

HURRICANE TEST LABORATORY, LLC
1701 WESTFORK DRIVE, SUITE 106
LITHIA SPRINGS, GEORGIA 30122
(770) 941-6916
FAX (770) 941-2930
www.htltest.com

Report #: G402-0801-07
Specimen # E1, E2, E3
Test Date: 08/12-14/07
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MANUFACTURER'S IDENTIFICATION

- 1.0 NAME OF APPLICANT:** CORAL ARCHITECTURAL PRODUCTS
3010 Rice Mine Road
Tuscaloosa, Alabama 35406
(800) 772-7737
- 2.0 CONTACT PERSON:** Grant McAllister
- 3.0 HTL TEST NOTIFICATION #:** HTLGA07029
- 4.0 HTL LAB CERTIFICATION:** Miami-Dade County (04-0806.02)
Florida Building Code #TST3892
IAS (TL-338)

PRODUCT IDENTIFICATION

- 5.0 Product Type:** Aluminum Window Wall System
- 6.0 Model Number:** FL-550 WINDOW WALL SYSTEM
- 7.0 Performance Class:** +70/- 80 psf
- 8.0 Overall Sample Size:**

Specimen #	Size
E1, E2, and E3	182-1/2" (w) x 120" (h)

- 9.0 Configuration:** Both test units consisted of three (3) bays, with each bay having two (2) lites of glass. See Coral drawings "FL550-01", sheets 2, 3, and 4 of 15 for an elevation of these test units.
- 10.0 Drawing:** This report is incomplete if not accompanied by Coral Architectural Products Drawing "FL550-01" and accompanying sheets bearing the stamp of Hurricane Test Laboratory, LLC.
- 11.0 Sample Source:** Samples provided by Coral Architectural Products.

PRODUCT DESCRIPTION

- 12.0 Frame Assembly:** The frame used in this sample was fabricated using the following aluminum extrusions:

Description	Part #
Sill Flashing End Dam	ED519-1
Head or Wall Jamb	FL551
Sill or Head	FL552
Glass Stop	FL553
Standard Vertical Mullion	FL554
Open Back Mullion Filler	FL555
Intermediate Horizontal	FL556
Subsill	FL519

The following procedures (typical) were utilized when assembling this individual frame:
Frame Corner Construction: At each frame corner, the vertical frame members ran through while the horizontal frame member was butted and mechanically fastened using two (2), #14 x 1" HHSTS per corner top and bottom corners and three (3), #14 x 1" HHSTS per corner at intermediate horizontal corners.

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 Vinu J. Abraham, P.E.
 FL Reg. # 53820



Mullion Reinforcement: The mullion was reinforced from top to bottom with a 1.25" x 4.562" x 0.25" steel reinforcing channel (Part # SR504) which was attached with a 1/4" STS fastener located 1" from each end of the mullion.

Frame Joint Sealant: Each frame joint was sealed using a bead of Dow Corning 795 Silicone Sealant.

13.0 Glazing:

13.1 Glazing Material: These test units used two different glass types:

Glass Type "IU": 5/8" laminated glass with the following components:

- 1/4" heat strengthened glass
- 0.120 Uvekol "S" Interlayer (Miami-Dade # 03-1117.05)
- 1/4" heat strengthened glass

Glass Type "IA": 9/16" laminated glass with following components:

- 1/4" heat strengthened glass
- 0.075" Solutia VSO2 Interlayer (Miami-Dade # 03-0514.15)

13.2 Glazing Method: Each glass lite used in this sample was glazed using the following (typical) procedures:

Exterior Side: Using continuous strips of an extruded EPDM exterior glazing gasket (Part #NG1). Each corner of the gasket is sealed using a 2" long cap bead of Dow Corning 795 Structural Silicone Sealant in both directions of the gasket.

Interior/Exterior Side: Using continuous strips of an extruded EPDM interior spacer gasket (Part #NG14) and Dow Corning 995 structural silicone sealant..

13.3 Daylight Opening:

Qty.	Daylight Opening	Glass Bite	Glass Type
3	57-1/2" (w) x 16-1/2" (h)	9/16"	IU
3	57-1/2" (w) x 96" (h)		IA

14.0 Sealant's Used:

Location	Sealant
Perimeter Sealant	Dow Corning 795 Silicone Sealant
Frame Joint Sealant	
Glazing Sealant	Dow Corning 995 Structural Silicone Sealant

INSTALLATION

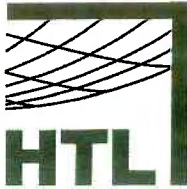
15.0 Following is a description of how this sample was installed in the steel test buck when viewed from the exterior side:

Location	Anchor Description & Schedule
Frame Head and Sill.	The frame head and sill are attached to the opening using two (2) per location, 3/8" x 1-1/2" HHW Tek Screws located 2" from edge of mullions.
Frame Jambs	The frame jamb was attached to the opening using two (2) per location, 3/8" x 2" HHW Tek Screws located above and below midpoint of jambs.

NOTE: There is a 1/4" shim space used around the entire perimeter of this test sample.

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TEST RESULTS

16.0 SUMMARY OF RESULTS

Test Method	Test Conditions	Test Conclusion and Test Date
<i>Test Unit # E1</i>		
Air Infiltration Test (ASTM E283 and TAS 202)	1.57 psf & 6.24 psf	PASS 8/12/07
Water Infiltration Test (ASTM E331 and TAS 202)	15 psf	PASS 8/13/07
Uniform Static Load Test (ASTM E330 and TAS 202)	+70/- 80 psf Design Pressure	PASS 8/13/07
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 8/14/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+70/- 80 psf Design Pressure	PASS 8/14/07
<i>Test Unit # E2</i>		
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 8/13/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+70/- 80 psf Design Pressure	PASS 8/14/07
<i>Test Unit # E3</i>		
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 8/14/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+70/- 80 psf Design Pressure	PASS 8/14/07

17.0 TEST UNIT # E1 TEST RESULTS:

17.1 AIR INFILTRATION TEST RESULTS (ASTM E283):

Test Pressure	Measured	Allowed
1.57 psf	0.008 cfm/ft ²	n/a
6.24 psf	0.016 cfm/ft ²	0.06 cfm/ft ²

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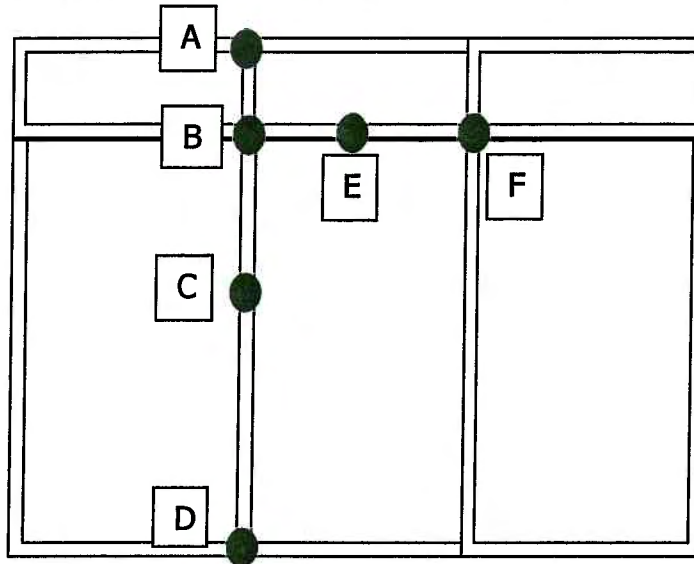


17.2 WATER LEAKAGE TEST RESULTS:

Test Pressure	Spray Rate	Test Duration	Measured	Allowed
15.00 psf	5.0 GPH/ft ²	15.00 min.	PASS	No Entry

17.3 UNIFORM STATIC LOAD TEST RESULTS:

17.3.1 LOCATION OF DEFLECTION MEASUREMENTS:



17.3.2 TEST DATA:

POSITIVE LOAD:

LOCATION C				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 52.50	0.332	0.667	0.017	0.240
+ 70	0.229	0.667	0.013	0.240
+105	0.386	n/a	0.048	0.240
LOCATION E				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 52.50	0.042	0.319	0.005	0.115
+ 70	0.042	0.319	0.011	0.115
+ 105	0.163	n/a	0.050	0.115

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NEGATIVE LOAD:

LOCATION C				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 60	0.413	0.667	0.011	0.240
- 80	0.567	0.667	0.0295	0.240
- 120	0.585	n/a	0.0295	0.240
LOCATION E				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 60	0.057	0.319	0.000	0.115
- 80	0.079	0.319	0.003	0.115
- 120	0.125	n/a	0.003	0.115

17.3.3 REMARKS:

No signs of failure were observed in any area of this test specimen during the uniform static load test. As such, this specimen was found to satisfy the uniform static load test requirements of Florida Building Code TAS 202.

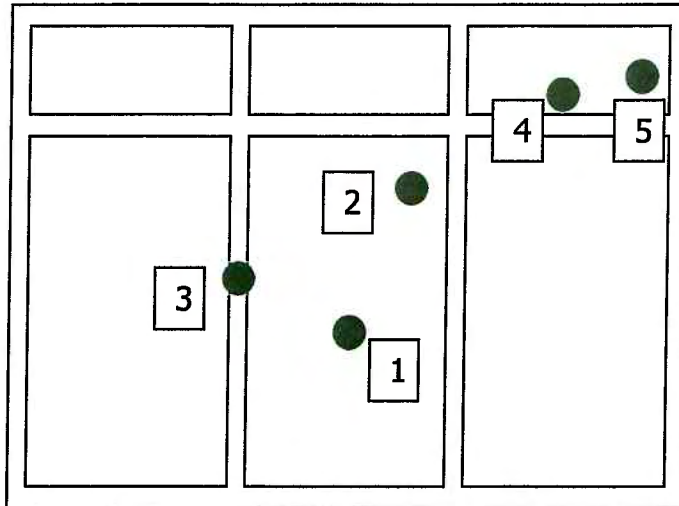
18.0 IMPACT TEST DATA:

18.1 LARGE MISSILE IMPACT TEST

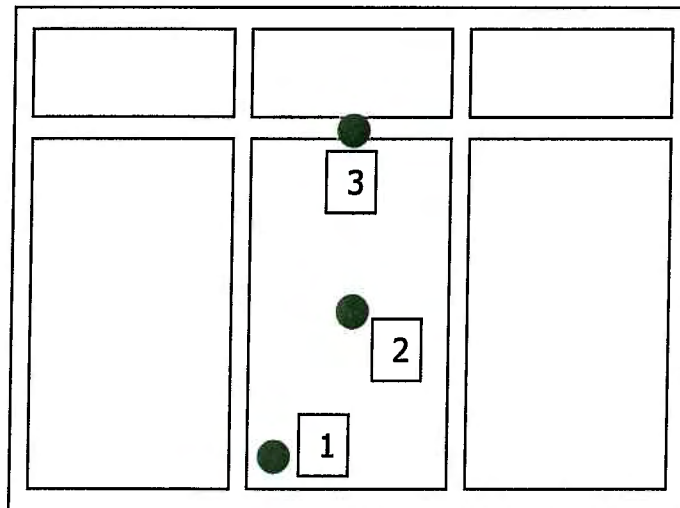
TEST UNIT # E1				
Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	50.51	79.5	91.50	51.00
2	50.05	79.5	109.50	93.00
3	50.45	N/A	62.00	61.00
4	50.23	79.5	-	-
5	48.97	79.5	-	-

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TEST UNIT # E2				
Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	49.85	84	71.00	12.00
2	50.18	84	93.50	53.00
3	49.21	N/A	91.25	100.25

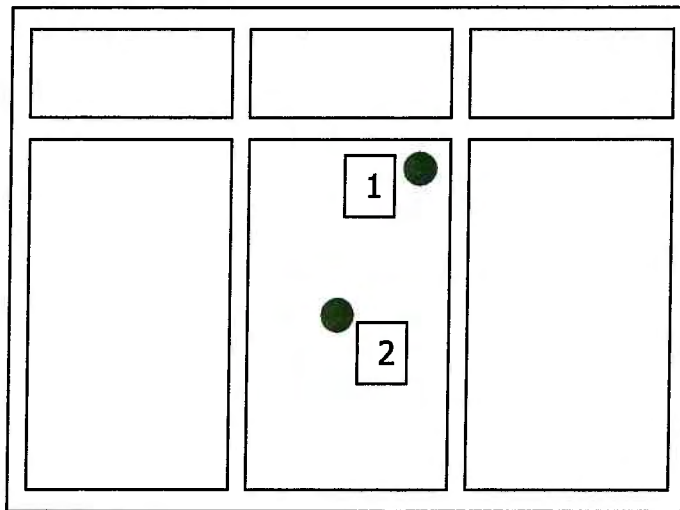


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TEST UNIT # E3				
Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	48.64	91.5	108.50	92.00
2	50.43	91.5	91.25	51.50



18.1.1 IMPACT REMARKS:

Impacts for this test hit the intended targets resulting in the recorded measurements. There were no signs of penetration, rupture, or opening after the large missile impact test. Upon completion of the large missile impact test, this sample subsequently underwent the cyclic load test as specified Florida Building Code TAS 201 and ASTM E1886/1996.

18.2 CYCLIC LOAD TEST

18.2.1 TEST PARAMETERS:

Positive Design Load	70 psf
Negative Design Load	80 psf

18.2.2 TEST SPECTRUM:

Positive Loads:

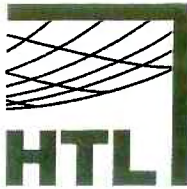
# OF INWARD ACTING CYCLES/STAGE			
14 – 35 (psf)	0 – 42 (psf)	35 – 56 (psf)	21 – 70 (psf)
3500	300	600	100

Negative Loads:

# OF OUTWARD ACTING CYCLES/STAGE			
24 – 80 (psf)	40 – 64 (psf)	0 – 48 (psf)	16 – 40 (psf)
50	1050	50	3350

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V. [Signature]
 10/12/07



18.3 PERMANENT SET DATA:

TEST UNIT # E1				
INWARD (POSITIVE) LOAD			OUTWARD (NEGATIVE) LOAD	
Location	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
C	0.125	0.240	0.060	0.240
E	0.060	0.115	0.060	0.115

TEST UNIT # E2				
INWARD (POSITIVE) LOAD			OUTWARD (NEGATIVE) LOAD	
Location	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
C	0.125	0.240	0.105	0.240
E	0.080	0.115	0.049	0.115

TEST UNIT # E3				
INWARD (POSITIVE) LOAD			OUTWARD (NEGATIVE) LOAD	
Location	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
C	0.161	0.240	0.180	0.240
E	0.101	0.115	0.066	0.115

18.4 REMARKS:

The test unit was inspected carefully upon completion of the cyclic test for failures. None were found. As such, this specimen was found to satisfy the cyclic test requirements of Florida Building Code TAS 203 and ASTM E1886/1996.

MISCELLANEOUS INFORMATION

19.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were witnessed in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 1701 Westfork Drive, Suite 106 in Lithia Springs, Georgia. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All results obtained apply only to the specimen tested and they do

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indicate compliance with the performance requirements of the test methods and specifications listed in the following section.

20.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E283 - Standard Test Method For Determining The Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences.

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.

ASTM E1996 - Standard Specification for Performance of Exterior Walls, Glazed Curtain Walls, Doors, and Storm Shutters Impacted by Windborne Debris in Hurricanes.

Florida Building Code TAS 201 - Impact Test Procedures.

Florida Building Code TAS 202 - Criteria For Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.

Florida Building Code TAS 203 - Criteria For Testing Products Subject To Cyclic Wind Pressure Loading.

21.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. - HTL, C.E.O.

José E. Colón, E.I. - HTL Georgia, Operations Manager

Ian McKenzie - HTL

Kevin Rouse - HTL

Al Fite - HTL

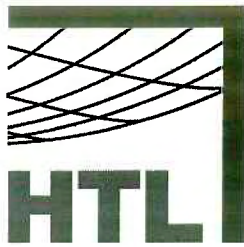
Grant McAllister - CORAL ARCHITECTURAL PRODUCTS

James Bateman - CORAL ARCHITECTURAL PRODUCTS

Jared Short - CORAL ARCHITECTURAL PRODUCTS

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HURRICANE TEST LABORATORY, LLC
1701 WESTFORK DRIVE, SUITE 106
LITHIA SPRINGS, GEORGIA 30122
(770) 941-6916
FAX (770) 941-2930
www.htltest.com

Report #: G402-0801-07
Specimen # E6
Test Date: 08/16-17/07
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MANUFACTURER'S IDENTIFICATION

- 1.0 NAME OF APPLICANT:** CORAL ARCHITECTURAL PRODUCTS
3010 Rice Mine Road
Tuscaloosa, Alabama 35406
(800) 772-7737
- 2.0 CONTACT PERSON:** Grant McAllister
- 3.0 HTL TEST NOTIFICATION #:** HTLGA07029
- 4.0 HTL LAB CERTIFICATION:** Miami-Dade County (04-0806.02)
Florida Building Code #TST3892
IAS (TL-338)

PRODUCT IDENTIFICATION

- 5.0 Product Type:** Aluminum Window Wall System
- 6.0 Model Number:** FL-550 WINDOW WALL SYSTEM
- 7.0 Performance Class:** +/- 60 psf
- 8.0 Overall Sample Size:** 146-1/2" (w) x 120" (h)
- 9.0 Configuration:** The test unit consisted of three (3) bays, with each bay having two (2) lites of glass. See Coral drawings "FL550-01", sheets 6 of 15 for an elevation of this test unit.
- 10.0 Drawing:** This report is incomplete if not accompanied by Coral Architectural Products Drawing "FL550-01" and accompanying sheets bearing the raised seal of Hurricane Test Laboratory, LLC.
- 11.0 Sample Source:** Samples provided by Coral Architectural Products.

PRODUCT DESCRIPTION

- 12.0 Frame Assembly:** The frame used in this sample was fabricated using the following aluminum extrusions:

Description	Part #
Sill Flashing End Dam	ED519-1
Head or Wall Jamb	FL551
Sill or Head	FL552
Glass Stop	FL553
Heavy Vertical Mullion	FL566
Open Back Mullion Filler	FL555
Intermediate Horizontal	FL556
Subsill Flashing	FL519

The following procedures (typical) were utilized when assembling this individual frame:

Frame Corner Construction: At each frame corner, the vertical frame members ran through while the horizontal frame member was butted and mechanically fastened using two (2), #14 x 1" HHSTS per corner top and bottom corners and three (3), #14 x 1" HHSTS per corner at intermediate horizontal corners.

Frame Joint Sealant: Each frame joint was sealed using a bead of Dow Corning 795 Silicone Sealant.

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FL Reg. # 53820



13.0 Glazing:

13.1 Glazing Material: These test units used three different glass types:
Glass Type "IU": 5/8" laminated glass with the following components:

- 1/4" heat strengthened glass
- 0.120 Uvekoi "S" Interlayer (Miami-Dade # 03-1117.05)
- 1/4" heat strengthened glass

Glass Type "IA": 9/16" laminated glass with following components:

- 1/4" heat strengthened glass
- 0.075" Solutia VSO2 Interlayer (Miami-Dade # 03-0514.15)
- 1/4" heat strengthened glass

Glass Type "IB": 9/16" laminated glass with following components:

- 1/4" heat strengthened glass
- 0.090" Solutia PVB Interlayer (Miami-Dade # 03-0105.02)
- 1/4" heat strengthened glass

13.2 Glazing Method: Each glass lite used in this sample was glazed using the following (typical) procedures:

Exterior Side: Using continuous strips of an extruded EPDM exterior glazing gasket (Part #NG1). Each corner of the gasket is sealed using a 2" long cap bead of Dow Corning 795 Structural Silicone Sealant in both directions of the gasket.

Interior/Exterior Side: Using continuous strips of an extruded EPDM interior spacer gasket (Part #NG14) and Dow Corning 995 structural silicone sealant..

13.3 Daylight Opening:

Qty.	Daylight Opening	Glass Bite	Glass Type
3	45-1/2" (w) x 16-1/2" (h)	9/16"	U
1	45-1/2" (w) x 96" (h)		U
1	45-1/2" (w) x 96" (h)		B
1	45-1/2" (w) x 96" (h)		A

14.0 Sealant's Used:

Location	Sealant
Perimeter Sealant	Dow Corning 795 Silicone Sealant
Frame Joint Sealant	
Glazing Sealant	Dow Corning 995 Structural Silicone Sealant

INSTALLATION

15.0 Following is a description of how this sample was installed in the steel test buck when viewed from the exterior side:

Location	Anchor Description & Schedule
Frame Head and Sill.	The frame head and sill are attached to the opening using one (1) per location, 3/8" x 1-1/2" HHW Type "F" fastener located 2" from edge of mullions.

NOTE: There is a 1/4" shim space used around the entire perimeter of this test sample.

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TEST RESULTS

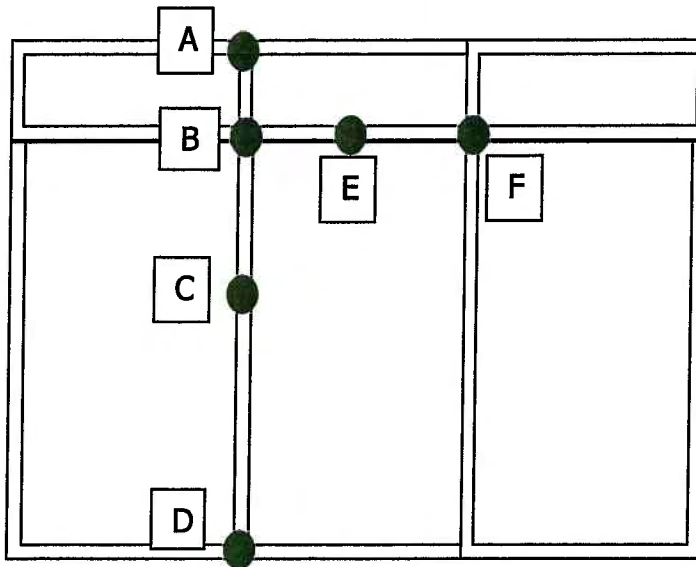
16.0 SUMMARY OF RESULTS

Test Method	Test Conditions	Test Conclusion and Test Date
Uniform Static Load Test (ASTM E330 and TAS 202)	+60/- 60 psf Design Pressure	PASS 8/16/07
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 8/17/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+60/- 60 psf Design Pressure	FAILED (Glass IU) PASS (Glass IA) 8/17/07

17.0 TEST UNIT # E6 TEST RESULTS:

17.1 UNIFORM STATIC LOAD TEST RESULTS:

17.1.1 LOCATION OF DEFLECTION MEASUREMENTS:



17.1.2 TEST DATA:

POSITIVE LOAD:

LOCATION C				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 45.0	0.08	0.669	0.004	0.241
+ 60.0	0.638	0.669	0.066	0.241
+ 90.0	1.026	n/a	0.102	0.241

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LOCATION E				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 45.0	0.027	0.253	0.002	0.091
+ 60.0	0.032	0.253	0.022	0.091
+ 90.0	0.032	n/a	0.018	0.091

NEGATIVE LOAD:

LOCATION C				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 45.0	0.457	0.669	0.051	0.241
- 60.0	0.608	0.669	0.066	0.241
- 90.0	0.989	n/a	0.059	0.241

LOCATION E				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 45.0	0.032	0.253	0.015	0.091
- 60.0	0.047	0.253	0.009	0.091
- 90.0	0.044	n/a	0.013	0.091

17.1.3 REMARKS:

No signs of failure were observed in any area of this test specimen during the uniform static load test. As such, this specimen was found to satisfy the uniform static load test requirements of Florida Building Code TAS 202.

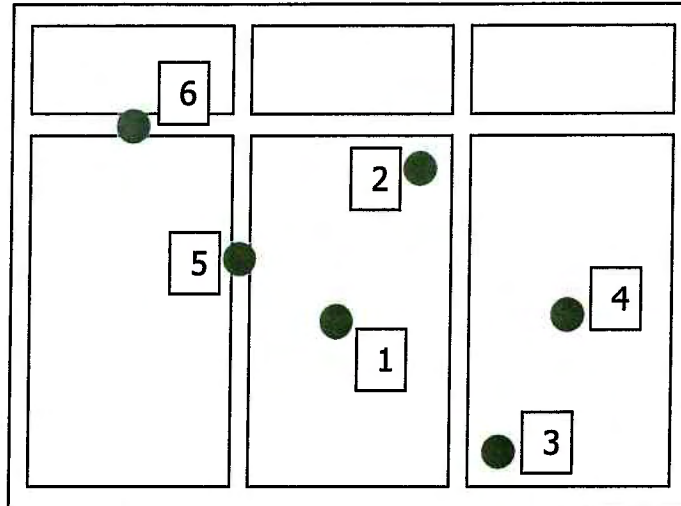
18.0 IMPACT TEST DATA:

18.1 LARGE MISSILE IMPACT TEST

Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	49.21	86	75.00	48.00
2	49.65	86	91.00	92.00
3	48.33	86	110.50	10.50
4	49.85	86	122.50	50.00
5	50.74	N/A	49.00	62.00
6	49.41	N/A	26.0	101.00

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18.1.1 IMPACT REMARKS:

Impacts for this test hit the intended targets resulting in the recorded measurements. There were no signs of penetration, rupture, or opening after the large missile impact test. Upon completion of the large missile impact test, this sample subsequently underwent the cyclic load test as specified Florida Building Code TAS 201 and ASTM E1886/1996.

