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FRAMELESS HARDWARE COMPANY LLC ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON AN ASPIRE HD DOUBLE DOOR

REPORT NUMBER
T6276.01-303-11-R0

TEST DATE
04/07/26

ISSUE DATE
06/17/26

PAGES
16

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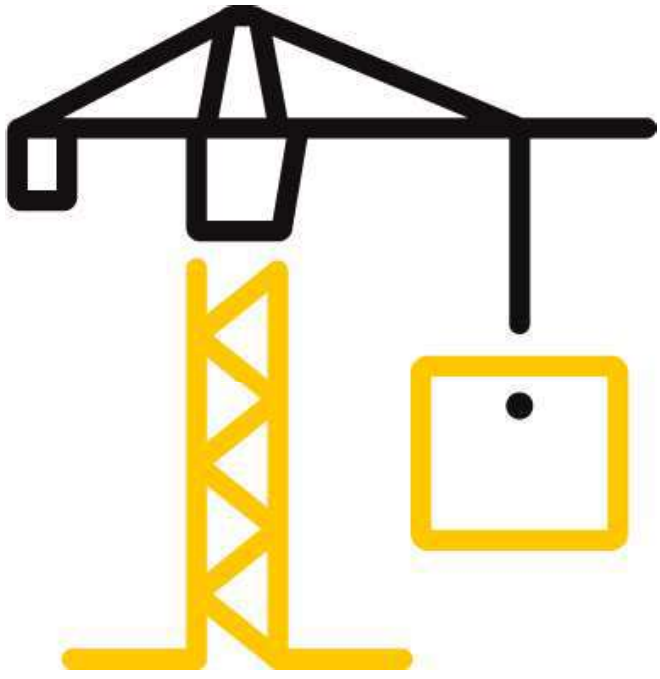

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TEST REPORT FOR FRAMELESS HARDWARE COMPANY LLC

Report No.: T6276.01-303-11-R0
Date: 06/17/26

REPORT ISSUED TO

FRAMELESS HARDWARE COMPANY LLC
2323 Firestone Blvd
South Gate, CA 90280

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Frameless Hardware Company LLC 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, California.

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	Yahya Paya	**REVIEWED BY**	Todd D. Kister
TITLE	Acoustic Lab Manager Acoustical Testing	**TITLE**	Senior Regional Manager Acoustical Testing
SIGNATURE	Digitally Signed by: Yahya Paya	**SIGNATURE**	Digitally Signed by: Todd D. Kister
DATE	06/17/26	**DATE**	06/17/26

YP:lcr

Lab Code 600258-0

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SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Aspire
TYPE	HD double door
GLAZING	1" IG (3/16" tempered exterior, 3/8" airspace, 7/16" laminated interior); 75F glass temperature
DATA FILE NO.	T6276.01
STC	37
OITC	32

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*	INT00837	09/25
Data Acquisition Card	National Instruments	PXIe-4464	Data Acquisition Card*	INT00625	07/25
Data Acquisition Card	National Instruments	PXIe-4464	Data Acquisition Card*	INT00396	09/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00235	10/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00234	10/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00236	10/25
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00237	10/25
Source Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	INT00238	10/25
Receive Room Microphone	PBC Piezotronics	378C20	Microphone and Preamplifier	INT00239	05/25
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00240	05/25
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00241	05/25
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00242	05/25
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00243	05/25
Receive Room Environmental Indicator	Comet	T7510	Receive Room	INT00300	07/25
Source Room Environmental Indicator	Comet	T7510	Source Room	INT00299	07/25
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	INT00288	06/25

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

TEST CHAMBER

	VOLUME	DESCRIPTION
RECEIVE ROOM	231 m^3	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor
SOURCE ROOM	196 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
Mario Salazar	Frameless Hardware Company LLC
Marco Ramirez	Frameless Hardware Company LLC
Michael Richie	Intertek B&C
Yahya Paya	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 save photographs of the sampled test specimens.

