

ASTM E 90 SOUND TRANSMISSION LOSS TEST REPORT

Rendered to:

TUBELITE, INC.

SERIES/MODEL: T24000

TYPE: Side-Hinged Single Thermal Door

Summary of Test Results				
Data File No.Glazing (Nominal Dimensions)STCOIT				
C5775.01	1-1/16" IG (1/4" heat strengthened exterior, 1/2" air space, 5/16" laminated interior), Glass temperature 75°F	33	30	

Reference should be made to Architectural Testing, Inc. Report No. C5775.01-113-11 for complete test specimen description. The complete test results are listed in Appendix B.

130 Derry Court York, PA 17406-8405 phone: 717-764-7700 fax: 717-764-4129 www.archtest.com





ACOUSTICAL PERFORMANCE TEST REPORT

Rendered to:

TUBELITE, INC. 4878 Mackinaw Trail Reed City, Michigan 49677

Report No:	C5775.01-113-11
Test Date:	03/25/13
Report Date:	05/01/13
Record Retention End Date:	05/01/17

Test Sample Identification:

Series/Model: T24000

Type: Side-Hinged Single Thermal Door

Overall Frame Size: 43" by 88"

Glazing (Nominal Dimensions): 1-1/16" IG (1/4" Heat Strengthened Exterior, 1/2" Air Space, 5/16" Laminated Interior), Glass Temperature 75°F

Project Scope: Architectural Testing, Inc. was contracted by Tubelite, Inc. to conduct sound transmission loss tests on a Series/Model T24000, side-hinged single thermal door. A summary of the results is listed in the Test Results section, and the complete test data is included as Appendix B of this report. The sample was provided by the client.

Test Methods: The acoustical tests were conducted in accordance with the following:

ASTM E 90-09, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions. ASTM E 413-10, Classification for Rating Sound Insulation. ASTM E 1332-10a, Standard Classification for Rating Outdoor-Indoor Sound Attenuation. ASTM E 2235-04 (Reapproved 2012), Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods.

Test Equipment: The equipment used to conduct these tests meets the requirements of ASTM E 90. The microphones were calibrated before conducting sound transmission loss tests. The test equipment and test chamber descriptions are listed in Appendix A.

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Sample Installation: Sound transmission loss tests were initially performed on a filler wall that was designed to test similar size specimens. The filler wall achieved an STC rating of 68.

The specimen plug was removed from the filler wall assembly. The side-hinged single thermal door was placed on an isolation pad in the test opening. Duct seal was used to seal the perimeter of the test specimen to the test opening on both sides. A stethoscope was used to check for any abnormal air leaks around the test specimen prior to testing. The operable panel was opened and closed at least five times prior to testing.

Test Procedure: The side-hinged single thermal door was closed and locked for this test. The sound transmission loss test was conducted in accordance with the ASTM E 90 test method using a single direction of measurement. The sound transmission loss test consisted of the following measurements: One background noise sound pressure level and five sound absorption measurements were conducted at each of the five microphone positions. Two sound pressure level measurements were made simultaneously in both rooms, at each of the five microphone positions. The air temperature and relative humidity conditions were monitored and recorded during the background, absorption, source, and receive room measurements.

Sample Descriptions:

Frame Construction:

		Frame
Size		43" by 88"
Thickness 4-1/2"		4-1/2"
Co	orners	Butted
	Fasteners	Screws
	Seal Method	None
Material		Aluminum
	Reinforcement	N/A
	Thermal Break Material	Insulbar

N/A-Non Applicable



Sample Descriptions: (Continued)

Panel Construction:

		Panel
Size		39-3/4" by 85"
Thickness		1-3/4"
C	orners	Butted
	Fasteners	Screws
	Seal Method	None
Μ	aterial	Aluminum
	Reinforcement	N/A
	Thermal Break Material	Insulbar
Da	aylight Opening Size	29-1/2" by 69"

Glazing:

Measured Overall Insulation Glass Unit Thickness	1.087"
Spacer Type	Aluminum

	Exterior Sheet	Gap	Interior Sheet
Measured Thickness	0.221"	0.557"	0.125", 0.059", 0.125"
Muntin Pattern	N/A	N/A	N/A
Material	Heat strengthened	Air*	Laminated
Laminate Material	N/A	N/A	PVB

Glazing Method	Pressure
Glazing Material	Flexible wedge gasket
Glazing Bead Material	Aluminum

* - Stated per Client/Manufacturer, N/A-Non Applicable



Sample Descriptions: (Continued)

Components:

ТҮРЕ	QUANTITY	LOCATION
Weatherstrip		
1/4" Diameter hollow bulb gasket	1 Row	Head and jambs
Sweep with 3/8" leaf	1 Row	Bottom rails
Hardware		
Hinge	3	Hinge jamb
Keyed lock bolt	1	Lock stile
Handle	1	Lock stiles
Drainage		
No drainage		

Comments: The total weight of the sample was 198 lbs. The design drawings (included in Appendix C) supplied by the client, accurately describe the Series/Model T24000, side-hinged single thermal door. The dimensions on the drawings that are circled and/or checked were verified against the test specimen. The side-hinged single thermal door was disassembled, and the components will be retained by Architectural Testing for four years. Photographs of the test specimen are included in Appendix D.



Test Results: The STC (Sound Transmission Class) rating was calculated in accordance with ASTM E 413. The OITC (Outdoor-Indoor Transmission Class) was calculated in accordance with ASTM E 1332. A summary of the sound transmission loss test results on the Series/Model T24000, side-hinged single thermal door is listed below.

Summary of Test Results				
Data File No.	STC	OITC		
C5775.01	1-1/16" IG (1/4" heat strengthened exterior, 1/2" air space, 5/16" laminated interior), Glass temperature 75°F	33	30	

The complete test results are listed in Appendix B. Flanking limit tests and reference specimen tests are available upon request.

Architectural Testing will service this report for the entire test record retention period. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Architectural Testing for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing.

