

ASTM E 1886 and ASTM E 1996 TEST REPORT

Report No.: A2653.02-401-44

Rendered to:

CORAL ARCHITECTURAL PRODUCTS
Tuscaloosa, Alabama

PRODUCT TYPE: Curtain Wall
SERIES/MODEL: PW257 Captured

This report contains in its entirety:

Cover Page: 1 page
Report Body: 18 pages
Sketches: 4 pages
Drawings: 15 pages

Test Dates: 11/11/10
Through: 11/15/10
And: 01/28/11
Report Date: 03/23/11
Test Record Retention End Date: 01/28/15

1.0 Report Issued To: Coral Architectural Products
3010 Rice Mine Road
Tuscaloosa, Alabama 35406

2.0 Test Laboratory: Architectural Testing, Inc.
2250 Massaro Boulevard
Tampa, Florida 33619
813-628-4300

3.0 Project Summary:

3.1 Product Type: Curtain Wall

3.2 Series/Model: PW257 Captured

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The samples tested met the performance requirements set forth in the referenced test procedures for a ± 3112 Pa (± 65.0 psf) Design Pressure with missile impacts corresponding to Missile Level D and Wind Zone 4.

3.4 Test Dates: 11/11/2010 - 11/11/2010 and 01/28/2011

3.5 Test Location: Architectural Testing, Inc. test facility in Tampa, Florida.

3.6 Test Sample Source: The test specimens were provided by the client. Representative samples of the test specimen(s) will be retained by Architectural Testing for a minimum of four years from the test completion date.

3.7 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix C. Any deviations are documented herein or on the drawings.

3.8 List of Official Observers:

<u>Name</u>	<u>Company</u>
Bill Smith	Coral Architectural Products
Shawn G. Collins, P.E.	Architectural Testing, Inc.
Don Beltz	Architectural Testing, Inc.
John McClane	Architectural Testing, Inc.

4.0 Test Specification(s):

ASTM E 1886-05, *Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.*

ASTM E 1996-05, *Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Wind Borne Debris in Hurricanes.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Test Specimens #1, #2 and #3:

Overall Area: 10.2 m ² (109.9 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	3721	146.5	2743	108

5.2 Frame Construction:

Frame Member	Material	Description
Head / sill	Extruded aluminum	Drawing #16 (PW203), #23 (PW613) and #25 (PW652) on sheet 15 of 15
Vertical mullion	Extruded aluminum	Drawing #14 (PW151), #15 (PW202) and #24 (PW650) on sheet 15 of 15
Horizontal mullion	Extruded aluminum	Drawing #16 (PW203) and #26 (PW655) on sheet 15 of 15
Jambs	Extruded aluminum	Drawing #24 (PW650), #15 (PW202), #23 (PW613)

	Joinery Type	Detail
All frame corners	Mechanical	The horizontal members were butt joints, sealed with 0.50" x 0.125" Isocryl joint sealant tape and secured with three (3) #14 x1" hex head screws; through the vertical members into the adjacent horizontal members screw spline.

5.3 Sash/Vent/Panel Construction: Not utilized

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
Exterior glazing gasket (NG10)	2 Rows	Underside of pressure bar; outer edges
Exterior perimeter gasket (NG11)	1 Row	Underside of the pressure bar; outer edge at the perimeter frame members
Pressure bar isolator (NG12)	1 Row	Underside of the pressure bar; center
Interior gasket (NG14)	1 Row	Exterior side of vertical and horizontal mullions; glazing perimeter

5.5 Glazing:

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
1-5/16" IG	1/2" reinforced butyl system 1/2" metal spacer (replacement units only)	1/4" HS - 0.090" PVB interlayer - 1/4" - HS	1/4" - HS	The glass was exterior glazed against a 1/4" rubber stop and back sealed with Dow 995 sealant. The glass was secured from the exterior utilizing #12 x 1-1/4" hex washer head self-drilling screws located 2" from ends and 9" on center through the aluminum pressure plates P/N PW204.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Bottom, front face	3	1149 x 2127	45-1/4" x 83-3/4"	3/4"
Top transom, front face	3	1149 x 413	45-1/4" x 16-1/4"	3/4"

5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weep holes zoned draining system	1/4"	36	8" in from each vertical mullion on the underside of the horizontal mullion trim caps and 6" in from each vertical mullion on the center of the pressure plates.

5.7 Hardware: No hardware was utilized.

5.8 Reinforcement: No reinforcement was utilized.

5.9 Screen Construction: No screen was utilized.

6.0 Installation:

The specimen was installed into a steel C-channel (C-8) and plywood chamber. The rough opening allowed for a 1/2" shim space at the top, bottom and at the jambs. The exterior and interior perimeter of the curtain wall was sealed with Dow 795.

Location	Anchor Description	Anchor Location
Head	1/2"-13 x 2" BGJ steel bolts	One anchor 4" from each jamb and 4" and 6" on each side of the vertical mullions, through the head and steel C-8 channel. The anchors were secured with a flat washer, lock washer and nut.
Jambs	1/2"-13 X 4-1/2" JH FNL steel bolts	The anchors were located 100" from the sill plate and above the intermediate horizontal mullion, through the jamb and the steel C-8 channel. The anchors were secured with a flat washer, lock washer and nut at both jambs.
Sill	1/2" x 4-1/2" #4 wedge anchors	One anchor 4" from each jamb and 4" and 6" on each side of the vertical mullions. The anchors were secured through the sill plate and into the concrete floor with a 3-1/2" embedment.
Vertical mullion	1/4"-20 JZ307A bolts	The open back mullion filler was secured through the vertical mullions with one 1/4"-20 x 3" bolts through the mullion at the bottom, above the intermediate horizontal mullion and at the top. Each anchor utilized flat and lock washers with nuts.

7.0 Test Results: The results are tabulated as follows:

ASTM E 1886, Large Missile Impact

Conditioning Temperature: 21.6°C (71°F)
Missile Weight: 4196 g (9.25 lbs)
Missile Length: 2.5 m (8' 1")
Muzzle Distance from Test Specimen: 5.18 m (17' 0")

Test Unit #1: Orientation within $\pm 5^\circ$ of horizontal

Impact #1: Missile Velocity: 15.15 m/s (49.7 fps)	
Impact Area:	Center of the glazing
Observations:	Missile hit target area, broke the exterior lite of glass with no penetration
Results:	Pass

Impact #2: Missile Velocity: 15.15 m/s (49.7 fps)	
Impact Area:	Upper right corner of the glazing
Observations:	Missile hit target area, re-fractured the lite of glass with no penetration
Results:	Pass

Test Unit #2: Orientation within $\pm 5^\circ$ of horizontal

Impact #1: Missile Velocity: 15.12 m/s (49.6 fps)	
Impact Area:	Lower left corner of the glazing
Observations:	Missile hit target area, broke the exterior glass with no penetration
Results:	Pass

Impact #2: Missile Velocity: 15.18 m/s (49.8 fps)	
Impact Area:	Center of the glazing
Observations:	Missile hit target area, re-fractured the lite of glass with no penetration
Results:	Pass

Note: See Architectural Testing Sketch #1 for impact locations.

7.0 Test Results: (Continued)

ASTM E 1886, *Large Missile Impact*

Conditioning Temperature: 21.6°C (71°F)

Missile Weight: 4196 g (9.25 lbs)

Missile Length: 2.5 m (8' 1")

Muzzle Distance from Test Specimen: 5.18 m (17' 0")

Test Unit #3: Orientation within $\pm 5^\circ$ of horizontal

Impact #1: Missile Velocity: 15.15 m/s (49.7 fps)	
Impact Area:	Center of the vertical mullion
Observations:	Missile hit target area, dented the mullion
Results:	Pass

Note: See Architectural Testing Sketch #1 for impact locations.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #1, #2 and #3

Design Pressure: ±3112 Pa (±65.0 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)					
			#1	#2	#3	#4	#5	#6
622 to 1556 (13.0 to 32.5)	3500	2.37	3.30 (0.13)	7.62 (0.30)	2.29 (0.09)	5.08 (0.20)	5.84 (0.23)	6.35 (0.25)
0 to 1867 (0 to 39.0)	300	4.47	3.30 (0.13)	10.41 (0.41)	4.32 (0.17)	6.60 (0.26)	6.60 (0.26)	7.11 (0.28)
1556 to 2490 (32.5 to 52.0)	600	2.30	4.06 (0.16)	13.21 (0.52)	5.84 (0.23)	8.13 (0.32)	8.13 (0.32)	8.64 (0.34)
934 to 3112 (19.5 to 65.0)	100	3.63	4.83 (0.19)	16.26 (0.64)	6.60 (0.26)	10.16 (0.40)	10.41 (0.41)	10.67 (0.42)
			Permanent Set mm (inches)					
			2.79 (0.11)	2.79 (0.11)	4.32 (0.17)	3.30 (0.13)	3.05 (0.12)	3.56 (0.14)

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #1, #2 and #3
Design Pressure: ±3112 Pa (±65.0 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)		
			#7	#8	#9
622 to 1556 (13.0 to 32.5)	3500	2.37	1.78 (0.07)	1.78 (0.07)	2.03 (0.08)
0 to 1867 (0 to 39.0)	300	4.47	5.33 (0.21)	5.08 (0.20)	5.08 (0.20)
1556 to 2490 (32.5 to 52.0)	600	2.30	7.11 (0.28)	6.60 (0.26)	6.09 (0.24)
934 to 3112 (19.5 to 65.0)	100	3.63	7.62 (0.30)	7.11 (0.28)	6.60 (0.26)
			Permanent Set mm (inches)		
			5.33 (0.21)	5.08 (0.20)	4.57 (0.18)

Observations: Glazing was starting to pull away at the right vertical side of the center lite, 10" long and 1/2" wide; testing was continued. No additional damage or deglazing was observed.

Result: Failed

Note: See Architectural Testing Sketch #2 for indicator locations. Test Specimens #1, #2 and #3 were cycled in a common chamber.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #1, #2 and #3
Design Pressure: ±3112 Pa (±65.0 psf)

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)					
			#1	#2	#3	#4	#5	#6
934 to 3112 (19.5 to 65.0)	50	4.35	9.91 (0.39)	20.57 (0.81)	7.11 (0.28)	15.24 (0.60)	15.49 (0.61)	16.00 (0.63)
1556 to 2490 (32.5 to 52.0)	1050	2.60	3.56 (0.14)	10.41 (0.41)	1.78 (0.07)	6.35 (0.25)	6.86 (0.27)	6.86 (0.27)
0 to 1867 (0 to 39.0)	50		n/a	n/a	n/a	n/a	n/a	n/a
622 to 1556 (13.0 to 32.5)	3350		n/a	n/a	n/a	n/a	n/a	n/a
			Permanent Set mm (inches)					
			n/a	n/a	n/a	n/a	n/a	n/a

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #1, #2 and #3

Design Pressure: ±3112 Pa (±65.0 psf)

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)		
			#7	#8	#9
934 to 3112 (19.5 to 65.0)	50	4.35	7.62 (0.30)	7.37 (0.29)	7.62 (0.30)
1556 to 2490 (32.5 to 52.0)	1050	2.60	n/a	n/a	n/a
0 to 1867 (0 to 39.0)	50	n/a	n/a	n/a	n/a
622 to 1556 (13.0 to 32.5)	3350	n/a	n/a	n/a	n/a
			Permanent Set mm (inches)		
			n/a	n/a	n/a

Observations: 829 cycles into the 50 to 80 percent, deglazing was observed on the left side lite of glass, midspan 8-1/2" long and 1/4" wide; testing was discontinued.

Result: Failed

Note: See Architectural Testing Sketch #2 for indicator locations. Test Specimens #1, #2 and #3 were cycled in a common chamber.

General Note: Upon completion of testing, the specimens met the requirements of Section 7 of ASTM E 1996.