18.2 CYCLIC LOAD TEST

18.2.1 TEST PARAMETERS:

Positive Design Load	60 psf
Negative Design Load	60 psf

18.2.2 TEST SPECTRUM:

Positive Loads:

# OF INWARD ACTING CYCLES/STAGE			
12 – 30 (psf)	0 – 36 (psf)	30 – 48 (psf)	18 – 60 (psf)
3500	300	600	100

Negative Loads:

# OF OUTWARD ACTING CYCLES/STAGE			
18 – 60 (psf)	30 – 48 (psf)	0 – 36 (psf)	12 – 30 (psf)
50	1050	50	3350

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18.3 PERMANENT SET DATA:

Location	INWARD (POSITIVE) LOAD		OUTWARD (NEGATIVE) LOAD	
	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
C	0.116	0.241	0.150	0.241
E	0.060	0.091	0.080	0.091

18.4 REMARKS:

The test unit was inspected carefully upon completion of the cyclic test for failures. None were found. As such, this specimen was found to satisfy the cyclic test requirements of Florida Building Code TAS 203 and ASTM E1886/1996.

MISCELLANEOUS INFORMATION

19.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were witnessed in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 1701 Westfork Drive, Suite 106 in Lithia Springs, Georgia. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All results obtained apply only to the specimen tested and they do indicate compliance with the performance requirements of the test methods and specifications listed in the following section.

20.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.

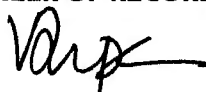
ASTM E1996 – Standard Specification for Performance of Exterior Walls, Glazed Curtain Walls, Doors, and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials

Florida Building Code TAS 201 – Impact Test Procedures.

Florida Building Code TAS 202 – Criteria For Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.

Florida Building Code TAS 203 – Criteria For Testing Products Subject To Cyclic Wind Pressure Loading.

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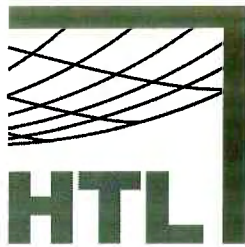
21.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. – HTL, C.E.O.
José E. Colón, E.I. – HTL Georgia, Operations Manager
Ian McKenzie – HTL
Kevin Rouse – HTL
Al Fite – HTL
Grant McAllister – CORAL ARCHITECTURAL PRODUCTS
James Bateman – CORAL ARCHITECTURAL PRODUCTS
Jared Short – CORAL ARCHITECTURAL PRODUCTS

ENGINEER OF RECORD

A handwritten signature in black ink, appearing to read "Vinu J. Abraham", is written over the printed name of the Engineer of Record.

10/12/07



HURRICANE TEST LABORATORY, LLC
1701 WESTFORK DRIVE, SUITE 106
LITHIA SPRINGS, GEORGIA 30122
(770) 941-6916
FAX (770) 941-2930
www.htltest.com

Report #: G402-0801-07
Specimen # E7
Test Date: 08/15-17/07
Page 1 of 9

MANUFACTURER'S IDENTIFICATION

- 1.0 NAME OF APPLICANT:** CORAL ARCHITECTURAL PRODUCTS
3010 Rice Mine Road
Tuscaloosa, Alabama 35406
(800) 772-7737
- 2.0 CONTACT PERSON:** Grant McAllister
- 3.0 HTL TEST NOTIFICATION #:** HTLGA07029
- 4.0 HTL LAB CERTIFICATION:** Miami-Dade County (04-0806.02)
Florida Building Code #TST3892
IAS (TL-338)

PRODUCT IDENTIFICATION

- 5.0 Product Types:** Medium Stile Doors with 3-point lock.
- 6.0 Model Number:** CORAL FL500 Window Wall System with Series 381 MS Out-swing Doors
- 7.0 Performance Class:** +70/-80
- 8.0 Overall Size:** 149" (w) x 120-3/8" (h)
- 9.0 Door Panel Sizes:** Two panels, each panel is 42" (w) x 96" (h).
- 10.0 Configuration:** This sample consisted of **two** individual frames that were each assembled separately and snapped together to form an overall frame that was **two** bays wide –The left bay had two operable doors. See Drawing #FL550_01, Sheet 7 of 15 for an elevation of this sample. Each of the bays in this sample was configured as follows:

Location	# Of Fixed Glass Lites	Glass Type	ProductType
Left Bay (Lower)	N/A	N/A	Series 381 Doors
Left Bay (Upper)	1	IA	FL550
Right Bay (Upper)	1	IU	FL550
Right Bay (Lower)	1	TIA	FL550

NOTE: The individual frame located in the left bay consisted of two vertical members, a head member, an intermediate horizontal member (transom bar) and a sill member (threshold). The individual frame located in the right bay consisted of two vertical members (FL515 filler and FL551 wall jamb), a head member, a sill member and an intermediate horizontal member.

- 11.0 Drawing:** This test report is incomplete without the attached Coral Drawing "FL550_01" bearing the raised seal of Hurricane Test Laboratory, LLC.

PRODUCT DESCRIPTION

- 12.0 Frame Construction:**
- 12.1 Left Bay Individual Frame Assembly:** The individual frame located in the left bay was fabricated using some or all of the following aluminum extrusions:

Description	Part #	Material
Head or Wall Jamb	FL551	6063-T6
Threshold	TH4	6063-T6
Door Header for Surface Closer	FL507	6063-T6

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Vinu J. Abraham, P.E.
FL Reg. # 53820



Transom Bar for COC (E2)	FL512	6063-T6
Std. Vertical Mullion/Door Jamb	FL504	6063-T6
Open Back Mullion Filler	FL555	6063-T6
Flat Filler at Door Jamb	FL515	6063-T6
Door Stop	DS500-1	6063-T6
Transom Sash	FL567	6063-T6
Transom Glass Stop	FL518	6063-T6
Steel Reinforcement	SR504	A36

The following procedures (typical) were utilized when assembling this individual frame:
Frame Corner Construction: At each top corner, the frame jamb (Part # FL504) ran through while the frame head (Part # FL551) and transom bar/ door header (Part # FL507) horizontal members were square cut, butted, and mechanically fastened to each frame jamb using #14 x 1" HH STS fasteners that passed through the verticals and threaded into the horizontal member's screw splines. At each bottom corner, the frame jamb ran through while the threshold (Part # TH4) was square cut, butted and mechanically fastened to the frame jamb using two (2) 1.900" x 1.999" x 0.126" zinc plated steel clips (Coral Part # TH403) and four (4) #10-24 x 3/8" FHPUC screws. See drawing #381_01, Sheet 11 of 18 for an exploded view of this assembly. **NOTE:** After this individual frame was assembled and prior to the installation of this frame, a continuous flat-filler plate (FL515) was snapped into the jamb mullion on the left and steel reinforcement (Part # SR504) was installed and mechanical attached to the jamb mullion on the right. The steel reinforcement was mechanically attached using two #10-24 x 3/8" HH STS located 1-1/2" from each end of the jamb mullion. See Drawing # 381_01 Sheet 8, Details 9 and 10.

Door Stop Attachment: The first step prior to installing the doorstop (Part # DS500) was to anchor the left jamb mullion to the substrate with eight (8), 3/8" x 3-1/2" grade 2 bolts with nuts and washers at the locations shown on Drawing 381_01 Sheet 3. The second step was to mechanically attach each continuous head stop (Part # DS500-1) with three (3) #10 x 1-3/4" FHP TEK screws located at midpoint and 10" from each end. The third step was to mechanically attach each jamb stop with three (3) #10 x 1-1/4" located at midpoint and 10" from each end. See 381_01 Sheet 18 for more information.

Transom Glazing Pocket Assembly: A continuous fixed transom sash (Part # FL517) was attached to the frame jambs extending above the door header at midpoint with one (1) #10 x 1-1/4" FHP TEK. **NOTE:** The joint between each fixed glass stop end and the window wall framing was sealed with a bead of Dow Corning 795 silicone sealant. A continuous removable transom sash glass stop (FL518) was snap-applied to each frame jamb on the exterior side of the transom.

Frame Joint Sealant: Each head member/mullion joint and each door header/mullion joint was sealed using strips of Schnee-Morehead SM5610 TackyTape ® Industrial Tape Sealant. See Drawing #381_01, Sheets 6 and 9, Details 1 and 11, for more information on the tape sealant. Each threshold/mullion joint was sealed with a bead of Dow Corning 795 silicone sealant. See Drawing 381_01, Sheet 9, Detail 12, for the placement of this sealant.

12.2 Right Bay Individual Frame Assembly: The individual frame located in the right bay of this sample was fabricated from some are all of the following aluminum extrusions:

Description	Part #	Alloy
Head or Wall Jamb	FL551	6063-T6
Intermediate Horizontal	FL556	6063-T6
Glass Stop	FL553	6063-T6
Open Back Mullion Filler	FL555	6063-T6
Sill or Head	FL552	6063-T6

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Description	Part #	Alloy
Sub-sill Flashing	FL519	6063-T6
Sill Flashing End Dam	ED519-1	

The following procedures (typical) were utilized when assembling each individual frame:
Frame Corner Construction: At each frame corner, the vertical frame member ran through while the horizontal frame member was square cut, butted, and mechanically fastened to the vertical frame member using #14 x 1" HH STS fasteners that passed through the vertical and threaded into the horizontal member's screw splines. See Drawing #381_01, Sheets 6, 9 & 10 Details 1, 2, 2A, 3 and 11 for the number of fasteners for each joint intersection. **NOTE:** This same construction method was utilized in the attachment of the intermediate horizontal to each vertical frame member. **NOTE:** A continuous snap-in flat filler plate (FL515) was inserted into the left jamb mullion prior it's installation into the opening. The glass stop (Part# FL503) used at the sill/head and/or intermediate horizontal location was cut D.L.O. less 1/16" and hooked into the window wall framing.

Frame Joint Sealant: Each frame joint was sealed using strips of Schnee-Morehead SM5610 TackyTape ® Industrial Tape Sealant. See Drawing #381_01, Sheets 6 & 9 of 18, Details 1, 2, 2A and 3 for the location of the tape sealant.

12.3 Overall Frame Assembly: Step one in the assembly of the overall sample was to install the entrance frame on the left and secure it to the opening. Step two is to install the end dam (ED519) to the right end of continuous sill flashing (FL519). Step three is to install the sill flashing the full width of the right frame opening. **Note:** The sill flashing abuts against the intermediate frame jamb. See 381_01 Sheet 8, Detail 9 for more information on this intersection. **NOTE:** All heads of the fasteners used to attach the sill flashing to the opening were cap sealed with Dow Corning 995 Structural Silicone sealant. Prior to installing the right frame, a continuous bead of Dow 995 Structural Silicone sealant is applied into the "C" slot receiver on the upright interior leg of the (Part # FL519) sill flashing. See 381_01 Sheet 6, Detail 3. Step four is to stack the individual frame for the right bay onto to the sill flashing, snap it into the left jamb mullion and secured it to the opening with structural fasteners. See Drawing 381_01 Sheet 3 for location and type fasteners. **Finally**, the entire perimeter of the framing was sealed on the exterior and interior with Dow Corning 795 sealant. This bead sealed the ends of the vertical mullions to the opening and also sealed the under-surface of the threshold to the substrate. See Drawing #381_01 for the placement of this sealant for the referenced details.

12.4 Overall Frame Mullion Reinforcement: The intermediate mullion in the sample was reinforced as follows:

Qty.	Location	Description
1	Intermediate Mullion.	Each intermediate mullion was reinforced with one (1), 119" long piece of 1/4" steel reinforcement with overall cross-sectional dimensions of 4-9/16" x 1-1/4" (Part # SR504). Each piece of steel reinforcement was secured in place using one (1), #10-24 x 3/8" STS HH bolt located 3/4" away from each end of the steel reinforcement. See Drawing #381_01, Sheet 7, Detail 4

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13.0 Glazing:

13.1 Glazing Material: There were three different glazing materials used in this sample:

Glass Type IA: 1-5/16" thick laminated glass with the following components:

- 0.25" HS
- 0.075" Solutia VS02 Interlayer (Miami Dade NOA #03-0514.15)
- 0.25" HS

Glass Type TIA: 1-5/16" thick laminated glass with the following components:

- 0.25" HS
- 0.075" VS02 Interlayer (Miami Dade NOA #03-0205.02)
- 0.25" HS

Glass Type IU: 1-5/16" thick laminated glass with the following components:

- 0.25" HS
- 0.120" Uvekol Type "S" Interlayer (Miami Dade NOA #03-1117.05)
- 0.25" HS

NOTE: The specific make up for the laminated-glass listed above was provided to HTL by CORAL. Only the manufacturer and the overall thickness of each laminate have been verified by HTL.

13.2 Window Wall Glazing Method: Each glass lite used in the window-wall portion of this sample was glazed using the following (typical) procedures:

Interior Side: Using continuous strips of an extruded EPDM interior spacer gasket (Part #NG14) and Dow Corning 995 structural silicone sealant.

Exterior Side: Using continuous strips of an extruded EPDM exterior glazing gasket (Part #NG1). Each corner of the gasket is sealed using a 2" long cap bead of Dow Corning 795 Structural Silicone Sealant in both directions of the gasket.

13.3 Daylight Opening:

Qty.	Location	Daylight Opening	Glass Bite	Glass Type
1	Door Transom.	82" x 18- 3/8"	1-5/16"	IA
1	Right bay, bottom row.	57-1/2" x 96"	1-5/16"	TIA
1	Right bay, top row.	57-1/2" x 16-1/2"	1-5/16"	IU

14.0 Weather-stripping:

Qty.	Location	Description
22 lf.	Laced into door stop (Part #DS500-1) used at header and jambs.	EPDM bulb gasket (Part # NG5)
16-lf	Two (2) rows along adjustable astragal	Schlegel wool pile weather-strip (Part #WP106)
7-lf	3.5-lf per door panel inserted into door sweep.	Soft Vinyl door sweep gasket (Part # VG1).

15.0 Weep Holes: N/A

16.0 Sealant's Used:

Location	Sealant
Perimeter Sealant	Dow Corning 795 Structural Silicone Sealant
Structural Glazing Sealant	Dow Corning 995 Structural Silicone Sealant
Frame Joint Sealant.	Schnee-Morehead SM5610 TackyTape® Industrial Tape Sealant.

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INSTALLATION

17.0 Following is a description of how this sample was installed in the test buck when viewed from the exterior:


Location	Anchor Description & Schedule
Frame Head @ Right and Left Bay	The member on the left was attached to the steel opening using four (4), 3/8" x 1-1/2" HWH TCS Screws. These fasteners were 21-1/2", 63-1/4", 80" and 82" from the left end of the panel head member. The member on the right was attached with four (4) 3/8" x 1-1/2" HWH STS located in groups of two adjacent to each mullion and were spaced 2" and 4" away from each mullion.
Frame Sill @ Right Bay	Attached to the steel opening using four (4), 3/8" 1-1/2" HWH TCS Screws located in groups of two adjacent to each mullion and were spaced 2" and 4" away from the ends of each mullion. See Drawing #381_01, Sheet 6, Detail 3 for more information.
Threshold Clip	Each threshold clip was attached to the frame jambs using two (2), #10- 24 x 3/8" FHPUC screws See Drawing #381_01, Sheet 11 for exploded view.
Threshold	The threshold was additionally secured to the steel opening using a single row of eight (8) #12"x 1-1/2" TEK Screws with four (4) located 2", 5", 8" and 11" from the right end with two (2) additional fasteners spaced 2" on each side of the geometric centerline.
Sill Flashing @ Right Bay	The sill flashing was attached to the steel opening using three (3) #12 x 1" FHP TEK non-structural screws spaced 24" from each end and at mid-point. See Drawing #381_01, Sheet 6, Detail 3 for more information.
Left Jamb @ Wall	Attached with a single row of eight (8) 3/8" x 3-1/2" grade 2 bolts with nuts and washers located 5" from the top end and 2-3/8", 45", 51", 88", 94", 100" and 106" from the bottom end.
Right Jamb @ Wall	Attached with two (2) 3/8" x 1-1/2" TEK Screws Located at 2" above and below midpoint of span.

TEST RESULTS

18.0 SUMMARY OF RESULTS

Test Method	Test Conditions	Test Conclusion and Test Date
Uniform Static Load Test (ASTM E330 and TAS 202)	+70/- 80 psf Design Pressure	PASS 8/15/07
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 8/16/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+70/- 80 psf Design Pressure	PASS 8/17/07

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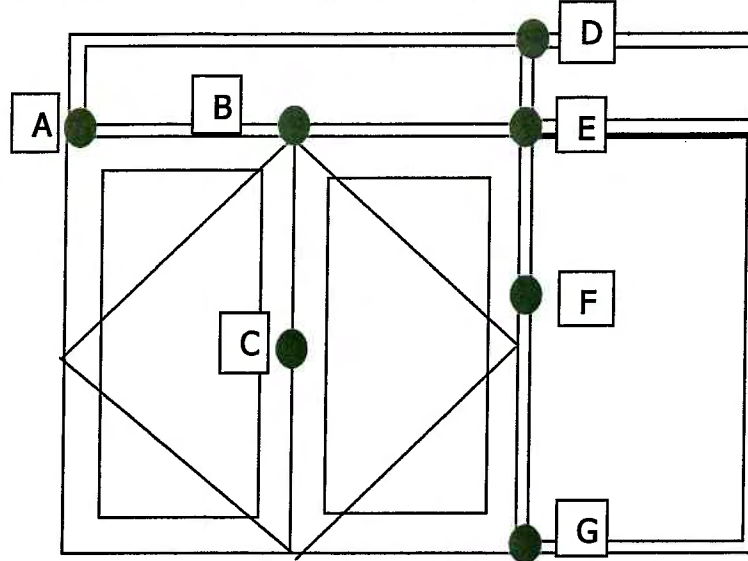

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19.0 TEST UNIT # E7 TEST RESULTS:

19.1 UNIFORM STATIC LOAD TEST RESULTS:

19.1.1 LOCATION OF DEFLECTION MEASUREMENTS:



19.1.2 TEST DATA:

POSITIVE LOAD:

LOCATION B				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 52.5	0.204	0.467	0.010	0.168
+ 70.0	0.267	0.467	0.010	0.168
+ 105.0	0.417	n/a	0.008	0.168

LOCATION F				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 52.5	0.375	0.669	0.049	0.241
+ 70.0	0.422	0.669	0.022	0.241
+ 105.0	0.656	n/a	0.020	0.241

NEGATIVE LOAD:

LOCATION B				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 60.0	0.253	0.467	0.008	0.168
- 80.0	0.347	0.467	0.013	0.168
- 120.0	0.539	n/a	0.036	0.168

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LOCATION F				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 60.0	0.374	0.669	0.003	0.241
- 80.0	0.498	0.669	0.004	0.241
- 120.0	0.753	n/a	0.012	0.241

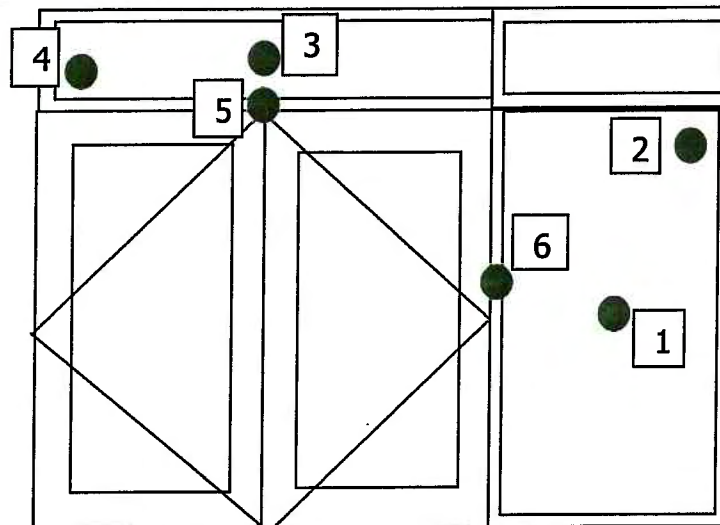
19.1.3 REMARKS:

No signs of failure were observed in any area of this test specimen during the uniform static load test. As such, this specimen was found to satisfy the uniform static load test requirements of Florida Building Code TAS 202.

20.0 IMPACT TEST DATA:

20.1 LARGE MISSILE IMPACT TEST

Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	49.24	99	120.00	48.00
2	50.61	99	141.00	91.00
3	51.31	99	47.00	111.00
4	51.98	99	15.00	108.00
5	50.33	N/A	45.00	98.00
6	50.38	N/A	88.25	57.50



20.1.1 IMPACT REMARKS:

Impacts for this test hit the intended targets resulting in the recorded measurements. There were no signs of penetration, rupture, or opening after the large missile impact test. Upon completion of the large missile impact test, this sample subsequently underwent the cyclic load test as specified Florida Building Code TAS 201 and ASTM E1886/1996.

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[Signature]
 10/12/07



20.2 CYCLIC LOAD TEST

20.2.1 TEST PARAMETERS:

Positive Design Load	70 psf
Negative Design Load	80 psf

20.2.2 TEST SPECTRUM:

Positive Loads:

# OF INWARD ACTING CYCLES/STAGE			
14 – 35 (psf)	0 – 42 (psf)	35 – 56 (psf)	21 – 70 (psf)
3500	300	600	100

Negative Loads:

# OF OUTWARD ACTING CYCLES/STAGE			
24 – 80 (psf)	40 – 64 (psf)	0 – 48 (psf)	16 – 40 (psf)
50	1050	50	3350

20.3 PERMANENT SET DATA:

Location	INWARD (POSITIVE) LOAD		OUTWARD (NEGATIVE) LOAD	
	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
B	0.125	0.168	0.145	0.168
F	0.166	0.241	0.192	0.241

20.4 REMARKS:

The test unit was inspected carefully upon completion of the cyclic test for failures. None were found. As such, this specimen was found to satisfy the cyclic test requirements of Florida Building Code TAS 203 and ASTM E1886/1996.

MISCELLANEOUS INFORMATION

21.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were witnessed in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 1701 Westfork Drive, Suite 106 in Lithia Springs, Georgia. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All results obtained apply only to the specimen tested and they do

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 10/12/07



indicate compliance with the performance requirements of the test methods and specifications listed in the following section.

22.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.

ASTM E1996 – Standard Specification for Performance of Exterior Walls, Glazed Curtain Walls, Doors, and Storm Shutters Impacted by Windborne Debris in Hurricanes.

Florida Building Code TAS 201 – Impact Test Procedures.

Florida Building Code TAS 202 – Criteria For Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.

Florida Building Code TAS 203 – Criteria For Testing Products Subject To Cyclic Wind Pressure Loading.

23.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. – HTL, C.E.O.

José E. Colón, E.I. – HTL Georgia, Operations Manager

Ian McKenzie – HTL

Kevin Rouse – HTL

Al Fite – HTL

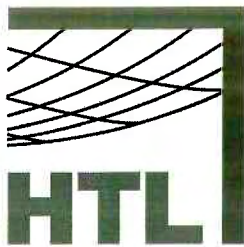
Grant McAllister – CORAL ARCHITECTURAL PRODUCTS

James Bateman – CORAL ARCHITECTURAL PRODUCTS

Jared Short – CORAL ARCHITECTURAL PRODUCTS

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10/12/07



HURRICANE TEST LABORATORY, LLC
1701 WESTFORK DRIVE, SUITE 106
LITHIA SPRINGS, GEORGIA 30122
(770) 941-6916
FAX (770) 941-2930
www.htltest.com

Report #: G402-0801-07
Specimen # E8
Test Date: 08/15/07
Page 1 of 6

MANUFACTURER'S IDENTIFICATION

- 1.0 NAME OF APPLICANT:** CORAL ARCHITECTURAL PRODUCTS
3010 Rice Mine Road
Tuscaloosa, Alabama 35406
(800) 772-7737
- 2.0 CONTACT PERSON:** Grant McAllister
- 3.0 HTL TEST NOTIFICATION #:** HTLGA07029
- 4.0 HTL LAB CERTIFICATION:** Miami-Dade County (04-0806.02)
Florida Building Code #TST3892
IAS (TL-338)

PRODUCT IDENTIFICATION

- 5.0 Product Types:** FL550 Framing System with Series 381 Doors
- 6.0 Model Number:** CORAL FL500 Window Wall System with Series 381 MS Out-swing Doors
- 7.0 Performance Class:** +70/-80
- 8.0 Overall Size:** 89" (w) x 120" (h)
- 9.0 Door Panel Sizes:** Two panels, each panel is 42" (w) x 96" (h).
- 10.0 Configuration:** Two operable doors with transom. See Drawing #FL550_01, Sheet 9 of 15 for an elevation of this sample. Each of the bays in this sample was configured as follows:

Location	# Of Fixed Glass Lites	Glass Type	ProductType
Lower	N/A	N/A	Series 381 Doors
Upper	1	IA	FL550

NOTE: The individual frame located in the left bay consisted of two vertical members, a head member, an intermediate horizontal member (transom bar) and a sill member (threshold).

- 11.0 Drawing:** This test report is incomplete without the attached Coral Drawing "FL550_01" bearing the raised seal of Hurricane Test Laboratory, LLC.