For ARCHITECTURAL TESTING, INC:

Kent a. Holden

Kurt A. Golden Senior Technician - Acoustical Testing

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Todd D. Kister Laboratory Supervisor - Acoustical Testing

KAG:jmcs

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Equipment description (1) Appendix-B: Complete test results (2) Appendix-C: Design drawings (4) Appendix-D: Photographs (1)



Revision Log

<u>Rev. #</u>	Date	Page(s)	Revision(s)
0	05/01/13	N/A	Original Report Issue

This report produced from controlled document template ATI 00282, revised 07/06/12.



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Appendix A

Instrumentation:

Instrument	Manufacturer	Model	Description	ATI Number	Date of Calibration
Analyzer	Hewlett Packard	HP35670A	Real time analyzer	004112	07/11 *
Data Acquisition Unit	Agilent	34970A	Data Acquisition Unit	62211	07/12
Receive Room Microphone	GRAS	40 AR	1/2" Microphone	Y003246	08/12
Source Room Microphone	GRAS	40 AR	1/2" Microphone	Y003245	08/12
Receive Room Preamplifier	GRAS	26 AK	1/2" Preamplifier	Y003249	08/12
Source Room Preamplifier	GRAS	26 AK	1/2" Preamplifier	Y003248	08/12
Microphone Calibrator	Bruel & Kjaer	Type 4228	Pistonphone Calibrator	Y002816	02/13
Noise Source	Delta Electronics	SNG-1	Noise Generator	Y002181	N/A
Equalizer	Rane	RPE 228	Programmable Equalizer	Y002180	N/A
Power Amplifiers	Crown	Xti 2000	Two, Amplifiers	005769 005770	N/A
Receive Room Loudspeakers	Renkus-Heinz Inc.	Trap Jr./9	Two, Loudspeakers	Y001784 Y001785	N/A
Source Room Loudspeakers	Renkus-Heinz Inc.	Trap Jr./9	Two, Loudspeakers	Y002649 Y002650	N/A
Receive Room Environmental Indicator	Vaisala	HMW60Y	Temperature and Humidity Sensor	005066	09/12
Source Room Environemental Indicator	Vaisala	HMW60Y	Temperature and Humidity Sensor	Y002652	10/12
Weather Station	Davis Instruments	VantagePRO 6150C	Weather Station	Y003257	05/12

*- 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 (8291.3 ft ³)	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor	
Source Room	206.6 m ³ (7296.3 ft ³)	Stationary diffusers only Temperature and humidity controlled	
	Maximum Size	Description	
	4.27 m (14 ft) wide by		
TL Test Opening	3.05 m (10 ft) high	Vibration break between source and receive rooms	

N/A-Non Applicable



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Appendix B

Complete Test Results





SOUND TRANSMISSION LOSS

ASTM E 90

Test Date	03/25/13								
ATI No.	C5775.01	5775.01 ibelite, Inc. eries/Model: T24000, side-hinged single door system with full lite 1-1/16" IG (1/4" heat strengthened terior, 1/2" air space, 5/16" laminated interior), Glass temperature 75°F urt Golden 2.50 m ² 10.50 m ²							
Client	Tubelite,	Inc.							
Specimen	Series/Mo	odel: T2400	0, side-hinge	d single door system with full lite 1-1/16" IG (1/4" heat strengthened					
	exterior, 1	I/2" air spa	ce, 5/16" lami	nated interior), Glass temperature 75°F					
Operator	Kurt Gold	en							
Sample Area	2.50	m ²							
Filler Area	10.50	m ²							
	Source	Receive	Specimen						
Temp C	22	20	21						
RH %	48	52	49						

	Bkgrd	Absorp	Source	Receive	Filler	Specimen	95%	No. of	Trans
Freq	SPL		SPL	SPL	TL	TL	Conf	Defi-	Coef
(Hz)	(dB)	(m ²)	(dB)	(dB)	(dB)	(dB)	Limit	ciencies	Diff
80	39	5.4	89	67	32	20	2.0	-	6.6
100	35	5.8	90	63	38	24	3.6	-	8.4
125	35	5.4	94	63	45	28	1.3	0	11.1
160	38	4.9	95	68	48	24	1.2	0	17.3
200	35	4.5	101	70	58	28	1.3	0	23.8
250	31	5.2	101	72	60	26	0.9	0	28.0
315	29	5.8	102	73	66	25	0.9	4	34.3
400	28	5.7	102	68	68	30	0.3	2	31.5
500	25	6.3	102	65	68	33	0.6	0	28.7
630	24	5.7	104	68	69	33	0.5	1	30.6
800	23	6.0	105	69	71	32	0.3	3	32.8
1000	20	6.2	105	68	74	33	0.5	3	35.1
1250	18	6.8	103	66	72	33	0.4	4	33.1
1600	15	6.9	106	69	71	33	0.4	4	32.1
2000	10	7.5	105	67	72	33	0.3	4	32.4
2500	7	8.3	105	65	75	34	0.3	3	34.7
3150	6	9.7	106	64	77	36	0.3	1	34.8
4000	6	11.9	106	64	81	35	0.4	2	39.8
5000	6	15.3	105	62	84	35	0.4	-	42.8

STC Rating Deficiencies

33 (Sound Transmission Class)

OITC Rating

31 (Number of deficiencies versus contour curve)30 (Outdoor Indoor Transmission Class)

Notes:

1) Transmission loss coefficient differences less than 6 indicate the lower limit of the transmission loss for this specimen. These cells are highlighted red.

2) Transmission loss coefficient differences between 6 and 15 indicate there has been a filler wall correction applied. These cells are highlighted green.

3) Receive Room levels less than 5 dB above the background levels are highlighted in yellow.