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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	VENT (2X)
SIZE	76-5/8" by 84"	36-5/8" by 82-1/2"
THICKNESS	2-7/8"	2-3/8"
CORNERS	Mitered	Mitered
FASTENERS	Screws	Screws
SEAL METHOD	N/A	N/A
MATERIAL	Aluminum	Aluminum
REINFORCEMENT	N/A	N/A
THERMAL BREAK MATERIAL	Polyamide 66 with glass-fiber reinforced	Polyamide 66 with glass-fiber reinforced
DAYLIGHT OPENING SIZE	N/A	34-3/8" by 68-1/8"

MEASURED OVERALL INSULATION GLASS UNIT THICKNESS LEFT PANEL	0.997"
SPACER TYPE	Black aluminum

	EXTERIOR SHEET	GAP	INTERIOR SHEET
MEASURED THICKNESS	0.182"	0.379"	0.436"
MUNTIN PATTERN	N/A	N/A	N/A
MATERIAL	Tempered	Air*	Laminated
LAMINATE MATERIAL	N/A	N/A	QS 41 (Acoustical) PVB*

GLAZING METHOD	Channel
GLAZING MATERIAL	Aluminum with EPDM

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

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	TYPE	QUANTITY	LOCATION
WEATHERSTRIP	Bulb gasket	1 Row	Head and jambs, sill, meeting stiles
	Center fin pile	2 Rows	Top rails
	Center fin pile	1 Row	Bottom rails
	Drop seal	1	Bottom rails
HARDWARE	Continuous hinge	1	Jambs
	Cylinder lock	4	Top and bottom rails
	Keeper	4	Head and sill
	Thermally broken bumper threshold	1	Sill
DRAINAGE	No drainage		

TOTAL WEIGHT (lbs)	**AVERAGE WEIGHT** (lbs/ft^2)
472.88	10.58

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

NVLAP TESTING
Lab Code 600258-0

TEST DATE	04/07/26				
DATA FILE NO.	T6276.01				
CLIENT	Frameless Hardware Company LLC				
DESCRIPTION	Aspire HD Double Door with 1" IG (3/16" tempered exterior, 3/8" airspace, 7/16" laminated interior); 75F glass temperature				
SPECIMEN AREA	4.15 m²	**RECEIVE TEMP.**	23.8 °C	**SOURCE TEMP.**	22.9 °C
TECHNICIAN	Michael Ric	**RECEIVE HUMIDITY**	43%	**SOURCE HUMIDITY**	47%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT (dB)	NUMBER OF DEFICIENCIES
80	24.8	4.8	97	70	27	3.48	-
100	24.2	6.2	95	68	26	2.35	-
125	35.9	5.6	98	71	25	1.56	0
160	27.6	4.9	99	72	27	1.94	0
200	21.1	5.7	101	77	23	1.63	4
250	18.3	6.8	103	72	29	1.23	1
315	13.6	7.0	105	71	31	1.03	2
400	14.9	6.1	106	70	34	0.87	2
500	16.7	5.5	104	68	34	0.78	3
630	19.2	5.9	104	66	37	0.72	1
800	22.8	6.1	103	63	38	0.40	1
1000	10.6	6.0	105	64	39	0.49	1
1250	9.8	6.3	103	61	40	0.55	1
1600	10.3	6.8	101	57	41	0.46	0
2000	9.4	8.1	98	55	40	0.38	1
2500	7.8	9.0	98	58	37	0.42	4
3150	8.0	10.3	99	58	37	0.41	4
4000	8.1	12.6	98	54	39	0.47	2
5000	8.8	15.5	94	46	42	0.84	-
STC RATING	37	*(Sound Transmission Class)*					
DEFICIENCIES	27	*(Sum of Deficiencies)*					
OITC RATING	32	*(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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ASTM E90
AIRBORNE SOUND TRANSMISSION LOSS