PRODUCT DESCRIPTION

12.0 Frame Construction:

- 12.1 Individual Frame Assembly:** The individual frame located in the left bay was fabricated using some or all of the following aluminum extrusions:

Description	Part #	Material
Head or Wall Jamb	FL551	6063-T6
Threshold	TH4	6063-T6
Door Header for Surface Closer	FL507	6063-T6
Transom Bar for COC (E2)	FL512	6063-T6
Std. Vertical Mullion/Door Jamb	FL504	6063-T6
Flat Filler at Door Jamb	FL515	6063-T6
Door Stop	DS500-1	6063-T6
Transom Sash	FL567	6063-T6
Transom Glass Stop	FL518	6063-T6

The following procedures (typical) were utilized when assembling this individual frame:

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Vinu J. Abraham, P.E.
 Fl. Reg. # 53820



Frame Corner Construction: At each top corner, the frame jamb (Part # FL504) ran through while the frame head (Part # FL551) and transom bar/ door header (Part # FL507) horizontal members were square cut, butted, and mechanically fastened to each frame jamb using #14 x 1" HH STS fasteners that passed through the verticals and threaded into the horizontal member's screw splines. At each bottom corner, the frame jamb ran through while the threshold (Part # TH4) was square cut, butted and mechanically fastened to the frame jamb using two (2) 1.900" x 1.999" x 0.126" zinc plated steel clips (Coral Part # TH403) and four (4) #10-24 x 3/8" FHPUC screws. See drawing #381_01, Sheet 11 of 18 for an exploded view of this assembly. **NOTE:** After this individual frame was assembled and prior to the installation of this frame, a continuous flat-filler plate (FL515) was snapped into the jamb mullion on the left and steel reinforcement (Part # SR504) was installed and mechanical attached to the jamb mullion on the right. The steel reinforcement was mechanically attached using two #10-24 x 3/8" HH STS located 1-1/2" from each end of the jamb mullion. See Drawing # 381_01 Sheet 8, Details 9 and 10.

Door Stop Attachment: The first step prior to installing the doorstep (Part # DS500) was to anchor the left jamb mullion to the substrate with eight (8), 3/8" x 3-1/2" grade 2 bolts with nuts and washers at the locations shown on Drawing 381_01 Sheet 3. The second step was to mechanically attach each continuous head stop (Part # DS500-1) with three (3) #10 x 1-3/4" FHP TEK screws located at midpoint and 10" from each end. The third step was to mechanically attach each jamb stop with three (3) #10 x 1-1/4" located at midpoint and 10" from each end. See 381_01 Sheet 18 for more information.

Transom Glazing Pocket Assembly: A continuous fixed transom sash (Part # FL517) was attached to the frame jambs extending above the door header at midpoint with one (1) #10 x 1-1/4" FHP TEK. **NOTE:** The joint between each fixed glass stop end and the window wall framing was sealed with a bead of Dow Corning 795 silicone sealant. A continuous removable transom sash glass stop (FL518) was snap-applied to each frame jamb on the exterior side of the transom.

Frame Joint Sealant: Each head member/mullion joint and each door header/mullion joint was sealed using strips of Schnee-Morehead SM5610 TackyTape ® Industrial Tape Sealant. See Drawing #381_01, Sheets 6 and 9, Details 1 and 11, for more information on the tape sealant. Each threshold/mullion joint was sealed with a bead of Dow Corning 795 silicone sealant. See Drawing 381_01, Sheet 9, Detail 12, for the placement of this sealant.

13.0 Glazing:

13.1 Glazing Material:

Glass Type IA: 1-5/16" thick laminated glass with the following components:

- 0.25" HS
- 0.075" Solutia VS02 Interlayer (Miami Dade NOA #03-0514.15)
- 0.25" HS

NOTE: The specific make up for the laminated-glass listed above was provided to HTL by CORAL. Only the manufacturer and the overall thickness of each laminate have been verified by HTL.

13.2 Window Wall Glazing Method:

Each glass lite used in the window-wall portion of this sample was glazed using the following (typical) procedures:

Interior Side: Using continuous strips of an extruded EPDM interior spacer gasket (Part #NG14) and Dow Corning 995 structural silicone sealant..

Exterior Side: Using continuous strips of an extruded EPDM exterior glazing gasket (Part #NG1). Each corner of the gasket is sealed using a 2" long cap bead of Dow Corning 795 Structural Silicone Sealant in both directions of the gasket.

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13.3 Daylight Opening:

Qty.	Location	Daylight Opening	Glass Bite	Glass Type
1	Door Transom.	82" x 18- 3/8"	1-5/16"	IA

14.0 Weep Holes: N/A

15.0 Sealant's Used:

Location	Sealant
Perimeter Sealant	Dow Corning 795 Structural Silicone Sealant
Structural Glazing Sealant	Dow Corning 995 Structural Silicone Sealant
Frame Joint Sealant.	Schnee-Morehead SM5610 TackyTape® Industrial Tape Sealant.

TEST RESULTS

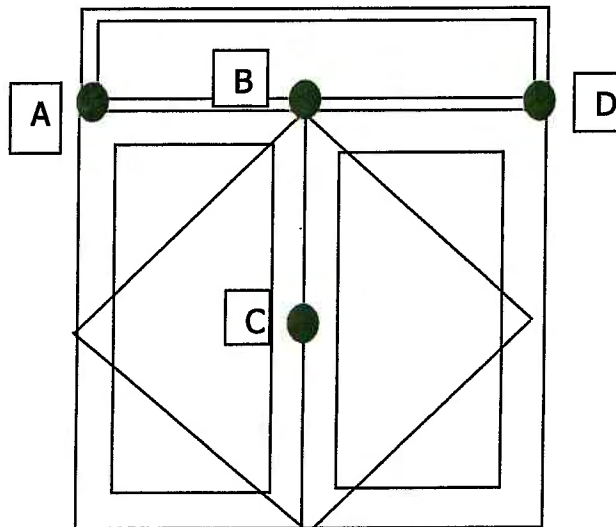
16.0 SUMMARY OF RESULTS

Test Method	Test Conditions	Test Conclusion and Test Date
Uniform Static Load Test (ASTM E330 and TAS 202)	+70/- 80 psf Design Pressure	PASS 8/15/07
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 8/15/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+70/- 80 psf Design Pressure	PASS 8/15/07

17.0 TEST UNIT # E8 TEST RESULTS:

17.1 UNIFORM STATIC LOAD TEST RESULTS:

17.1.1 LOCATION OF DEFLECTION MEASUREMENTS:



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17.1.2 TEST DATA:

POSITIVE LOAD:

LOCATION B				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 52.5	0.275	0.456	0.008	0.164
+ 70.0	0.310	0.456	0.014	0.164
+ 105.0	0.556	n/a	0.013	0.164

NEGATIVE LOAD:

LOCATION B				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 60.0	0.331	0.456	0.005	0.164
- 80.0	0.431	0.456	0.004	0.164
- 120.0	0.605	n/a	0.008	0.164

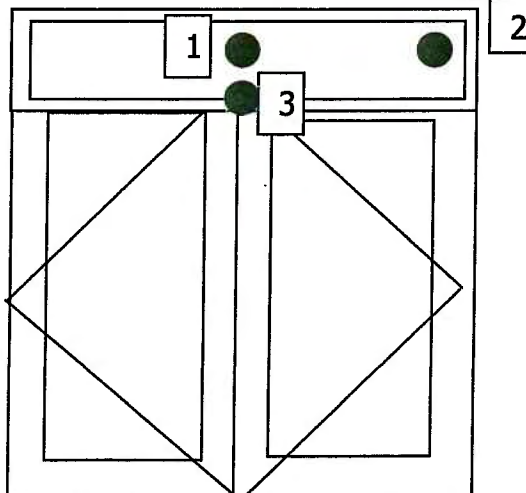
17.1.3 REMARKS:

No signs of failure were observed in any area of this test specimen during the uniform static load test. As such, this specimen was found to satisfy the uniform static load test requirements of Florida Building Code TAS 202.

18.0 IMPACT & CYCLIC TEST DATA:

18.1 LARGE MISSILE IMPACT TEST

Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	50.45	94	44.50	110.50
2	49.46	94	75.00	110.00
3	49.80	N/A	44.75	98.00



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18.1.1 IMPACT REMARKS:

Impacts for this test hit the intended targets resulting in the recorded measurements. There were no signs of penetration, rupture, or opening after the large missile impact test. Upon completion of the large missile impact test, this sample subsequently underwent the cyclic load test as specified Florida Building Code TAS 201 and ASTM E1886/1996.

18.2 CYCLIC LOAD TEST

18.2.1 TEST PARAMETERS:

Positive Design Load	70 psf
Negative Design Load	80 psf

18.2.2 TEST SPECTRUM:

Positive Loads:

# OF INWARD ACTING CYCLES/STAGE			
14 – 35 (psf)	0 – 42 (psf)	35 – 56 (psf)	21 – 70 (psf)
3500	300	600	100

Negative Loads:

# OF OUTWARD ACTING CYCLES/STAGE			
24 – 80 (psf)	40 – 64 (psf)	0 – 48 (psf)	16 – 40 (psf)
50	1050	50	3350

18.3 PERMANENT SET DATA:

Location	INWARD (POSITIVE) LOAD		OUTWARD (NEGATIVE) LOAD	
	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
B	0.125	0.164	0.131	0.164

18.4 REMARKS:

The test unit was inspected carefully upon completion of the cyclic test for failures. None were found. As such, this specimen was found to satisfy the cyclic test requirements of Florida Building Code TAS 203 and ASTM E1886/1996.

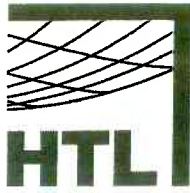
MISCELLANEOUS INFORMATION

19.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were witnessed in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 1701 Westfork Drive, Suite 106 in Lithia Springs, Florida. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All results obtained apply only to the specimen tested and they do

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indicate compliance with the performance requirements of the test methods and specifications listed in the following section.

20.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.

ASTM E1996 – Standard Specification for Performance of Exterior Walls, Glazed Curtain Walls, Doors, and Storm Shutters Impacted by Windborne Debris in Hurricanes.

Florida Building Code TAS 201 – Impact Test Procedures.

Florida Building Code TAS 202 – Criteria For Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.

Florida Building Code TAS 203 – Criteria For Testing Products Subject To Cyclic Wind Pressure Loading.

21.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. – HTL, C.E.O.

José E. Colón, E.I. – HTL Georgia, Operations Manager

Ian McKenzie – HTL

Kevin Rouse – HTL


Al Fite – HTL

Grant McAllister – CORAL ARCHITECTURAL PRODUCTS

James Bateman – CORAL ARCHITECTURAL PRODUCTS

Jared Short – CORAL ARCHITECTURAL PRODUCTS

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DRAWINGS

TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 FOR USE IN HURRICANE ZONES REQUIRING LARGE MISSILE IMPACT PROTECTION

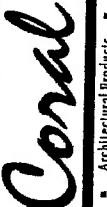
INDEX TO DRAWINGS

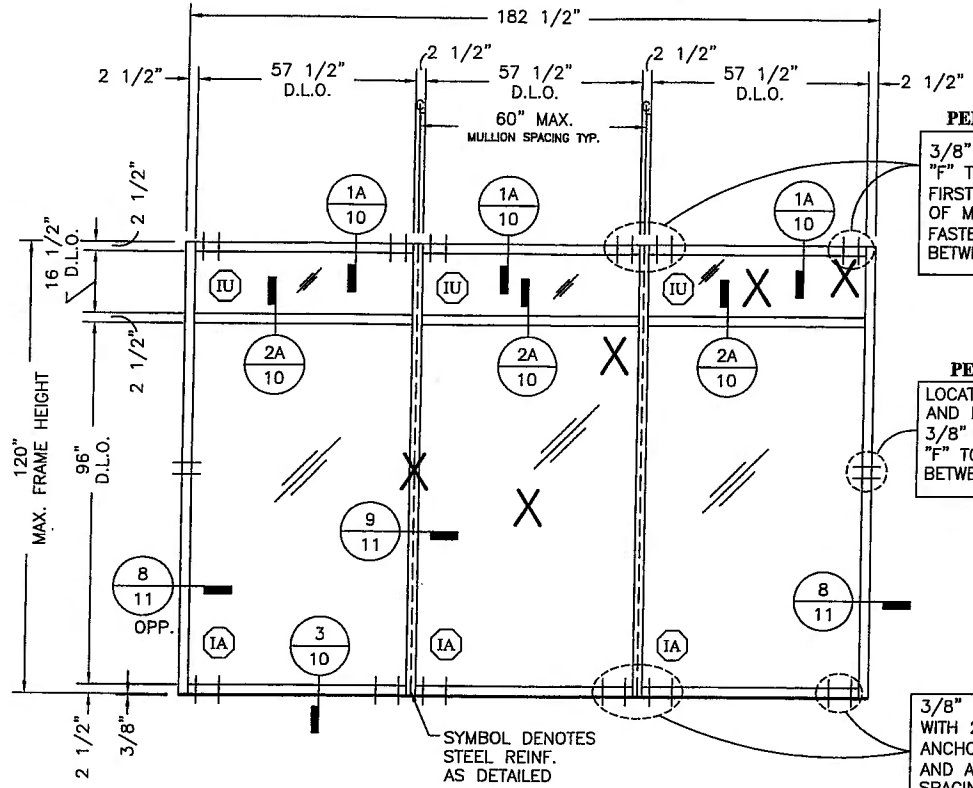
- 1 INDEX TO DRAWINGS AND NOTES
- 2 FRAMING ELEVATIONS - E1 LIGHT MULLION WITH STEEL-LONG SPAN-STEEL SUBSTRATE
- 3 FRAMING ELEVATIONS - E2 LIGHT MULLION WITH STEEL-LONG SPAN-CONCRETE SUBSTRATE
- 4 FRAMING ELEVATIONS - E3 LIGHT MULLION WITH STEEL-LONG SPAN-STEEL/WOOD SUBSTRATE
- 5 FRAMING ELEVATIONS - E4 LIGHT MULLION WITHOUT STEEL-SHORT SPAN-STEEL SUBSTRATE
- 6 FRAMING ELEVATIONS - E6 HEAVY MULLION WITHOUT STEEL-LONG SPAN-STEEL SUBSTRATE
- 7 FRAMING ELEVATIONS - E7 FOR DOORS WITH TRANSOM AND SIDELIGHT
- 8 FRAMING ELEVATIONS - E7 ANCHOR LOCATIONS
- 9 FRAMING ELEVATIONS - E8 FOR DOORS WITH TRANSOM
- 10 FRAMING DETAILS
- 11 FRAMING DETAILS
- 12 FRAMING DETAILS
- 13 FRAMING DETAILS
- 14 BILL OF MATERIALS AND GLAZING SCHEDULE
- 15 HARDWARE SCHEDULE

ABBREVIATIONS:

- D.L.O. = DAY LIGHT OPENING
D.O.H. = DOOR OPENING HEIGHT
D.O.W. = DOOR OPENING WIDTH
C.O.C. = CONCEALED OVERHEAD CLOSER



 Architectural Products 3010 RICE MIKE ROAD, TUSCALOOSA, AL 35408 PHONE: 800-772-7737 FAX: 205-255-1200	
TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 INDEX TO DRAWINGS AND NOTES	
DATE	9/25/2007
DRAWN PCH	CHECKED JDW APPROVED JDW
PROJECT NO.	
DRAWING NO.	
FL550_01	
SHEET 1 OF 15	



PERIMETER FASTENERS
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT:
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS @ 2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 3/8" x 2-1/2" LDT TYP. @CONCRETE WITH 2" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 6" MIN. SPACING BETWEEN ANCHORS.

SYMBOL DENOTES STEEL REINF. AS DETAILED

E1 - LIGHT MULLION WITH STEEL - LONG SPAN

TESTING:
 AIR, WATER, STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

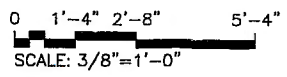
DESIGN PRESSURE = +70/-80 PSF

WATER TEST AT 15 PSF

AIR @ 6.24 P.S.F.

X = LARGE MISSILE IMPACT LOCATIONS

STEEL AND CONCRETE TEST BUCK
 2500 P.S.I. CONCRETE @ SILL



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 Tested Unless Otherwise Noted
 DATE: 10/19/07
 JOB #: C-402-08-1-07

TEST REPORT DRAWINGS FOR
 FL550 WINDOW WALL SYSTEM
 PROTOCOLS: PA201/202/203
 CENTER GLAZED IMPACT

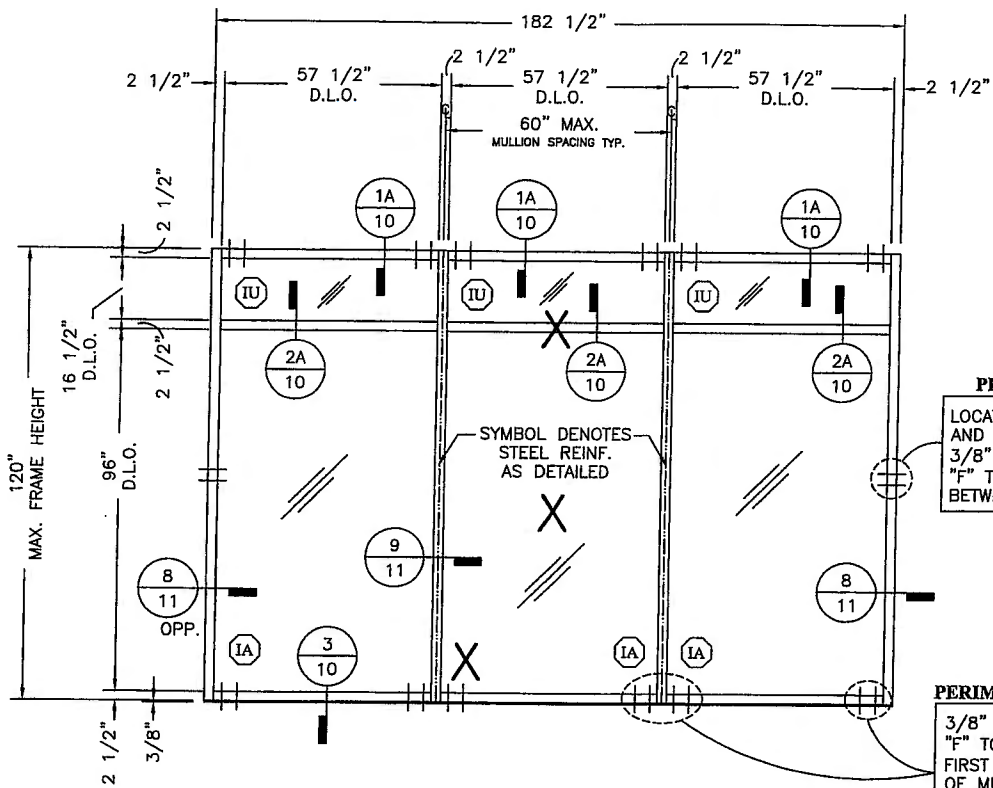
DATE	9/28/2007		
DRAWN	CHECKED	APPROVED	
PCH	JDW	JDW	
PROJECT NO.			
DRAWING NO.	FL550_01		
SHEET	2 OF 15		

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FRAMING ELEVATIONS

REV	BY	DATE	DESCRIPTION

S:\Assemblies And Fabrications\C.A. P\MOCK-UPS\HTL\FL550_01\3 FRAMING ELEVATIONS.dwg, 10/12/2007 10:56:33 AM, mlawre, Adobe PDF, Copyright: Coral Architectural Prod



PERIMETER FASTENERS
 LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT:
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. 2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS AT HEAD & SILL
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @2" MIN. SPACING BETWEEN ANCHORS.

SYMBOL DENOTES STEEL REINF. AS DETAILED

E2 - LIGHT MULLION WITH STEEL - LONG SPAN

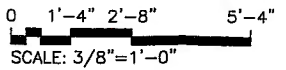
TESTING:
 IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

STEEL TEST BUCK



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DATE: 11/9/07
 JOB # 9402-2781-07

NO.	REV.	BY	DATE	DESCRIPTION

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TEST REPORT DRAWINGS FOR
 FL550 WINDOW WALL SYSTEM
 PROTOCOLS: PA201/202/203
 CENTER GLAZED IMPACT

FRAMING ELEVATIONS

DATE: 9/26/2007

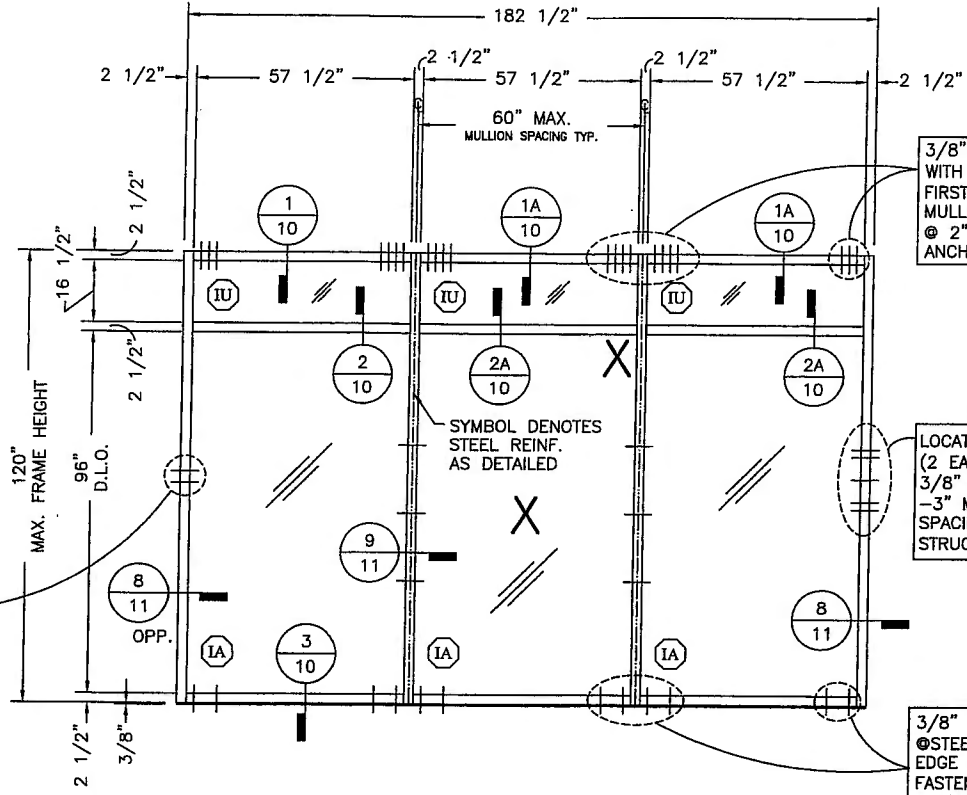
DRAWN	CHECKED	APPROVED
PCH	JDH	JDW

PROJECT NO. _____

DRAWING NO. **FL550_01**

SHEET 3 OF 15

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PERIMETER FASTENERS
 LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT:
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. AT STEEL. 2" MIN. SPACING.

PERIMETER FASTENERS
 3/8" x 3" LAG BOLTS TYP. @WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 LOCATE (1 EA.) @ MID-POINT AND (2 EA.) ABOVE AND BELOW MID-POINT. 3/8" X 3" LAG BOLTS TYP. @WOOD -3" MIN. EMBEDMENT AND 2" MIN. SPACING BETWEEN ANCHORS. WOOD STRUCTURE IS MIN. #2 SYR.

PERIMETER FASTENERS
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 6" MIN. SPACING BETWEEN ANCHORS.