ATI 00254 Revised 01/08/13

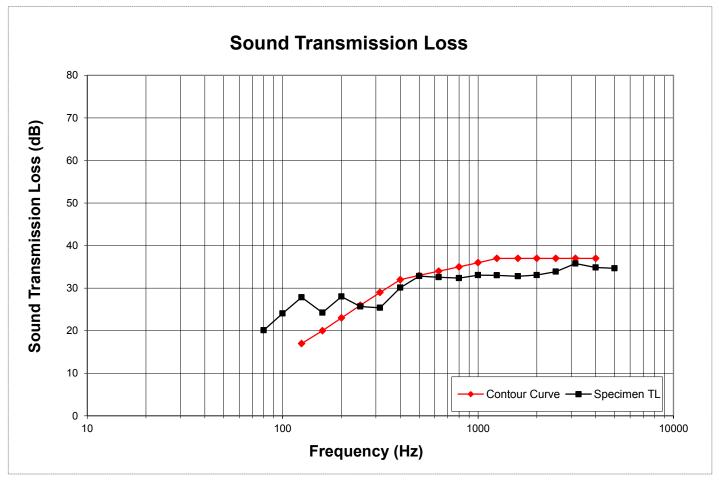




SOUND TRANSMISSION LOSS

ASTM E 90

Test Date	03/25/13			
ATI No.	C5775.01			
Client	Tubelite,	Inc.		
Specimen				ed single door system with full lite 1-1/16" IG (1/4" heat strengthened
	exterior, 1	1/2" air spa	ce, 5/16" lami	inated interior), Glass temperature 75°F
Operator	Kurt Gold	en		
Sample Area	2.50	m ²		
Filler Area	10.50	m ²		
	Source	Receive	Sample	
Temp C	22	20	21	
RH %	48	52	49	



Note: To obtain the Sound Transmission Class (STC), read the Sound Transmission Loss of the contour curve at 500 Hz. The sum of the deficiencies below the contour curve cannot exceed 32. The maximum deficiencies at any one frequency cannot exceed 8.