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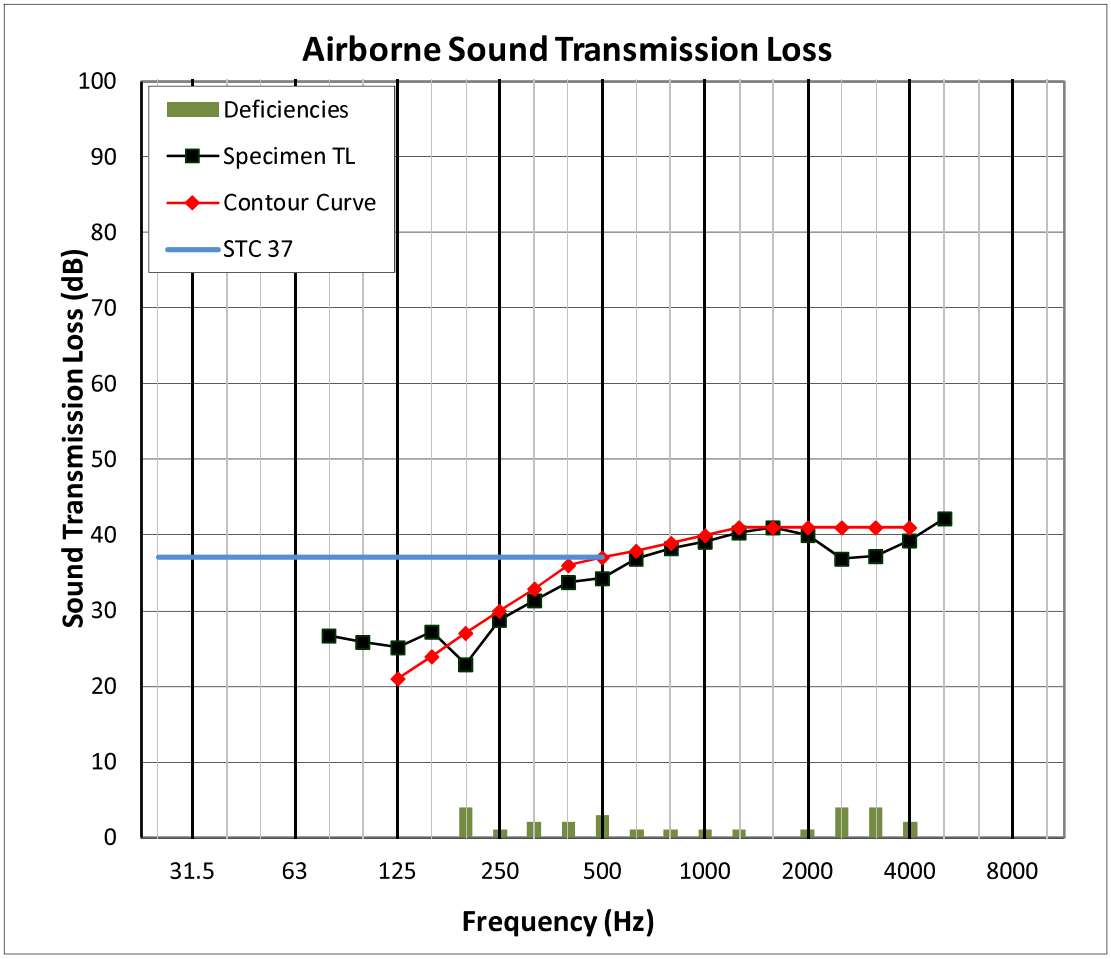