7.0 Test Results: (Continued) Replacement unit

ASTM E 1886, Large Missile Impact

Conditioning Temperature: 16.6°C (62°F)
Missile Weight: 4014 g (8.85 lbs)
Missile Length: 2.5 m (8' 1")
Muzzle Distance from Test Specimen: 5.18 m (17' 0")

Test Unit #R1: Orientation within ±5° of horizontal

Impact #1: Missile Velocity: 15.27 m/s (50.1 fps)	
Impact Area:	Center of glazing
Observations:	Missile hit target area, broke the exterior glass with no penetration
Results:	Pass

Impact #2: Missile Velocity: 15.24 m/s (50.0 fps)	
Impact Area:	Upper right corner of the glazing
Observations:	Missile hit target area, broke the exterior glass fractured laminate glass, no penetration.
Results:	Pass

Test Unit #R2: Orientation within ±5° of horizontal

Impact #1: Missile Velocity: 15.11 m/s (49.6 fps)	
Impact Area:	Lower left corner of the glazing
Observations:	Missile hit target area, broke the exterior glass with no penetration
Results:	Pass

Impact #2: Missile Velocity: 15.03 m/s (49.3 fps)	
Impact Area:	Center of the glazing
Observations:	Missile hit target area, re-fractured the lite of glass with no penetration
Results:	Pass

Note: See Architectural Testing Sketch #3 for impact locations.

7.0 Test Results: (Continued)

ASTM E 1886, Large Missile Impact

Conditioning Temperature: 20.5°C (69°F)
Missile Weight: 4196 g (9.25 lbs)
Missile Length: 2.5 m (8' 1")
Muzzle Distance from Test Specimen: 5.18 m (17' 0")

Test Unit #R3: Orientation within ±5° of horizontal

Impact #1: Missile Velocity: 15.30 m/s (50.2 fps)	
Impact Area:	Upper right corner of the glazing
Observations:	Missile hit target area, broke the exterior glass with no penetration
Results:	Pass

Impact #2: Missile Velocity: 15.42 m/s (50.6 fps)	
Impact Area:	Center of vertical mullion
Observations:	Missile hit target area, dented the mullion, no penetration.
Results:	Pass

Additional impact:

Impact #3: Missile Velocity: 15.12 m/s (49.6 fps)	
Impact Area:	Center of the glazing
Observations:	Missile hit target area, re-fractured the lite of glass with no penetration
Results:	Pass

Note: See Architectural Testing Sketch #3 for impact locations.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #R1, #R2 and #R3

Design Pressure: +3112 Pa (\pm 65.0 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)					
			#1	#2	#3	#4	#5	#6
622 to 1556 (13.0 to 32.5)	3500	2.14	5.59 (0.22)	6.09 (0.24)	6.09 (0.24)	4.06 (0.16)	8.38 (0.33)	3.05 (0.12)
0 to 1867 (0 to 39.0)	300	4.24	7.87 (0.31)	8.13 (0.32)	7.87 (0.31)	4.06 (0.16)	10.67 (0.42)	3.30 (0.13)
1556 to 2490 (32.5 to 52.0)	600	2.44	8.64 (0.34)	9.40 (0.37)	8.89 (0.35)	4.32 (0.17)	12.19 (0.48)	3.81 (0.15)
934 to 3112 (19.5 to 65.0)	100	4.26	9.91 (0.39)	10.41 (0.41)	10.16 (0.40)	4.57 (0.18)	14.22 (0.56)	4.06 (0.16)
			Permanent Set mm (inches)					
			3.30 (0.13)	3.81 (0.15)	3.56 (0.14)	3.05 (0.12)	1.52 (0.06)	1.78 (0.07)

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #R1, #R2 and #R3

Design Pressure: ±3112 Pa (±65.0 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)		
			#7	#8	#9
622 to 1556 (13.0 to 32.5)	3500	2.14	0.51 (0.02)	2.54 (0.10)	2.54 (0.10)
0 to 1867 (0 to 39.0)	300	4.24	3.30 (0.13)	3.30 (0.13)	3.30 (0.13)
1556 to 2490 (32.5 to 52.0)	600	2.44	3.56 (0.14)	3.56 (0.14)	3.56 (0.14)
934 to 3112 (19.5 to 65.0)	100	4.26	4.06 (0.16)	4.06 (0.16)	4.06 (0.16)
			Permanent Set mm (inches)		
			2.03 (0.08)	2.03 (0.08)	2.03 (0.08)

Observations: No additional damage or deglazing was observed.

Result: Pass

Note: See Architectural Testing Sketch #4 for indicator locations. Test Specimens #1, #2 and #3 were cycled in a common chamber.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #R1, #R2 and #R3
Design Pressure: ±3112 Pa (±65.0 psf)

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)					
			#1	#2	#3	#4	#5	#6
934 to 3112 (19.5 to 65.0)	50	4.10	12.95 (0.51)	13.72 (0.54)	14.22 (0.56)	8.38 (0.33)	19.30 (0.76)	6.86 (0.27)
1556 to 2490 (32.5 to 52.0)	1050	2.61	11.68 (0.46)	11.94 (0.47)	12.95 (0.51)	8.38 (0.33)	17.02 (0.67)	6.35 (0.25)
0 to 1867 (0 to 39.0)	50	4.68	10.16 (0.40)	10.67 (0.42)	11.68 (0.46)	7.87 (0.31)	14.48 (0.57)	5.33 (0.21)
622 to 1556 (13.0 to 32.5)	3350	2.61	9.40 (0.37)	9.14 (0.36)	9.91 (0.39)	7.62 (0.30)	12.19 (0.48)	5.33 (0.21)
			Permanent Set mm (inches)					
			5.33 (0.21)	5.33 (0.21)	5.84 (0.23)	6.35 (0.25)	6.35 (0.25)	3.81 (0.15)

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Units #R1, #R-2 and #R-3

Design Pressure: ±3112 Pa (±65.0 psf)

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator mm (inches)		
			#7	#8	#9
934 to 3112 (19.5 to 65.0)	50	4.10	6.60 (0.26)	6.60 (0.26)	5.59 (0.22)
1556 to 2490 (32.5 to 52.0)	1050	2.61	5.84 (0.23)	5.84 (0.23)	5.33 (0.21)
00.0 to 1867 (00.0 to 39.0)	50	4.68	5.33 (0.21)	5.08 (0.20)	4.57 (0.18)
622 to 1556 (13.0 to 32.5)	3350	2.61	4.83 (0.19)	4.32 (0.17)	4.32 (0.17)
			Permanent Set mm (inches)		
			4.06 (0.16)	3.30 (0.13)	2.79 (0.11)

Observations: No additional damage or deglazing was observed.

Result: Pass

Note: See Architectural Testing Sketch #4 for indicator locations. Test Specimens #1, #2 and #3 were cycled in a common chamber.

General Note: Upon completion of testing, the specimens met the requirements of Section 7 of ASTM E 1996.

Test Equipment:

Canon: Constructed from steel piping utilizing compressed air to propel the missile

Missile: 2x4 Southern Pine

Timing Device: Electronic Beam Type

Cycling Mechanism: Computer controlled centrifugal blower with electronic pressure measuring device

Deflection Measuring Device: Linear transducers

Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test. The service life of this report will expire on the stated Test Record Retention End Date, at which time such materials as drawings, data sheets, samples of test specimens, copies of this report, and any other pertinent project documentation, shall be discarded without notice.

If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

John C McClane
Laboratory Manager

Shawn G. Collins, P.E.
Laboratory Support Engineer

JCM:ck/cmd/ck

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

Appendix-A: Sketches (4)

Appendix-B: Drawings (15)

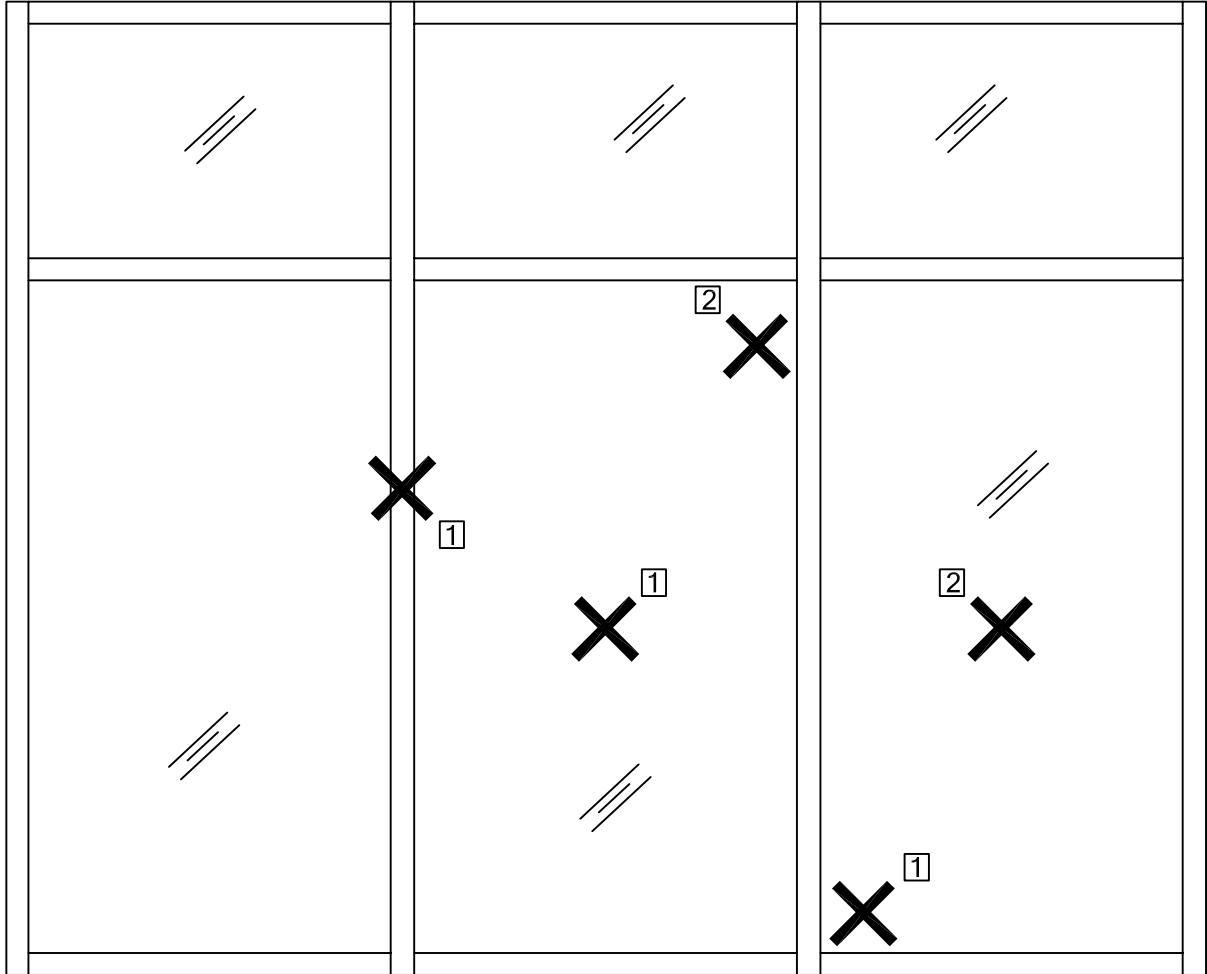


Test Report No.: A2653.02-401-44
Report Date: 03/23/11
Test Record Retention End Date: 01/28/15