E3 - LIGHT MULLION WITH STEEL - LONG SPAN

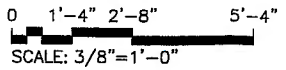
TESTING:
 IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

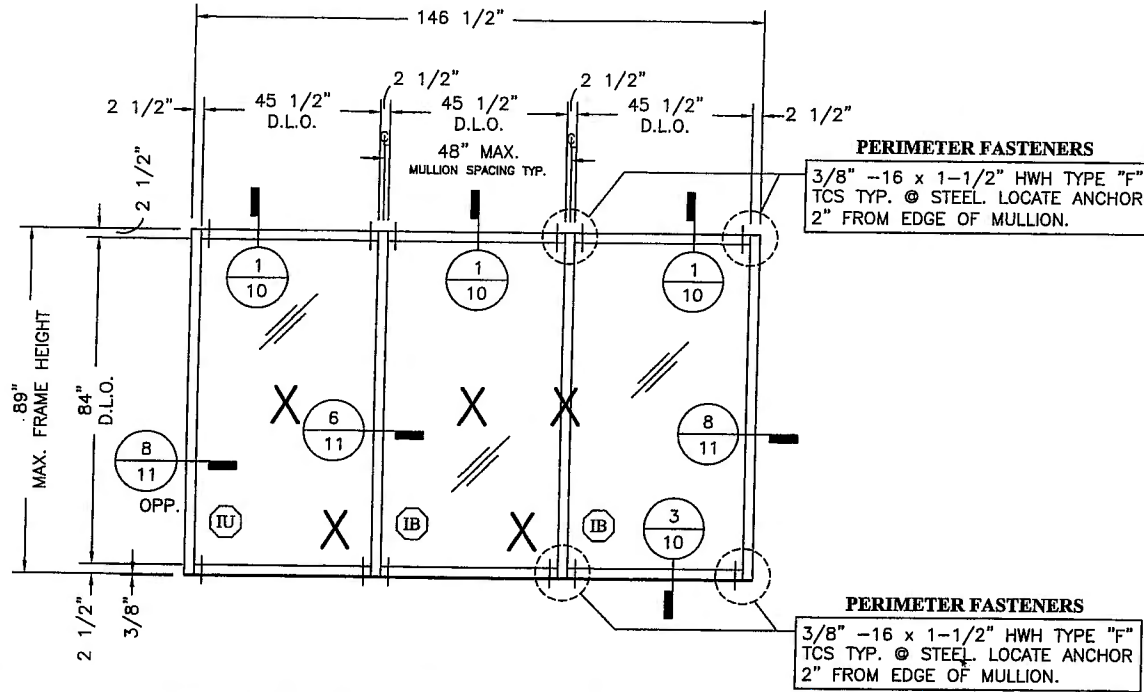
X = LARGE MISSILE IMPACT LOCATIONS

STEEL/WOOD TEST BUCK
 WOOD @HEAD AND RIGHT JAMB



Tested Unless Otherwise Noted
 DATE: 10/19/07
 JOB #: 0-407-080-07

TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 CENTER GLAZED IMPACT			DATE 9/26/2007
DRAWN PCH	CHECKED JDW	APPROVED JDW	PROJECT NO.
DRAWING NO. FL550_01			SHEET 4 OF 15
TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 CENTER GLAZED IMPACT			FRAMING ELEVATIONS
			3010 RIDGE WALK ROAD, TUSCALOOSA, AL 35408 PHONE: 800-727-7377 FAX: 800-255-1200



E4 - LIGHT MULLION WITHOUT STEEL - SHORT SPAN

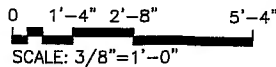
TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.494"

DESIGN PRESSURE = +65/-65 PSF

X = LARGE MISSILE IMPACT LOCATIONS

STEEL TEST BUCK



Tested Unless
Otherwise Noted
DATE: 10/12/07
JOB # G-407-0501-07

TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
CENTER GLAZED IMPACT

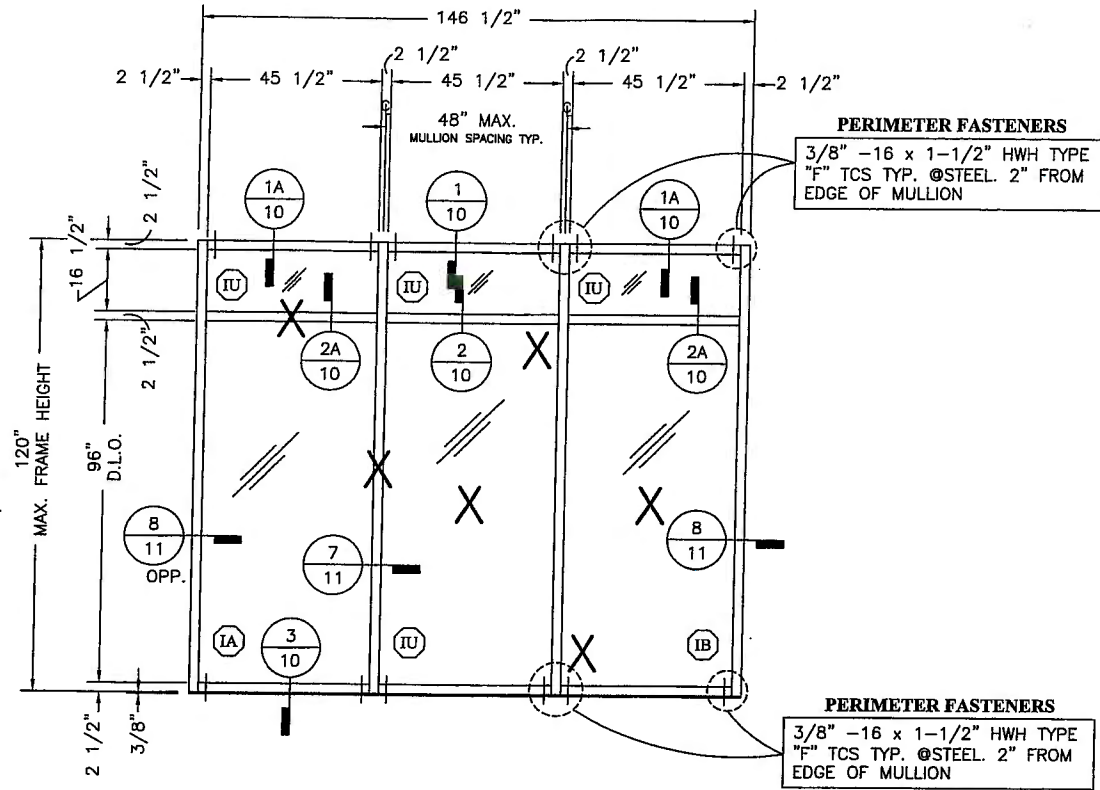
FRAMING ELEVATIONS

DATE	10/12/2007		
DRAWN PCH	CHECKED JDW	APPROVED JDW	
PROJECT NO.			
DRAWING NO.	FL550_01		
SHEET	5 OF 15		



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E6 - HEAVY MULLION WITHOUT STEEL - LONG SPAN

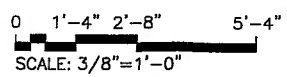
TESTING:
 STATIC, IMPACT, AND CYCLE


MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +60/-60 PSF

X = LARGE MISSILE IMPACT LOCATIONS

STEEL TEST BUCK



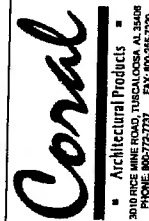


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Otherwise Noted

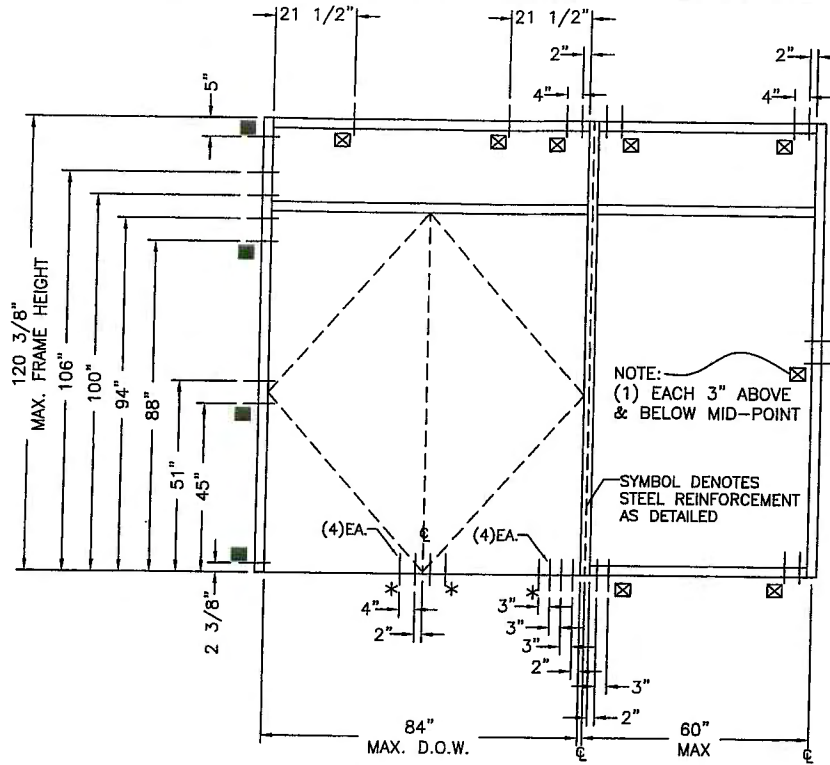
DATE: 10/19/07
 JOB # 9462-0801-02

<p>TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 CENTER GLAZED IMPACT</p>	<p>FRAMING ELEVATIONS</p>
<p>DATE: 10/12/2007</p>	<p>DRAWN: Pch CHECKED: JDW APPROVED: JDW</p>
<p>PROJECT NO:</p>	<p>DRAWING NO: FL550_01</p>
<p>SHEET 6 OF 15</p>	



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TYP. INSTALLATION INTO: STEEL SUBSTRATE	
■	3/8"Ø X 3-1/2" GRADE 2 BOLT, NUT, WASHER AND FILLER PLATE FULL LENGTH OF MULLION
⊠	3/8"Ø X 1-1/2" TEK SCREW
*	#12 X 1-1/2" PFH #3 TEK SCREW 2" MIN SPACING (AS27)

NOTE:
(1) EACH 3" ABOVE & BELOW MID-POINT
SYMBOL DENOTES STEEL REINFORCEMENT AS DETAILED

TESTING:
STATIC, IMPACT, AND CYCLE

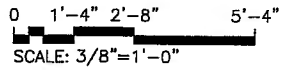
MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

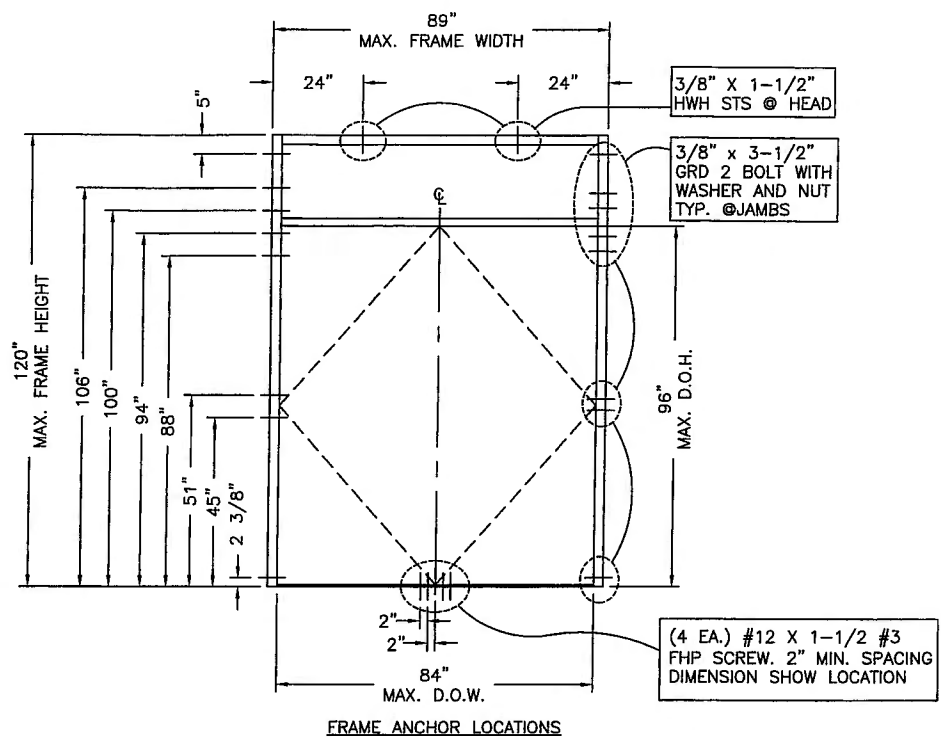
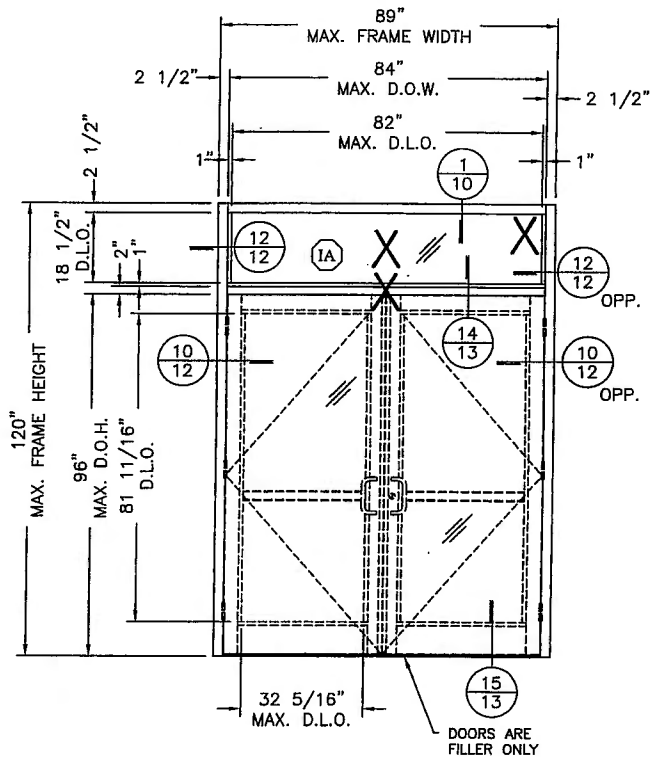
ELEVATION E7 ANCHOR LOCATIONS

STEEL TEST BUCK



 3010 RICE LANE, SUITE 200, TUSCALOOSA, AL 35468 PHONE: 205/727-1700 FAX: 205/727-5851		REV	BY	DATE
TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 FRAMING ELEVATIONS				
DATE 10/12/2007				
DRAWN Pch	CHECKED JDW	APPROVED JDW		
PROJECT NO.				
DRAWING NO. FL550_01				
SHEET 8 OF 15				

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ELEVATION E8
SERIES 381 IMPACT RESISTANT DOORS
WITH 3 PT LOCK AND C.O.C. WITH
OFFSET ARM IN FL500/550 FRAMING
(REF. HDW. SCHEDULE E2)

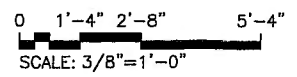
TESTING:
 STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

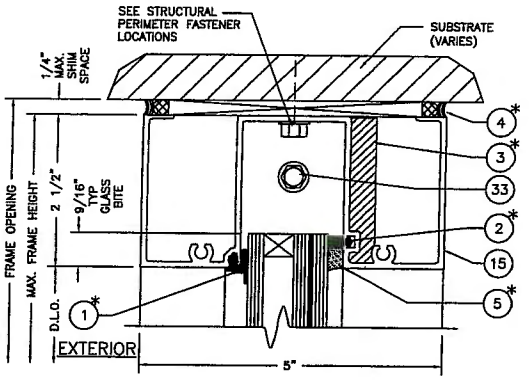
STEEL TEST BUCK



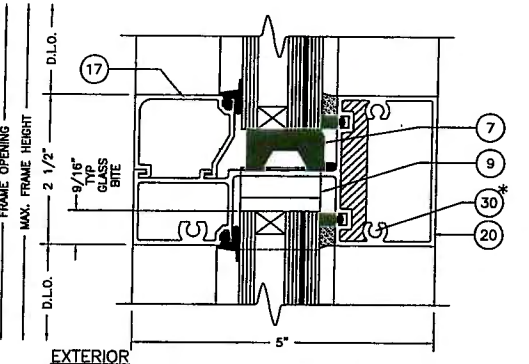
Tested Unless
 Otherwise Noted

DATE 10/19/07
 JOB # 647-0801-07

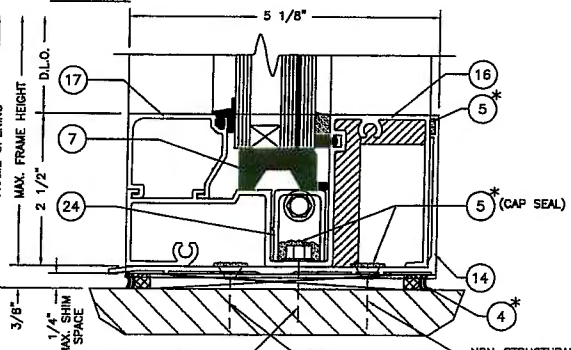
 2515 E. WILSON ROAD, TUSCALOOSA, AL 35406 PHONE: 205/272-7771 FAX: 205/272-8581	
TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203	FRAMING ELEVATIONS
DATE 10/12/2007 DRAWN PCH CHECKED JDW APPROVED JDW PROJECT NO.	DRAWING NO. FL550 01 SHEET 9 OF 15



1 - HEAD
1:2



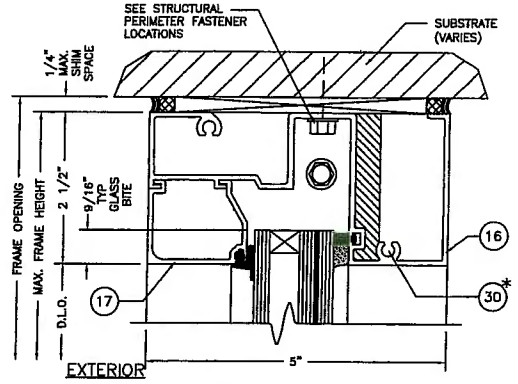
2 - HORIZ. MULLION
1:2



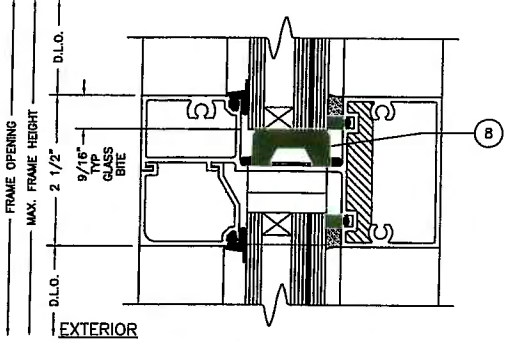
3 - SILL
1:2

- ① * TYPICAL EXTERIOR GASKET
- ② * TYPICAL INTERIOR GASKET
- ③ * TYPICAL \odot ALL JOINT INTERSECTIONS
- ④ * TYPICAL PERIMETER SEALANT
- ⑤ * TYPICAL INTERIOR SEALANT \odot GLASS
- ③⑦ * TYPICAL AT ALL SPLINES

NON-STRUCTURAL FASTENERS LOCATE 1 EACH \odot 24\"/>



1A - ALTERNATE HEAD
1:2



2A - INVERTED HORIZ. MULLION
1:2



Tested Unless Otherwise Noted
DATE 10/19/07
JOB # C-402 - 0201 - 07

REV	BY	DATE	DESCRIPTION

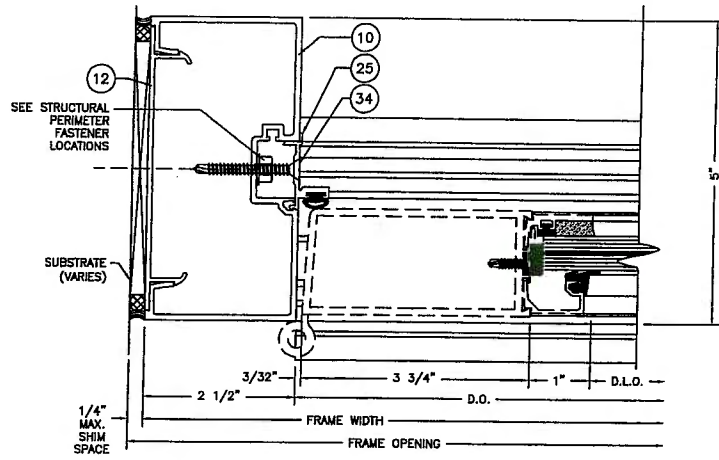
Coral
Architectural Products
501 RICE MIKE ROAD, TURKALOOKA, AL 35005
PHONE: 800-727-7727 FAX: 800-255-7200

TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
CENTER GLAZED IMPACT

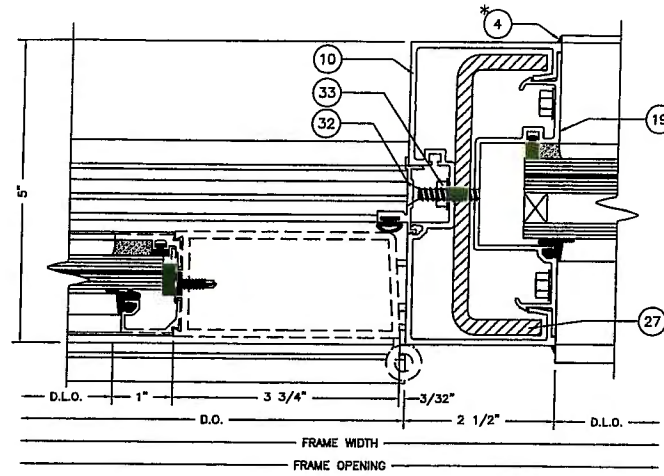
FRAMING DETAILS

DATE	9/26/2007
DRAWN PCH	CHECKED JDW
APPROVED JDW	
PROJECT NO.	
DRAWING NO.	FL550_01
SHEET	10 OF 15

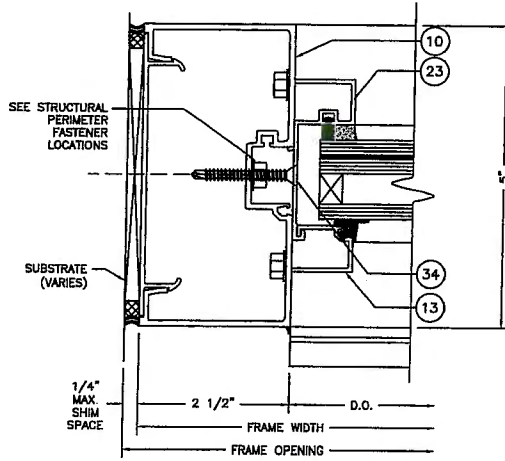
s:\Assemblies And Fabrications\C.A.P\MOCK-UPS\HTL\FL550_01\12 FRAMING DETAILS.dwg, 10/12/2007 10:57:19 AM, miawre, Adobe PDF, Copyright: Coral Architectural Products



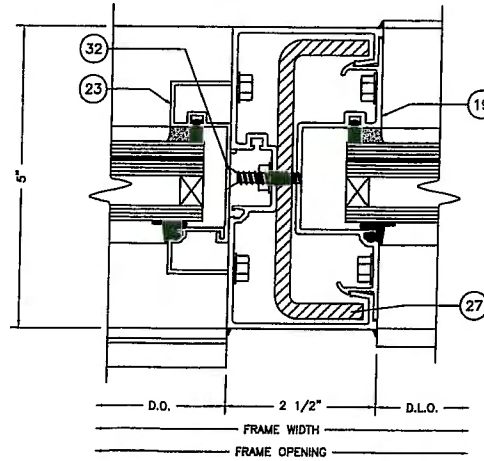
10 - DOOR JAMB AT WALL
1:2



11 - INTERM. DOOR JAMB
1:2



12 - TRANSOM JAMB AT WALL
1:2



13 - INTERM. DOOR JAMB @ TRANSOM
1:2

HTL

Tested Unless Otherwise Noted
DATE 10/19/07
JOB # 0407-0801-67

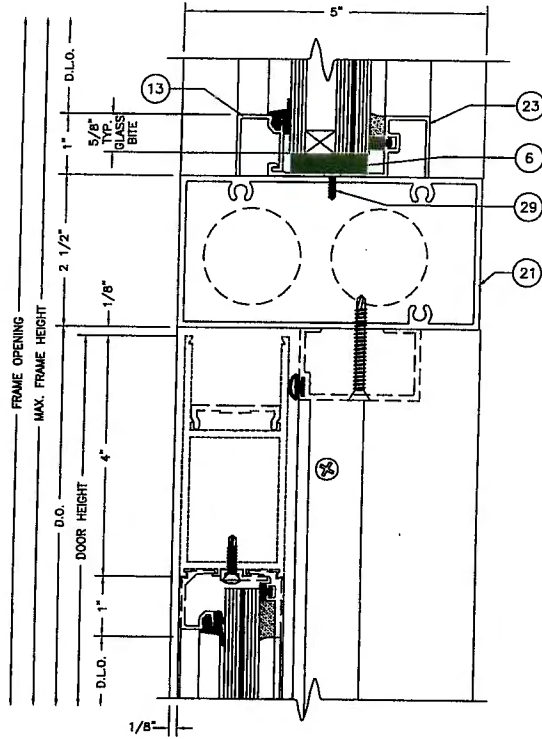
NO.	REV.	BY	DATE	DESCRIPTION

Coral
Architectural Products
3010 RICE AVENUE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 800-445-6961

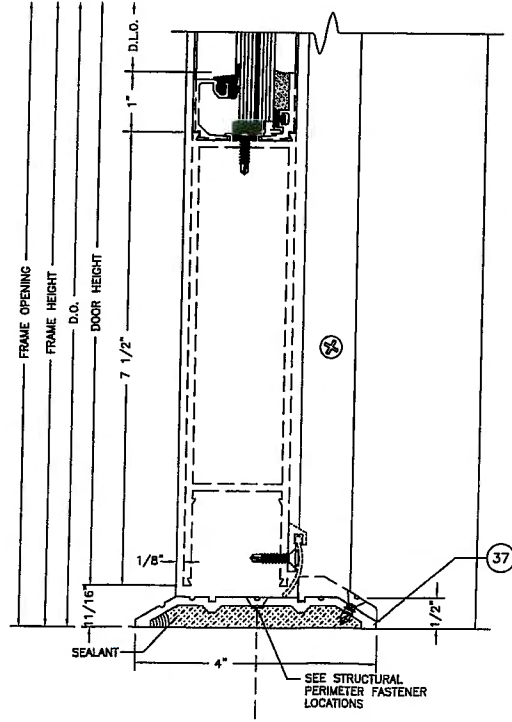
TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203

FRAMING DETAILS

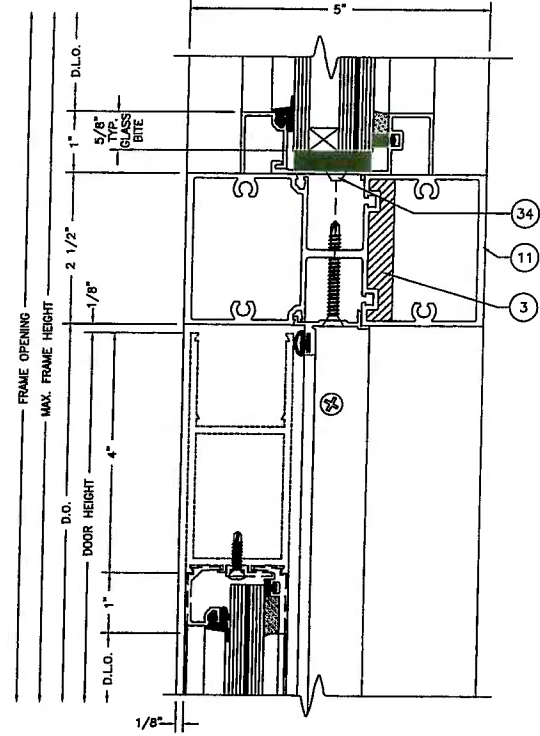
DATE	10/12/2007
DRAWN PLH	CHECKED JDW
APPROVED JDW	
PROJECT NO.	
DRAWING NO.	FL550_01
SHEET	12 OF 15