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SECTION 11
PHOTOGRAPHS

Photo No. 1
Receive Room View of Installed Specimen

Photo No. 2
Source Room View of Installed Specimen

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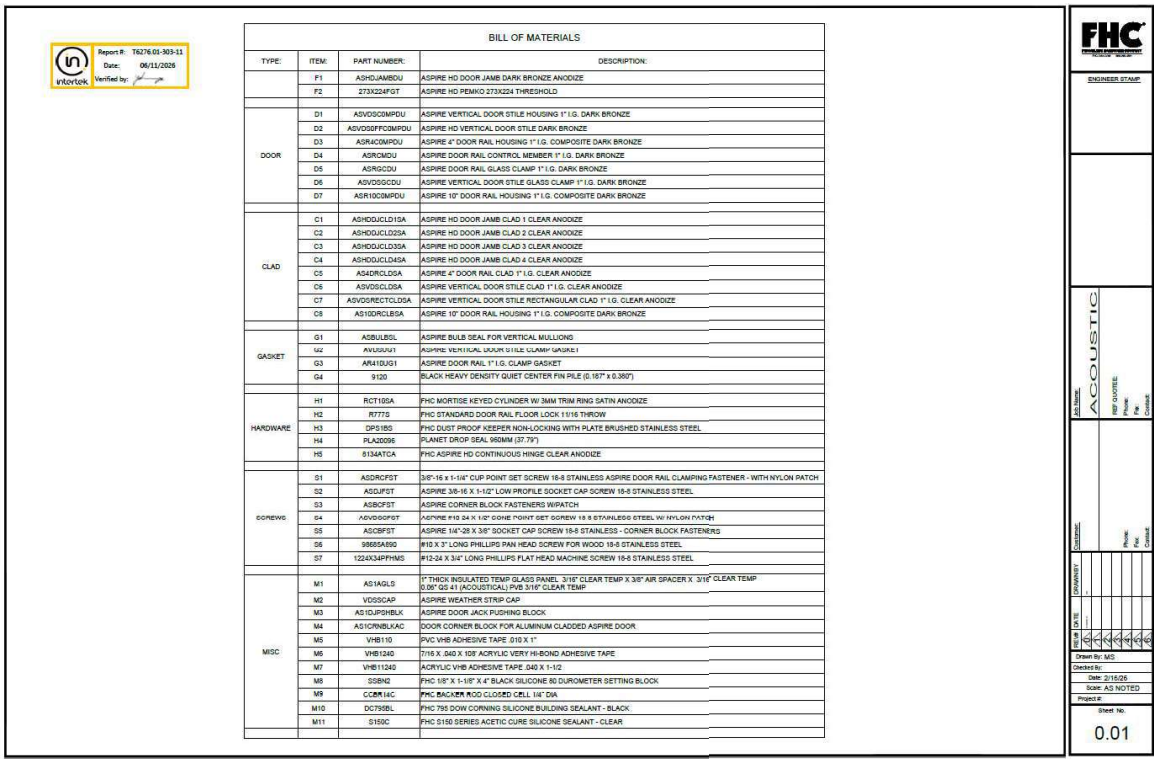
SECTION 12
DRAWING