Appendix A

Sketches

REV	DATE	DESCRIPTION



LARGE MISSILE IMPACT LOCATIONS
SCALE: NTS

PROJECT NO.
A2653.02
401-44

PROJECT NAME: ASTM 1886/1996
CLIENT: CORAL AP



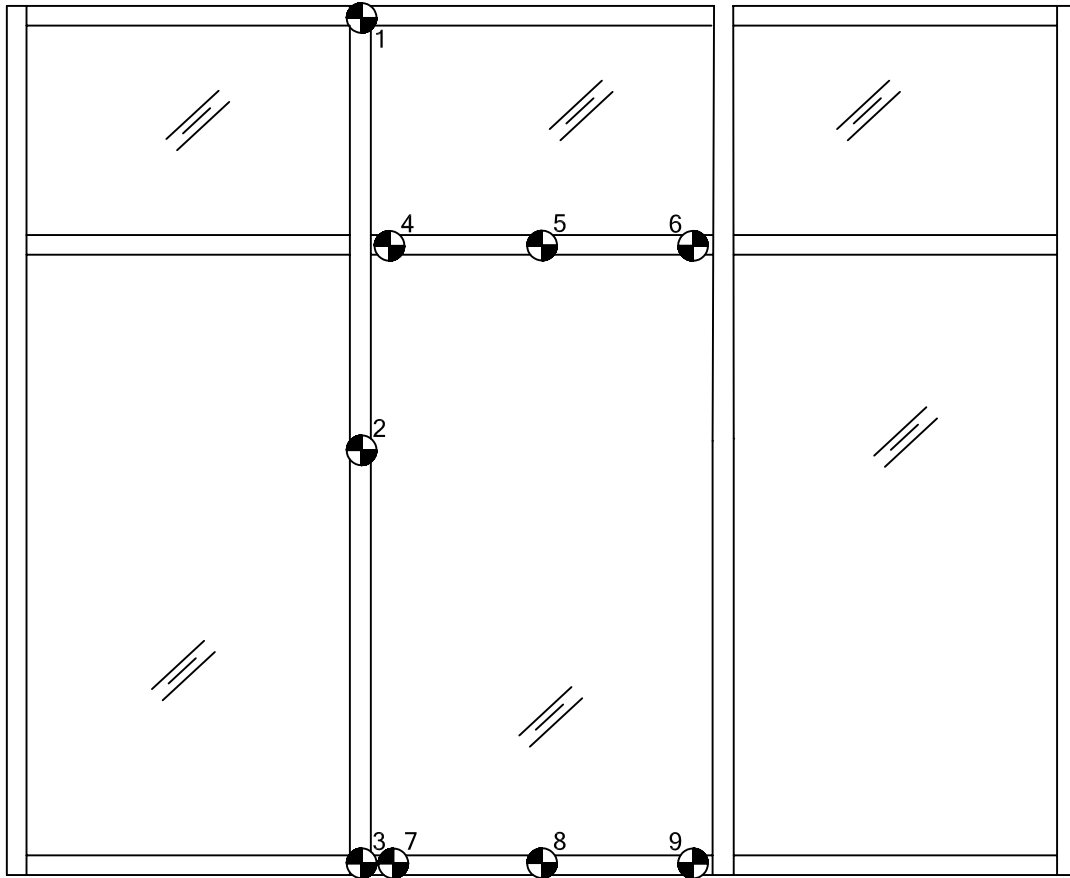
DRAWING

SKETCH #1

DWG. BY:
SGC
DATE:
3-23-11

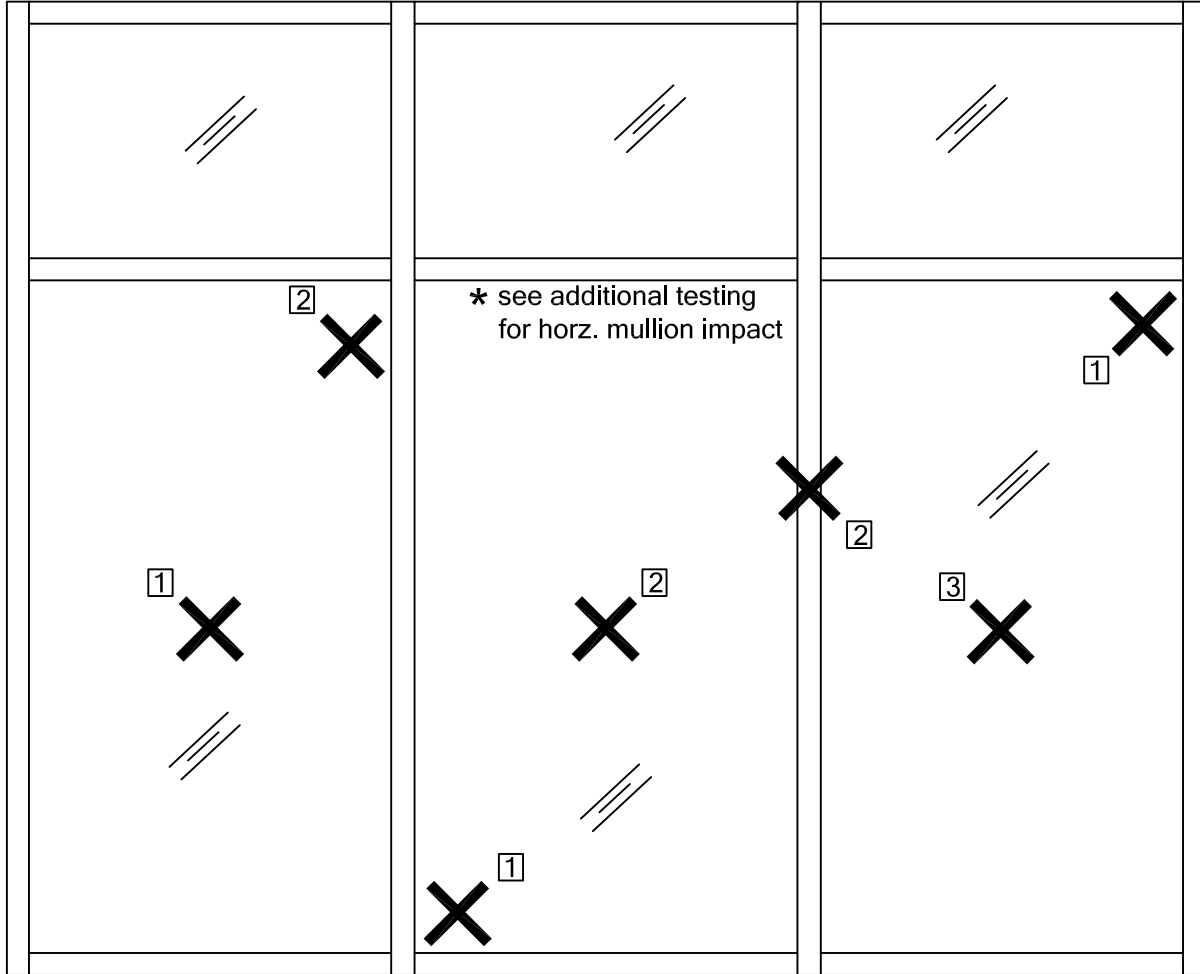
SHEET
1 OF
4

REV	DATE	DESCRIPTION



INDICATOR LOCATIONS
SCALE:NTS

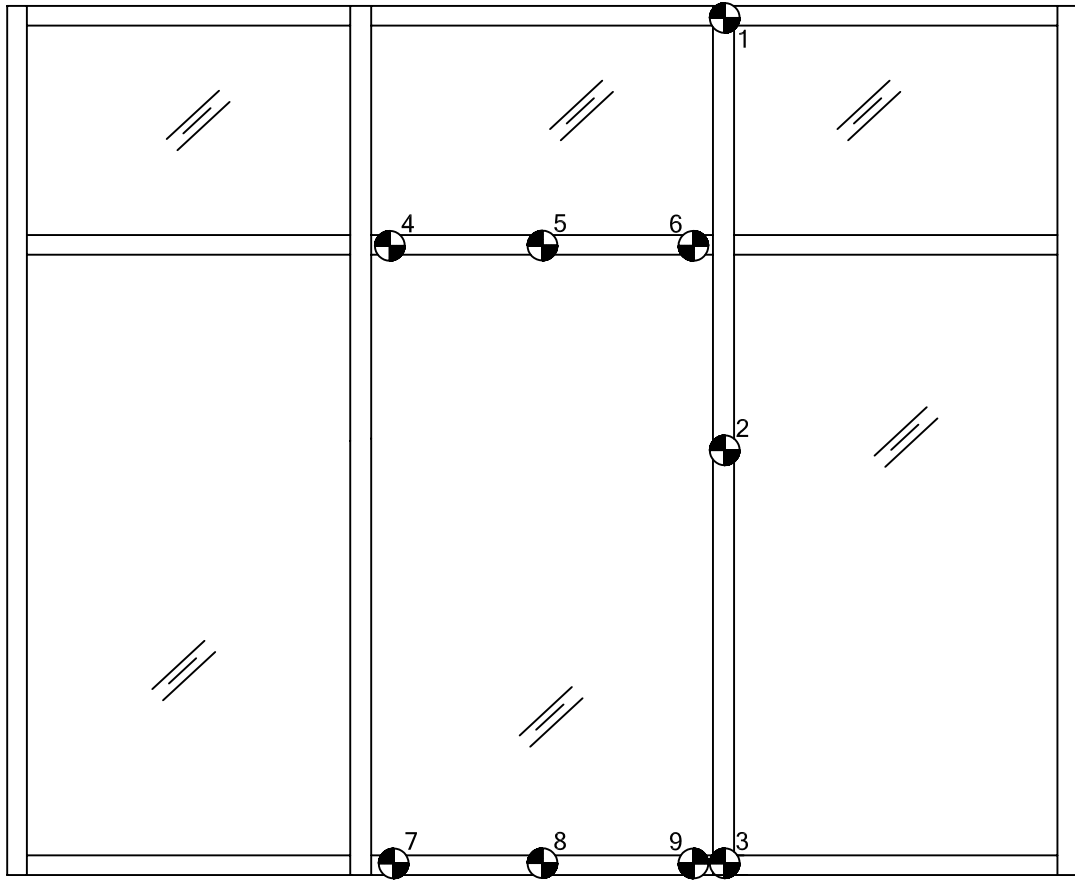
REV	DATE	DESCRIPTION



LARGE MISSILE IMPACT LOCATIONS

SCALE: NTS

REV	DATE	DESCRIPTION



INDICATOR LOCATIONS
SCALE:NTS

PROJECT NO.
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PROJECT NAME: ASTM 1886/1996
CLIENT: CORAL AP



DRAWING

SKETCH #4

DWG. BY:
SGC
DATE:
3-23-11

SHEET
4 OF
4



Test Report No.: A2653.02-401-44
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Appendix B


Drawings

TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM

FOR USE IN HURRICANE ZONES REQUIRING LARGE MISSILE IMPACT PROTECTION

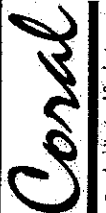
INDEX TO DRAWINGS	
1	INDEX TO DRAWINGS AND NOTES
2	FRAMING ELEVATION - E1 CAPTURED AND B.G. MULLIONS WITH STEEL -LONG SPAN-
3	FRAMING ELEVATION - E2 CAPTURED MULLION WITHOUT STEEL -SHORT SPAN-
4	FRAMING ELEVATION - E3 B.G. MULLION WITHOUT STEEL -SHORT SPAN-
5	FRAMING ELEVATION - E4 CAPTURED MULLION WITH STEEL -LONG SPAN- DRY GLAZE
6	FRAMING ELEVATION FOR DOORS - E5 CAPTURED MULLION WITH STEEL -LONG SPAN-
7	FRAMING DETAILS
8	FRAMING DETAILS
9	FRAMING DETAILS
10	DOOR AND FRAMING DETAILS
11	DOOR AND FRAMING DETAILS
12	FRAMING DETAILS
13	BILL OF MATERIALS
14	BILL OF MATERIALS AND GLAZING SCHEDULE
15	DIE DRAWINGS

ABBREVIATIONS:
D.L.O. = DAY LIGHT OPENING
D.O.H. = DOOR OPENING HEIGHT
D.O.W. = DOOR OPENING WIDTH
ELEVS = ELEVATIONS
EXT. = EXTERIOR
INT. = INTERIOR
MAX. = MAXIMUM
MIN. = MINIMUM
OPP. = OPPOSITE
TYP. = TYPICAL

 **Architectural Testing**

Test sample complies with these details.
Reservations are noted.