ATI 00254 Revised 01/08/13



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Appendix C

Design Drawings

ITEM	QTY	ONT TEST SPECIME PART NUMBER		MATERIAL		1
1	1	E24259				
2	2	E24238	EXTRUSION ~ THERMAL SUB SILL	ALUMINUM-6063-T5		- [
3	5	E24441	EXTRUSION ~ THERMAL OPEN BACK SILL	ALUMINUM-6063-T5		1
4	8	E24442	EXTRUSION ~ THERMAL HEAD/JAMB/VERTICAL	ALUMINUM-6063-T5		
5	1	A244545	Extrusion ~ SNAP IN FILLER	ALUMINUM6063T5		- [
	2 PER ASSY		CLOSURE POCKET ASSEMBLY			
6		E24445	EXTRUSION ~ CLOSURE POCKET SNAP END 12'-2"	ALUMINUM-6063-T5		ſ
7	1 PER ASSY	P6595	BRIDGE 12'-2"	P-PART-PLASTIC		1
8	2	E14104	EXTRUSION ~ GLAZING STOP	ALUMINUM-6063-T5		ľ
9						t
10						ł
11	4	A627879	EXTRUSION ASSEMBLY ~ STILE MED ~ HINGE	ALUMINUM-6063-T5		ŀ
12	1	A628282	EXTRUSION ASSEMBLY ~ STILE, MED ~ RD FACE	ALUMINUM6063-T5		ł
13	1	A628384	EXTRUSION ASSEMBLY ~ STILE, MED ~ LOCK/ASTRICAL	ALUMINUM6063-15		ŀ
14	1	E1152	EXTRUSION ~ ASTRICAL (DOOR)	······································	Γ	7
15	3	A621414	EXTRUSION ASSEMBLY ~ TOP RAL 4"	ALUMINUM-6063-T5		ŀ
16	3	A621010	EXTRUSION ASSEMBLY ~ BOTTOM RAIL 10"	ALUMINUM-6063-15		ŀ
17	12	E6291		ALUMINUM6063-T5		L
		the second se	EXTRUSION ~ GLASS STOP TOP & BOTTOM RAIL	ALUMINUM-6063-T5		E
18	6	E6223	Extrusion ~ Inner door stop	ALUMINUM6063-15		[
19	2	A624142	EXTRUSION ASSEMBLY ~ DOOR FRAME ~ HEADER	ALUMINUM-6063-TS		ſ
20	4	A624040	EXTRUSION ASSEMBLY ~ DOOR FRAME ~ JAMB	ALUMINUM-6063-15		1
21	2	T6250	THERMAL THRESHOLD	ALUMINUM-6063-15	DOOR PARTS	ł
22					AS REO'D	ł
23						ŀ
24						ŀ
25	80'	P2728	GASKET, GLASS, EPG	PPART-RUBBER	1	ŀ
26	50'	P1112	GASKET, GLASS, EPG (DOOR)	P-PART-RUBBER	- 1	ŀ
27	50'	P2183	GASKET, GLASS, EPG (DOOR)	P-PART-RUBBER	1.1	ŀ
28	6	P1132	SETTING BLOCK 4" LG	P-PART-RUBBER	· I	ŀ
29	6	P1912	SETTING BLOCK 1/4 x 1/2 x 4" LG			ŀ
30	40'	P6296	BULB WEATHERSEAL	P-PART-RUBBER		ł
31	20'	P938	PILE, DOOR STOP, AMESBURY GROUP	P-PART-WEATHERSEAL		ŀ
32	3	P6240	ELEMENT INHIBITOR (TOP & BOTTOM RAIL)	PPART-PLASTIC/FAB		L
33	3	P1276		P-PART-RIGID PVC		L
34	2	P65XX	CONCEALED SCREW WEATHERSTRIP 41 7/8" LG	P-PART-WEATHERSTRIP		L
35		FOUAA	END DAM FOR SUB SILL E24259	P-PART-ALUM .040 SHT.		L
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1 6 NA GOREN 1/4" x 3" HEX TLD HOL GALV LLG (PL TO WOOD BERRING) IP-PART-FASTERER 22 10 NA SCREW 1/2" x 3" HEX TLD HOL GALV LLG (PL TO WOOD BERRING) IP-PART-FASTERER 22 10 NA SCREW 1/2" x 1/2" TLT HO WOOD (Week TW wood wood BERRING) IP-PART-FASTERER 23 72 SO/DO SCREW 6/2" x 1/2" TLT HO WOOD (Week TW wood Wood BERRING) IP-PART-FASTERER 24 S166 SCREW 6/4" x 1/2" TLT HO PHIL (Week TW wood Wood BERRING) IP-PART-FASTERER 26 4 S166 SCREW 6/4" x 1/2" TLT HO PHIL (Week TW wood Wood BERRING) INTER-FASTERER 27 1 NA 3'-4" x 7'-2" MEDIUM STILE THERMAL DOOR DOOR ASSEMILY DOOR ASSEMILY 20 71 1 NA 3'-4" x 7'-2" MEDIUM STILE THERMAL DOOR DOOR ASSEMILY DOOR ASSEMILY 21 NA S0/7" NUT STUD, 3/2" file X 1000 (MORT SHOWN) P-PART-HABDWARE DOOR ASSEMILY DOOR ASSEMILY 24 X P1538 SREMON SELEX ASTUD ASTUD, 3/2" fi		ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	
92 10 NA SOREW ~ 12-1" x 2" FT HD WOOD USE WE NO WOO BUDD P-ART-FASTENER 93 75 SO70 SOREW ~ 12-1" x 2" FT HD WOOD USE WE NO WOO BUDD P-ART-FASTENER 94 50 SOREW ~ 10-24 x 1/2" FT HD PHL USE WE NO WOOD P-ART-FASTENER 95 4 SIGEW ~ 10-24 x 1/2" FT HD PHL USE WE NO WOOD P-ART-FASTENER 95 4 SIGEW ~ 10-24 x 1/2" FT HD PHL USE WE NO WOOD P-ART-FASTENER 95 4 SIGEW ~ 10-24 x 1/2" FT HD PHL USE WE NO WOOD P-ART-FASTENER 96 30 SOREW ~ 40 X 3/6" SEET TAPPING PAR HEAD (NO MARKED) P-PART-FASTENER USE WE NO WOOD P-ART-FASTENER 77 X SIGEW ~ 10-24 x1 TYPE ZI HEX HEAD DHL. ODOR ASSEMBLY DOOR ASSEMBLY 70 - - - P-PART-FASTENER DOOR ASSEMBLY 73 X P1533 SPRMG, STEEL ASTRADAL ADUSTABLE, (DOOR) P-PART-FASTENER 77 X STEED HEAD HOOR (BOED WID SUPE NOWN) P-PART-FASTENER PART-FASTENER 77 X STEED HOOR WID SUPE NOWN) P-PART - FAST						P-PART-FASTENER	
66 30 S202 SCREW ~ #10-24 xl TYPE 23 HEX HEAD PHL 9HAME TO FINAD P-PART-FASTENER 67						P-PART-FASTENER	
66 30 S202 SCREW ~ #10-24 xl TYPE 23 HEX HEAD PHL 9HAME TO FINAD P-PART-FASTENER 67						P-PART-FASTENER	ž
66 30 S202 SCREW ~ #10-24 xl TYPE 23 HEX HEAD PHL 9HAME TO FINAD P-PART-FASTENER 67						P-PART-FASTENER	I E
66 30 S202 SCREW ~ #10-24 xl TYPE 23 HEX HEAD PHL 9HAME TO FINAD P-PART-FASTENER 67						P-PART-FASTENER	L = 23