BILL OF MATERIALS

TYPE:	ITEM:	PART NUMBER:	DESCRIPTION:
	F1	ASHDJAMBDU	ASPIRE HD DOOR JAMB DARK BRONZE ANODIZE
	F2	273X224FGT	ASPIRE HD PEMKO 273X224 THRESHOLD
DOOR	D1	ASVDSC0MPDU	ASPIRE VERTICAL DOOR STILE HOUSING 1" I.G. DARK BRONZE
	D2	ASVDS0FFC0MPDU	ASPIRE HD VERTICAL DOOR STILE DARK BRONZE
	D3	ASR4C0MPDU	ASPIRE 4" DOOR RAIL HOUSING 1" I.G. COMPOSITE DARK BRONZE
	D4	ASRCMDU	ASPIRE DOOR RAIL CONTROL MEMBER 1" I.G. DARK BRONZE
	D5	ASRGCDU	ASPIRE DOOR RAIL GLASS CLAMP 1" I.G. DARK BRONZE
	D6	ASVDSGCDU	ASPIRE VERTICAL DOOR STILE GLASS CLAMP 1" I.G. DARK BRONZE
	D7	ASR10C0MPDU	ASPIRE 10" DOOR RAIL HOUSING 1" I.G. COMPOSITE DARK BRONZE
CLAD	C1	ASHDDJCLD1SA	ASPIRE HD DOOR JAMB CLAD 1 CLEAR ANODIZE
	C2	ASHDDJCLD2SA	ASPIRE HD DOOR JAMB CLAD 2 CLEAR ANODIZE
	C3	ASHDDJCLD3SA	ASPIRE HD DOOR JAMB CLAD 3 CLEAR ANODIZE
	C4	ASHDDJCLD4SA	ASPIRE HD DOOR JAMB CLAD 4 CLEAR ANODIZE
	C5	AS4DRCLDSA	ASPIRE 4" DOOR RAIL CLAD 1" I.G. CLEAR ANODIZE
	C6	ASVDSCLDSA	ASPIRE VERTICAL DOOR STILE CLAD 1" I.G. CLEAR ANODIZE
	C7	ASVDSRECTCLDSA	ASPIRE VERTICAL DOOR STILE RECTANGULAR CLAD 1" I.G. CLEAR ANODIZE
	C8	AS10DRCLBSA	ASPIRE 10" DOOR RAIL HOUSING 1" I.G. COMPOSITE DARK BRONZE
GASKET	G1	ASBULBSL	ASPIRE BULB SEAL FOR VERTICAL MULLIONS
	G2	AVUGU01	ASPIRE VERTICAL DOOR STILE CLAMP GASKET
	G3	AR410UG1	ASPIRE DOOR RAIL 1" I.G. CLAMP GASKET
	G4	9120	BLACK HEAVY DENSITY QUIET CENTER FIN PILE (0.187" x 0.360")
HARDWARE	H1	RCT10SA	FHC MORTISE KEYED CYLINDER W/ 3MM TRIM RING SATIN ANODIZE
	H2	R777S	FHC STANDARD DOOR RAIL FLOOR LOCK 11/16 THROW
	H3	DPS18S	FHC DUST PROOF KEEPER NON-LOCKING WITH PLATE BRUSHED STAINLESS STEEL
	H4	PLA20096	PLANET DROP SEAL 960MM (37.79")
	H5	8134ATCA	FHC ASPIRE HD CONTINUOUS HINGE CLEAR ANODIZE
SCREWS	S1	ASDRCFST	3/8"-16 x 1-1/4" CUP POINT SET SCREW 18-8 STAINLESS ASPIRE DOOR RAIL CLAMPING FASTENER - WITH NYLON PATCH
	S2	ASCUFST	ASPIRE 3/8-16 X 1-1/2" LOW PROFILE SOCKET CAP SCREW 18-8 STAINLESS STEEL
	S3	ASBCFST	ASPIRE CORNER BLOCK FASTENERS W/PATCH
	S4	ASVDSCPST	ASPIRE #10 24 X 1/2" CONE POINT SET SCREW 18 8 STAINLESS STEEL W/ NYLON PATCH
	S5	ASCBFST	ASPIRE 1/4"-28 X 3/8" SOCKET CAP SCREW 18-8 STAINLESS - CORNER BLOCK FASTENERS
	S6	93665A890	#10 X 3" LONG PHILLIPS PAN HEAD SCREW FOR WOOD 18-8 STAINLESS STEEL
	S7	1224X34PFHMS	#12-24 X 3/4" LONG PHILLIPS FLAT HEAD MACHINE SCREW 18-8 STAINLESS STEEL
MISC	M1	AS1AGLS	1" THICK INSULATED TEMP GLASS PANEL 3/16" CLEAR TEMP X 3/8" AIR SPACER X 3/16" CLEAR TEMP 0.06" GS 41 (ACOUSTICAL) PVB 3/16" CLEAR TEMP
	M2	VDSCAP	ASPIRE WEATHER STRIP CAP
	M3	AS1DJPSHBLK	ASPIRE DOOR JACK PUSHING BLOCK
	M4	AS1CRNBLKAC	DOOR CORNER BLOCK FOR ALUMINUM CLADDED ASPIRE DOOR
	M5	VHB110	PVC VHB ADHESIVE TAPE .010 X 1"
	M6	VHB1240	7/16 X .040 X 108' ACRYLIC VERY HI-BOND ADHESIVE TAPE
	M7	VHB11240	ACRYLIC VHB ADHESIVE TAPE .040 X 1-1/2'
	M8	SSBN2	FHC 1/8" X 1-1/8" X 4" BLACK SILICONE 80 DUROMETER SETTING BLOCK
	M9	CCBR14C	FHC BACKER ROD CLOSED CELL 1/4" DIA
	M10	DC795BL	FHC 795 DOW CORNING SILICONE BUILDING SEALANT - BLACK
	M11	S150C	FHC S150 SERIES ACETIC CURE SILICONE SEALANT - CLEAR

