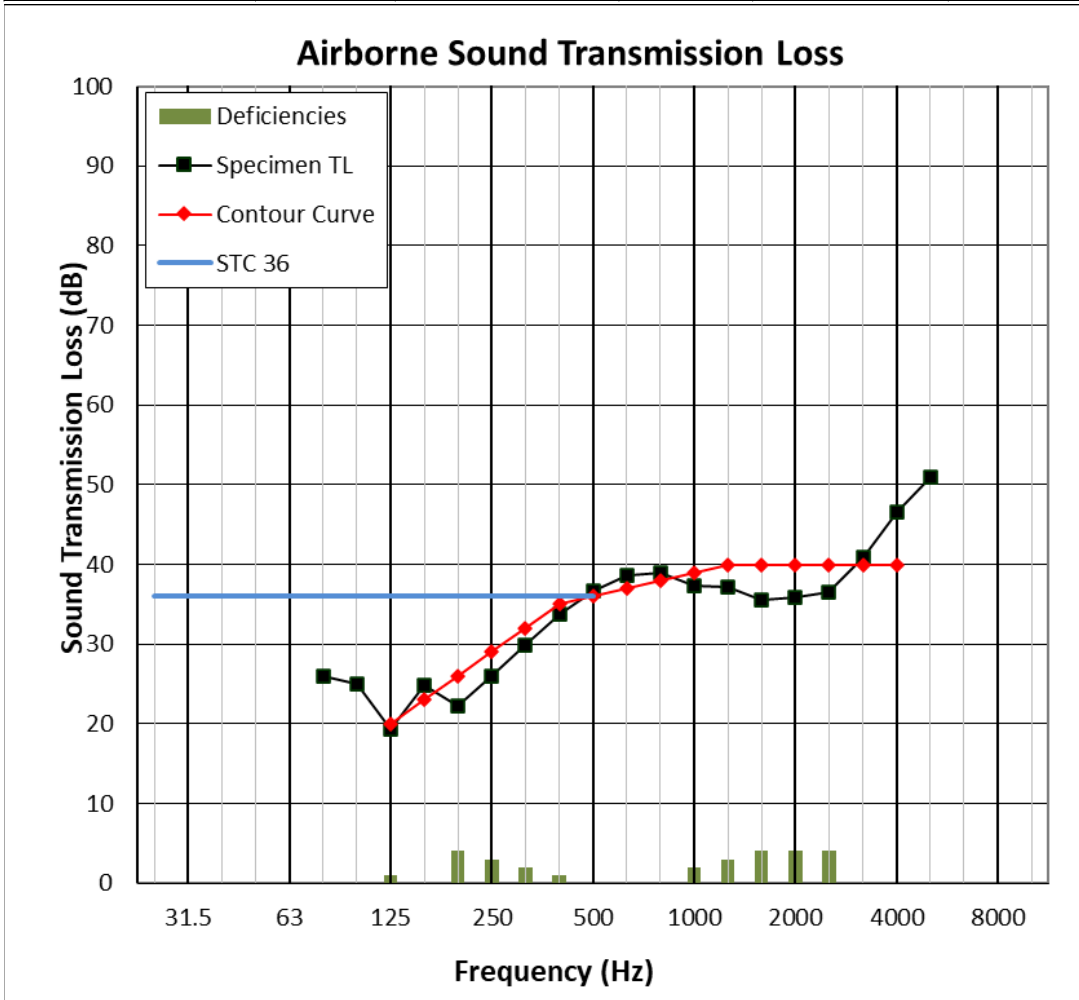
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### ASTM E90 AIRBORNE SOUND TRANSMISSION LOSS



<b>TEST DATE</b>	02/05/24				
<b>DATA FILE NO.</b>	Q5612.01.A1				
<b>CLIENT</b>	CR Laurence Co., Inc.				
<b>DESCRIPTION</b>	Series/Model: Fallbrook XL, interior partition system with 1-1/8" IG (3/8" tempered exterior, 1/2" air space, 1/4" tempered interior)				
<b>SPECIMEN AREA</b>	4.00 m <sup>2</sup>	<b>RECEIVE TEMP.</b>	21.1 °C	<b>SOURCE TEMP</b>	22.8 °C
<b>TECHNICIAN</b>	Michael Ric	<b>RECEIVE HUMIDITY</b>	52%	<b>SOURCE HUMIDIT</b>	51%




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<b>TEST DATE</b>	02/05/24					
<b>DATA FILE NO.</b>	Q5612.01.B1					
<b>CLIENT</b>	CR Laurence Co., Inc.					
<b>DESCRIPTION</b>	Sereis/Model: Fallbrook XL, interior partion system with 1-1/8" IG (11/32" laminated exterior, 1/2" air, 9/32" laminated interior), Glass temperature 75°F					
<b>SPECIMEN AREA</b>	4.00 m <sup>2</sup>	<b>RECEIVE TEMP.</b>	20.9 °C	<b>SOURCE TEMP</b>	13.9 °C	
<b>TECHNICIAN</b>	Michael Ric	<b>RECEIVE HUMIDITY</b>	71%	<b>SOURCE HUMIDIT</b>	53%	