PROJECT NO. **A2653.02**
DATE **2/28/11** Test **JCW**

TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM	INDEX TO DRAWINGS AND NOTES																																				
 <small>Architectural Products 5501 BRICE MALE ROAD, TUSCALOOSA, AL 35409 PHONE: 205-722-7272 FAX: 205-722-7220</small>																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">REV</th> <th style="width: 5%;">BY</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REV	BY	DATE	DESCRIPTION									<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DATE</td> <td colspan="3">8/24/2010</td> </tr> <tr> <td>DRAWN</td> <td>MLL</td> <td>CHECKED</td> <td>APPROVED</td> </tr> <tr> <td></td> <td>DCW</td> <td>DCW</td> <td>DCW</td> </tr> <tr> <td>PROJECT NO.</td> <td colspan="3">TEST</td> </tr> <tr> <td>DRAWING NO.</td> <td colspan="3">PW257.01</td> </tr> <tr> <td>SHEET</td> <td colspan="3">1 OF 15</td> </tr> </table>	DATE	8/24/2010			DRAWN	MLL	CHECKED	APPROVED		DCW	DCW	DCW	PROJECT NO.	TEST			DRAWING NO.	PW257.01			SHEET	1 OF 15		
REV	BY	DATE	DESCRIPTION																																		
DATE	8/24/2010																																				
DRAWN	MLL	CHECKED	APPROVED																																		
	DCW	DCW	DCW																																		
PROJECT NO.	TEST																																				
DRAWING NO.	PW257.01																																				
SHEET	1 OF 15																																				

SPECIMEN #E1	
TEST METHOD	TEST CONDITIONS
AIR INFILTRATION TEST (ASTM E283 AND TAS 203)	1.57 PSF & 6.24 PSF
WATER INFILTRATION TEST (ASTM E331 AND TAS 202)	20.00 PSF
UNIFORM STATIC LOAD TEST (ASTM E330 AND TAS 202)	+/- 80 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1196/E1996 AND TAS 201)	9-LB 40Z, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# _____

Date _____

Tech _____

STEEL BUCK FRAME

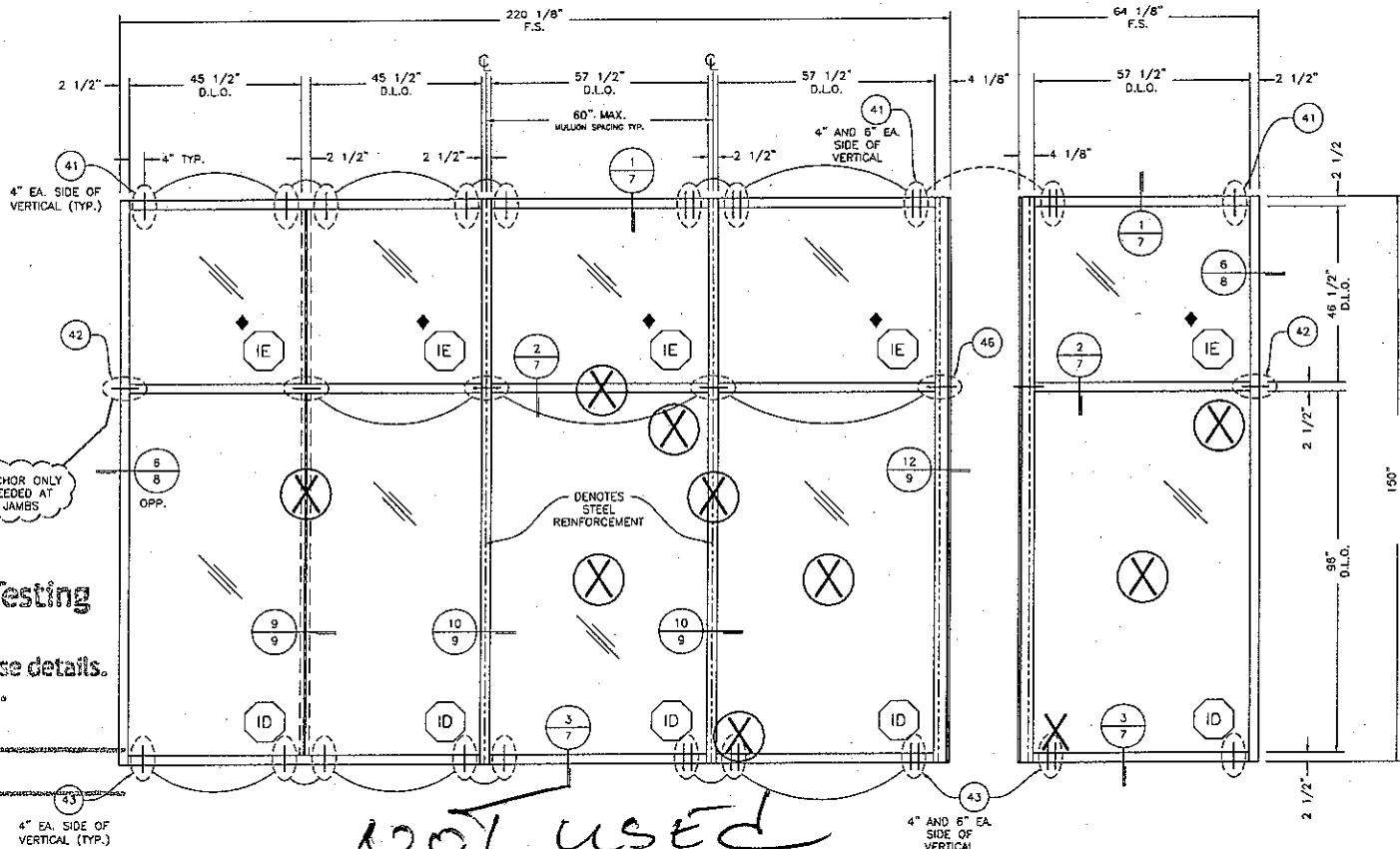
TESTING:
AIR, WATER, STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180) = 0.833

DESIGN PRESSURE = +/- 80 PSF

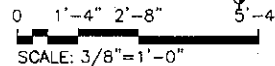
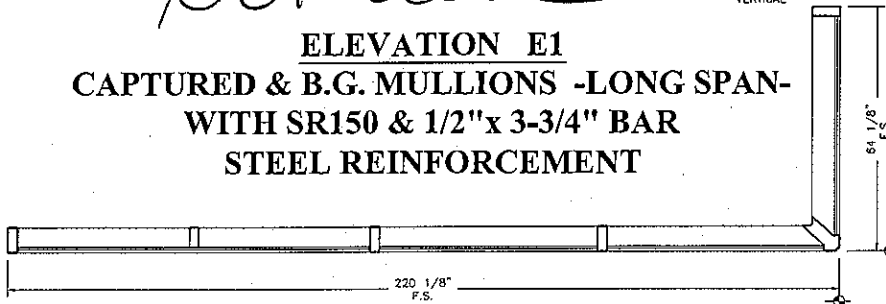
⊗ = LARGE MISSILE IMPACT LOCATIONS

◆ = INFILL ONLY (DO NOT IMPACT)



NOT USED

ELEVATION E1
CAPTURED & B.G. MULLIONS -LONG SPAN-
WITH SR150 & 1/2" x 3-3/4" BAR
STEEL REINFORCEMENT



DATE		3/24/2010
DRAWN	CHECKED	APPROVED
ALL	OCW	OCW
PROJECT NO. TEST		
DRAWING NO. PW257 01		
SHEET 2 OF 15		

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

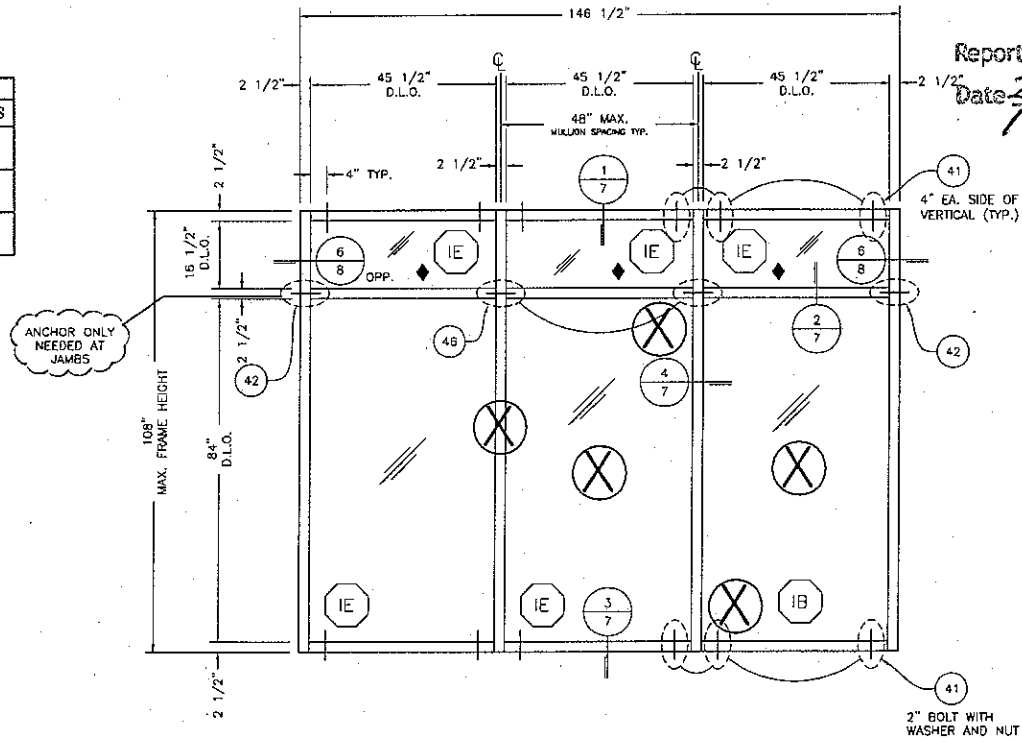
FRAMING ELEVATION

Coral
Architectural Products
3010 RICE AVE ROAD, TUSCALOOSA, AL 35409
PHONE: 800-772-7377 FAX: 800-355-7300

Test sample complies with these details.
Deviations are noted.

Report# A2653.02
Date 2/28/11 Tech JCM

SPECIMEN #E2	
TEST METHOD	TEST CONDITIONS
UNIFORM STATIC LOAD TEST (ASTM E330 AND TAS 203)	+/- 65 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 40Z, 2x4 @ 20FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 65 PSF DESIGN PRESSURE



ELEVATION E2
CAPTURED MULLION -SHORT SPAN-
WITHOUT REINFORCEMENT

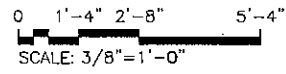
STEEL BUCK FRAME

TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180) = 0.600

DESIGN PRESSURE = +/- 65 PSF

- = LARGE MISSILE IMPACT LOCATIONS
- = INFILL ONLY (DO NOT IMPACT)



NO.	REV.	DATE	DESCRIPTION

Coral
Architectural Products
4010 PACE MADE ROAD, TUSCALOOSA, AL 36689
PHONE: 205-722-7371 FAX: 205-255-7320

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM
FRAMING ELEVATION

DATE	3/24/2010		
DRAWN	CHECKED	APPROVED	
ALZ	OCW	OCW	
PROJECT NO.	TEST		
DRAWING NO.	PW257_01		
SHEET	3 OF 15		



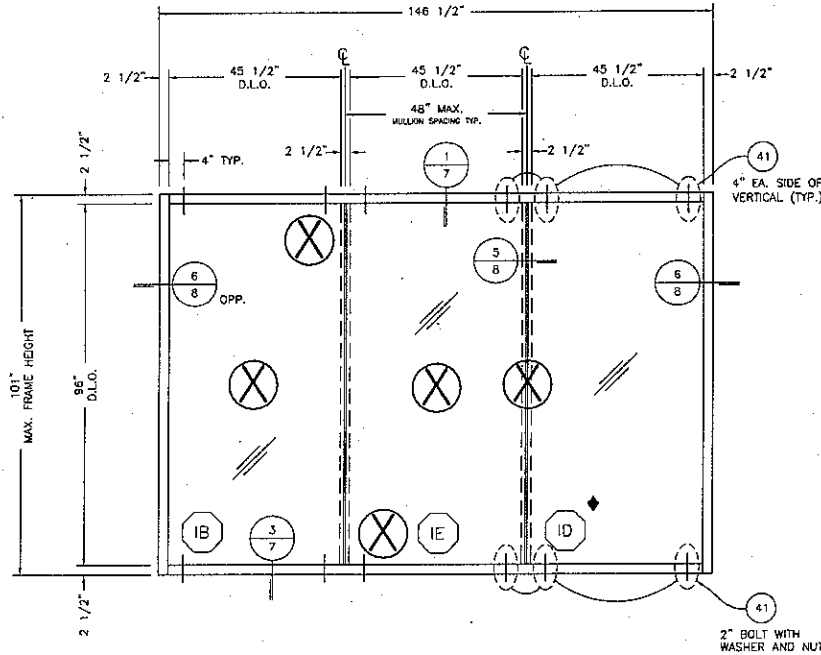
Test sample complies with these details.
Deviations are noted.