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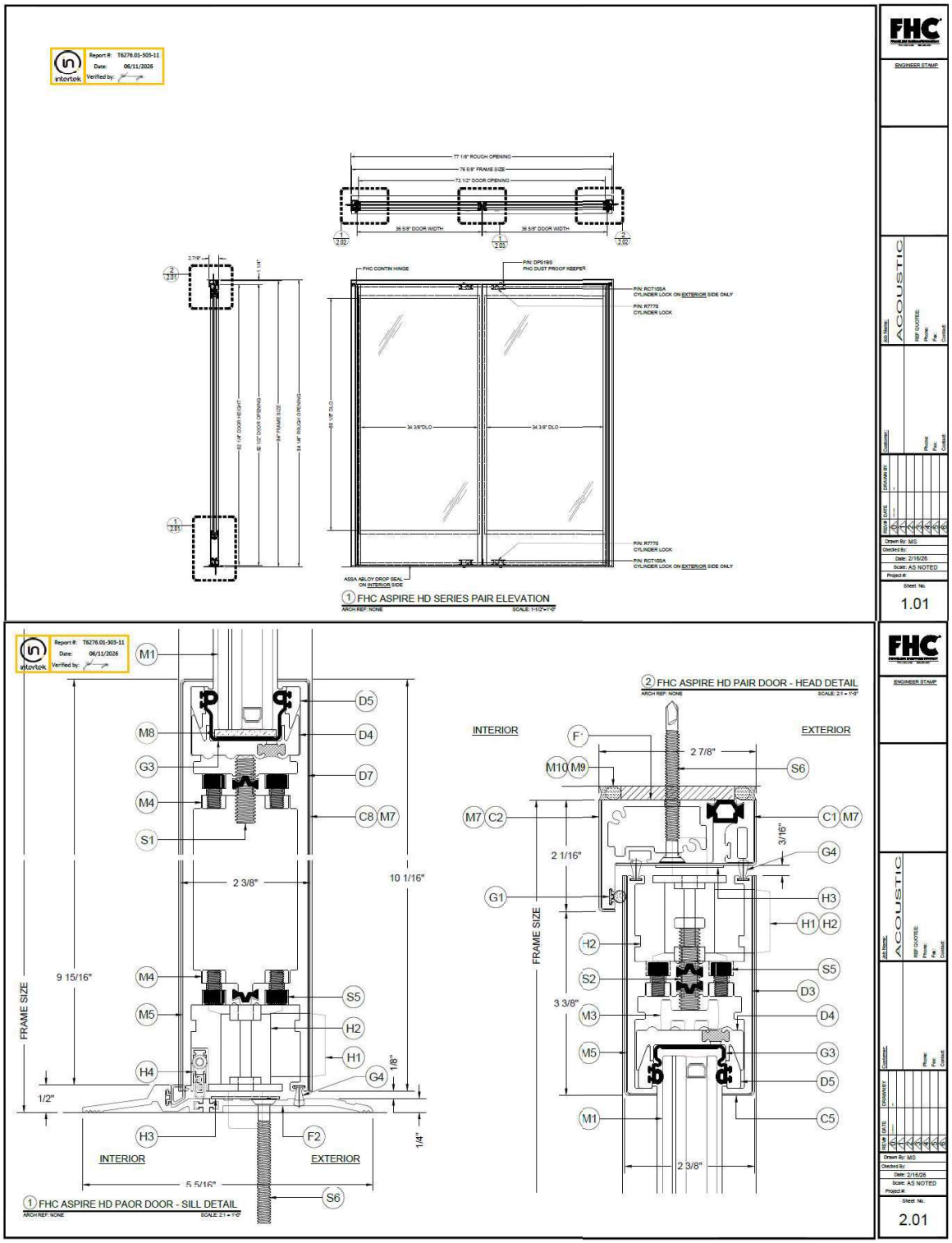