1 NA 3-4 X / 7-2 MEDMA STLE THERMAL DOOR DOOR ASSEMBLY 77 X P518 LABEL, DOOR, GREEN BRUSHED SLVER (DOOR) MOOR ASSEMBLY DOOR ASSEMBLY 74 X P1539 SPRING, STEEL LASTRAQAL, ADJUSTABLE (DOOR) MOOR ASSEMBLY 76 X P1533 WASHER, SOREW & SHOULDER SOREW (DOOR) P-PART-HARDWARE 76 X S1071 NUT, STUD, 3/8-16 X is (doon it not) (wor shown) P-PART - FASTENER 76 X S166 WASHER, i GO X is ID X.052 ALLMANUM (DOOR) (wor shown) P-PART - FASTENER 77 X S166 WASHER, i GOOR R. ROD, (MOT SHOWN) P-PART - FASTENER 76 X P008 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 77 X S166 MOOR MIRE/DED TE, if (DOOR) (NOT SHOWN) P-PART - HARDWARE 80 X P0208 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - HARDWARE 85 9 P0092 BUT HINGE HAGAR BB-1191 P-PART - HARDWARE PHART - HARDWARE					SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (BID DAM TO SUB SELL)	P-PART-FASTENER	
1 NA 3-4 X / 22 MEDIAN STUE HERMAL BOOR DOOR ASSEMBLY 72 1 NA 6'-4'' X / 2'' MEDIAN STUE THERMAL BOOR DOOR ASSEMBLY 73 X P518 LABEL, DOOR, GREEN BRUSHED SLVER (DOOR) NOT SHOWN) P-PART-HARBWARE 74 X P1539 SPRING, STEEL, ASTRAQAL, ADJUSTABLE (DOOR) P-PART-HARBWARE 76 X S071 NUT, STUD, 3/8-16 X is (com its row) (NOT SHOWN) P-PART - FASTENER 76 X S166 WASHER, i GO X is D X, 602 ALLIARNUM GOOR (P-PART - FASTENER 76 X S166 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 76 X S166 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 76 X P008 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 76 X P608 TABE PER FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 76 X <td></td> <td></td> <td>30</td> <td>\$202</td> <td>SCREW ~ \$10-24 x1 TYPE 23 HEX HEAD PHIL (FRAME TO FRAME)</td> <td>P-PART-FASTENER</td> <td></td>			30	\$202	SCREW ~ \$10-24 x1 TYPE 23 HEX HEAD PHIL (FRAME TO FRAME)	P-PART-FASTENER	
1 NA 3-4 X / 7-2 MEDMA STLE THERMAL DOOR DOOR ASSEMBLY 77 X P518 LABEL, DOOR, GREEN BRUSHED SLVER (DOOR) MOOR ASSEMBLY DOOR ASSEMBLY 74 X P1539 SPRING, STEEL LASTRAQAL, ADJUSTABLE (DOOR) MOOR ASSEMBLY 76 X P1533 WASHER, SOREW & SHOULDER SOREW (DOOR) P-PART-HARDWARE 76 X S1071 NUT, STUD, 3/8-16 X is (doon it not) (wor shown) P-PART - FASTENER 76 X S166 WASHER, i GO X is ID X.052 ALLMANUM (DOOR) (wor shown) P-PART - FASTENER 77 X S166 WASHER, i GOOR R. ROD, (MOT SHOWN) P-PART - FASTENER 76 X P008 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 77 X S166 MOOR MIRE/DED TE, if (DOOR) (NOT SHOWN) P-PART - HARDWARE 80 X P0208 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - HARDWARE 85 9 P0092 BUT HINGE HAGAR BB-1191 P-PART - HARDWARE PHART - HARDWARE							
1 NA 3-4 X / 7-2 MEDMA STLE THERMAL DOOR DOOR ASSEMBLY 77 X P518 LABEL, DOOR, GREEN BRUSHED SLVER (DOOR) MOOR ASSEMBLY DOOR ASSEMBLY 74 X P1539 SPRING, STEEL LASTRAQAL, ADJUSTABLE (DOOR) MOOR ASSEMBLY 76 X P1533 WASHER, SOREW & SHOULDER SOREW (DOOR) P-PART-HARDWARE 76 X S1071 NUT, STUD, 3/8-16 X is (doon it not) (wor shown) P-PART - FASTENER 76 X S166 WASHER, i GO X is ID X.052 ALLMANUM (DOOR) (wor shown) P-PART - FASTENER 77 X S166 WASHER, i GOOR R. ROD, (MOT SHOWN) P-PART - FASTENER 76 X P008 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 77 X S166 MOOR MIRE/DED TE, if (DOOR) (NOT SHOWN) P-PART - HARDWARE 80 X P0208 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - HARDWARE 85 9 P0092 BUT HINGE HAGAR BB-1191 P-PART - HARDWARE PHART - HARDWARE			AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P-PART-SEALANT	1 7688
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1 NA 3-4 X / 7-2 MEDMA STLE THERMAL DOOR DOOR ASSEMBLY 77 X P518 LABEL, DOOR, GREEN BRUSHED SLVER (DOOR) MOOR ASSEMBLY DOOR ASSEMBLY 74 X P1539 SPRING, STEEL LASTRAQAL, ADJUSTABLE (DOOR) MOOR ASSEMBLY 76 X P1533 WASHER, SOREW & SHOULDER SOREW (DOOR) P-PART-HARDWARE 76 X S1071 NUT, STUD, 3/8-16 X is (doon it not) (wor shown) P-PART - FASTENER 76 X S166 WASHER, i GO X is ID X.052 ALLMANUM (DOOR) (wor shown) P-PART - FASTENER 77 X S166 WASHER, i GOOR R. ROD, (MOT SHOWN) P-PART - FASTENER 76 X P008 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - FASTENER 77 X S166 MOOR MIRE/DED TE, if (DOOR) (NOT SHOWN) P-PART - HARDWARE 80 X P0208 SOREW, 10-24 X is FH MACH PHIL (DOOR) (NOT SHOWN) P-PART - HARDWARE 85 9 P0092 BUT HINGE HAGAR BB-1191 P-PART - HARDWARE PHART - HARDWARE		70					1 H - K - K - C
73 X P518 LABEL, DOOR, GREEN BRUSHED SLIVER (DOOR) NOT SHOWN) P-PART-HARDWARE 74 X P1539 SPRING, STEEL ASTRAGAL, ADJUSTABLE, (DOOR) (NOT SHOWN) P-PART-HARDWARE 75 X P1535 WASHER, SOREW & SHOULDER SCREW (DOOR) (NOT SHOWN) P-PART-FASTENER 76 X S071 NUT, STUD, 3/2-16 X ½ (DOOR is wown) P-PART - FASTENER 77 X S166 WASHER, SOREW too, 900 wor swown P-PART - FASTENER 78 X S161 SOREW, 10-24 X ½ PH AACH PHL (DR HWG/HUM BUB) 000 swown P-PART - FASTENER 79 X P908 SOREW, 10-24 X ½ PH AACH PHL (DR HWG/HUM BUB) 000 swown P-PART - FASTENER 80 X P0208 ROD, THREADED TE, §' (DOOR) (NOT SHOWN) P-PART - HARDWARE 81 X P078 TAB - FOR MORTSED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 85 9 P2092 HINGE, BUTT, REINFORGEMENT (DOOR) P-PART - HARDWARE 86 9 X P6508 ADAMS-RTE, SOREW COL, ACAN, SP572-C2 (DOOR) P-PART - HARDWARE		71	1	NA	3"-4" x 7'-2" MEDIUM STILE THERMAL DOOR	DOOR ASSEMBLY	Fõõ