14 - C.O.C. DOOR FRAME HEADER WITH OFFSET ARM
1:2



15 - THRESHOLD
1:2



16 - TRANSOM BAR FOR BUTT HUNG SURFACE CLOSER
1:2



Tested Unless
Otherwise Noted
DATE 10/12/07
JOB # 042-081-07

<p>Coral Architectural Products</p> <p>3010 BICE WINE ROAD, TUBACALON, AZ 85466 PHONE: 602-772-7757 FAX: 602-443-5290</p>			
<p>TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203</p>			
<p>FRAMING DETAILS</p>			
DATE		10/12/2007	
DRAWN	CHECKED	APPROVED	
PCH	JDW	JDW	
PROJECT NO.			
DRAWING NO.			
<p>FL550 01</p>			
SHEET 13 OF 15			

S:\Assemblies And Fabrications\C.A.P\MOCK-UP\SH\TL_VL550_01\14 BILL OF MATERIALS.dwg, 10/12/2007 10:57:28 AM, mlawre, Adobe PDF, Copyright: Coral Architectural Product

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG1	EXTERIOR GLAZING GASKET	0.120 SPACE	EPDM	VARIES	
2	NG14	INTERIOR SPACER GASKET	0.250 SPACE	EPDM	VARIES	
3	SM5601	JOINT SEALANT TAPE	0.500 X 0.125 X VARIES	BUTYL	SCHNEE-MOOREHEAD	
4	795	SILICONE - PERIMETER SEALANT	FILL SPACE	SILICONE	DOW CORNING	USED @ PERIMETER
5	995	SILICONE - GLASS TO METAL	FILL SPACE	SILICONE	DOW CORNING	GLASS TO METAL AND INTERNAL
6	SB7	SETTING BLOCK @ DOOR HEADER	.313 X 1.250 X 4.000	EPDM	VARIES	2 PER LITE
7	SB15	SETTING BLOCK @ SILL & HORIZONTAL	0.687 X 1.468 X 4.000	EPDM	VARIES	2 PER LITE
8	SB16	SETTING BLOCK @ INVERTED HORIZONTAL	0.588 X 1.671 X 4.000	EPDM	VARIES	2 PER LITE
9	WD300-1	WATER DIVERter	1.358 X 1.344 X 4.000	INJECTION MOLDED PLASTIC	CORAL INDUSTRIES, INC.	@ EACH END OF HORIZONTAL
10	FL504	STD. VERTICAL MULLION/DOOR JAMB	2.500 X 5.000 X .094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
11	FL507	DOOR HEADER FOR SURFACE CLOSER	2.500 X 4.980 .080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
12	FL515	FLAT FILLER AT DOOR JAMB	.681 X 4.670 X .080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
13	FL518	TRANSOM GLASS STOP	1.000 X .767 X .062	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
14	FL519	SUBSILL FLASHING	2.620 X 5.402 X 0.084	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
15	FL551	HEAD OR WALL JAMB	2.500 X 5.000 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
16	FL552	SILL OR HEAD	2.500 X 4.980 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
17	FL553	GLASS STOP	1.250 X 1.646 X 0.078	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
18	FL554	STD. VERTICAL MULLION/DOOR JAMB	2.500 X 5.000 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
19	FL555	OPEN BACK MULLION FILLER	0.681 X 4.670 X 0.080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
20	FL556	INTERMEDIATE HORIZONTAL	2.500 X 4.980 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
21	FL562	DOOR HEADER	2.500 X 4.980 X .094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
22	FL566	HEAVY VERTICAL MULLION	2.500 X 5.000 X 0.213	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
23	FL567	TRANSOM SASH	1.00 X 2.668 X .062	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
24	CS500-1	SETTING CHAIR	1.156 X 0.844 X 0.078	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
25	DS500	DOOR STOP	.648 X 1.260 X .094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
26	ED519-1	SILL FLASHING END DAM	2.500 X 1.000 X 0.082	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
27	SR504	STEEL REINFORCEMENT	4.562 X 1.250 X 0.250	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (18)
28		NOT USED				
29	AS31	FASTENER	#6 X 3/8" PPH	STEEL	VARIES	ATTACH (23) TO (21)
30	AS16	FASTENER	#14 X 1" HHSTS	STEEL	VARIES	TYP. SPLINE SCREW VERTICAL/HORIZONTAL JOINTS
31	AS21	FASTENER	#6 X 1/4" PPH	STEEL	VARIES	ATTACH (26) TO (14)
32	AS27	FASTENER	#12 X 1-1/2" #3 S.D. PFH	STEEL	VARIES	1" MIN. EMBED NON-STRUCTURAL/ (25) TO (10)
33	AS38	FASTENER	#10-24 X 3/8" FHP HH	S. STEEL	VARIES	ATTACH (27) TO (18)
34	AS39	FASTENER	#10 X 1-3/4" FHP S.D.	S. STEEL	VARIES	ATTACH (23) TO (10) /ATTACH (25) TO (10)
35		FASTENER FOR ANCHORING (18) TO WOOD SUBSTRATE	#12 X 2" PFH WOOD SCREW	STEEL	VARIES	1" MINIMUM EMBEDMENT NON-STRUCTURAL
36		FASTENER FOR ANCHORING (14) TO CONCRETE SUBSTRATE	#12 X 2" PFH TAPCON	STEEL	VARIES	1" MINIMUM EMBEDMENT NON-STRUCTURAL
37	TH4	THRESHOLD	.500 X 4.000 X .125	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	

GLAZING SCHEDULE

GLASS DESCRIPTION	N.O.A.	MANUFACTURER	GLASS MARK	MAXIMUM D.L.O. SIZE (INCHES)	SQUARE FEET	MAXIMUM DESIGN PRESSURE (PSF)
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.075 VS02 INTERLAYER -1/4" H.S.	03-0514.15	SOLUTIA	IA	57-1/2" X 96"	38.3	+80/-80
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.090 PVB SOLUTIA INTERLAYER -1/4" H.S.	03.0105.02	SOLUTIA	IB	45-1/2" X 96"	30.3	+60/-60
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.120 UVEKOL "S" INTERLAYER -1/4" H.S.	03.1117.05	UVEKOL	IU	45-1/2" X 96"	30.3	+60/-60
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.090 PVB SOLUTIA INTERLAYER -1/4" H.S.	03.0105.02	SOLUTIA	IB	45-1/2" X 84"	26.5	+65/-65
1-5/16" INSULATED -1/4" TEMPERED -1/2" AIR SPACER -1/4" H.S. -0.075 VS02 INTERLAYER -1/4" H.S.	03-0514.15	SOLUTIA	TIA	57-1/2" X 96"	38.3	+80/-80



Tested Unless
Otherwise Noted
DATE 10/19/07
JOB # C-407-0861-07

TEST REPORT DRAWINGS FOR
 FL550 WINDOW WALL SYSTEM
 PROTOCOLS: PA201/202/203
 CENTER GLAZED IMPACT
 BILL OF MATERIALS AND GLAZING
 SCHEDULE

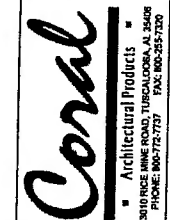
DATE 9/26/2007

DRAWN PCH CHECKED JDW APPROVED JDW

PROJECT NO.

DRAWING NO. FL550 01

SHEET 14 OF 15




DESCRIPTION

REV BY DATE

HARDWARE SCHEDULES

DADE COUNTY PRODUCT APPROVAL				DOOR MARK	DOOR: # TYPICAL	ELEV: TYPICAL	
IMPACT	X	NOA		DOOR SIZE	7'-0" X 8'-0" PAIR		
DOOR HINGING				LOCKING DEVICE	MANUFACTURER	NOTES:	
DOOR TYPE	B.H.	C.G.H.	O.P.	DH072-96	X	VARIES	3 POINT LOCK
SERIES 381	X	▼	▼	EXIT DEVICES:		SERIES	NOTES:
				JACKSON	▼	2086	CVR PANIC
HARDWARE DESCRIPTION				PART NUMBER	QTY	MANUFACTURER	USED
CLOSER - SURFACE MOUNTED				CL026	0	VARIES	X
CLOSER - CONCEALED OVERHEAD				CL205 H.D. W/ O. A. ASSY	0	JACKSON	▼
BUTT HINGE 4 1/2" X 4"				DH109	6	HAGER	X
PULL HANDLE				PH1-10	1	CORAL	X
PUSH BAR				PB1-39	1	CORAL	X
CYLINDER (ACTIVE)				DH078	1	VARIES	X
THUMB TURN (ACTIVE) OPTIONAL				DH079	1	VARIES	X
CYLINDER (ACTIVE) FOR VON DUPRIN EXIT				DH081 (RIM CYLINDER)	0	VARIES	▼
LOCK (ACTIVE)				DH072-96 (3-PT. LOCK)	1	VARIES	X
LOCK INDICATOR (ACTIVE) OPTIONAL				DH074	0	VARIES	▼
FLUSH BOLT (INACTIVE)TOP/BTM 84" DOOR				DH176	1	VARIES	X
FLUSH BOLT (INACTIVE)TOP ONLY 96" DOOR				DH176-96	1	VARIES	X
PANIC STOP				DP200-2	1	CORAL	X
THRESHOLD				TH4	1	CORAL	X
DOOR BOTTOM SWEEP				WS142	2	CORAL	X
NOTES:							
C.V.R. = CONCEALED VERTICAL ROD							

X= APPLIES
▼=NOT APPLICABLE



HTLI

Tested Unless
Otherwise Noted

DATE 10/19/07
JOB # 047-086-07

<p>TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203</p> <p style="text-align: center;">HARDWARE SCHEDULE</p>	 <p>3010 RICE WINE ROAD, TUSCALOOSA, AL 35468 PHONE: 800-772-7757 FAX: 800-443-8261</p>
<p>DATE 10/12/2007</p>	
<p>DRAWN <i>PCH</i> CHECKED <i>JDW</i> APPROVED <i>JDW</i></p>	
<p>PROJECT NO.</p>	
<p>DRAWING NO. FL550_01</p>	
<p>SHEET 15 OF 15</p>	

HTL

Compliance Test Report



FLORIDA GEORGIA TEXAS
HTLTEST.COM

CORAL ARCHITECTURAL PRODUCTS
FL-550 ALUMINUM WINDOW WALL SYSTEM



FLORIDA | GEORGIA | TEXAS

CORPORATE HEADQUARTERS

6655 Garden Road
Riviera Beach, Florida 33404
HTLTEST.COM
P: 888.477.2454
F: 561.881.0075

January 30, 2008

J.D Williams
Coral Architectural Products
3010 Rice Mine Road
Tuscaloosa, Alabama 35406

Re: FL-550 Aluminum Window Wall System

Dear Mr. Williams:

Enclosed you will find the test report package for the FL-550 Aluminum Window Wall System tests that were performed at Hurricane Test Laboratory, LLC (HTL).

This test report package includes the following items:

- HTL test report # G402-1202-07 (6 pages) for Aluminum Glazed Wall Section
- Coral drawing # FL550_01 (15 pages)

If you have any questions, please contact our office.

Sincerely,

HURRICANE TEST LABORATORY, LLC

Vinu J. Abraham, P.E.
FL Reg. # 53820



LABORATORY COMPLIANCE LETTER



FLORIDA | GEORGIA | TEXAS

CORPORATE HEADQUARTERS

6655 Garden Road
Riviera Beach, Florida 33404
HTLTEST.COM
P: 888.477.2454
F: 561.881.0075

1/30/2008

Jaime D. Gascon
Miami-Dade Building Code Compliance Office
Metro-Dade Flagler Building, Suite 1603
140 West Flagler Street
Miami, Florida 33130-1563

Re: Laboratory Compliance Letter (HTLGA07029)

Dear Mr. Gascon:

The tests described in the reports for the below jobs and specimen numbers have been performed in full accordance of the requirements of the Florida Building Code, with no deviations.

Job #	Specimen #	TAS 201	TAS 203	TAS 202			FORCED ENTRY
				AIR	WATER	STATIC	
G402-1202-07	E4	X	X			X	

If you have any questions, please contact our office.

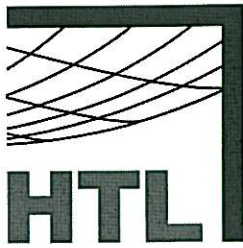
Sincerely,

HURRICANE TEST LABORATORY, LLC

Vinu J. Abraham, P.E.
FL Reg. # 53820



TEST REPORT



HURRICANE TEST LABORATORY, LLC
1701 WESTFORK DRIVE, SUITE 106
LITHIA SPRINGS, GEORGIA 30122
(770) 941-6916
FAX (770) 941-2930
www.htltest.com

Report #: G402-1202-07
Specimen # E4
Test Date: 12/10-11/07
Page 1 of 6

MANUFACTURER'S IDENTIFICATION

- 1.0 NAME OF APPLICANT:** CORAL ARCHITECTURAL PRODUCTS
 3010 Rice Mine Road
 Tuscaloosa, Alabama 35406
 (800) 772-7737
- 2.0 CONTACT PERSON:** JD Williams
- 3.0 HTL TEST NOTIFICATION #:** HTLGA07029
- 4.0 HTL LAB CERTIFICATION:** Miami-Dade County (04-0806.02)
 Florida Building Code #TST3892
 IAS (TL-338)

PRODUCT IDENTIFICATION

- 5.0 Product Type:** Aluminum Window Wall System
- 6.0 Model Number:** FL-550 WINDOW WALL SYSTEM
- 7.0 Performance Class:** +65/- 65 psf
- 8.0 Overall Sample Size:**

Specimen #	Size
E4	146-1/2" (w) x 89" (h)

- 9.0 Configuration:** The test unit consisted of three (3) bays, with each bay having one (1) lite of glass. See Coral drawings "FL550-01", sheet 5 of 15 for an elevation of this test unit.
- 10.0 Drawing:** This report is incomplete if not accompanied by Coral Architectural Products Drawing "FL550-01" and accompanying sheets bearing the stamp of Hurricane Test Laboratory, LLC.
- 11.0 Sample Source:** Samples provided by Coral Architectural Products.

PRODUCT DESCRIPTION

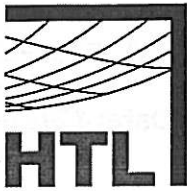
- 12.0 Frame Assembly:** The frame used in this sample was fabricated using the following aluminum extrusions:

Description	Part #
Sill Flashing End Dam	ED519-1
Head or Wall Jamb	FL551
Sill or Head	FL552
Glass Stop	FL553
Standard Vertical Mullion	FL554
Open Back Mullion Filler	FL555
Subsill	FL519

The following procedures (typical) were utilized when assembling this individual frame:
Frame Corner Construction: At each frame corner, the vertical frame members ran through while the horizontal frame member was butted and mechanically fastened using, #14 x 1" HHSTS fasteners that passed through the vertical and threaded into the horizontal member's screw spline.
Frame Joint Sealant: Each frame joint was sealed using a Schnee-Merhead SM5601 TackeyTape Industrial Sealant Tape (interior).

ENGINEER OF RECORD

1/25/2008
Vinu J. Abraham, P.E.
FL Reg. #53280



13.0 Glazing:

13.1 Glazing Material: This test unit used two different glass types:
Glass Type "IU": 1-5/16" Insulated laminated glass with the following components:

- 1/4" heat strengthened glass
- 1/2" air space
- 1/4" heat strengthened glass
- 0.120 Uvekol "S" Interlayer (Miami-Dade # 03-1117.05)
- 1/4" heat strengthened glass

Glass Type "IB": 1-5/16" laminated glass with following components:

- 1/4" heat strengthened glass
- 1/2" air space
- 1/4" heat strengthened glass
- 0.090" Solutia PVB Interlayer (Miami-Dade # 03-0105.02)
- 1/4" heat strengthened glass

13.2 Glazing Method: Each glass lite used in this sample was glazed using the following (typical) procedures:

Exterior Side: Using continuous strips of an extruded EPDM exterior glazing gasket (Part #NG1). Each corner of the gasket is sealed using a 2" long cap bead of Dow Corning 795 Structural Silicone Sealant in both directions of the gasket.

Interior/Exterior Side: Using continuous strips of an extruded EPDM interior spacer gasket (Part #NG14) and Dow Corning 995 structural silicone sealant..

13.3 Daylight Opening:

Qty.	Daylight Opening	Glass Bite	Glass Type
1	45-1/2" (w) x 84" (h)	9/16"	IU
2			IA

14.0 Sealant's Used:

Location	Sealant
Perimeter Sealant	Dow Corning 795 Silicone Sealant
Frame Joint Sealant	Schnee-Morehead SM5601 TackyTape Industrial Sealant Tape (Interior side only)
Glazing Sealant	Dow Corning 995 Structural Silicone Sealant

INSTALLATION

15.0 Following is a description of how this sample was installed in the steel test buck when viewed from the exterior side:

Location	Anchor Description & Schedule
Frame Head and Sill.	The frame head and sill are attached to the opening using two (2) per location, 3/8" x 1-1/2" HHW Tek Screws located 2" from edge of mullions.

NOTE: There is a 1/4" shim space used around the entire perimeter of this test sample.

ENGINEER OF RECORD

1/25/08



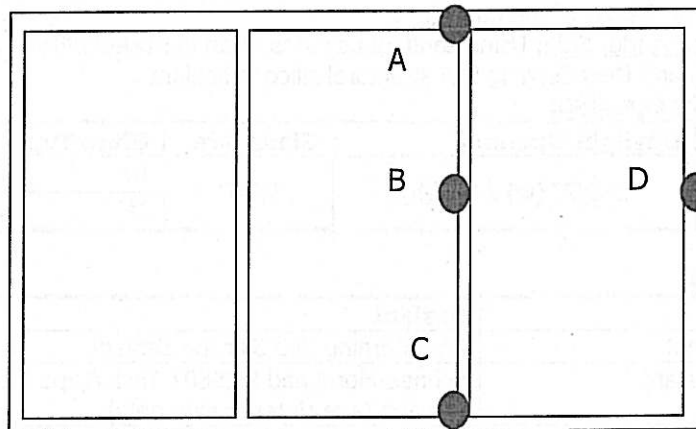
TEST RESULTS

16.0 SUMMARY OF RESULTS

Test Method	Test Conditions	Test Conclusion and Test Date
Uniform Static Load Test (ASTM E330 and TAS 202)	+65/- 65 psf Design Pressure	PASS 12/10/07
Large Missile Impact Test (TAS 201 and ASTM E1886/E1996)	9-lb, 2 x 4 @ 50ft/sec	PASS 12/11/07
Cyclic Load Test (TAS 203 and ASTM E1996)	+65/- 65 psf Design Pressure	PASS 12/11/07

17.0 UNIFORM STATIC LOAD TEST RESULTS:

17.1 LOCATION OF DEFLECTION MEASUREMENTS:



17.2 TEST DATA:

POSITIVE LOAD:

LOCATION B				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
+ 48.75	0.277	0.497	0.007	0.358
+ 65.00	0.380	0.497	0.011	0.358
+97.50	0.564	n/a	0.019	0.358
LOCATION D				
+ 48.75	0.183	0.497	0.027	0.358
+ 65.00	0.269	0.497	0.057	0.358
+ 97.50	0.404	n/a	0.078	0.358

ENGINEER OF RECORD

1/25/08



NEGATIVE LOAD:

LOCATION B				
LOAD (psf)	Deflection (in.)		Permanent Set (in.)	
	Measured	Allowed	Measured	Allowed
- 48.75	0.268	0.497	0.010	0.358
- 65.00	0.351	0.497	0.013	0.358
- 97.50	0.525	n/a	0.017	0.358
LOCATION D				
- 48.75	0.269	0.497	0.051	0.358
- 65.00	0.353	0.497	0.065	0.358
- 97.50	0.545	n/a	0.108	0.358

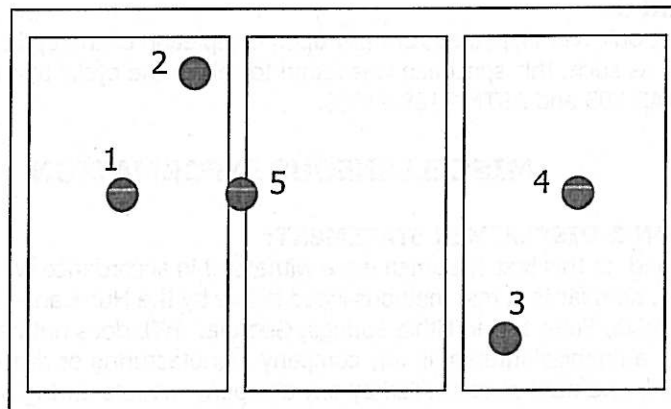
17.3 REMARKS:

No signs of failure were observed in any area of this test specimen during the uniform static load test. As such, this specimen was found to satisfy the uniform static load test requirements of Florida Building Code TAS 202.

18.0 IMPACT TEST DATA:

18.1 LARGE MISSILE IMPACT TEST

Impact #	Velocity (ft/s)	Glass Temperature (°F)	X Coordinate (in.)	Y Coordinate (in.)
1	49.88	58	24.00	47.00
2	51.41	58	40.50	79.00
3	50.40	58	106.00	11.00
4	50.08	58	119.00	46.00
5	50.86	N/A	50.00	45.00



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18.1.1 IMPACT REMARKS:

Impacts for this test hit the intended targets resulting in the recorded measurements. There were no signs of penetration, rupture, or opening after the large missile impact test. Upon completion of the large missile impact test, this sample subsequently underwent the cyclic load test as specified Florida Building Code TAS 201 and ASTM E1886/1996.

19.0 CYCLIC LOAD TEST

19.1 TEST PARAMETERS:

Positive Design Load	65 psf
Negative Design Load	65 psf

19.2 TEST SPECTRUM:

Positive Loads:

# OF INWARD ACTING CYCLES/STAGE			
13 – 32.50 (psf)	0 – 39 (psf)	32.50 – 52 (psf)	19.50 – 65 (psf)
3500	300	600	100

Negative Loads:

# OF OUTWARD ACTING CYCLES/STAGE			
19.50 – 65 (psf)	32.50 – 52 (psf)	0 – 39 (psf)	13 – 32.50 (psf)
50	1050	50	3350

19.3 PERMANENT SET DATA:

Location	INWARD (POSITIVE) LOAD		OUTWARD (NEGATIVE) LOAD	
	Measured Permanent Set (in.)	Allowable Permanent Set (in.)	Measured Permanent Set (in.)	Allowable Permanent Set (in.)
B	0.105	0.358	0.120	0.358
D	0.095	0.358	0.098	0.358

PLEASE REFER TO SECTION 17.1 FOR DEFLECTION GAGE LOCATIONS

19.4 REMARKS:

The test unit was inspected carefully upon completion of the cyclic test for failures. None were found. As such, this specimen was found to satisfy the cyclic test requirements of Florida Building Code TAS 203 and ASTM E1886/1996.

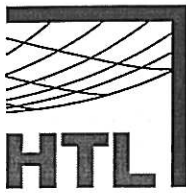
MISCELLANEOUS INFORMATION

20.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were witnessed in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 1701 Westfork Drive, Suite 106 in Lithia Springs, Georgia. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All

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results obtained apply only to the specimen tested and they do indicate compliance with the performance requirements of the test methods and specifications listed in the following section.

21.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.

ASTM E1996 – Standard Specification for Performance of Exterior Walls, Glazed Curtain Walls, Doors, and Storm Shutters Impacted by Windborne Debris in Hurricanes.

Florida Building Code TAS 201 – Impact Test Procedures.

Florida Building Code TAS 202 – Criteria For Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.

Florida Building Code TAS 203 – Criteria For Testing Products Subject To Cyclic Wind Pressure Loading.

22.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. – HTL, C.E.O.