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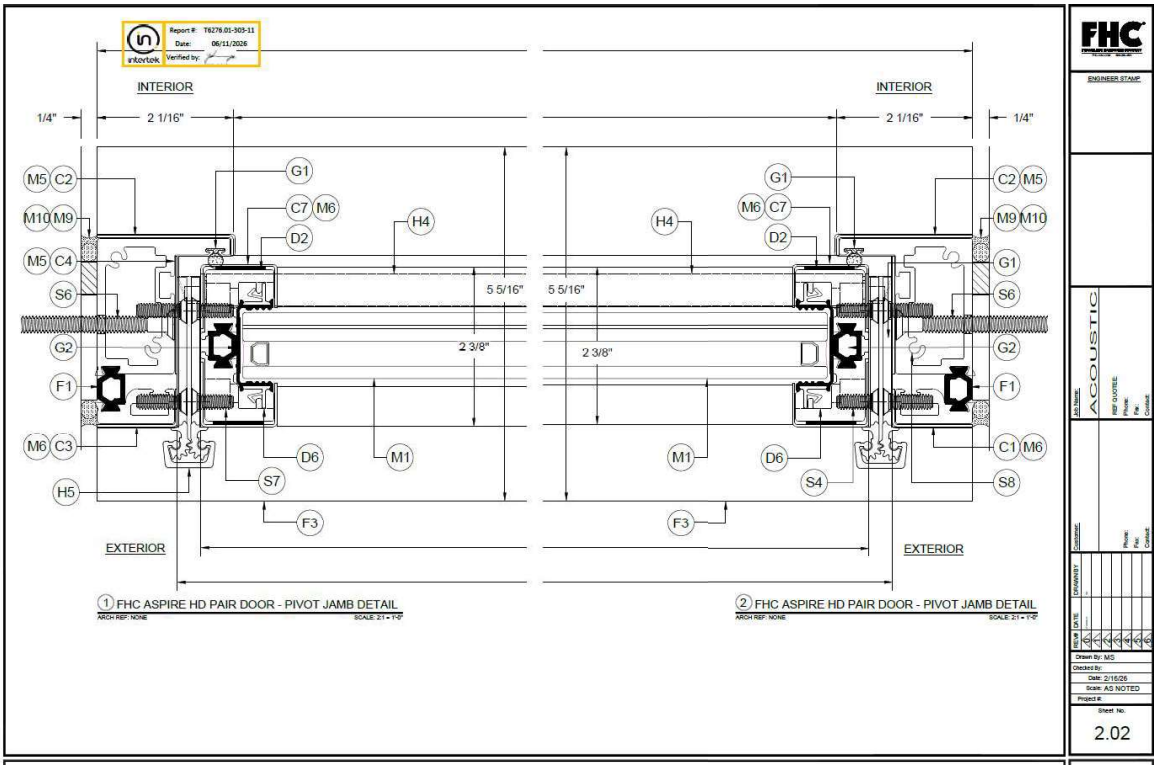