75 X P1553 WASHER, SCREW & SHOULDER SCREW (DOOR) (NOT SHOWN) P-PART-FASTENER 76 X S071 NUT, STUD, S/R-16 X (Goon re. ROD (HOT SHOWN) P-PART - FASTENER 77 X ST66 WASHER, SOREW & DI X. 092 NUT, STUD, S/R-16 X (Goon re. ROD (HOT SHOWN) P-PART - FASTENER 78 X ST61 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 79 X P008 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 79 X P008 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 80 X P028 ROO, MIREADED TIE, (ODOR) (NOT SHOWN) P-PART - HARDWARE 81 X P078 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 83 9 P0902 BUTT HINGE HAGAR BB-1161 P-PART - HARDWARE 84 9 P092 BUTT HINGE TAGAR SCLUCOCO ADAMS-TITE (DOOR) P-PART - HARDWARE 86 - - - - -		72	1	NA	6"-4" x 7"-2" MEDIUM STILE THERMAL DOOR		20%
75 X P1553 WASHER, SCREW & SHOULDER SCREW (DOOR) (NOT SHOWN) P-PART-FASTENER 76 X S071 NUT, STUD, S/R-16 X (Goon re. ROD (HOT SHOWN) P-PART - FASTENER 77 X ST66 WASHER, SOREW & DI X. 092 NUT, STUD, S/R-16 X (Goon re. ROD (HOT SHOWN) P-PART - FASTENER 78 X ST61 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 79 X P008 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 79 X P008 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 80 X P028 ROO, MIREADED TIE, (ODOR) (NOT SHOWN) P-PART - HARDWARE 81 X P078 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 83 9 P0902 BUTT HINGE HAGAR BB-1161 P-PART - HARDWARE 84 9 P092 BUTT HINGE TAGAR SCLUCOCO ADAMS-TITE (DOOR) P-PART - HARDWARE 86 - - - - -	г	73	×	P518			4
75 X P1553 WASHER, SCREW & SHOULDER SCREW (DOOR) (NOT SHOWN) P-PART-FASTENER 76 X S071 NUT, STUD, S/R-16 X (Goon re. ROD (HOT SHOWN) P-PART - FASTENER 77 X ST66 WASHER, SOREW & DI X. 092 NUT, STUD, S/R-16 X (Goon re. ROD (HOT SHOWN) P-PART - FASTENER 78 X ST61 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 79 X P008 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 79 X P008 SCREW, 10-24 X (PLAT HEAD PHL (AR HWAC/HUBH BURD) (MOT SHOWN) P-PART - FASTENER 80 X P028 ROO, MIREADED TIE, (ODOR) (NOT SHOWN) P-PART - HARDWARE 81 X P078 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 83 9 P0902 BUTT HINGE HAGAR BB-1161 P-PART - HARDWARE 84 9 P092 BUTT HINGE TAGAR SCLUCOCO ADAMS-TITE (DOOR) P-PART - HARDWARE 86 - - - - -	ì	74	×	P1539			23
78 X S161 SCREW, 10-24 X # LAT HEAD PROCEED (ON OR BRAND) P-PART - PASTENER 79 X P308 SCREW, 10-24 X # LAT HEAD PHIL (OR HEAD, 10 OR SHOWN) P-PART - PASTENER 79 X P308 SCREW, 10-24 X # H MACH PHIL (ODOR) (NOT SHOWN) P-PART - PASTENER 80 X P028 ROD, THREADED TEC, # MACH PHIL (DOOR) (NOT SHOWN) P-PART - PASTENER 81 X P678 TAB - FOR MCRIBED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 82 X P635 WASHER, DOOR ROD (DOOR) (NOT SHOWN) P-PART - HARDWARE 84 9 P2092 BUTT HINCE HAGAR BB-1191 P-PART - HARDWARE P-PART - HARDWARE 85 - - - P-PART - HARDWARE P-PART - HARDWARE 86 - - - - P-PART - HARDWARE PERT - HARDWARE 89 X P1625 M-SR-SR28 COLLAR, SPLT RING C'L RYADON (DOOR) P-PART - HARDWARE PERT - HARDWARE 90 X P1750 HEAGAR BEISISSS-410-000 ADAMS-TITE (DOOR) P-PART -		75	X	P1553			
78 X S161 SCREW, 10-24 X # LAT HEAD PROCEED (ON OR BRAND) P-PART - PASTENER 79 X P308 SCREW, 10-24 X # LAT HEAD PHIL (OR HEAD, 10 OR SHOWN) P-PART - PASTENER 79 X P308 SCREW, 10-24 X # H MACH PHIL (ODOR) (NOT SHOWN) P-PART - PASTENER 80 X P028 ROD, THREADED TEC, # MACH PHIL (DOOR) (NOT SHOWN) P-PART - PASTENER 81 X P678 TAB - FOR MCRIBED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 82 X P635 WASHER, DOOR ROD (DOOR) (NOT SHOWN) P-PART - HARDWARE 84 9 P2092 BUTT HINCE HAGAR BB-1191 P-PART - HARDWARE P-PART - HARDWARE 85 - - - P-PART - HARDWARE P-PART - HARDWARE 86 - - - - P-PART - HARDWARE PERT - HARDWARE 89 X P1625 M-SR-SR28 COLLAR, SPLT RING C'L RYADON (DOOR) P-PART - HARDWARE PERT - HARDWARE 90 X P1750 HEAGAR BEISISSS-410-000 ADAMS-TITE (DOOR) P-PART -		76	x	S071			<u></u> Щ
78 X SIGI SCREW, 10-24 X ± FLAT HEAD PHL (00 HMOL/NUM BOLX) (00T SHOWN) P-PART - FASTENER 79 X P908 SCREW, 10-24 X ± PH MACH PHL (00 HMOL/NUM BOLX) (00T SHOWN) P-PART - FASTENER 80 X P208 SCREW, 10-24 X ± PH MACH PHL (00 HMOL/NUM PLANT - FASTENER 80 X P678 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 81 X P678 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 83 9 P2002 HINGE BUTT, REINFORCEMENT (DOOR) (NOT SHOWN) P-PART - HARDWARE 84 9 P092 BUTT HINGE HAGAR BB-1191 P-PART - HARDWARE 85	1	77	×	S186			