Report# _____

Date _____

Tech _____

SPECIMEN #E3	
TEST METHOD	TEST CONDITIONS
UNIFORM STATIC LOAD TEST (ASTM E330 AND TAS 202)	+/- 65 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1864/E1996 AND TAS 201)	9-LB 40Z, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 65 PSF DESIGN PRESSURE



ELEVATION E3
B.G. MULLION -SHORT SPAN-
WITHOUT REINFORCEMENT

STEEL BUCK FRAME

TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180) = 0.561

DESIGN PRESSURE = +/- 65 PSF

X = LARGE MISSILE IMPACT LOCATIONS

◆ = INFILL ONLY (DO NOT IMPACT)

0 1'-4" 2'-8" 5'-4"
SCALE: 3/8"=1'-0"

NOT USED

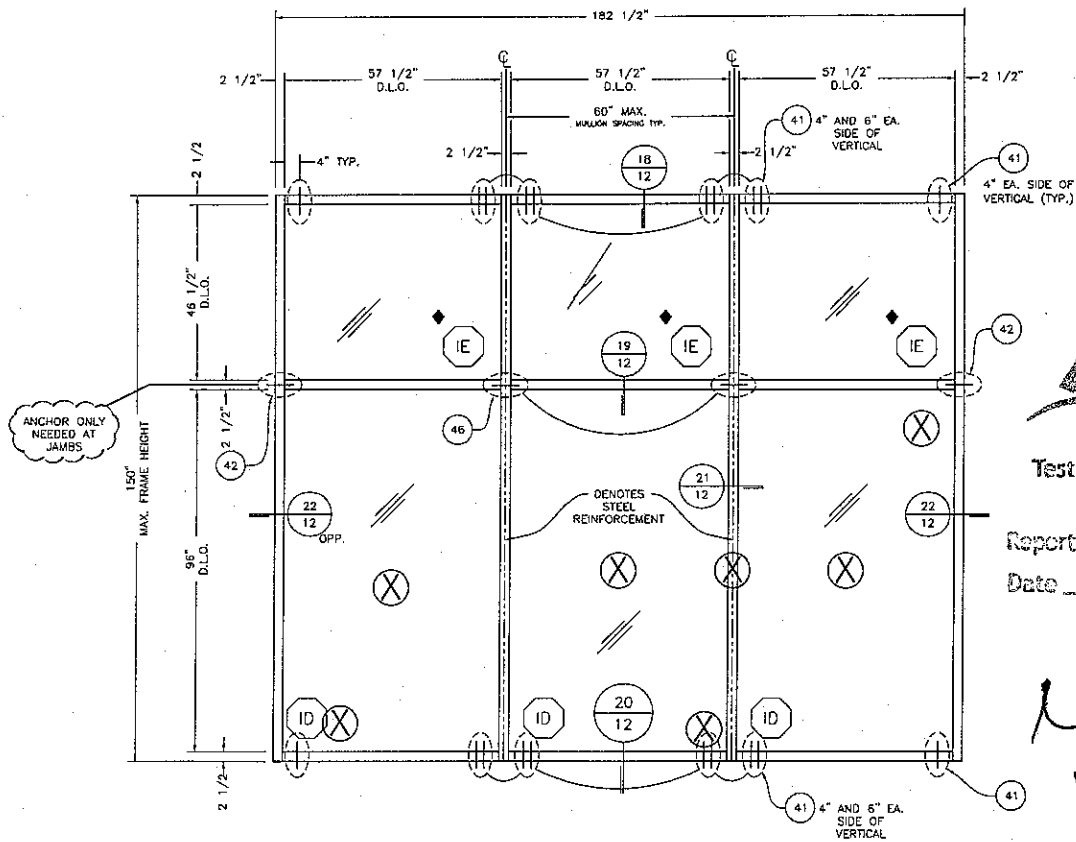
NO.	REV.	BY	DATE	DESCRIPTION

Coral
Architectural Products
9010 S.W. 15th St., Fort Lauderdale, FL 33308
PHONE: 954-772-7277 FAX: 954-985-1200

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM
FRAMING ELEVATION

DATE 3/24/2010
DRAWN ALL CHECKED DCW APPROVED DCW
PROJECT NO. TEST
DRAWING NO. PW257_01
SHEET 4 OF 15

SPECIMEN #E1	
TEST METHOD	TEST CONDITIONS
AIR INFILTRATION TEST (ASTM E283 AND TAS 202)	1.57 PSF & 6.24 PSF
WATER INFILTRATION TEST (ASTM E331 AND TAS 202)	20.00 PSF
UNIFORM STATIC LOAD TEST (ASTM E330 AND TAS 202)	+/- 90 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E186/E196 AND TAS 201)	9-LB 40Z, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE



ANCHOR ONLY
NEEDED AT
JAMBS



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# _____

Date _____

Tech _____

*NOT
used*

**ELEVATION E4 - DRY GLAZE
CAPTURED MULLION -LONG SPAN-
WITH SR150 & 1/2"X 3-3/4" BAR
STEEL REINFORCEMENT**

STEEL BUCK FRAME

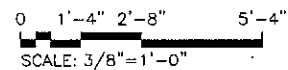
TESTING:
IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180)= 0.833

DESIGN PRESSURE = +/- 80 PSF

⊗ = SMALL MISSILE IMPACT LOCATIONS

◆ = INFILL ONLY (DO NOT IMPACT)



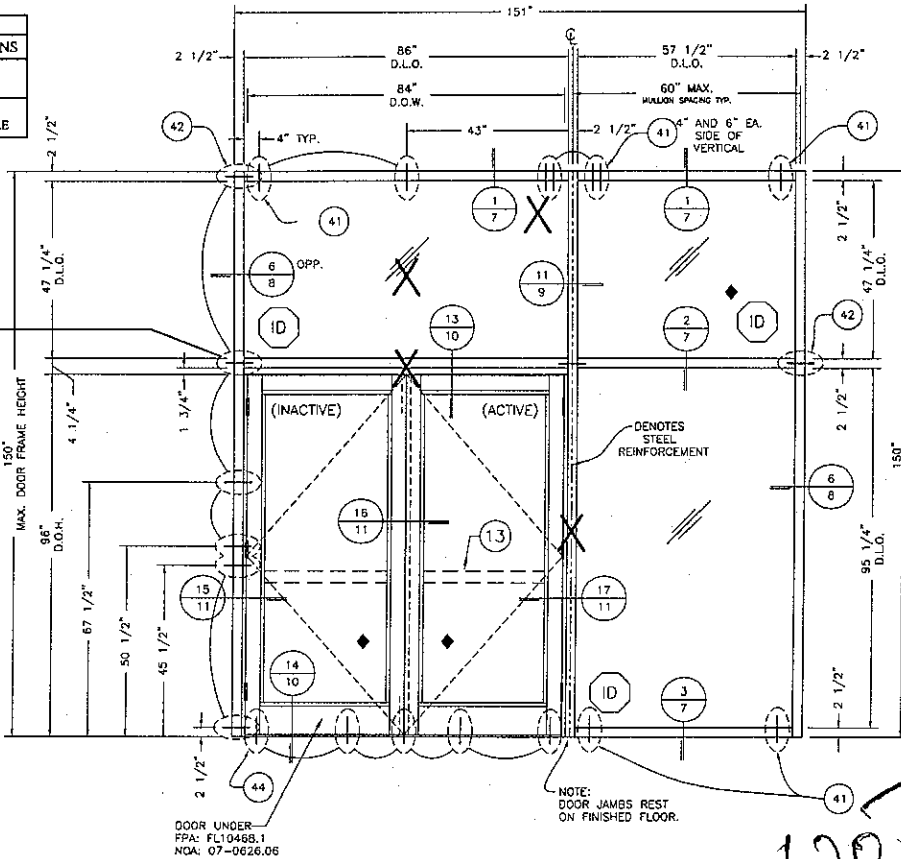
NO.	DATE	BY	REVISION

Coral
Architectural Products
30015E MERRILL ROAD TUSCALOOSA, AL 35066
PHONE: 205/772-7277 FAX: 205/469-5801

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM
FRAMING ELEVATION

DATE	3/24/2010		
DRAWN	CHECKED	APPROVED	
MLL	DCW	DCW	
PROJECT NO.			
DRAWING NO.	PW257_01		
SHEET	5 OF 15		

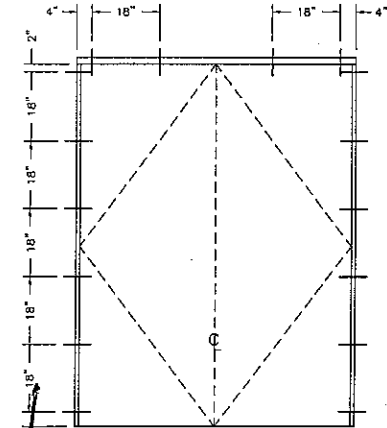
SPECIMEN #E5	
TEST METHOD	TEST CONDITIONS
LARGE MISSILE IMPACT TEST (ASTM E1863/E1996 AND TAS 201)	9-LB 4OZ, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE



Test sample complies with these details.
Deviations are noted.

Report# _____

Date _____ Tech _____



LOCATIONS FOR
DOOR SUB-FRAME ATTACHMENT
TO CERTAIN WALL ALUMINUM

ELEVATION E5
CAPTURED MULLION -LONG SPAN-
WITH SR150 & 3/4"x 3-3/4" BAR STEEL REINFORCEMENT
FOR SERIES 381 ENTRANCE DOORS

NOT USED

STEEL BUCK FRAME

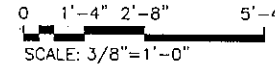
TESTING:
IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180) = 0.833

