



Quality Accuracy Assurance

Fenestration Testing Laboratory, Inc.

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Report Date: April 13, 2011
Test Date: April 10, 2011
Expiration Date: April 13, 2015
Laboratory Number: 6481
File Number: 11-751
Page: 1 of 5
Project Number: 11-2819

Official Test Report

Manufacture: C.T. Window, Inc

Address: 9195 Boggy Creek Road
Orlando, Florida 32824

Specifications: AAMA 1503-2009: Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.

Product Description

Model Designation:	Series; Hybrid Glazed Wall
Overall Size:	2000 mm (79") by 2000 mm (79") high

Frame Construction:	Butt Joint frame corners
Frame Finish:	Painted aluminum on the exterior and wood **spruce GLU Lam Beam on the interior

Glazing Description

Layer 1:	1/4" clear tempered
Gap:	0.625" gap, aluminum spacer, air filled
Layer 2:	1/4" clear tempered
Daylight Opening	36 9/16" by 75 1/16" high

Glazing Method

Interior Condition:	EPDM gasket
Exterior Condition:	PVC pressure plate

Spacer Type	Sealant Primary	Sealant Secondary	Desiccant
Aluminum Spacer	Butyl	Silicone	Grace Phonosorb



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Measured and Calculated Test Data

Condensation Resistance Factor (CRF):

Warm side ambient air temperature (T_h):	69.80 F
Cold side ambient air temperature (T_c)	-0.40 F
Average of pre-specified frame temperature (FT_p)	52.08 F
Average of roving thermocouples (FT_r)	48.74 F
Calculated Weighting Factor	0.032
Frame Temperature (FT)	51.96 F
Glass Temperature (GT)	39.67 F
Condensation Resistance Factor of glass (CRF_G)	57
Condensation Resistance Factor of frame (CRF_f)	75

Thermal Transmittance (U_c):

Nominal sample Area	43.34 ft ²
Total measured input into metering box	1558.49 Btu/hr
Metering box correction	101.67 Btu/hr
Net specimen	1456.82 Btu/hr
Thermal Transmittance (U_c)	0.48 Btu/hr·ft ² ·F
Static pressure difference across test sample 15 mph dynamic perpendicular wind at exterior(P)	0.00 psf



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Temperature Data

Individual Average pre-specified Frame

1	49.22
2	49.64
3	49.89
4	55.24
5	55.93
6	56.17
7	51.96
8	53.35
9	49.84
10	50.19
11	49.12
12	49.76
13	56.48
14	52.32
FT _p	52.08

Individual Average pre-specified Glass

15	36.91
16	45.15
17	37.68
18	38.15
19	44.82
20	35.32
GT	39.67

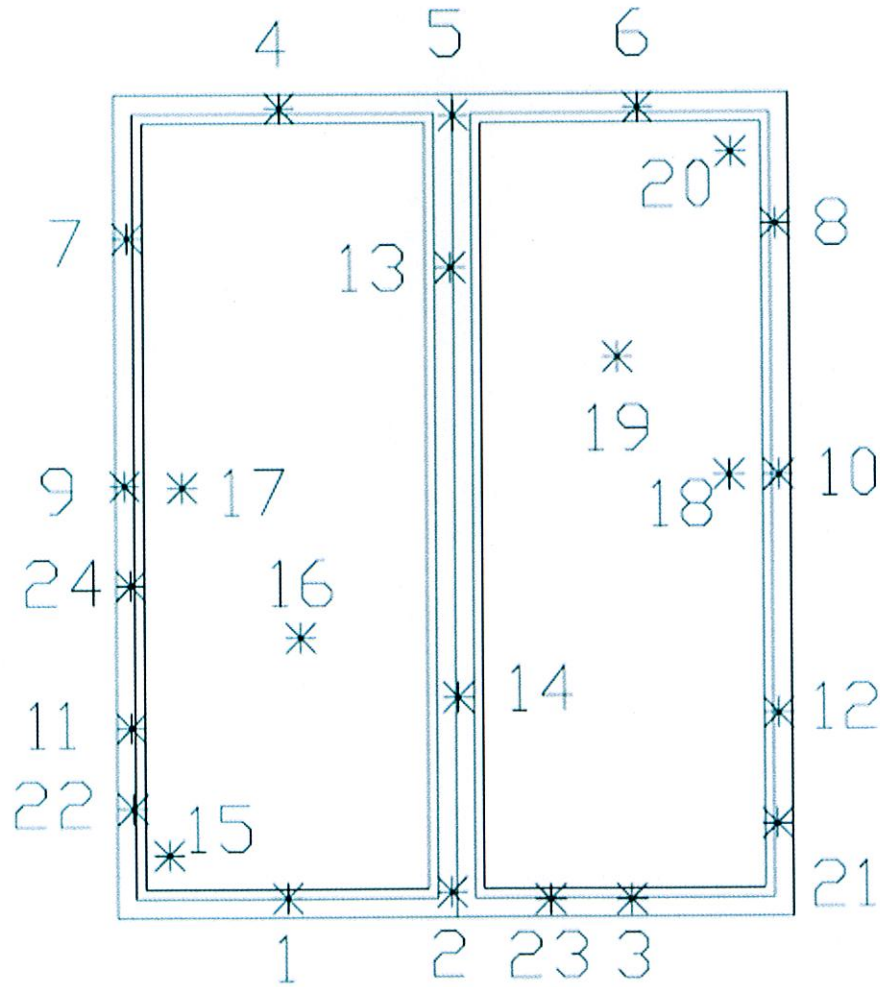
Individual Average Frame Cold Point (Roving)