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m <sup>2</sup> )	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT	NUMBER OF DEFICIENCIES
80	30.8	4.5	97	71	26	2.28	-
100	42.7	5.9	95	70	24	1.63	-
125	42.6	5.7	97	73	23	1.14	3
160	39.5	4.6	99	74	25	0.69	4
200	39.7	5.7	101	73	26	0.63	6
250	29.8	6.7	101	70	29	0.32	6
315	24.8	6.9	102	66	34	0.57	4
400	22.2	6.0	104	66	36	0.59	5
500	23.5	5.2	102	61	40	0.27	2
630	23.3	5.5	105	60	43	0.21	0
800	23.2	6.0	103	58	44	0.23	0
1000	19.3	5.8	104	56	46	0.48	0
1250	19.0	6.1	102	52	48	0.26	0
1600	15.1	6.5	100	49	49	0.19	0
2000	11.8	7.6	98	46	49	0.20	0
2500	9.0	8.4	96	43	49	0.24	0
3150	10.0	9.5	97	42	51	0.23	0
4000	8.7	11.6	97	37	55	0.20	0
5000	9.0	14.5	93	30	57	0.17	-
<b>STC RATING</b>	42 (Sound Transmission Class)						
<b>DEFICIENCIES</b>	30 (Sum of Deficiencies)						
<b>OITC RATING</b>	33 (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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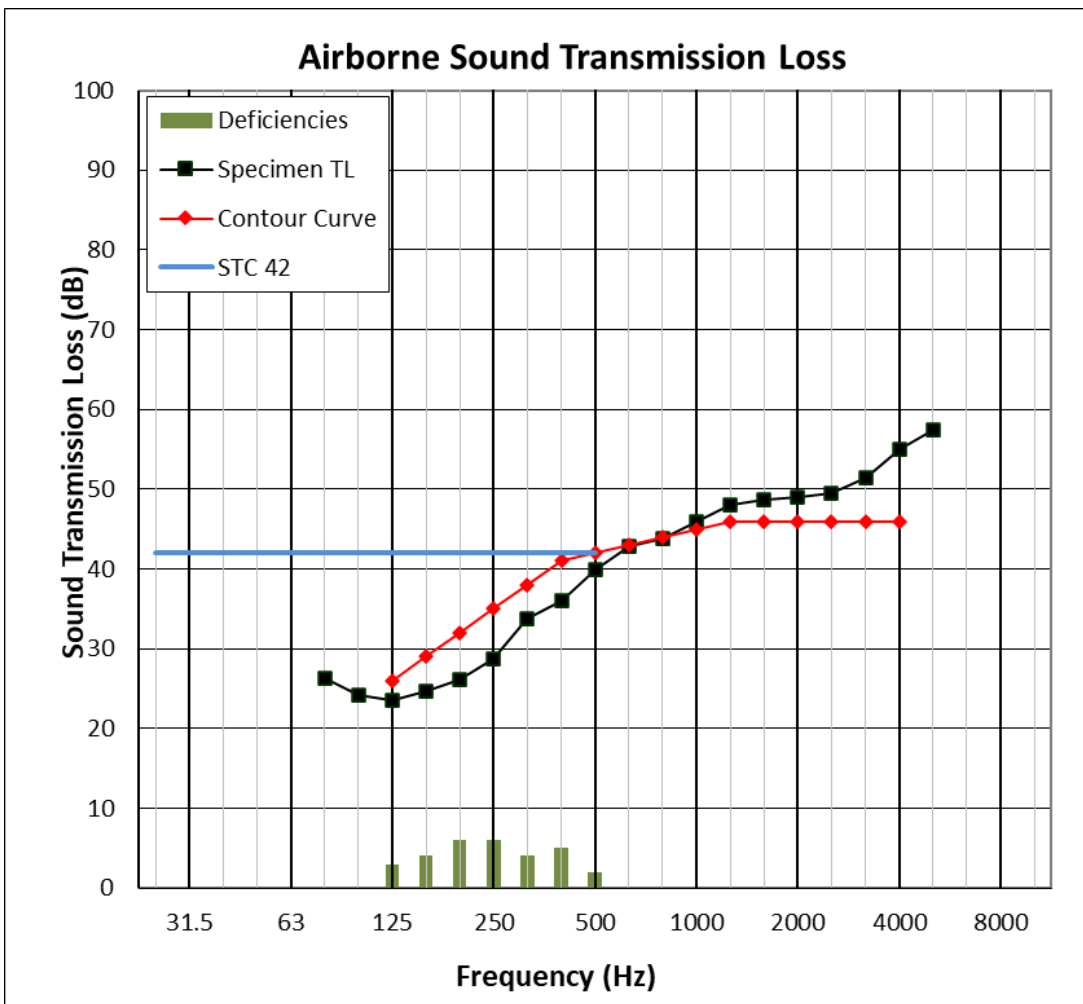
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### ASTM E90 AIRBORNE SOUND TRANSMISSION LOSS



<b>TEST DATE</b>	02/05/24				
<b>DATA FILE NO.</b>	Q5612.01.B1				
<b>CLIENT</b>	CR Laurence Co., Inc.				
<b>DESCRIPTION</b>	Sereis/Model: Fallbrook XL, interior partition system with 1-1/8" IG (11/32" laminated exterior, 1/2" air, 9/32" laminated interior), Glass temperature 75°F				
<b>SPECIMEN AREA</b>	4.00 m <sup>2</sup>	<b>RECEIVE TEMP.</b>	20.9 °C	<b>SOURCE TEMP</b>	13.9 °C
<b>TECHNICIAN</b>	Michael Ric	<b>RECEIVE HUMIDITY</b>	71%	<b>SOURCE HUMIDIT</b>	53%



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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**

## TEST REPORT FOR CR LAURENCE CO., INC.

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### SECTION 12

#### REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	05/09/24	N/A	Original Report Issue
1	05/14/24	1, 3, 6, 10, 11	Corrected report number, Corrected option B1 glazing description, Corrected frame thickness, Corrected laminated material, Corrected panel joint condition