José E. Colón, E.I. – HTL Georgia, Operations Manager

Ian McKenzie – HTL

Al Fite – HTL

JD Williams – CORAL ARCHITECTURAL PRODUCTS

Grant McAllister – CORAL ARCHITECTURAL PRODUCTS

Jared Short – CORAL ARCHITECTURAL PRODUCTS

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DRAWINGS

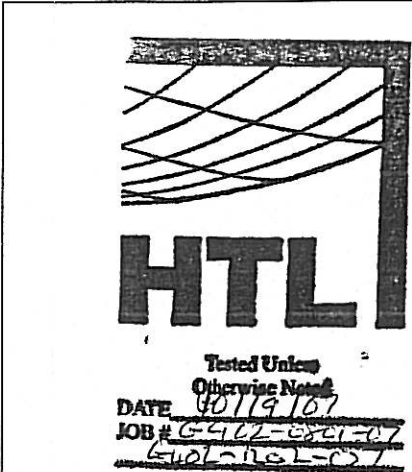
TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 FOR USE IN HURRICANE ZONES REQUIRING LARGE MISSILE IMPACT PROTECTION

INDEX TO DRAWINGS

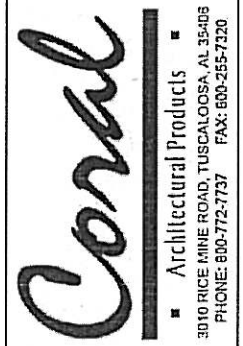
- | | |
|----|---|
| 1 | INDEX TO DRAWINGS AND NOTES |
| 2 | FRAMING ELEVATIONS – E1 LIGHT MULLION WITH STEEL–LONG SPAN–STEEL SUBSTRATE |
| 3 | FRAMING ELEVATIONS – E2 LIGHT MULLION WITH STEEL–LONG SPAN–CONCRETE SUBSTRATE |
| 4 | FRAMING ELEVATIONS – E3 LIGHT MULLION WITH STEEL–LONG SPAN–STEEL/WOOD SUBSTRATE |
| 5 | FRAMING ELEVATIONS – E4 LIGHT MULLION WITHOUT STEEL–SHORT SPAN–STEEL SUBSTRATE |
| 6 | FRAMING ELEVATIONS – E6 HEAVY MULLION WITHOUT STEEL–LONG SPAN–STEEL SUBSTRATE |
| 7 | FRAMING ELEVATIONS – E7 FOR DOORS WITH TRANSOM AND SIDELIGHT |
| 8 | FRAMING ELEVATIONS – E7 ANCHOR LOCATIONS |
| 9 | FRAMING ELEVATIONS – E8 FOR DOORS WITH TRANSOM |
| 10 | FRAMING DETAILS |
| 11 | FRAMING DETAILS |
| 12 | FRAMING DETAILS |
| 13 | FRAMING DETAILS |
| 14 | BILL OF MATERIALS AND GLAZING SCHEDULE |
| 15 | HARDWARE SCHEDULE |

ABBREVIATIONS:

D.L.O. = DAY LIGHT OPENING
D.O.H. = DOOR OPENING HEIGHT
D.O.W. = DOOR OPENING WIDTH
C.O.C. = CONCEALED OVERHEAD CLOSER

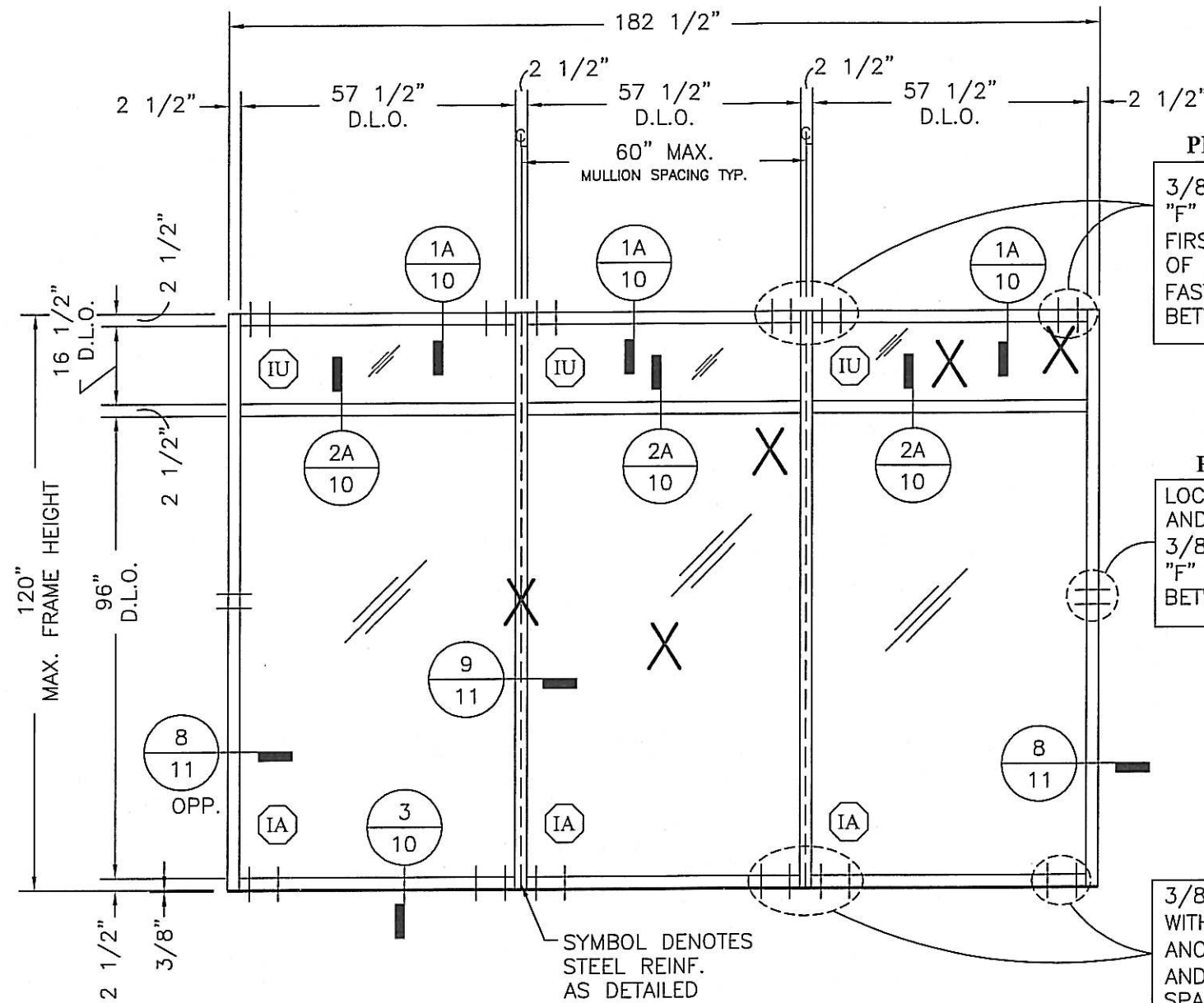


REV	BY	DATE	DESCRIPTION



TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
INDEX TO DRAWINGS AND NOTES

DATE	9/26/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.		
FL550_01		
SHEET		
1 OF 15		



PERIMETER FASTENERS
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT:
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS @ 2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 3/8" x 2-1/2" LDT TYP. @CONCRETE WITH 2" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 6" MIN. SPACING BETWEEN ANCHORS.

E1 - LIGHT MULLION WITH STEEL - LONG SPAN

TESTING:
 AIR, WATER, STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

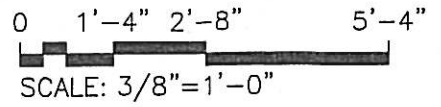
DESIGN PRESSURE = +70/-80 PSF

WATER TEST AT 15 PSF

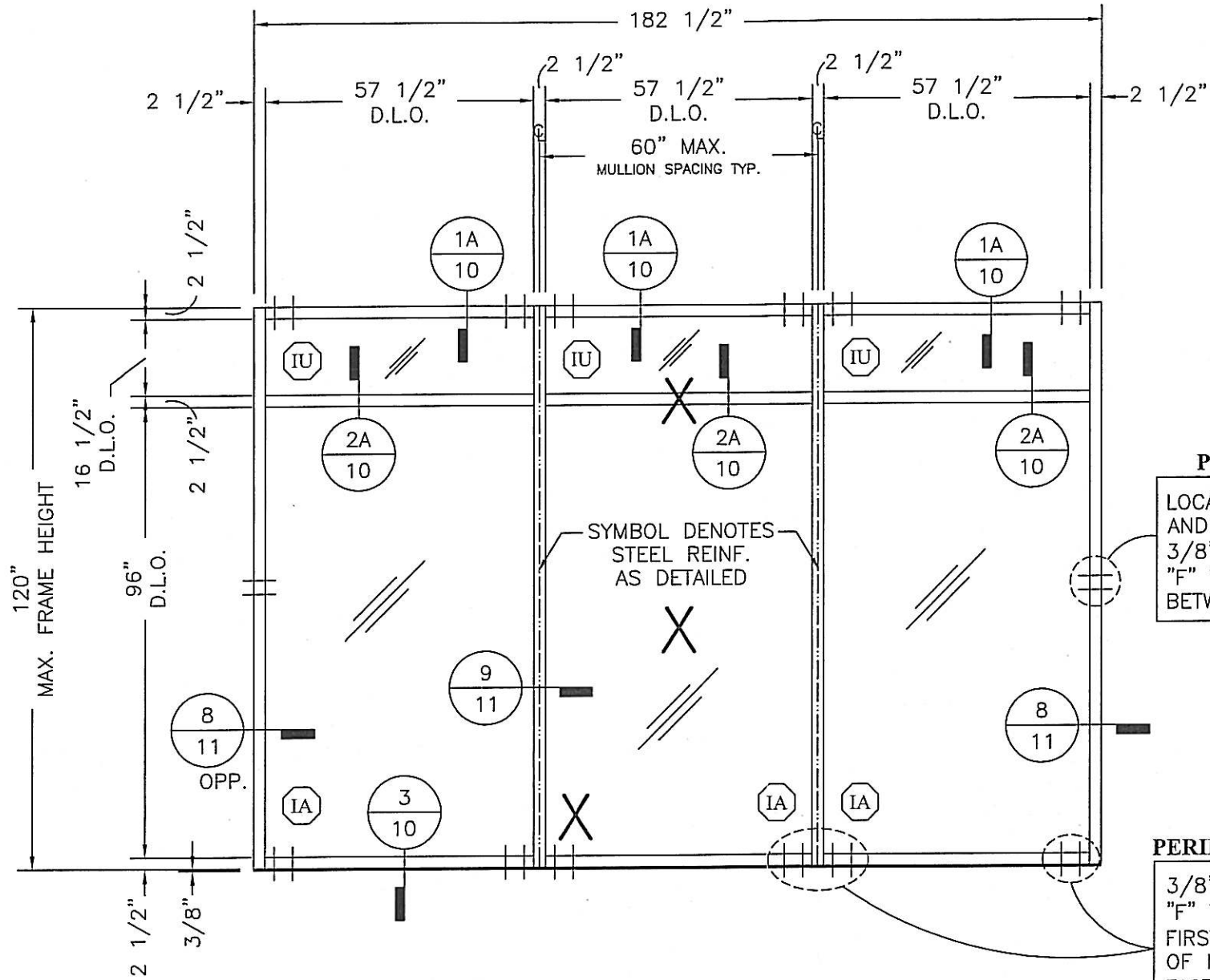
AIR @ 6.24 P.S.F.

X = LARGE MISSILE IMPACT LOCATIONS

STEEL AND CONCRETE TEST BUCK
 2500 P.S.I. CONCRETE @ SILL



TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 CENTER GLAZED IMPACT			FRAMING ELEVATIONS
DATE	9/26/2007	DRAWN	PCH
		CHECKED	JDW
		APPROVED	JDW
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FL550_01			
SHEET			
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PERIMETER FASTENERS
 LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT:
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. 2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS AT HEAD & SILL
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @2" MIN. SPACING BETWEEN ANCHORS.

E2 - LIGHT MULLION WITH STEEL - LONG SPAN

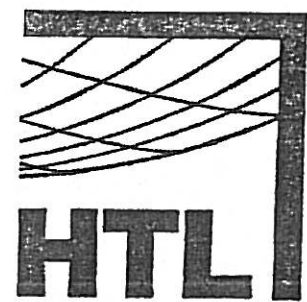
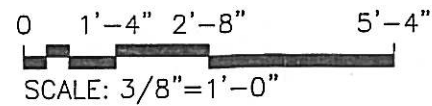
TESTING:
 IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

STEEL TEST BUCK



Tested Unless
 Otherwise Noted
 DATE 10/19/07
 JOB # 6402-0801-07
 6402-0801-07

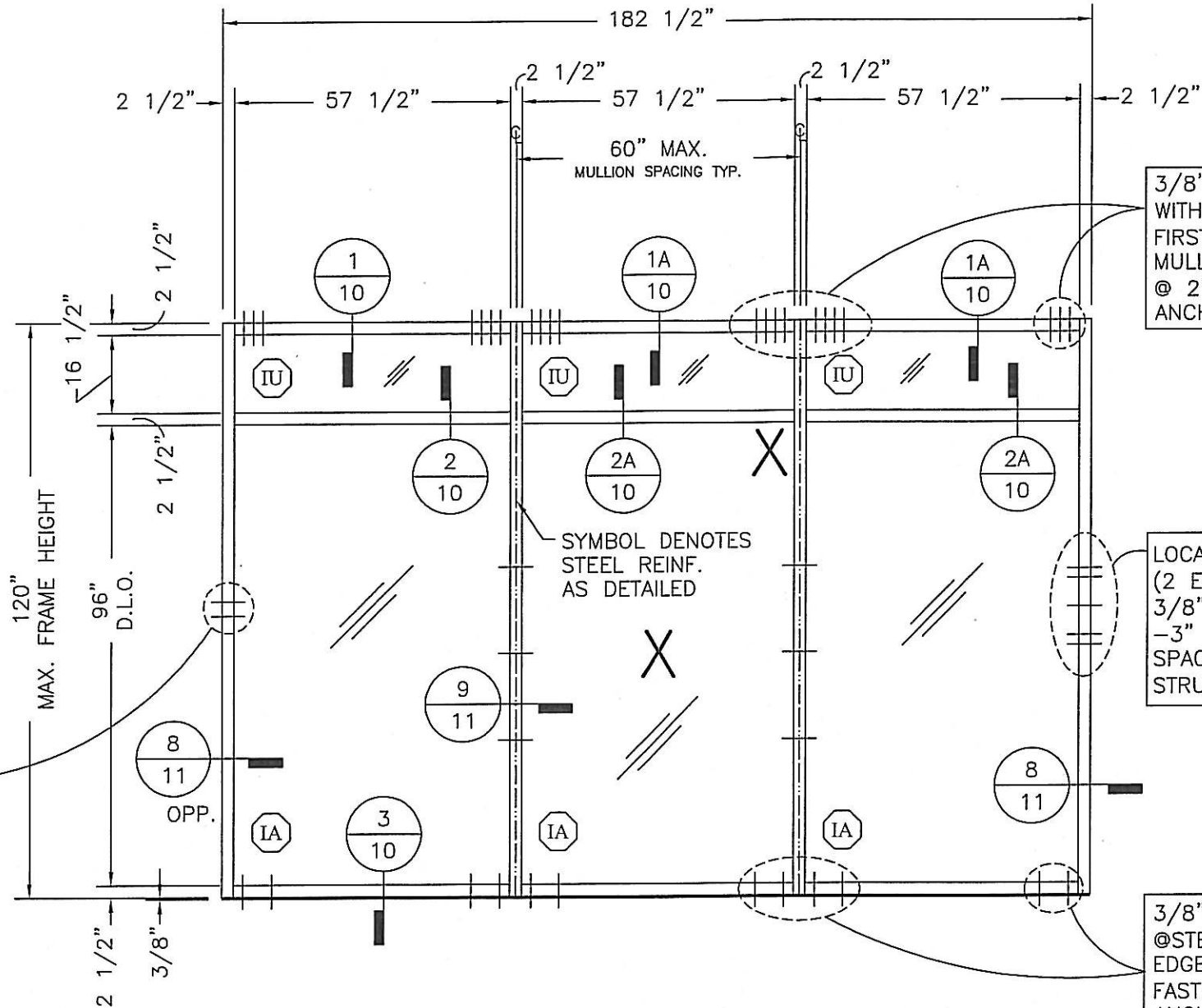
TEST REPORT DRAWINGS FOR
 FL550 WINDOW WALL SYSTEM
 PROTOCOLS: PA201/202/203
 CENTER GLAZED IMPACT

FRAMING ELEVATIONS

DATE	9/26/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	3 OF 15	

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PERIMETER FASTENERS
 3/8" x 3" LAG BOLTS TYP. @WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 2" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 LOCATE (1 EA.) @ MID-POINT AND (2 EA.) ABOVE AND BELOW MID-POINT. 3/8" X 3" LAG BOLTS TYP. @WOOD -3" MIN. EMBEDMENT AND 2" MIN. SPACING BETWEEN ANCHORS. WOOD STRUCTURE IS MIN. #2 SYP.

PERIMETER FASTENERS
 3/8" -16 x 1-1/2" HWH TYPE "F" TCS @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 6" MIN. SPACING BETWEEN ANCHORS.

PERIMETER FASTENERS
 LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT: 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. AT STEEL. 2" MIN. SPACING.

E3 - LIGHT MULLION WITH STEEL - LONG SPAN

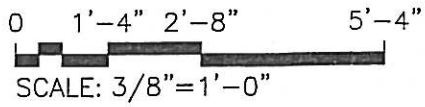
TESTING:
 IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

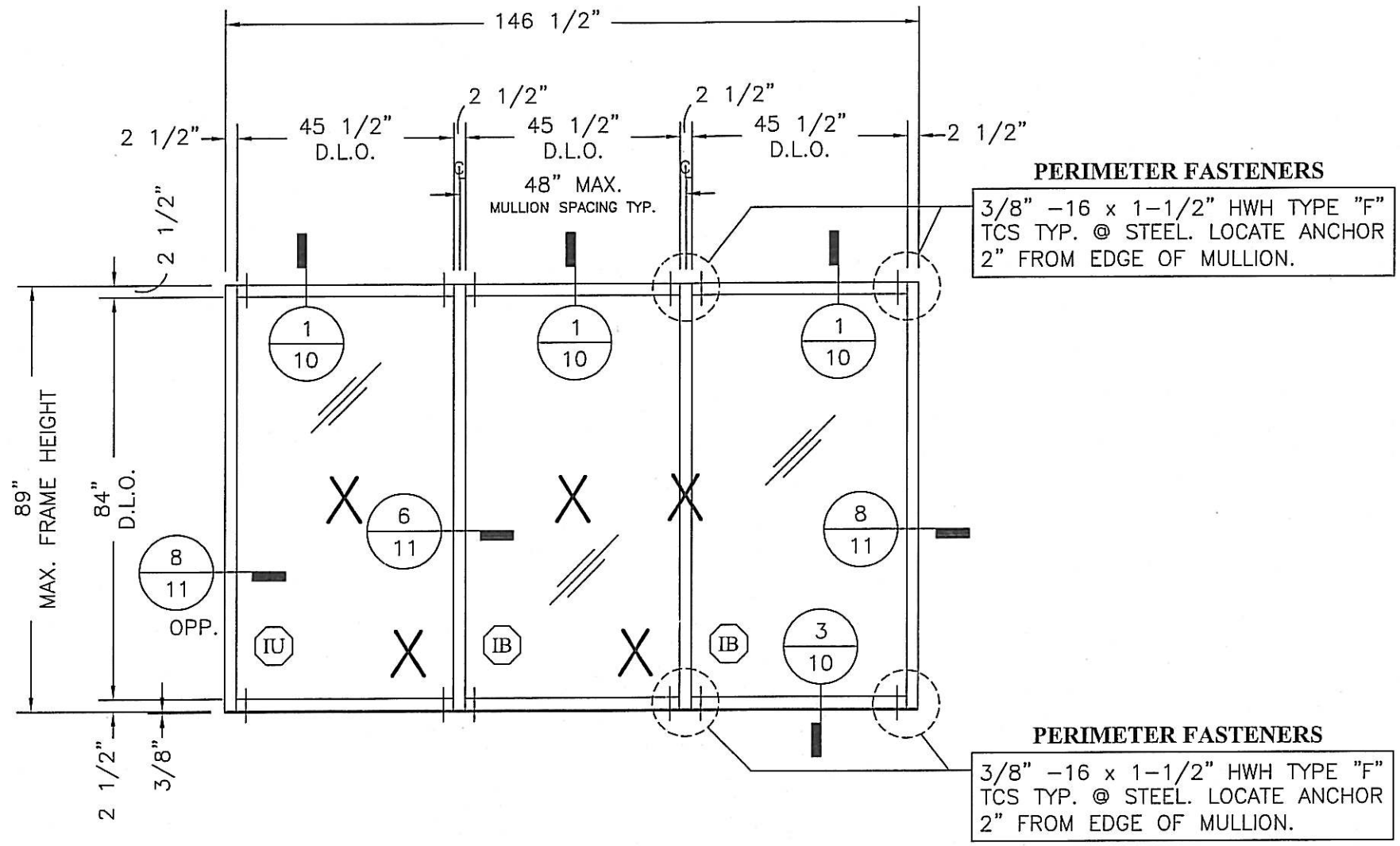
X = LARGE MISSILE IMPACT LOCATIONS

STEEL/WOOD TEST BUCK
 WOOD @HEAD AND RIGHT JAMB



TEST REPORT DRAWINGS FOR		
FL550 WINDOW WALL SYSTEM		
PROTOCOLS: PA201/202/203		
CENTER GLAZED IMPACT		
FRAMING ELEVATIONS		
DATE	9/26/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	4 OF 15	

REV	BY	DATE	DESCRIPTION



E4 - LIGHT MULLION WITHOUT STEEL - SHORT SPAN

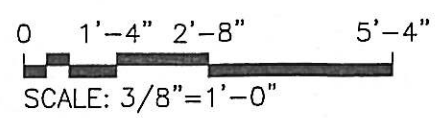
TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.494"

DESIGN PRESSURE = +65/-65 PSF

X = LARGE MISSILE IMPACT LOCATIONS

STEEL TEST BUCK

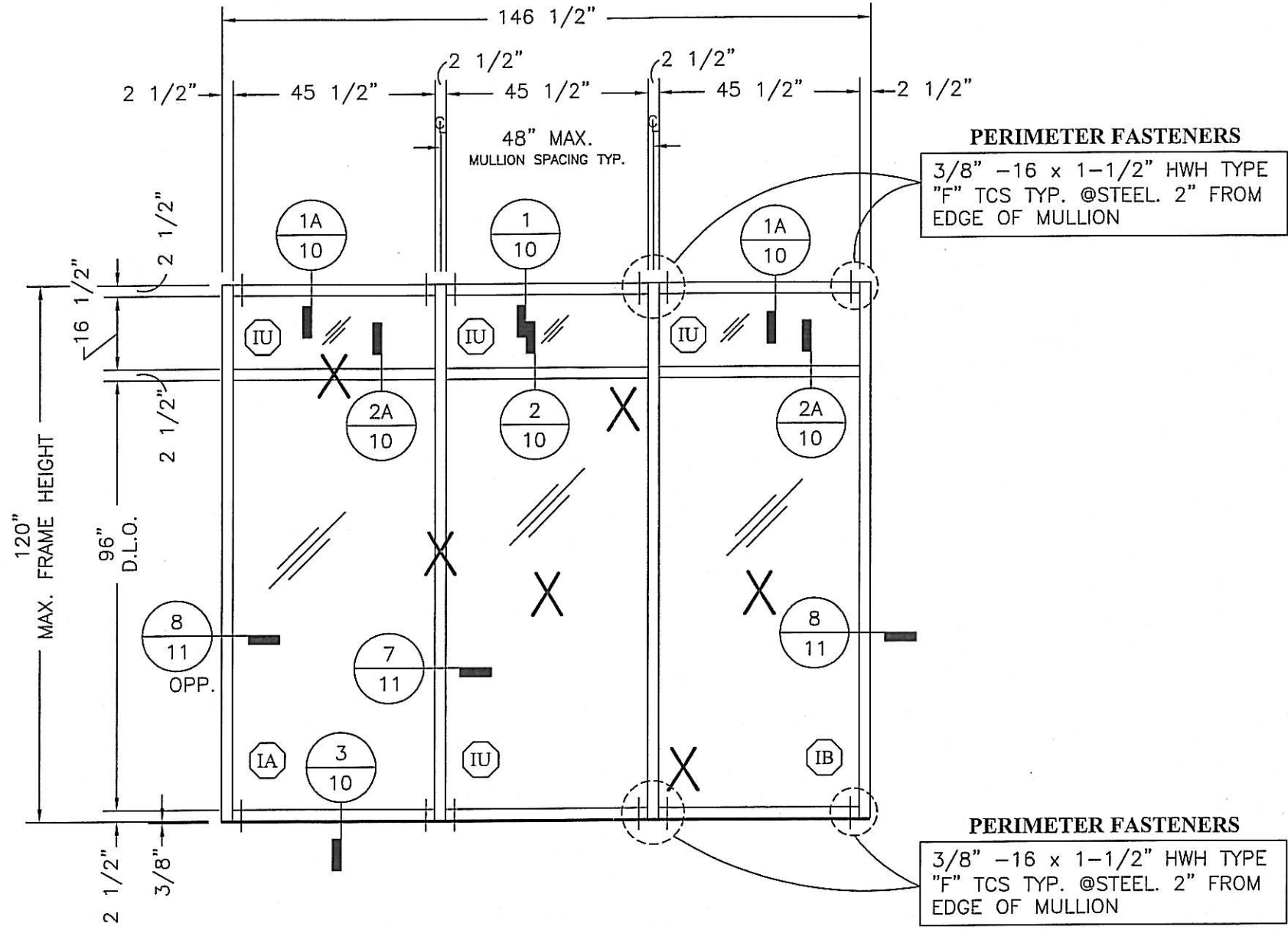


TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
CENTER GLAZED IMPACT

FRAMING ELEVATIONS

DATE	10/12/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	5 OF 15	

REV	BY	DATE	DESCRIPTION
1	PCH	8/25/06	



E6 - HEAVY MULLION WITHOUT STEEL - LONG SPAN

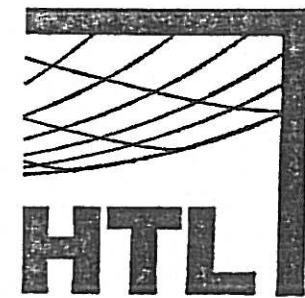
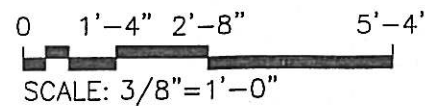
TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +60/-60 PSF