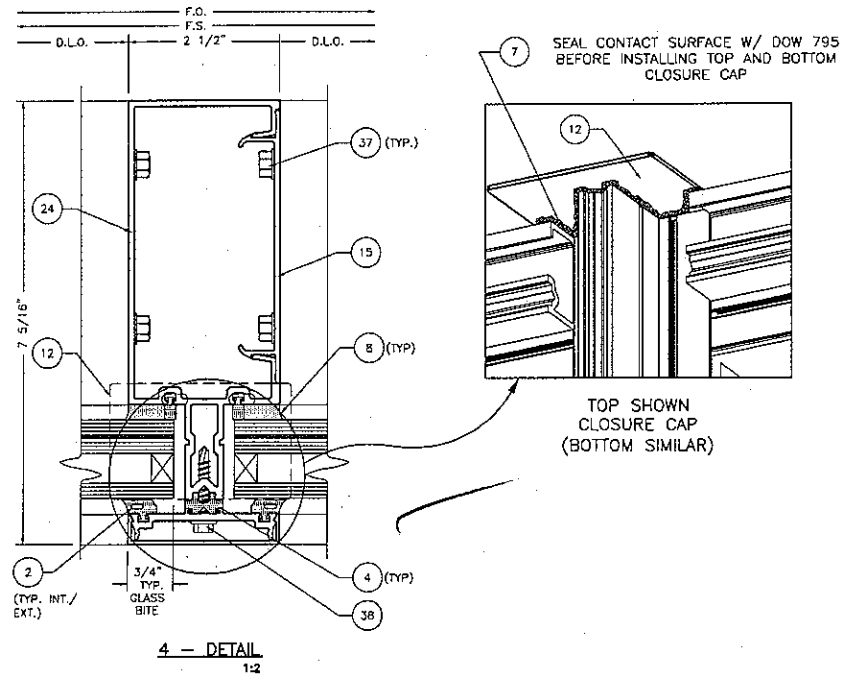
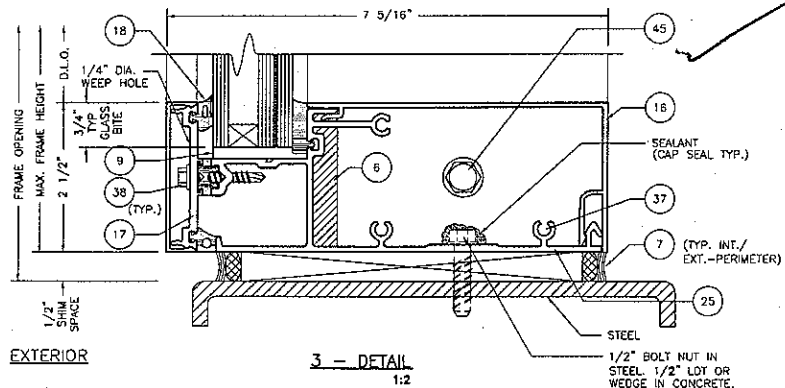
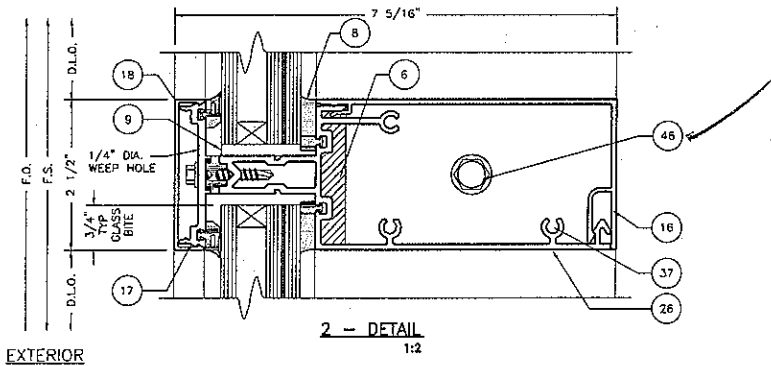
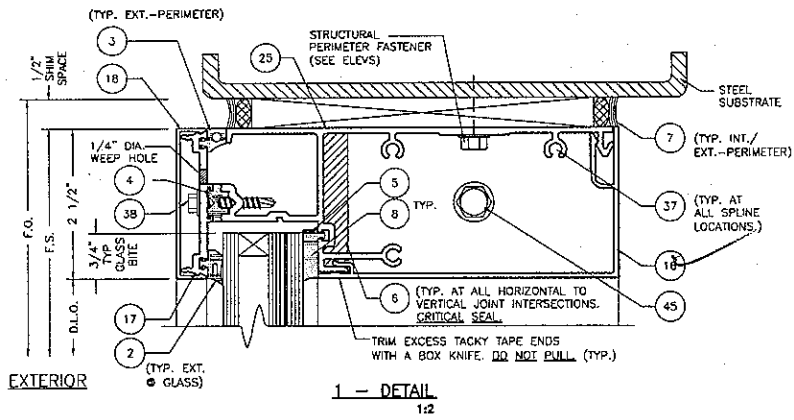
DESIGN PRESSURE = +/- 80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

◆ = INFILL ONLY (DO NOT IMPACT)



ARCHITECTURAL PRODUCTS	
CORAL	
ARCHITECTURAL PRODUCTS	
3010 RICE HAVEN ROAD, MUSCATOOKA, AL 36408	
PHONE: 661-782-7337 FAX: 661-255-1330	
TEST REPORT DRAWINGS	FRAMING ELEVATION FOR DOORS
PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM	
DATE: 3/24/2010	
DRAWN: HLL	CHECKED: DCHW
APPROVED: DCHW	
PROJECT NO.: TEST	
DRAWING NO.: PW257_01	
SHEET: 6 OF 15	



Architectural Testing

Test sample complies with these details.
Deviations are noted.

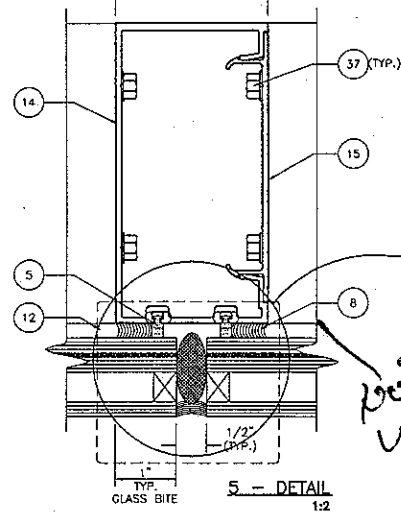
Report# A2653.02
Date 2/28/11 Tech JCM

Coral
Architectural Products
3085 W. HALE ROAD, TUSCALOOSA, AL 35404
PHONE: 205-772-7378 FAX: 205-493-9231

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM
FRAMING DETAILS

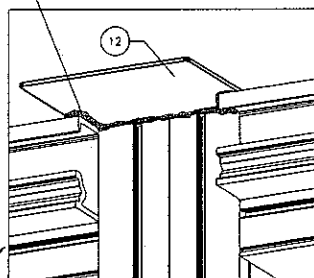
DATE	8/24/2010		
DRAWN	CHECKED	APPROVED	
MLL	DCW	DCW	
PROJECT NO.			
DRAWING NO.	PW257_01		
SHEET	7 OF 15		

FRAME OPENING
FRAME WIDTH
D.L.O. 2 1/2" D.L.O.



NOT USED

7 SEAL CONTACT SURFACE W/ DOW 795 BEFORE INSTALLING TOP AND BOTTOM CLOSURE CAP



TOP SHOWN CLOSURE CAP (BOTTOM SIMILAR)

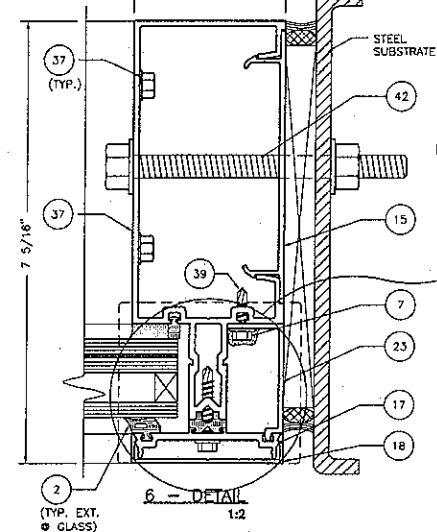
7 CRITICAL SEAL FILL GASKET REGLET BEHIND END DAM W/ DOW 795

7 CRITICAL SEAL APPLY DOW 795 SEALANT TO ALL THREE CONTACT SURFACES PRIOR TO INSTALLATION AT HORIZONTALS AND SILL.

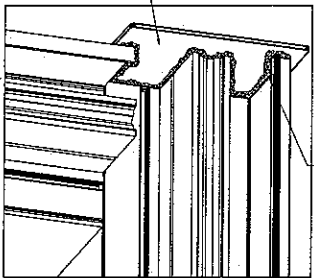
7 CRITICAL SEAL APPLY DOW 795 SEALANT TO ALL THREE CONTACT SURFACES PRIOR TO INSTALLATION AT HORIZONTALS AND SILL.

7 CRITICAL SEAL APPLY DOW 795 SEALANT TO ALL THREE CONTACT SURFACES PRIOR TO INSTALLATION AT HORIZONTALS AND SILL.

F.O. F.S. 1/2" MIN. SHIM SPACE
D.L.O. 2 1/2"



12 FIELD MODIFY @ JAMB IF REQUIRED



TOP SHOWN CLOSURE CAP (BOTTOM SIMILAR)

7 SEAL CONTACT SURFACE W/ DOW 795 BEFORE INSTALLING TOP AND BOTTOM CLOSURE CAP



Test sample complies with these details. Deviations are noted.

Report# A2653.02
Date 7/28/11 Tech SCW

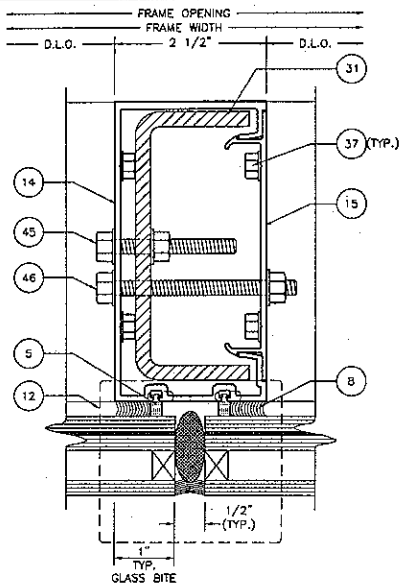
Coral
Architectural Products
310 DIXIE LAKE ROAD, TUSCALOOSA, AL 35468
PHONE: 800-722-7237 FAX: 205-443-9201

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM
FRAMING DETAILS

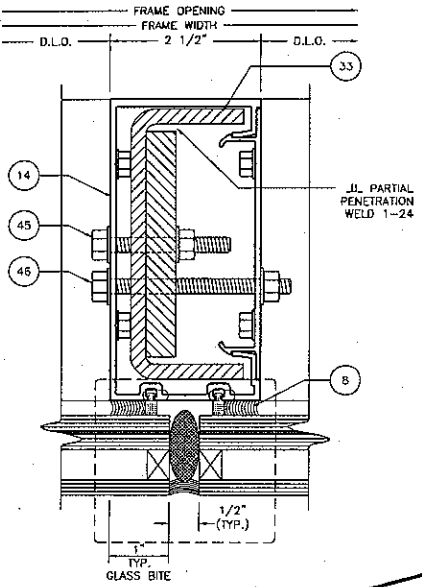
DATE	8/24/2010		
DRAWN	CHECKED	APPROVED	
MILL	DCW	DCW	
PROJECT NO.			
DRAWING NO.	PW257_01		
SHEET	8 OF 15		

DESCRIPTION

POST BY DATE

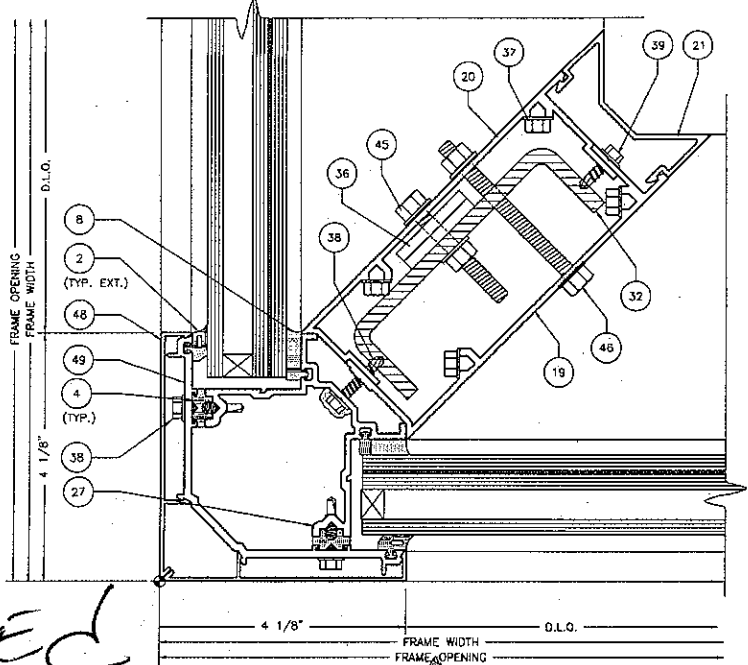


7 - DETAIL
1/2



9 - DETAIL
1/2

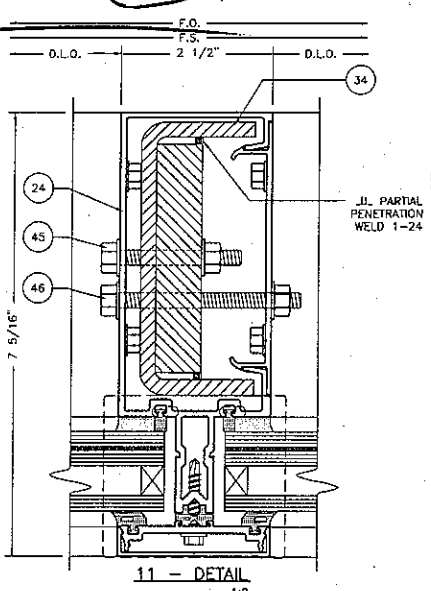
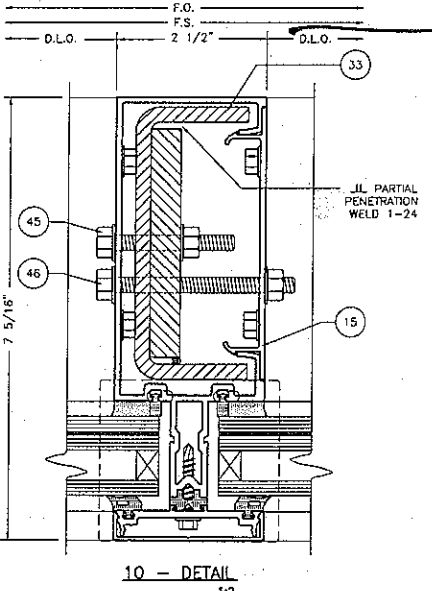
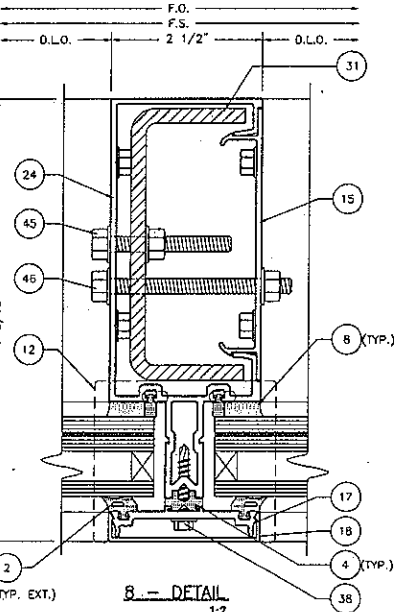
NOT USED



12 - DETAIL Architectural Testing

Test sample complies with these details
Deviations are noted.