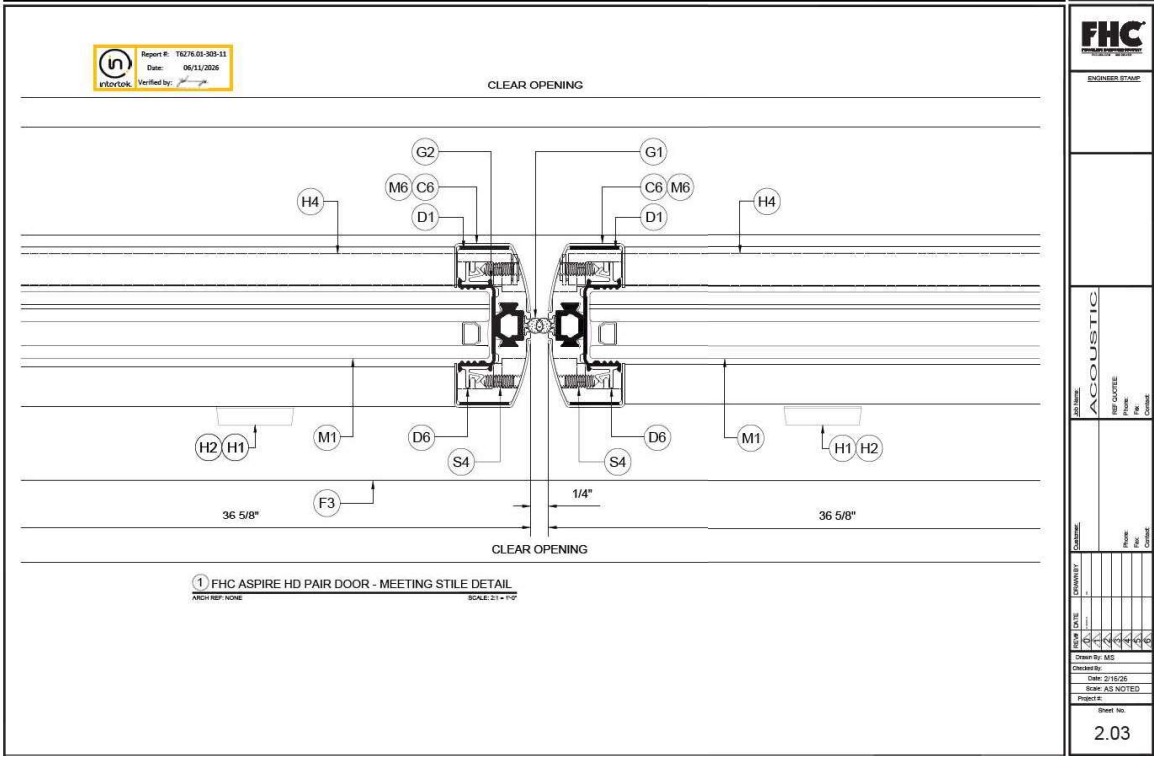

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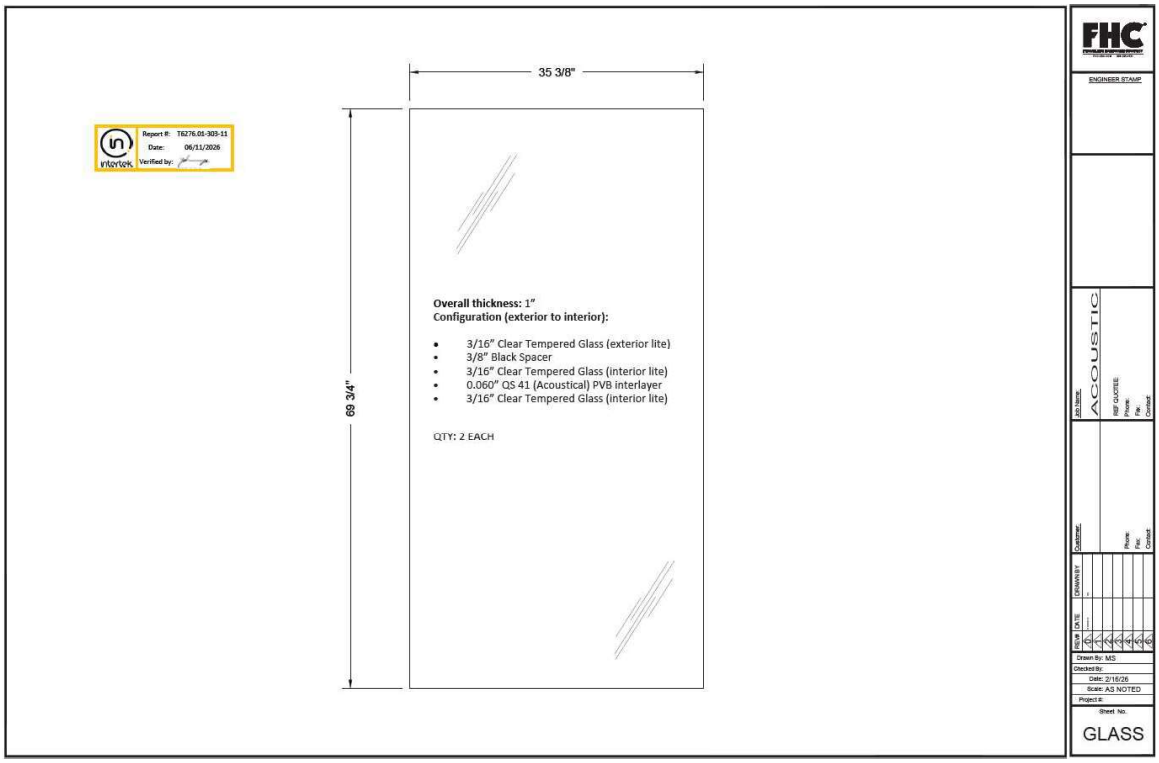

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	06/17/26	N/A	Original Report Issue