X = LARGE MISSILE IMPACT LOCATIONS

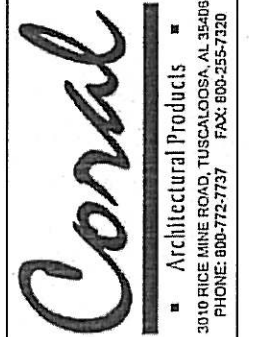
STEEL TEST BUCK



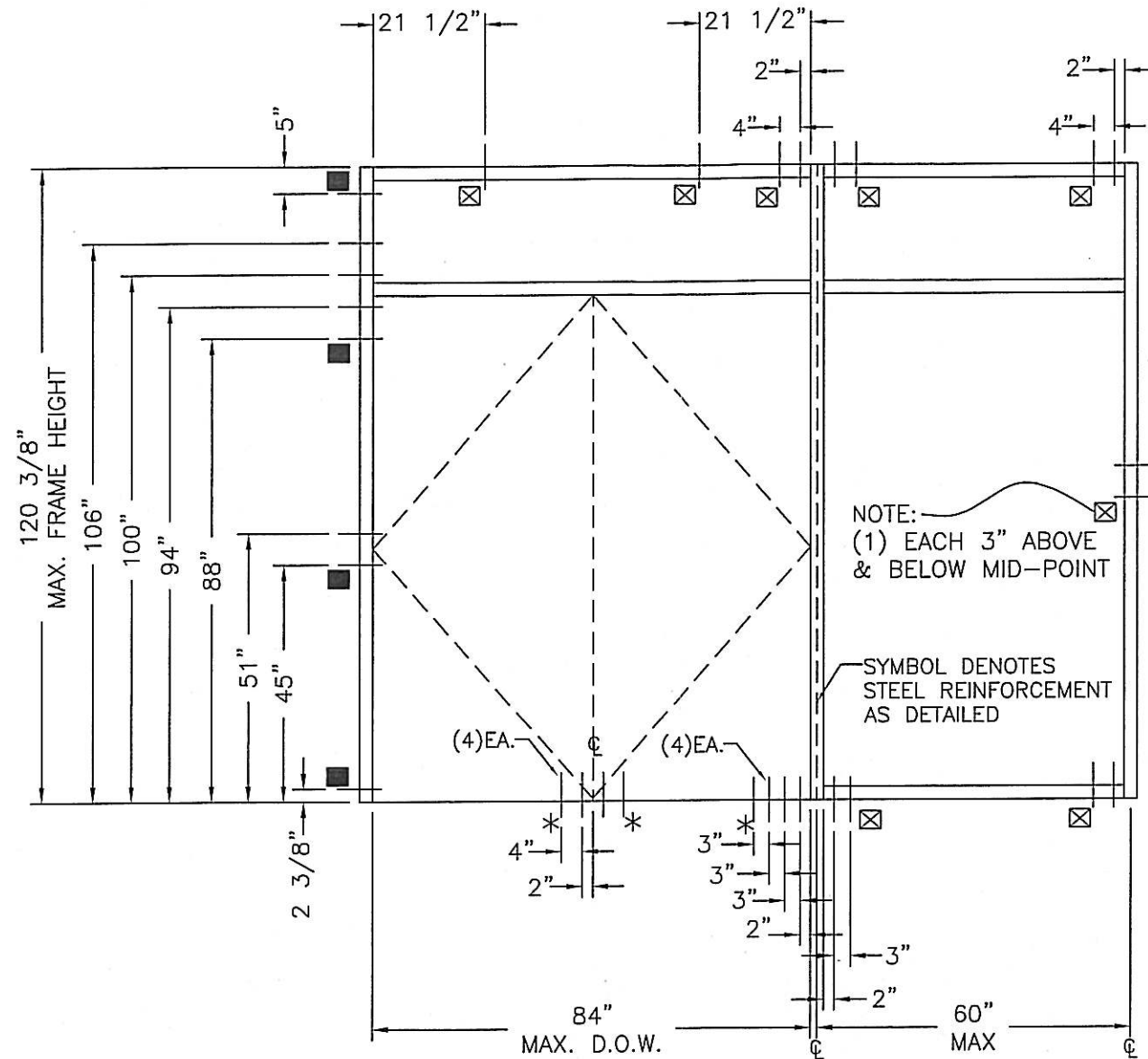
Tested Unless
Otherwise Noted
DATE 10/19/07
JOB # G402-0801-07
G402-102-07

TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
CENTER GLAZED IMPACT
FRAMING ELEVATIONS

DATE	10/12/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	6 OF 15	



REV	BY	DATE	DESCRIPTION



TYP. INSTALLATION INTO: STEEL SUBSTRATE	
■	3/8"φ X 3-1/2" GRADE 2 BOLT, NUT, WASHER AND FILLER PLATE FULL LENGTH OF MULLION
⊠	3/8"φ X 1-1/2" TEK SCREW
*	#12 X 1-1/2" PFH #3 TEK SCREW 2" MIN SPACING (AS27)

NOTE:
(1) EACH 3" ABOVE & BELOW MID-POINT

SYMBOL DENOTES
STEEL REINFORCEMENT
AS DETAILED

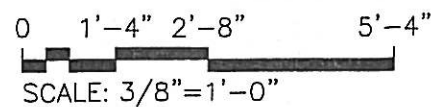
TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

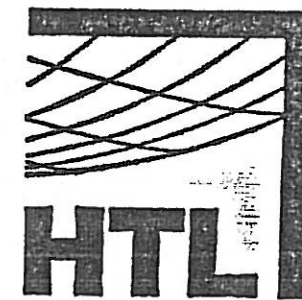
DESIGN PRESSURE = +70/-80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

ELEVATION E7 ANCHOR LOCATIONS



STEEL TEST BUCK

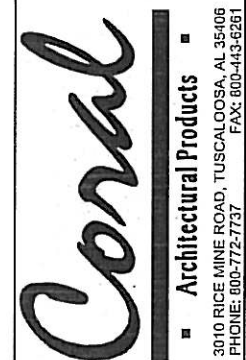


Tested Unless
Otherwise Noted
DATE 10/10/07
JOB # G-407-0801-07
G-402-1102-07

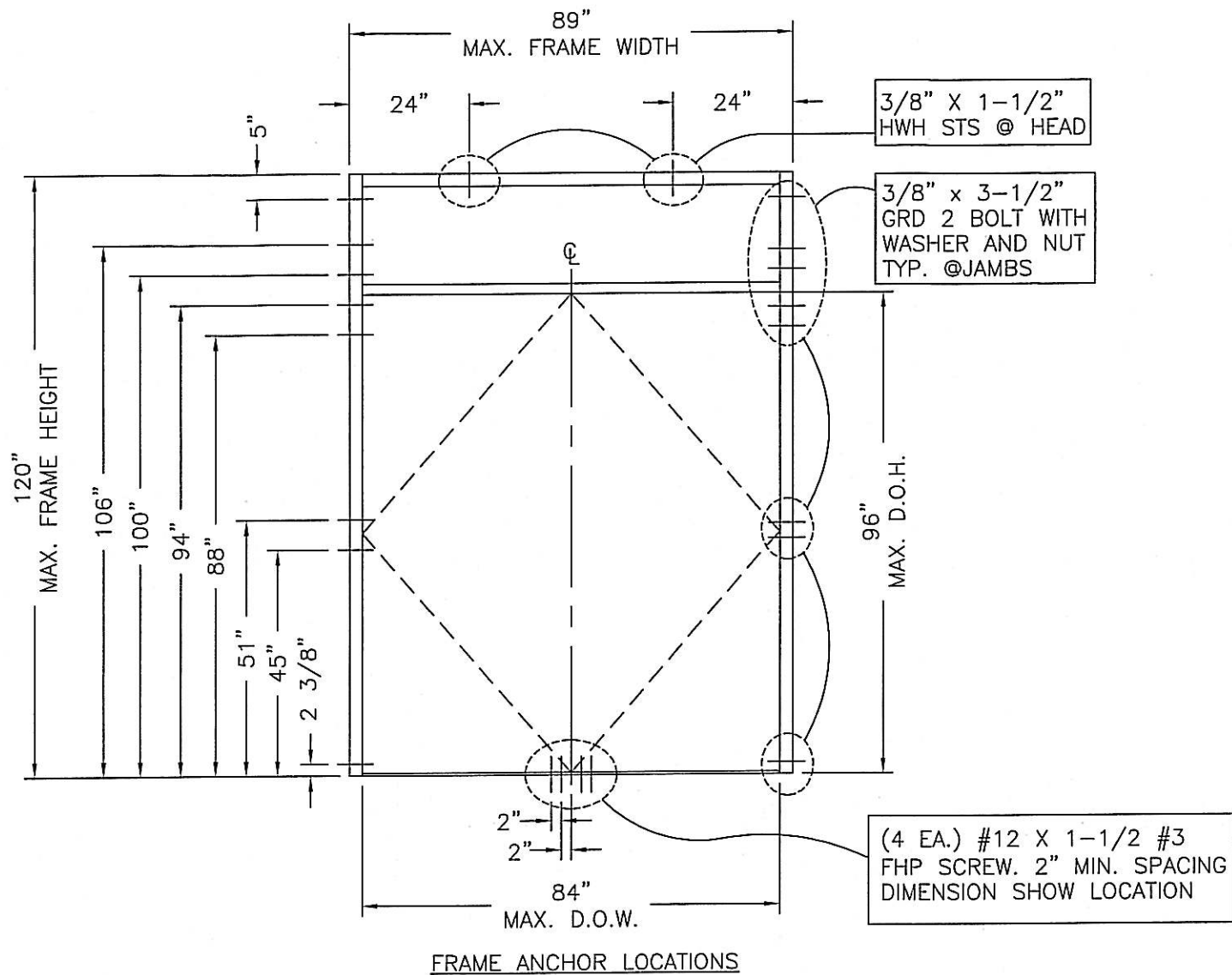
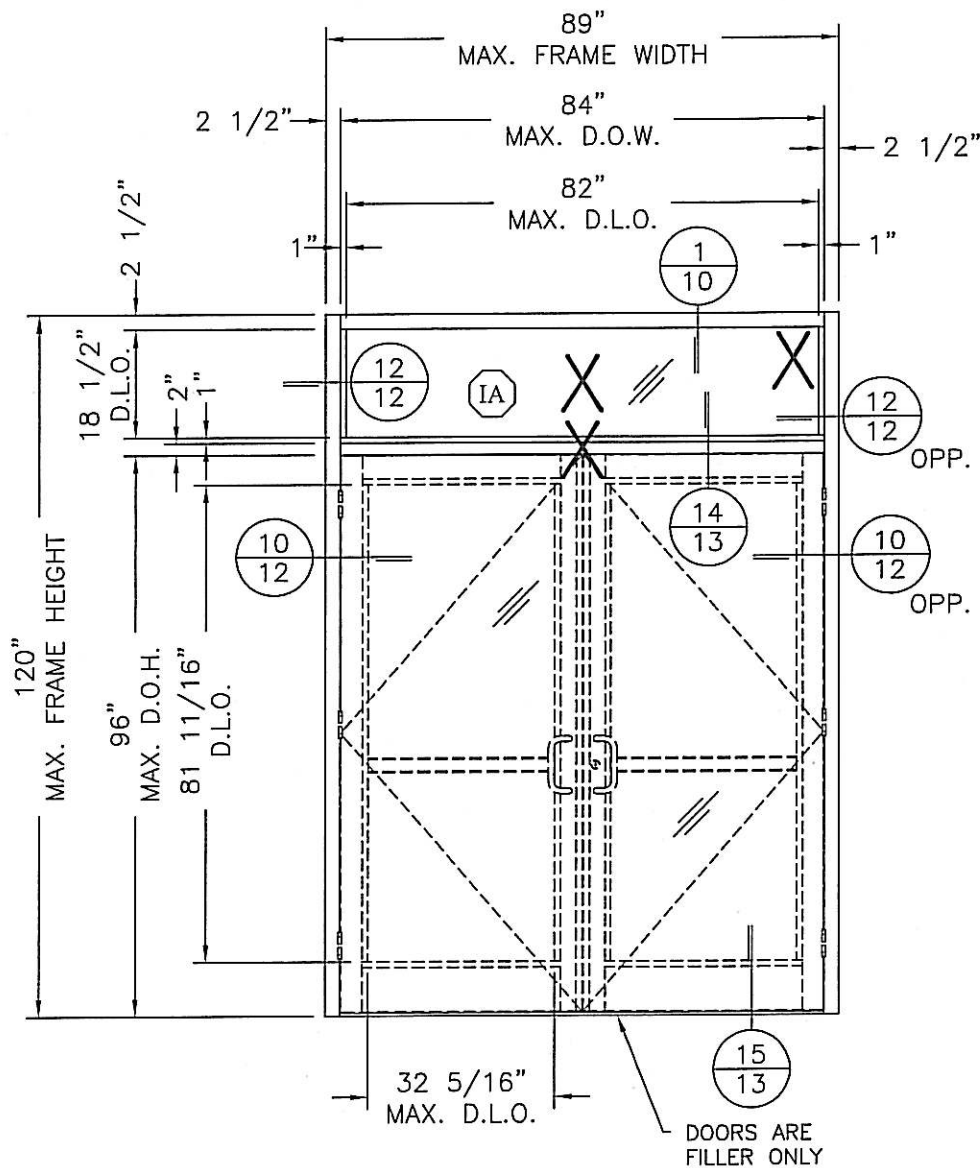
TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203

FRAMING ELEVATIONS

DATE	10/12/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
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REV	BY	DATE	DESCRIPTION



ELEVATION E8
SERIES 381 IMPACT RESISTANT DOORS
WITH 3 PT LOCK AND C.O.C. WITH
OFFSET ARM IN FL500/550 FRAMING
(REF. HDW. SCHEDULE E2)

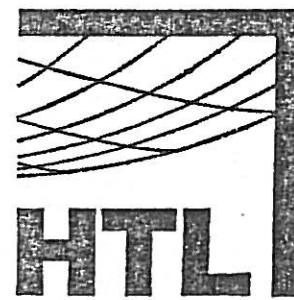
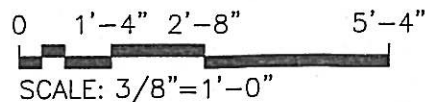
TESTING:
 STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION = 0.667"

DESIGN PRESSURE = +70/-80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

STEEL TEST BUCK



Tested Unless
 Otherwise Noted
 DATE: 10/19/07
 JOB #: G-407 - 0861 - 07
 G-407-2007

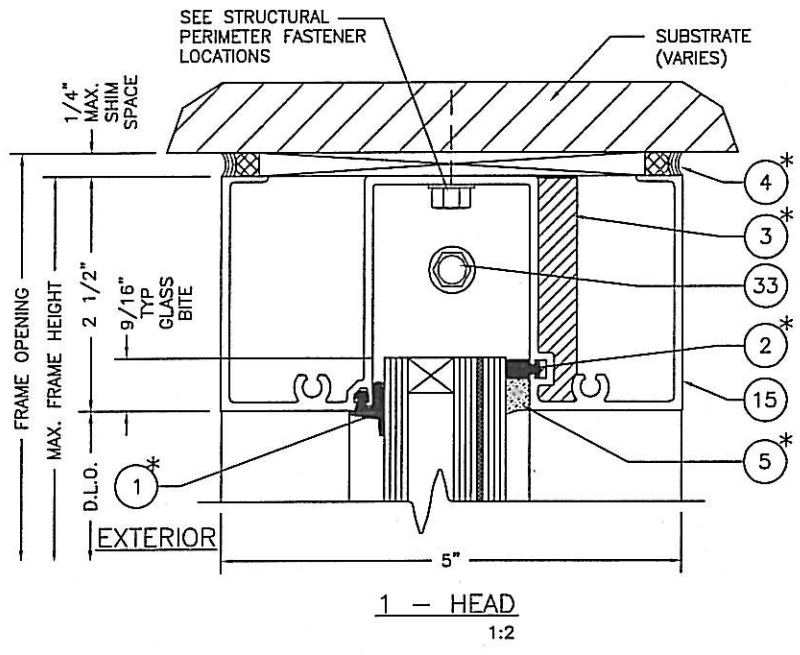
TEST REPORT DRAWINGS FOR
 FL550 WINDOW WALL SYSTEM
 PROTOCOLS: PA201/202/203

FRAMING ELEVATIONS

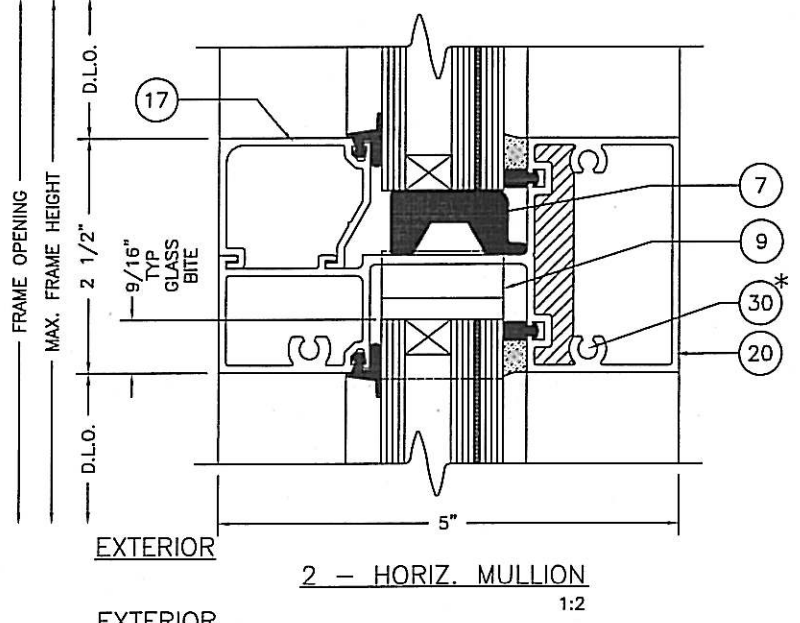
DATE	10/12/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
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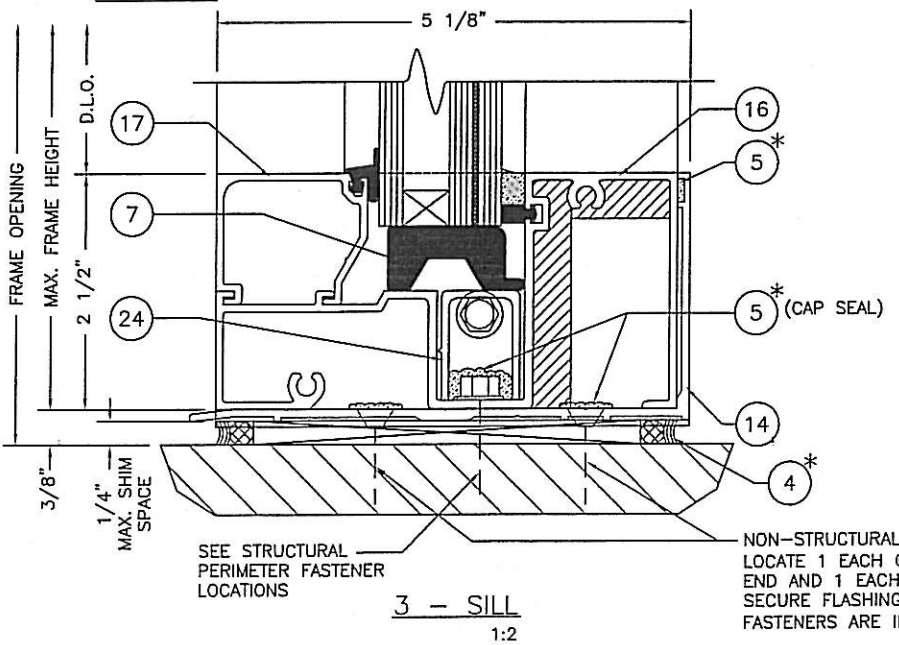
REV	BY	DATE	DESCRIPTION



1 - HEAD
1:2



2 - HORIZ. MULLION
1:2

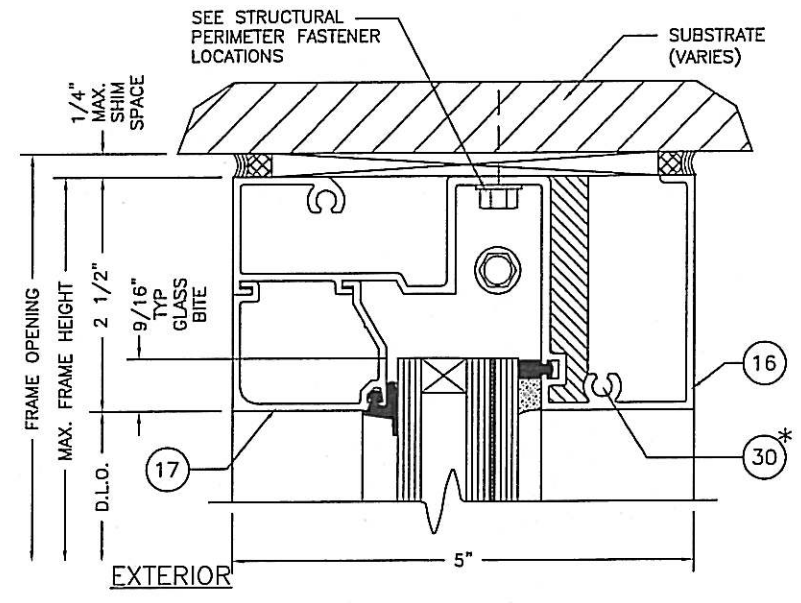


3 - SILL
1:2

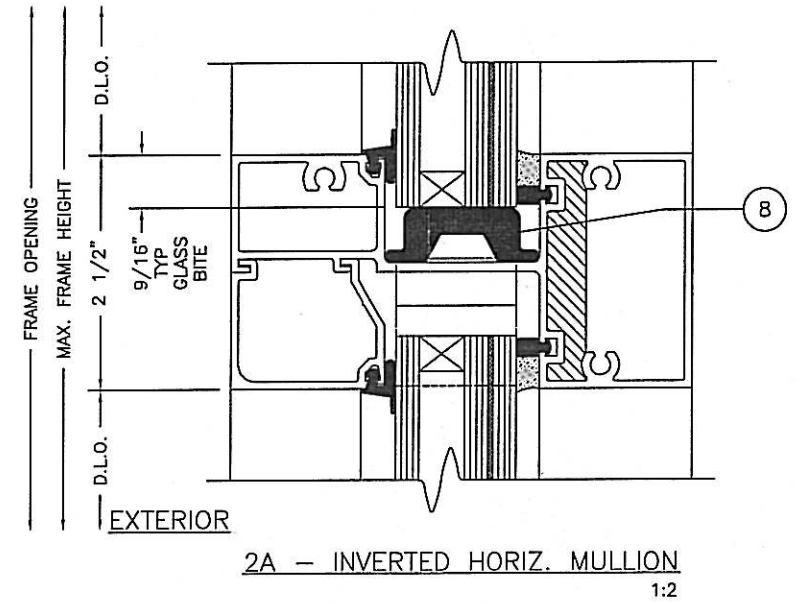
NON-STRUCTURAL FASTENERS LOCATE 1 EACH @ 24" FROM EACH END AND 1 EACH @ MID-POINT TO SECURE FLASHING UNTIL PERIMETER FASTENERS ARE INSTALLED. (CAP SEAL) 5*

- 1* TYPICAL EXTERIOR GASKET
- 2* TYPICAL INTERIOR GASKET
- 3* TYPICAL @ ALL JOINT INTERSECTIONS

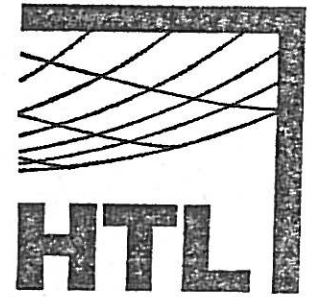
- 4* TYPICAL PERIMETER SEALANT
- 5* TYPICAL INTERIOR SEALANT @ GLASS
- 30* TYPICAL AT ALL SPLINES



1A - ALTERNATE HEAD
1:2




2A - INVERTED HORIZ. MULLION
1:2



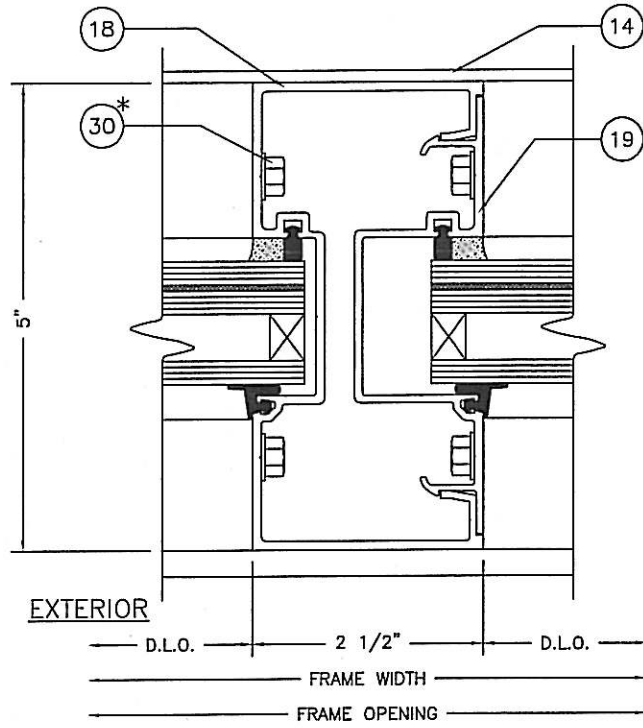
Tested Unless Otherwise Noted
DATE 10/19/07
JOB # G-407-0801-01
G-402-1202-07

TEST REPORT DRAWINGS FOR FL550 WINDOW WALL SYSTEM PROTOCOLS: PA201/202/203 CENTER GLAZED IMPACT			FRAMING DETAILS	
DATE	9/26/2007			
DRAWN	CHECKED	APPROVED		
PCH	JDW	JDW		
PROJECT NO.				
DRAWING NO.	FL550_01			
SHEET	10 OF 15			