Report# _____
Date _____ Tech _____

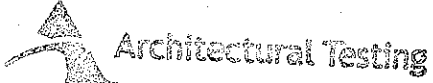


Coral
Architectural Products
5010 BOCAHONNE ROAD, TUSCALOOSA, AL 35404
PHONE: 800-772-7737 FAX: 205-443-9281

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

FRAMING DETAILS

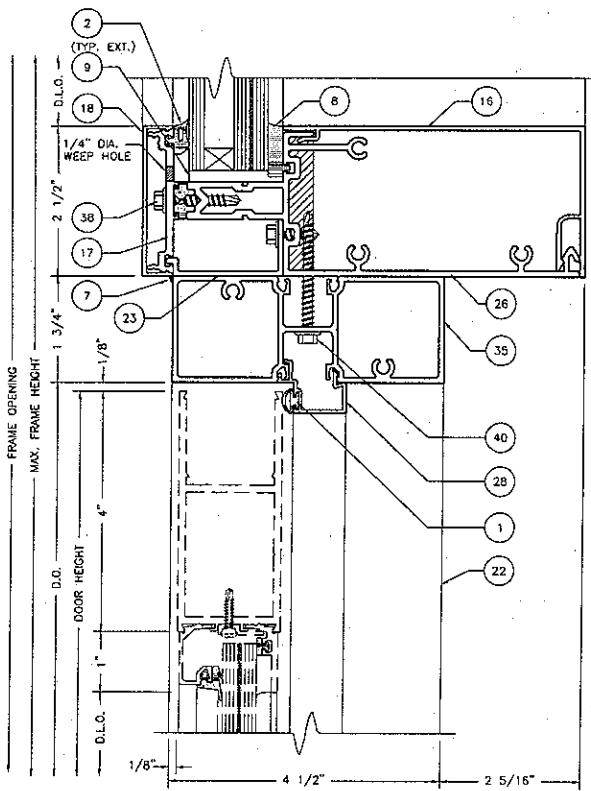
DATE	8/24/2010
DRAWN	MIL
CHECKED	DCW
APPROVED	DCW
DRAWING NO.	PW257_01
SHEET	9 OF 15



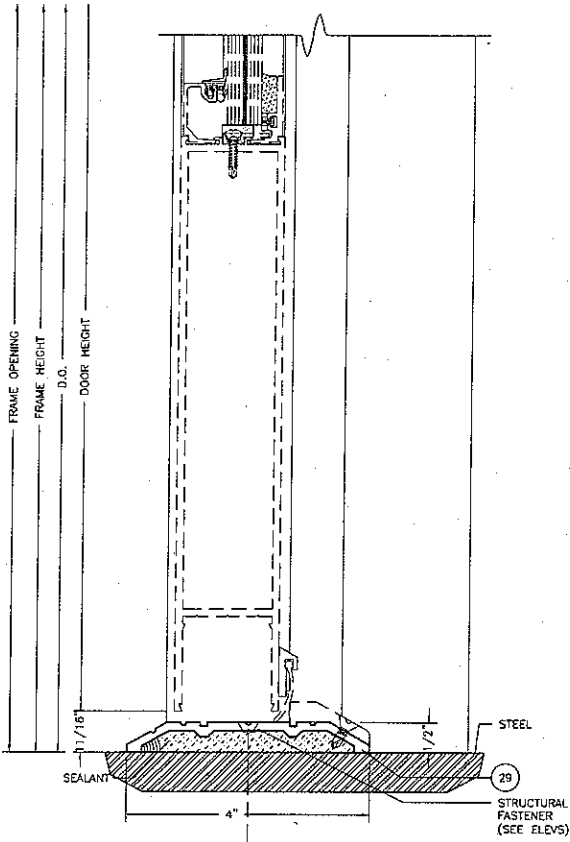
Test sample complies with these details.
 Deviations are noted.

Report# _____
 Date _____ Tech _____

NOT USED



13 - DETAIL
 1:2



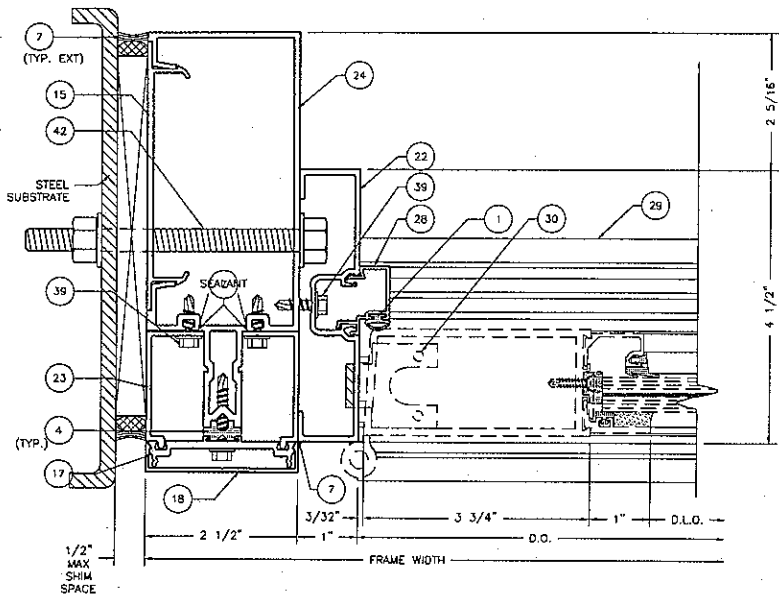
14 - DETAIL
 1:2

REV	BY	DATE

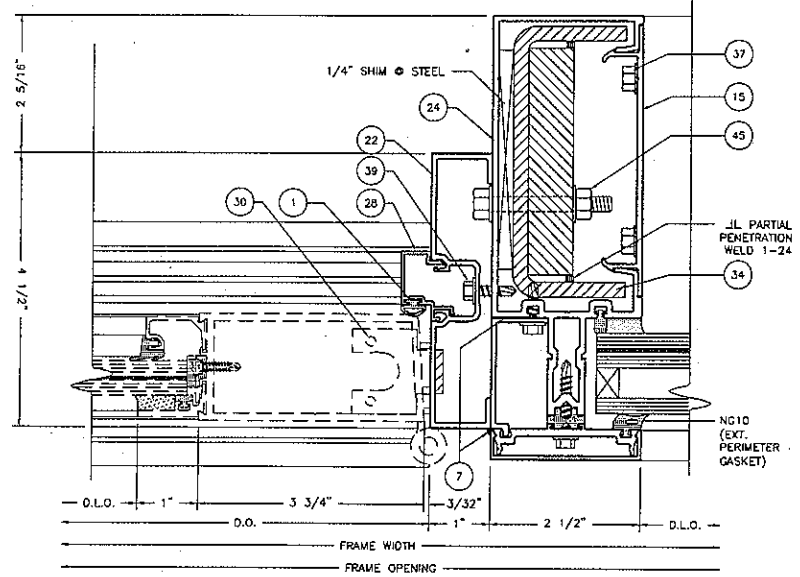
Coral
 Architectural Products
 100 BIRCHWOOD, MONTICELLO, AL 35466
 P.O. BOX 175277 TEL: 800-433-5851

TEST REPORT DRAWINGS
 PW257 IMPACT-RESISTANT
 CURTAIN WALL SYSTEM
 DOOR AND FRAMING DETAILS

DATE	8/24/2010		
DRAWN	CHECKED	APPROVED	
ALL	DCW	DCW	
PROJECT NO.			
DRAWING NO.	PW257_01		
SHEET	10 OF 15		

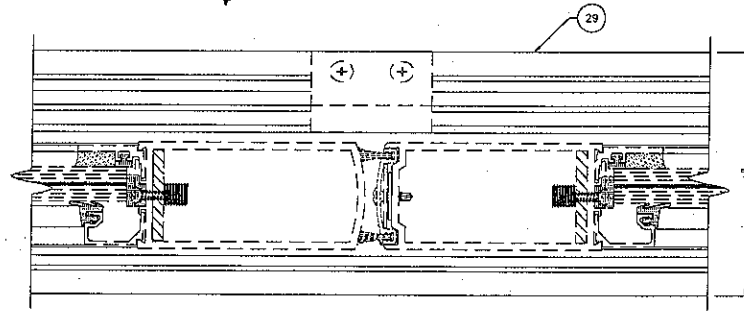


15 - DETAIL
1:2



17 - DETAIL
1:2

NOT USED



_____ DOOR OPENING _____
 _____ FRAME WIDTH _____
 _____ FRAME OPENING _____

16 - DETAIL
1:2



Architectural Testing

Test sample complies with these details.
 Deviations are noted.