21	49.11
22	48.72
23	48.16
24	48.98
FT _r	48.74



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Thermocouple Location Diagram





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Test Duration

1. The environmental systems were started at 15:14 hours on 4/10/2011
2. The test parameters were considered stable from 2:34 hours on 4/11/2011 to 6:34 hours on 4/11/2011.

Glazing Deflection (in.)	Left Section	Right Section
Gap width upon receipt of sample in laboratory	0.62"	0.62"
Gap width at laboratory ambient conditions on day of testing	0.62"	0.62"
Center of gap at conclusion of test	0.58"	0.58"

Remarks
<p>The sample was inspected for the formation of frost or condensation, which may influence the surface temperature measurements. The sample showed no evidence of condensation/frost at the conclusion of the test.</p> <p>The calibration of Fenestration Testing Laboratory's "thermal test chamber" was conducted in February 21, 2011.</p> <p>Drawings referenced in this document are an integral part of this report, therefore, are required when distributing this test report. Test results obtained represent the actual value of the tested specimens and do not constitute opinion, endorsement or certification by this laboratory.</p> <p>This test report is considered the exclusive property of the client named herein and is applicable to the sample tested. This report may not be reproduced without the approval of Fenestration Testing Laboratory, Inc and if so must be in full.</p> <p>The sample was sealed with silicone on the interior and tested per Section 9.3.4 for air infiltration.</p>

Revision History Table			
Revision	Description	Author	Effective Date
0	Initial Release	Mr. Jose Sanchez	4/16/2011
1	Revised Manufacture's name	Mr. Jose Sanchez	5/8/2011

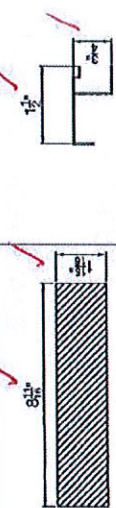
Technician
Mr. Jose Sanchez


Jose Sanchez
Individual- in- Responsible- Charge

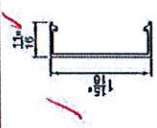
CURTAINWALL EXTRUSION TABLE

SHEET NO	103	DRAWING NO	2010-3000	PROJECT	CT WINDOWS INC.
SCALE	1/2"=1'-0"	DATE	4-25-11	PROJECT	S.A.S. SERIES #3
DATE		DATE	4-25-11	PROJECT	HYBRID CURTAINWALL INSTALLATION
DATE		DATE		PROJECT	ORANGE COUNTY, FLORIDA
DATE		DATE		PROJECT	9155 Boyd Creek Road, Orlando, Florida 32824
DATE		DATE		PROJECT	(407) 857-9237 FAX (407) 857-9247

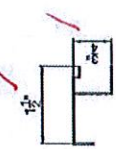
S.A.S. HYBRID CURTAINWALL SYSTEM



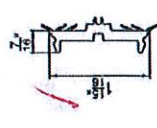
HT50220 WOOD MILLION



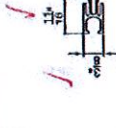
SHARP'S POCKET CLOSURE



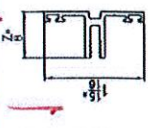
SCW002 LACE CAP



SCW003 PRESSURE PLATE



SCW005



FENESTRATION TESTING LAB, INC

LAB # 6487

DATE: 4-25-11

DRAWING VERIFIED BY: *JA*

DATE

SHEET NO. 401
SCALE: 6" = 1"

REVISIONS	

DATE: 12/2/11
CHECK BY:
DRAWN BY: A

PROJECT: S.A.S. SERIES #3
HYBRID CURTAINWALL SYSTEM
ORANGE COUNTY, FLORIDA

C.P. WINDOWS INC.
9155 Boyer Creek Road, Orlando, Florida 32824
(407) 857-9237 FAX (407) 857-9247