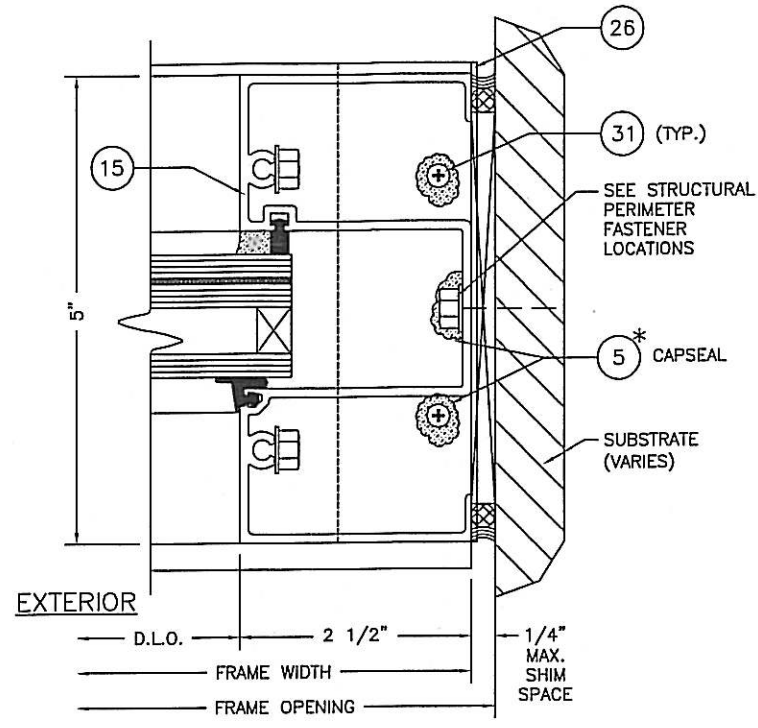


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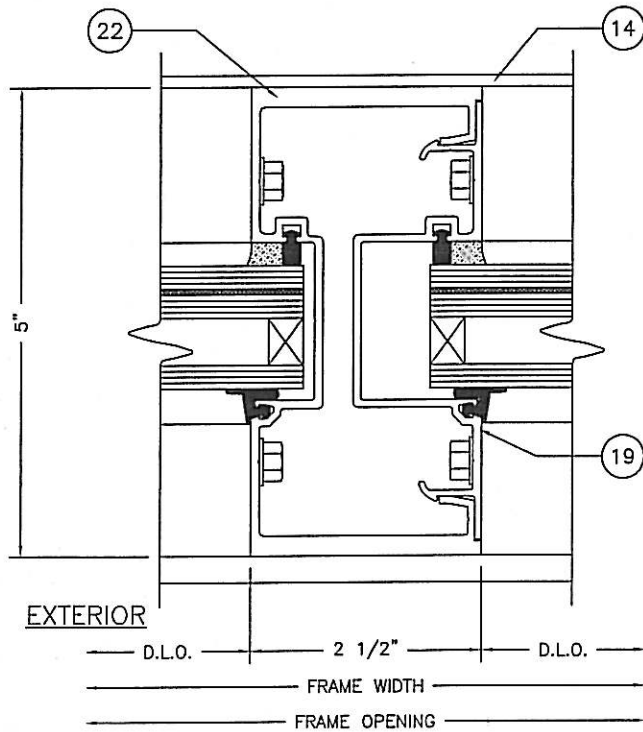
REV	BY	DATE	DESCRIPTION



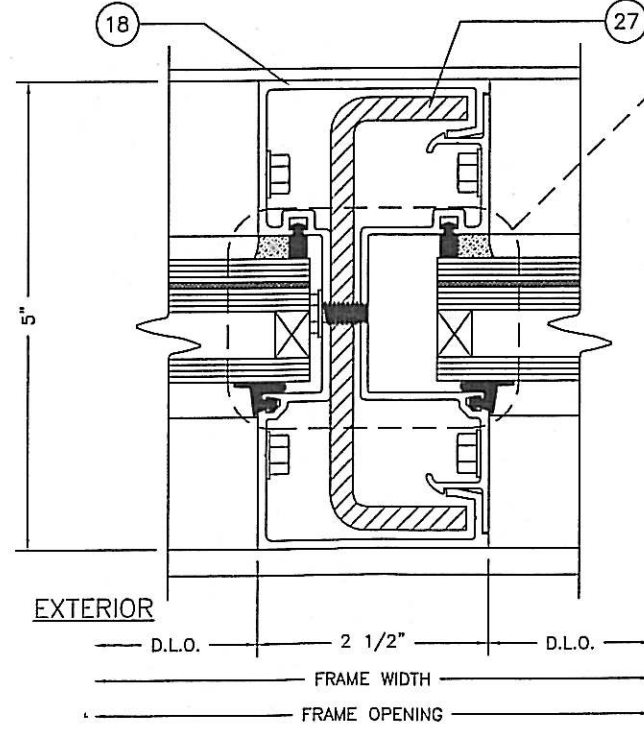
6 - VERT. MULLION
1:2



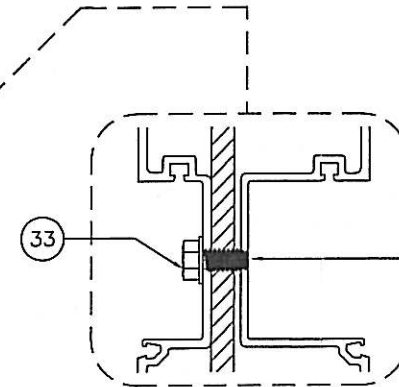
8 - JAMB
1:2



7 - HEAVY VERT. MULLION
1:2



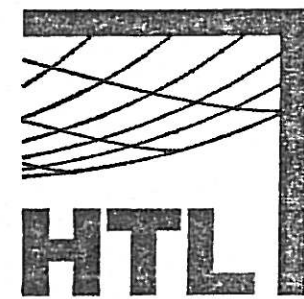
9 - VERT. MULLION WITH STEEL
1:2



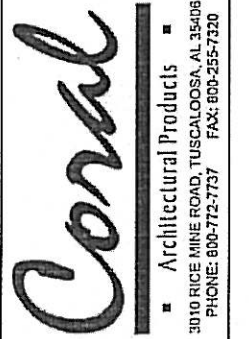
STEEL ATTACHMENT

DRILL $\phi 13/64$ " (#7 DRILL) HOLE FOR $1/4$ " STS FASTENER 1" FROM EACH END OF MULLION AND ATTACH STEEL

NOTE:
IF FASTENER IS FINE THREAD,
DRILL $\phi 7/32$ " (#3 DRILL) HOLE



Tested Unless
Otherwise Noted
DATE 10/19/07
JOB # G-457-0801-07
G402-1202-07

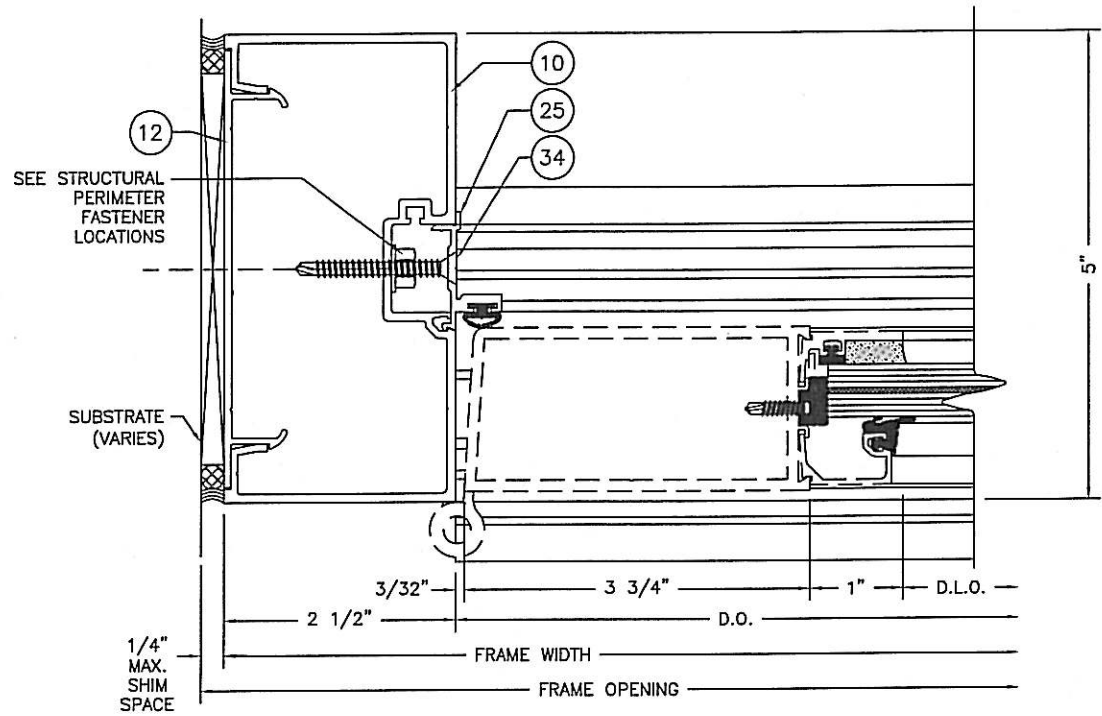


TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
CENTER GLAZED IMPACT

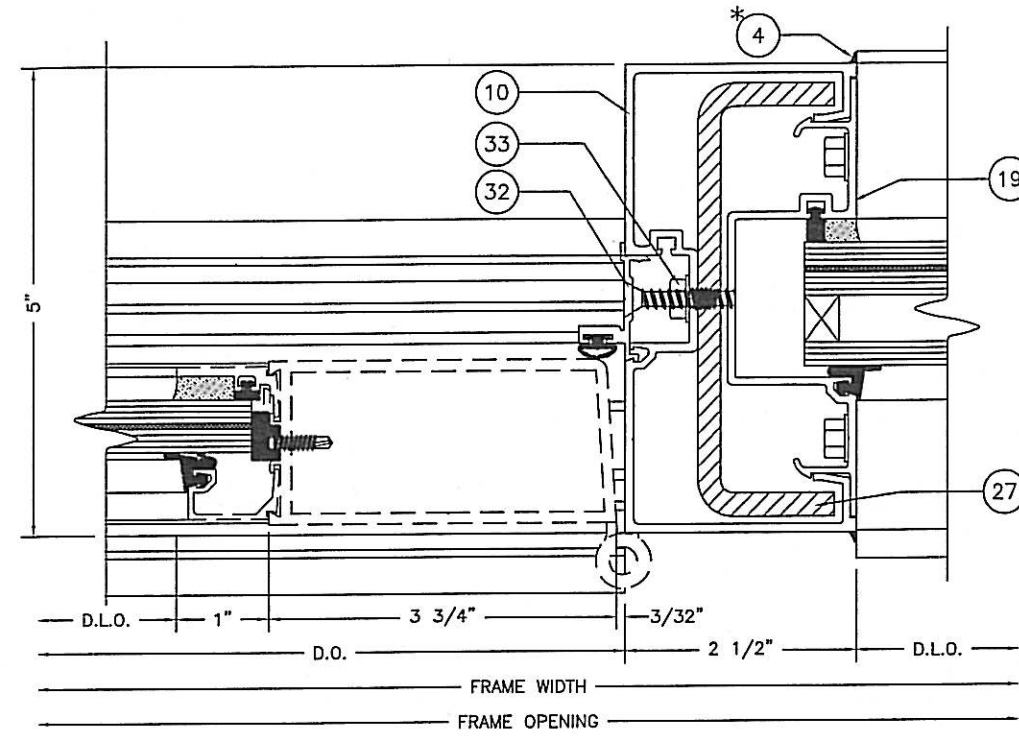
FRAMING DETAILS

DATE	9/26/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	11 OF 15	

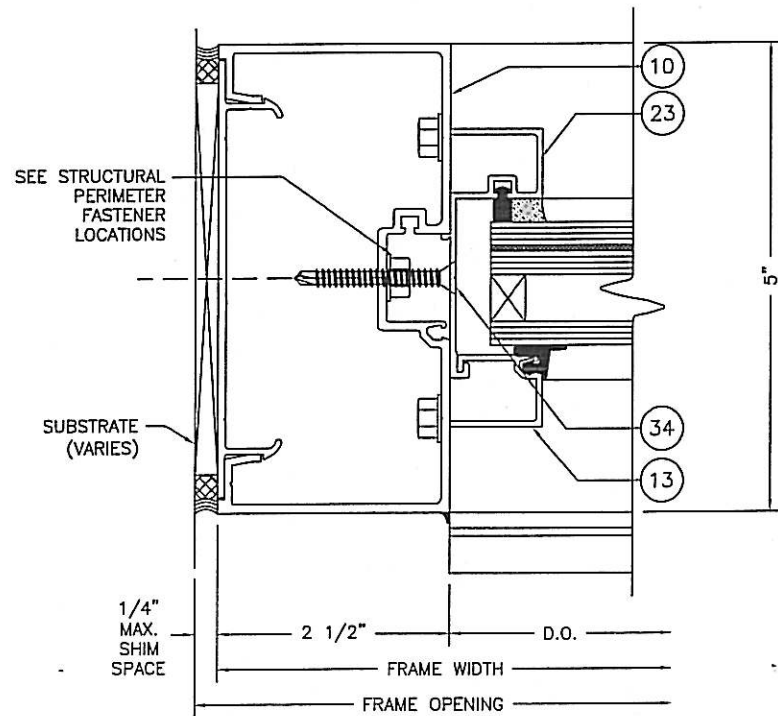
REV	BY	DATE	DESCRIPTION



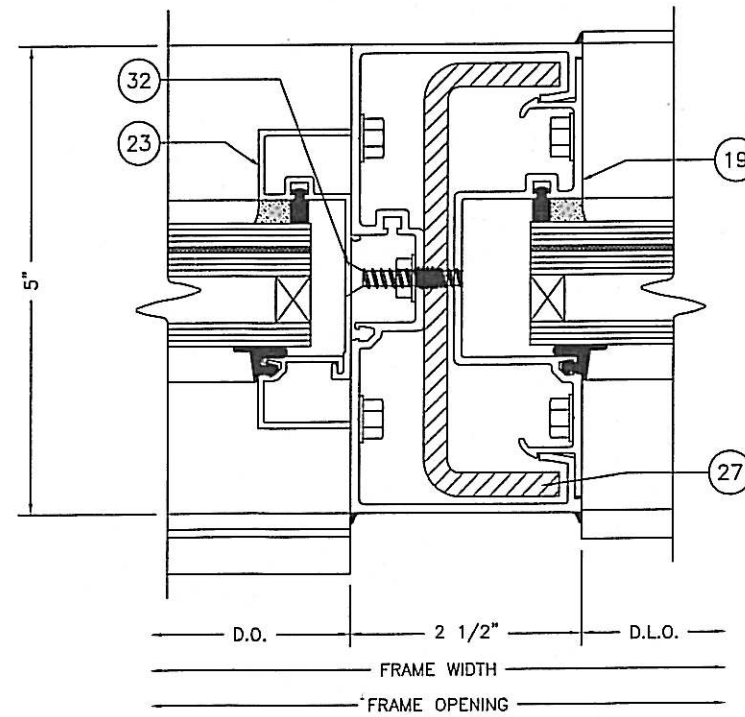
10 - DOOR JAMB AT WALL
1:2



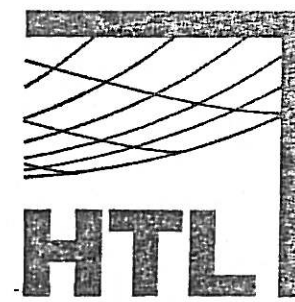
11 - INTERM. DOOR JAMB
1:2



12 - TRANSOM JAMB AT WALL
1:2



13 - INTERM. DOOR JAMB @ TRANSOM
1:2



Tested Unless
Otherwise Noted
DATE 10/19/07
JOB # 407-0501-07
6602-1202-07

TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203

FRAMING DETAILS

DATE	10/12/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	12 OF 15	

Coral
Architectural Products
3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 800-443-6261

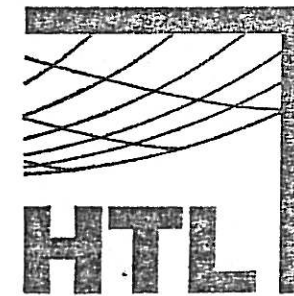
REV	BY	DATE	DESCRIPTION

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG1	EXTERIOR GLAZING GASKET	0.120 SPACE	EPDM	VARIES	
2	NG14	INTERIOR SPACER GASKET	0.250 SPACE	EPDM	VARIES	
3	SM5601	JOINT SEALANT TAPE	0.500 X 0.125 X VARIES	BUTYL	SCHNEE-MOOREHEAD	
4	795	SILICONE - PERIMETER SEALANT	FILL SPACE	SILICONE	DOW CORNING	USED @ PERIMETER
5	995	SILICONE - GLASS TO METAL	FILL SPACE	SILICONE	DOW CORNING	GLASS TO METAL AND INTERNAL
6	SB7	SETTING BLOCK @ DOOR HEADER	.313 X 1.250 X 4.000	EPDM	VARIES	2 PER LITE
7	SB15	SETTING BLOCK @ SILL & HORIZONTAL	0.687 X 1.468 X 4.000	EPDM	VARIES	2 PER LITE
8	SB16	SETTING BLOCK @ INVERTED HORIZONTAL	0.588 X 1.671 X 4.000	EPDM	VARIES	2 PER LITE
9	WD300-1	WATER DIVERTER	1.358 X 1.344 X 4.000	INJECTION MOLDED PLASTIC	CORAL INDUSTRIES, INC.	@ EACH END OF HORIZONTAL
10	FL504	STD. VERTICAL MULLION/DOOR JAMB	2.500 X 5.000 X .094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
11	FL507	DOOR HEADER FOR SURFACE CLOSER	2.500 X 4.980 .080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
12	FL515	FLAT FILLER AT DOOR JAMB	.681 X 4.670 X .080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
13	FL518	TRANSOM GLASS STOP	1.000 X .767 X .062	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
14	FL519	SUBSILL FLASHING	2.620 X 5.402 X 0.084	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
15	FL551	HEAD OR WALL JAMB	2.500 X 5.000 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
16	FL552	SILL OR HEAD	2.500 X 4.980 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
17	FL553	GLASS STOP	1.250 X 1.646 X 0.078	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
18	FL554	STD. VERTICAL MULLION/DOOR JAMB	2.500 X 5.000 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
19	FL555	OPEN BACK MULLION FILLER	0.681 X 4.670 X 0.080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
20	FL556	INTERMEDIATE HORIZONTAL	2.500 X 4.980 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
21	FL562	DOOR HEADER	2.500 X 4.980 X .094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
22	FL566	HEAVY VERTICAL MULLION	2.500 X 5.000 X 0.213	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
23	FL567	TRANSOM SASH	1.00 X 2.668 X .062	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
24	CS500-1	SETTING CHAIR	1.156 X 0.844 X 0.078	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
25	DS500	DOOR STOP	.648 X 1.260 X .094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
26	ED519-1	SILL FLASHING END DAM	2.500 X 1.000 X 0.062	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
27	SR504	STEEL REINFORCEMENT	4.562 X 1.250 X 0.250	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (18)
28		NOT USED				
29	AS31	FASTENER	#6 X 3/8" PPH	STEEL	VARIES	ATTACH (23) TO (21)
30	AS16	FASTENER	#14 X 1" HHSTS	STEEL	VARIES	TYP. SPLINE SCREW VERTICAL/HORIZONTAL JOINTS
31	AS21	FASTENER	#6 X 1/4" PPH	STEEL	VARIES	ATTACH (26) TO (14)
32	AS27	FASTENER	#12 X 1-1/2" #3 S.D. PFH	STEEL	VARIES	1" MIN. EMBED NON-STRUCTURAL/ (25) TO (10)
33	AS38	FASTENER	#10-24 X 3/8" FHP HH	S. STEEL	VARIES	ATTACH (27) TO (18)
34	AS39	FASTENER	#10 X 1-3/4" FHP S.D.	S. STEEL	VARIES	ATTACH (23) TO (10) /ATTACH (25) TO (10)
35		FASTENER FOR ANCHORING (15) TO WOOD SUBSTRATE	#12 X 2" PFH WOOD SCREW	STEEL	VARIES	1" MINIMUM EMBEDMENT NON-STRUCTURAL
36		FASTENER FOR ANCHORING (14) TO CONCRETE SUBSTRATE	#12 X 2" PFH TAPCON	STEEL	VARIES	1" MINIMUM EMBEDMENT NON-STRUCTURAL
37	TH4	THRESHOLD	.500 X 4.000 X .125	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	

GLAZING SCHEDULE

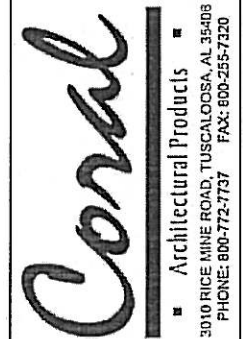
GLASS DESCRIPTION	N.O.A.	MANUFACTURER	GLASS MARK	MAXIMUM D.L.O. SIZE (INCHES)	SQUARE FEET	MAXIMUM DESIGN PRESSURE (PSF)
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.075 VS02 INTERLAYER -1/4" H.S.	03-0514.15	SOLUTIA	IA	57-1/2" X 96"	38.3	+80/-80
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.090 PVB SOLUTIA INTERLAYER -1/4" H.S.	03.0105.02	SOLUTIA	IB	45-1/2" X 96"	30.3	+60/-60
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.120 UVEKOL "S" INTERLAYER -1/4" H.S.	03.1117.05	UVEKOL	IU	45-1/2" X 96"	30.3	+60/-60
1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -0.090 PVB SOLUTIA INTERLAYER -1/4" H.S.	03.0105.02	SOLUTIA	IB	45-1/2" X 84"	26.5	+65/-65
1-5/16" INSULATED -1/4" TEMPERED -1/2" AIR SPACER -1/4" H.S. -0.075 VS02 INTERLAYER -1/4" H.S.	03-0514.15	SOLUTIA	TIA	57-1/2" X 96"	38.3	+80/-80



Tested Unless
Otherwise Noted
DATE 10/19/07
JOB # C-407-C561-C7
C-02-1102-07

TEST REPORT DRAWINGS FOR
 FL550 WINDOW WALL SYSTEM
 PROTOCOLS: PA201/202/203
 CENTER GLAZED IMPACT
 BILL OF MATERIALS AND GLAZING
 SCHEDULE

DATE	9/26/2007	
DRAWN	CHECKED	APPROVED
PCH	JDW	JDW
PROJECT NO.		
DRAWING NO.	FL550_01	
SHEET	14 OF 15	



DESCRIPTION

DATE

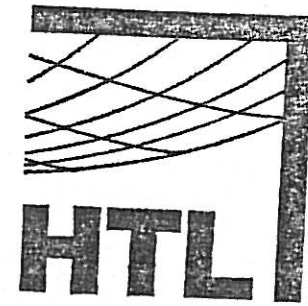
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BY

HARDWARE SCHEDULES

DADE COUNTY PRODUCT APPROVAL				DOOR MARK	DOOR: # TYPICAL	ELEV: TYPICAL
IMPACT	X	NOA		DOOR SIZE	7'-0 X 8'-0" PAIR	
		DOOR HINGING		LOCKING DEVICE	MANUFACTURER	NOTES:
DOOR TYPE	B.H.	C.G.H.	O.P.	DH072-96	X	VARIES
SERIES 381	X	▼	▼	EXIT DEVICES:		NOTES:
				JACKSON	▼	2086
						CVR PANIC
HARDWARE DESCRIPTION			PART NUMBER	QTY	MANUFACTURER	USED
CLOSER - SURFACE MOUNTED			CL026	0	VARIES	X
CLOSER - CONCEALED OVERHEAD			CL205 H.D. W/ O. A. ASSY	0	JACKSON	▼
BUTT HINGE 4 1/2" X 4"			DH109	6	HAGER	X
PULL HANDLE			PH1-10	1	CORAL	X
PUSH BAR			PB1-39	1	CORAL	X
CYLINDER (ACTIVE)			DH078	1	VARIES	X
THUMB TURN (ACTIVE) OPTIONAL			DH079	1	VARIES	X
CYLINDER (ACTIVE) FOR VON DUPRIN EXIT			DH081 (RIM CYLINDER)	0	VARIES	▼
LOCK (ACTIVE)			DH072-96 (3-PT. LOCK)	1	VARIES	X
LOCK INDICATOR (ACTIVE) OPTIONAL			DH074	0	VARIES	▼
FLUSH BOLT (INACTIVE) TOP/BTM 84" DOOR			DH176	1	VARIES	X
FLUSH BOLT (INACTIVE) TOP ONLY 96" DOOR			DH176-96	1	VARIES	X
PANIC STOP			DP200-2	1	CORAL	X
THRESHOLD			TH4	1	CORAL	X
DOOR BOTTOM SWEEP			WS142	2	CORAL	X
NOTES:						
C.V.R. = CONCEALED VERTICAL ROD						

X= APPLIES
▼=NOT APPLICABLE



Tested Unless
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DATE 10/19/07
JOB # 042-080-07
602-120-07

TEST REPORT DRAWINGS FOR
FL550 WINDOW WALL SYSTEM
PROTOCOLS: PA201/202/203
HARDWARE SCHEDULE

DATE	10/12/2007	
DRAWN	CHECKED	APPROVED
<i>PCH</i>	<i>JDW</i>	<i>JDW</i>
PROJECT NO.		
DRAWING NO.		
FL550_01		
SHEET		
15 OF 15		

Coral
Architectural Products
3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 800-443-6261

REV	BY	DATE	DESCRIPTION