79 X P308 SOREW, 10-24 X ± H HIACH PHIL (DOOR) (NOT SHOWN) P-PART - PASTENER 80 X P0208 ROD, THREADED TE, F (DOOR) (NOT SHOWN) P-PART - FASTENER 81 X P678 TA8 - FOR MORTBED LOCKS (DOOR) (NOT SHOWN) P-PART - FASTENER 82 X P653 WASHER, DOOR ROD (DOOR) (NOT SHOWN) P-PART - HARDWARE 83 9 P20092 HINGE, BUTT, REINFORCEMENT (DOOR) P-PART - HARDWARE 84 9 P092 BUTT HINGE HAGAR BB-1191 P-PART - HARDWARE 85 - - - - 86 - - - - 87 X P572 CYLINDER PARTS, P572-C2 (DOOR) P-PART - HARDWARE 88 X P1625 M-SR-SR28 COLLAR, SPUT RING CYLLRYDON (DOOR) P-PART - HARDWARE 90 X P1625 M-SR-SR28 COLLAR, SPUT RING CYLLRYDON (DOOR) P-PART - HARDWARE 91 X P571 CYLLNDER, LOAK (DOOR) P-PART - HARDWARE 92		78	x	S161			
80 X P0208 R00, THREADED TE, J [®] (DOOR) (NOT SHOWN) PPART FASTENER 81 X P678 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) PPART FASTENER 81 X P678 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) PPART HARDWARE 82 X P6853 WASHER, DOOR ROO (DOOR) (NOT SHOWN) P-PART HARDWARE 83 9 P2092 HINGE, BUTT, REINFORCEMENT (DOOR) (NOT SHOWN) P-PART HARDWARE 84 9 P092 BUTT HINGE HAGAR BB-1191 P-PART HARDWARE 85 - - - HARDWARE - - 86 - - - - - HARDWARE 90 X P1750 HEADER BOLT, ADAM-RITE P1750-OR (DOOR) P-PART - HARDWARE - 91 X P571 C'LINDER, LOCK (DOOR) P-PART - HARDWARE - 94 X P059 RUSK BOLTS P-PART		79	x	P908			
81 x P676 TAB - FOR MORTISED LOCKS (DOOR) (NOT SHOWN) P-PART - HARDWARE 82 x P853 WASHER, DOOR ROD (DOOR) (NOT SHOWN) P-PART - HARDWARE 83 9 P2002 HUNCE, BUTT, REINFORCEMENT (DOOR) (NOT SHOWN) P-PART - HARDWARE 84 9 P092 BUTT HINGE HAGAR BB-1101 P-PART - HARDWARE 85		80	x	POZOE	Dog William and Provide States		• Filler Law
82 X P853 WASHER, DOOR ROD (DOOR) (NOT SHOWN) P=PART - HARDWARE 83 9 P2002 HINGE, BUTT, REINFORCEMENT (DOOR) (NOT SHOWN) P=PART - HARDWARE 84 9 P092 BUTT HINGE HAGAR BB-1101 P=PART - HARDWARE 85		81	×	P676			
90 x P1750 HEADER BOLT, ADAU-RTE P1750-OR (DOOR) P=PART - HARDWARE 91 x P571 CILINDER, LOCK (DOOR) P=PART - HARDWARE 92 x P5201 CLOSER, DORMA, 8618, SURFACE MOUNT P=PART - HARDWARE 93 x P1420 DEAD DEAD PART - HARDWARE 94 x P059 FLUSH BOLTS P=PART - HARDWARE 95 96 - - - - - 97 - - - - - 98 - - - - - - 99 - - - - - - -	Ы	82					
90 x P1750 HEADER BOLT, ADAU-RTE P1750-OR (DOOR) P=PART - HARDWARE 91 x P571 CILINDER, LOCK (DOOR) P=PART - HARDWARE 92 x P5201 CLOSER, DORMA, 8618, SURFACE MOUNT P=PART - HARDWARE 93 x P1420 DEAD DEAD PART - HARDWARE 94 x P059 FLUSH BOLTS P=PART - HARDWARE 95 96 - - - - - 97 - - - - - 98 - - - - - - 99 - - - - - - -	T	83	9	P2092			
90 x P1750 HEADER BOLT, ADAU-RTE P1750-OR (DOOR) P=PART - HARDWARE 91 x P571 CILINDER, LOCK (DOOR) P=PART - HARDWARE 92 x P5201 CLOSER, DORMA, 8618, SURFACE MOUNT P=PART - HARDWARE 93 x P1420 DEAD DEAD PART - HARDWARE 94 x P059 FLUSH BOLTS P=PART - HARDWARE 95 96 - - - - - 97 - - - - - 98 - - - - - - 99 - - - - - - -	1	84	9				
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90 x P1750 HEADER BOLT, ADAU-RTE P1750-OR (DOOR) P=PART - HARDWARE 91 x P571 CILINDER, LOCK (DOOR) P=PART - HARDWARE 92 x P5201 CLOSER, DORMA, 8618, SURFACE MOUNT P=PART - HARDWARE 93 x P1420 DEAD DEAD PART - HARDWARE 94 x P059 FLUSH BOLTS P=PART - HARDWARE 95 96 - - - - - 97 - - - - - 98 - - - - - - 99 - - - - - - -	L	86		······			
90 x P1750 HEADER BOLT, ADAU-RTE P1750-OR (DOOR) P=PART - HARDWARE 91 x P571 CILINDER, LOCK (DOOR) P=PART - HARDWARE 92 x P5201 CLOSER, DORMA, 8618, SURFACE MOUNT P=PART - HARDWARE 93 x P1420 DEAD DEAD PART - HARDWARE 94 x P059 FLUSH BOLTS P=PART - HARDWARE 95 96 - - - - - 97 - - - - - 98 - - - - - - 99 - - - - - - -		87	x	P572	CYLINDER PARTS PS72_C2 (DCCP)		
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90 x P1750 HEADER BOLT, ADAU-RTE P1750-OR (DOOR) P=PART - HARDWARE 91 x P571 CILINDER, LOCK (DOOR) P=PART - HARDWARE 92 x P5201 CLOSER, DORMA, 8618, SURFACE MOUNT P=PART - HARDWARE 93 x P1420 DEAD DEAD PART - HARDWARE 94 x P059 FLUSH BOLTS P=PART - HARDWARE 95 96 - - - - - 97 - - - - - 98 - - - - - - 99 - - - - - - -		89	x	DESOR			
93 X P1420 DEAD BOLT PPART HARDWARE 94 X P059 FLUSH BOLTS PPART HARDWARE Image: Constraint of the second seco	L	90					
93 X P1420 DEAD BOLT PPART HARDWARE 94 X P059 FLUSH BOLTS PPART HARDWARE Image: Constraint of the second seco	L	91	x	P571			
93 X P1420 DEAD BOLT PPART HARDWARE 94 X P059 FLUSH BOLTS PPART HARDWARE Image: Constraint of the second seco	Ľ	92	×				<u> </u> 4 8 8₹#
94 X P059 FLUSH BOLTS P-PART HANDWARE 95 X P6527 ROCKWOOD BF157 10" PULL P-PART HANDWARE 96	L	93					1 1 1 1 1 2 1
95 X P6527 ROCKWOOD BF157 10" PULL PPART - HARDWARE SE 96	1	94					
96 P+PAR1 - HARDWARE S 97	L	95					
97 001 001 001 001 001 001 001 001 001 00					NVONWOOD BEIO/ 10 PULL	P-PART - HARDWARE	
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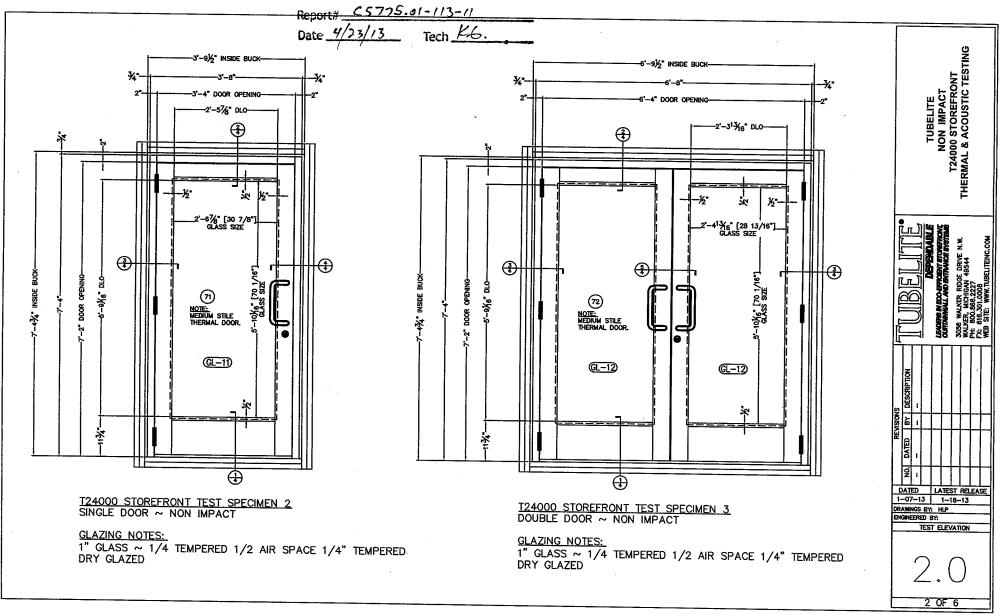
Test sample complies with these details. Deviations are noted.