DRAWING NO. 8010-0002
SHEET NO. 401

1 HEAD	
	HYBRID CURTAIN WALL
	SURTRUS T. SERIAL BREAK
	HYBRID WOOD MILLION
	HAKO1 CURTAINWALL NOSSING
	SCW002 FACE CAP
	SCWPPP PRESSURE PLATE
	HAIBS POCKET CLOSER

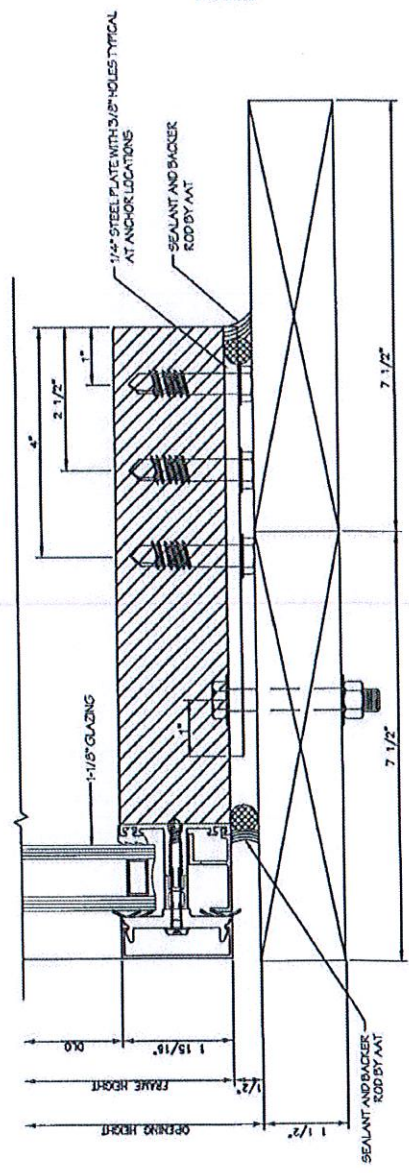
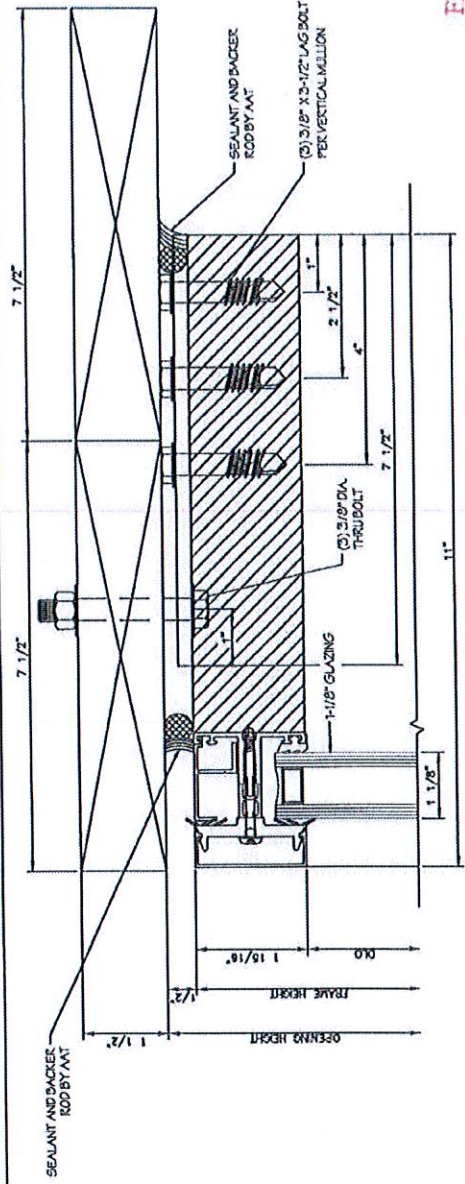
2 SILL	
	HYBRID CURTAIN WALL
	SURTRUS T. SERIAL BREAK
	HYBRID WOOD MILLION
	HAKO1 CURTAINWALL NOSSING
	SCW002 FACE CAP
	SCWPPP PRESSURE PLATE
	HAIBS POCKET CLOSER

FENESTRATION TESTING LAB, INC

LAB # 6481

DATE: 4-25-11

DRAWING VERIFIED BY: *At*



SHEET NO.	402
SCALE	6" = 1'
DATE	2/21/11
DESIGNER	
CHECKER	
DATE	
PROJECT	S.A.S. SERIES #3
HYBRID CURTAINWALL SYSTEM	
ORANGE COUNTY, FLORIDA	

PROJECT: S.A.S. SERIES #3
 HYBRID CURTAINWALL SYSTEM
 ORANGE COUNTY, FLORIDA

C.P. WINDOWS INC.
 1815 Boney Creek Road, Orlando, Florida 32824
 (407) 857-9237 FAX (407) 857-9247