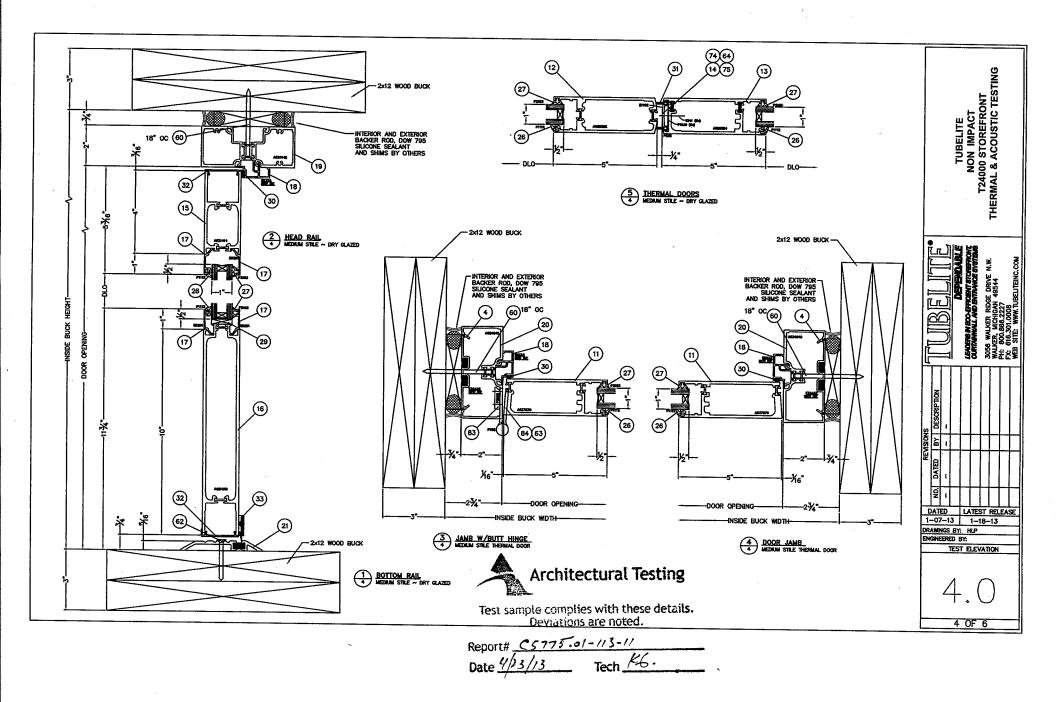
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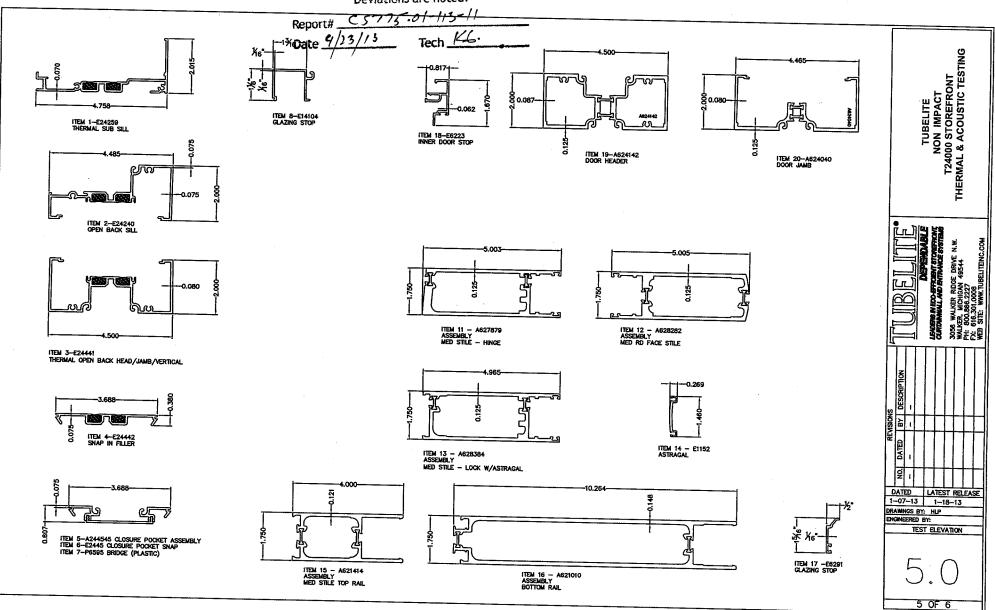
Test sample complies with these details. Deviations are noted.







Test sample complies with these details. Deviations are noted.





C5775.01-113-11

Appendix D

Photographs



Receive Room View of Installed Specimen



Source Room View of Installed Specimen