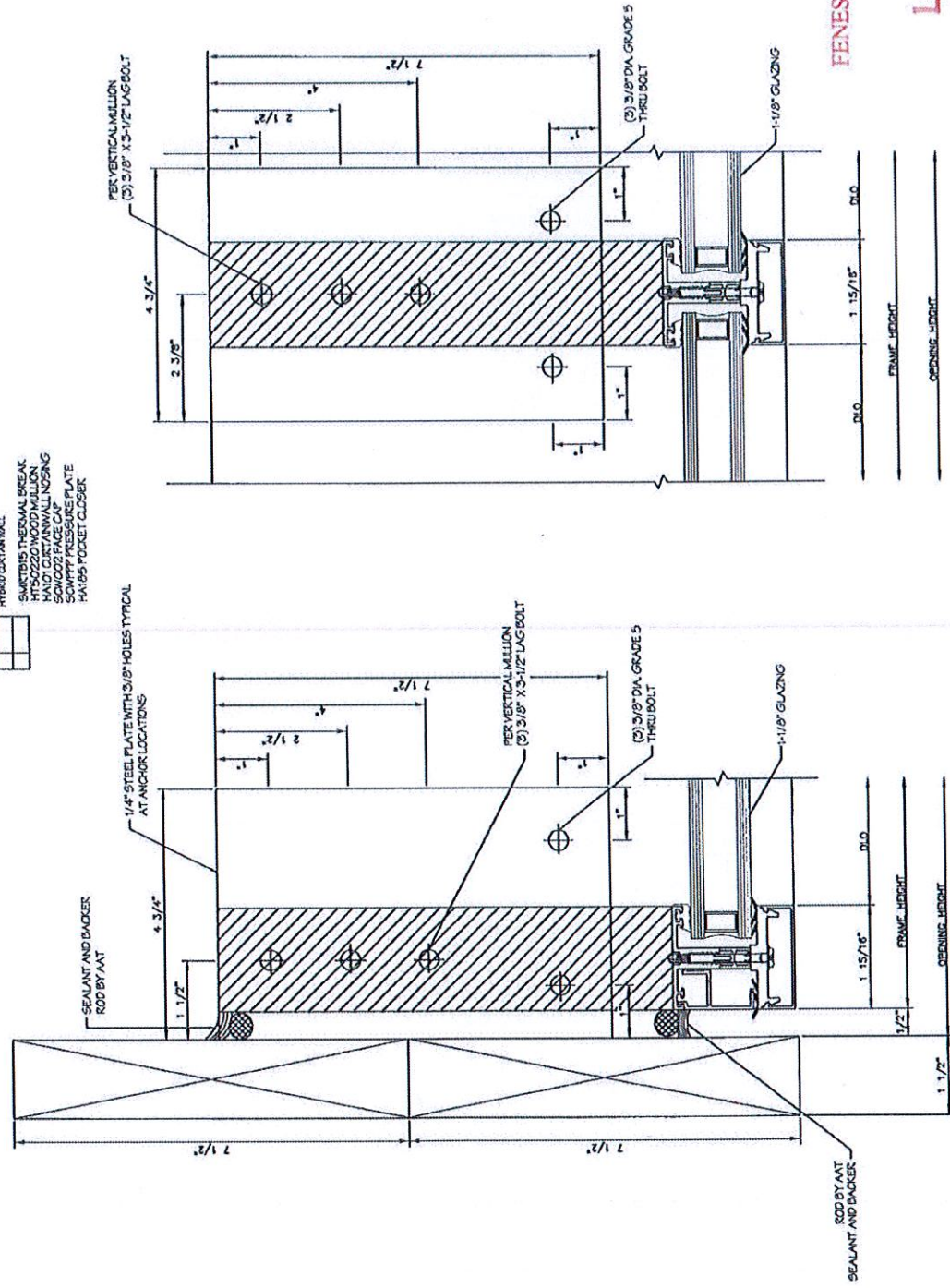
DRAWING NO. 2010-1002
 SHEET NO. 402

2	VERTICAL HYBRID CURTAIN WALL
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SMARTIS THERMAL BREAK
 HAI100220 WOOD MILLION
 HAI100220 WOOD MILLION
 HAI100220 WOOD MILLION
 HAI100220 WOOD MILLION
 HAI100220 WOOD MILLION
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 HAI100220 WOOD MILLION
 HAI100220 WOOD MILLION

1	JAMB DETAIL HYBRID CURTAINWALL
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SMARTIS THERMAL BREAK
 HAI100220 WOOD MILLION
 HAI100220 WOOD MILLION
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 HAI100220 WOOD MILLION



FENESTRATION TESTING LAB, INC

LAB # 6481
 DATE: 4-25-11
 DRAWING VERIFIED BY: *JK*