Report# _____

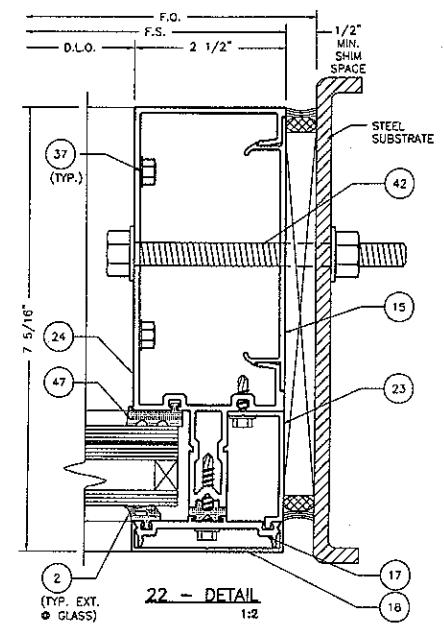
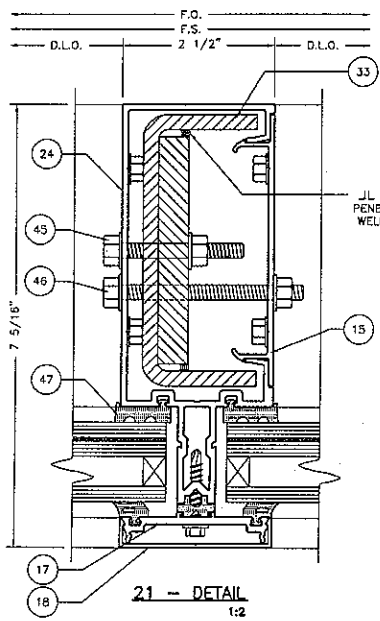
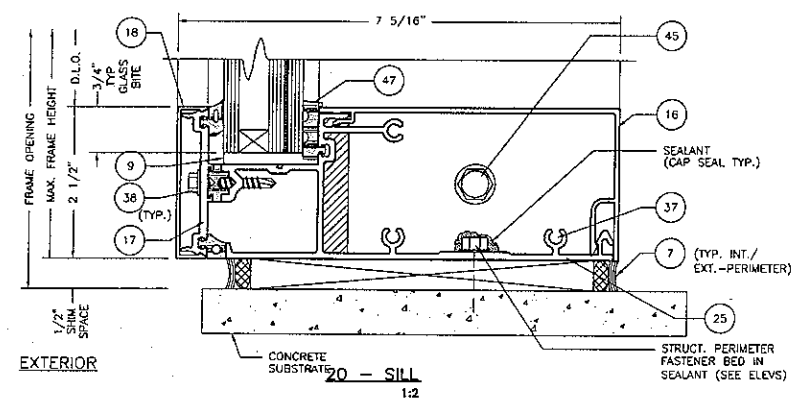
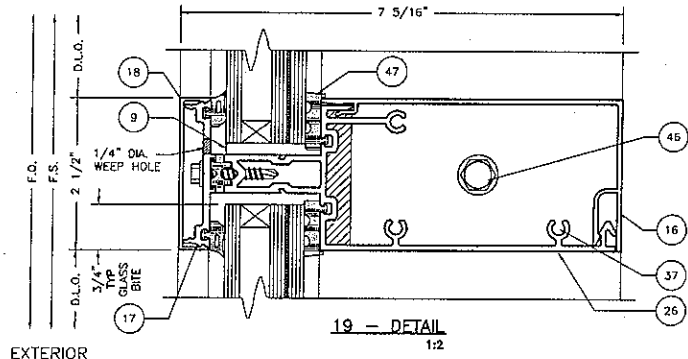
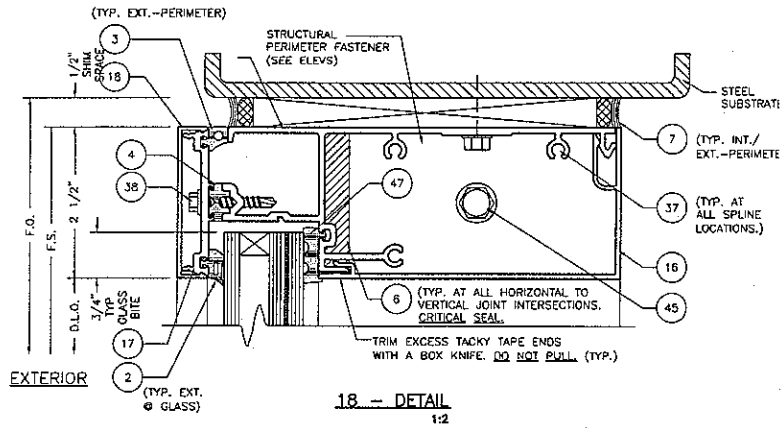
Date _____ Tech _____

NO.	REV.	DATE	DESCRIPTION

Coral
 Architectural Products
 501 RICE BLVD., TUSCALOOSA, AL 35406
 PHONE 800-772-7277 FAX 800-443-6561

TEST REPORT DRAWINGS
 PW257 IMPACT-RESISTANT
 CURTAIN WALL SYSTEM
 DOOR AND FRAMING DETAILS

DATE	8/24/2010		
DRAWN	CHECKED	APPROVED	
ALL	DCW	DCW	
PROJECT NO.			
DRAWING NO.	PW257_01		
SHEET	11 OF 15		



NOT USED

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# _____
Date _____ Tech _____

DATE		8/24/2010	
DRAWN	CHECKED	APPROVED	
MLL	DCW	DCW	
PROJECT NO.			
DRAWING NO.			
PW257_01			
SHEET			
12 OF 15			

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

FRAMING DETAILS

Coral
Architectural Products
3010 RICE LAKE ROAD, TUSCALOOSA, AL 35406
PHONE 800-773-7737 FAX 800-443-9251

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG5	BULB GASKET -- DOORFRAME STOP	0.165 SPACE	EPDM		VARIES
2	NG10	EXTERIOR GLAZING GASKET	0.250 SPACE	EPDM		VARIES
3	NG11	EXTERIOR PERIMETER GASKET	0.300 SPACE	EPDM		VARIES
4	NG12	PRESSURE BAR GASKET (ISOLATOR)	0.140 SPACE	EPDM		VARIES
5	NG14	INTERIOR SPACER GASKET	0.250 SPACE	EPDM		VARIES
6	SM5601	JOINT SEALANT TAPE	0.500 X 0.125 X VARIES	BUTYL	SCHNEE--MOOREHEAD	
7	795	SILICONE -- PERIMETER SEALANT	FILL SPACE	SILICONE	DOW CORNING	USED @ PERIMETER
8	995	SILICONE -- GLASS TO METAL	FILL SPACE	SILICONE	DOW CORNING	GLASS TO METAL AND INTERNAL
9	SB18	SETTING BLOCK @ SILL & HORIZONTAL	1.562 X 0.188 X 4.000	EPDM		VARIES 2 PER LITE
10	SP204	END DAM @ CAPTURED MULLION	1.287 X 1.787 X 0.745	EVA FOAM	CORAL INDUSTRIES, INC.	LOCATE 1 @ EACH END OF HORIZONTAL
11	SP208	BRIDGE DAM @ B.G. MULLION	3.123 X 1.562 X 0.745	EVA FOAM	CORAL INDUSTRIES, INC.	LOCATE 1 @ HORIZONTAL AND B.G. MULLION
12	SP211	MULLION CAP	3.000 X 2.691 X 0.048	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	LOCATE @ TOP AND BOTTOM OF VERTICAL
13	2086	JACKSON 2086 PANIC	36.000 X 7.3125 X 3.000	ALUMINUM	JACKSON	
14	PW151	B.G. MULLION	2.500 X 5.000 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
15	PW202	OPEN BACK MULLION FILLER	0.681 X 4.484 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
16	PW203	HEAD/ SILL/ HORIZONTAL TRIM	2.500 X 4.980 X 0.078	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
17	PW204	PRESSURE BAR	2.443 X 0.433 X 0.125	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
18	PW205	FACE COVER	2.500 X 0.500 X 0.062	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
19	PW208	FEMALE HALF 90° CORNER	1.625 X 6.110 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
20	PW209	MALE HALF 90° CORNER	1.875 X 6.110 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
21	PW210	INTERIOR CORNER TRIM	2.500 X 1.288 X 0.078	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
22	PW214	SUB DOORFRAME	1.000 X 4.500 X 0.080	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
23	PW613	POCKET FILLER FOR PW650	0.937 X 1.943 X 0.078	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
24	PW650	VERTICAL MULLION	2.500 X 6.593 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
25	PW652	HEAD/SILL	2.390 X 6.495 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
26	PW655	INTERMEDIATE HORIZONTAL	2.390 X 6.495 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
27	PW656	GLAZING TEE -- 90° CORNER	3.334 X 3.334 X 0.094	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
28	DS200	DOORFRAME STOP	0.882 X 1.149 X 0.050	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
29	TH4	THRESHOLD	0.500 X 4.000 X 0.125	6063--T6 ALUMINUM	CORAL INDUSTRIES, INC.	
30	TH403	THRESHOLD CLIP	1.390 X 1.516 X 1.909	STEEL		VARIES

(CONTINUED ON SHEET 15)



Test sample complies with these details.
Deviations are noted.

Report# A2653.02
Date 2/28/11 Tech JCM

REV	BY	DATE

Coral


Architectural Products
300 BELMONT ROAD, THE COLONIAL, VA 23060
PHONE: 800-772-7373 FAX: 800-443-5818

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM
BILL OF MATERIALS

DATE		
8/24/2010		
DRAWN	CHECKED	APPROVED
ALL	DCW	DCW
PROJECT NO.		
DRAWING NO.		
PW257_01		
SHEET		
13 OF 15		

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
31	SR150	REINFORCEMENT CHANNEL	4.500 X 1.875 X 0.250	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (1) AND (2)
32	SR504	REINFORCEMENT CHANNEL	4.562 X 1.250 X 0.250	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (1) AND (2)
33		SR150 WITH REINFORCEMENT BAR	3.750 X 0.500	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (1) AND (2)
34		SR150 WITH REINFORCEMENT BAR	3.750 X 0.750	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (1) AND (2)
35	FL207	DOOR HEADER	1.750 X 4.500 X 0.085	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
36	AS13	SQUARE NUT	1.475 X 1.475 X .180	STEEL	VARIES	
37	AS16	FASTENER	#14 X 1" HHSTS	STEEL	VARIES	TYP. SPLINE SCREW
38	AS32	FASTENER	#12 X 1-1/4" HWH #3 SELF DRILL	STEEL	VARIES	
39	AS25	FASTENER	#12 X 3/4" HWH SELF DRILL	STEEL	VARIES	
40	AS37	FASTENER	#12 X 2" HWH SELF DRILL	STEEL	VARIES	
41	FASTENER	PERIMETER ANCHOR TO STEEL SUBSTRATE	1/2"-13 X 2" BOLT WITH WASHER AND NUT	STEEL	VARIES	
42	FASTENER	PERIMETER ANCHOR TO STEEL SUBSTRATE	1/2"-13 X 4-1/2" BOLT WITH WASHER AND NUT	STEEL	VARIES	
43	FASTENER	PERIMETER ANCHOR TO CONCRETE SUBSTRATE	1/2"X3-1/2" MIN. EMBED WEDGE ANCHOR POWERS	STEEL	VARIES	
44	FASTENER	PERIMETER ANCHOR TO STEEL SUBSTRATE	#12 X 1-1/2" PFH SELF DRILL	STEEL	VARIES	
45	FASTENER	STEEL REINFORCEMENT ATTACHMENT	1/4"-20 X 2" BOLT WITH WASHER AND NUT	STEEL	VARIES	
46	FASTENER	THROUGH BOLT	1/4"-20 X 3" BOLT WITH WASHER AND NUT	STEEL	VARIES	USED @ HORIZONTALS
47	NG16	DRY GLAZE INTERIOR SPACER GASKET	0.260 SPACE	EPDM	VARIES	
48	PW658	CORNER FACE COVER	4.064 X .500 X 0.078	6063-T6 ALUM	CORAL INDUSTRIES, INC.	
49	PW654	CORNER PRESSURE BAR	3.954 X 3.954 X .125	6063-T6 ALUM	CORAL INDUSTRIES, INC.	
50	SP214	CORNER MULLION CAP	4.000 X 3.826 X 0.048	6063-T6 ALUM	CORAL INDUSTRIES, INC.	LOCATE @ TOP AND BOTTOM OF VERTICAL CORNER MULLION




Architectural Testing
 Test sample complies with these details.
 Deviations are noted.

Report# A2653.02
 Date 3/28/11 Tech JCW

GLAZING SCHEDULE

GLASS MARK	GLASS DESCRIPTION	MANUFACTURER	MAXIMUM D.L.O. SIZE (INCHES)	SQUARE FEET	MAXIMUM DESIGN PRESSURE (PSF)
IE	1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. - DUPONT BUTCITE 090 PBV INTERLAYER N.O.A. #	DUPONT	57-1/2" X 96"	38.3	± 80
IB	1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -.090 SAFLEX PVB INTERLAYER -1/4" H.S. N.O.A. #	SOLUTIA	45-1/2" X 96"	30.3	± 80
ID	1-5/16" INSULATED -1/4" H.S. -1/2" AIR SPACER -1/4" H.S. -SENTRY GLASS PWS .090 -1/4" H.S.	DUPONT	57-1/2" X 96"	38.3	± 80

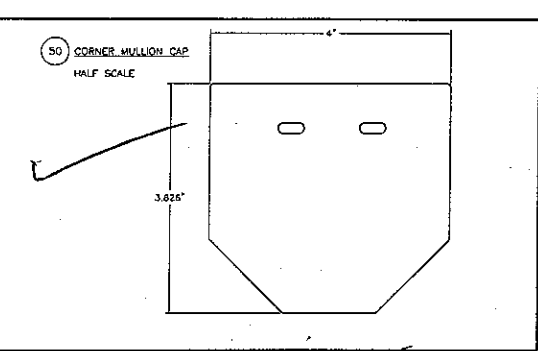
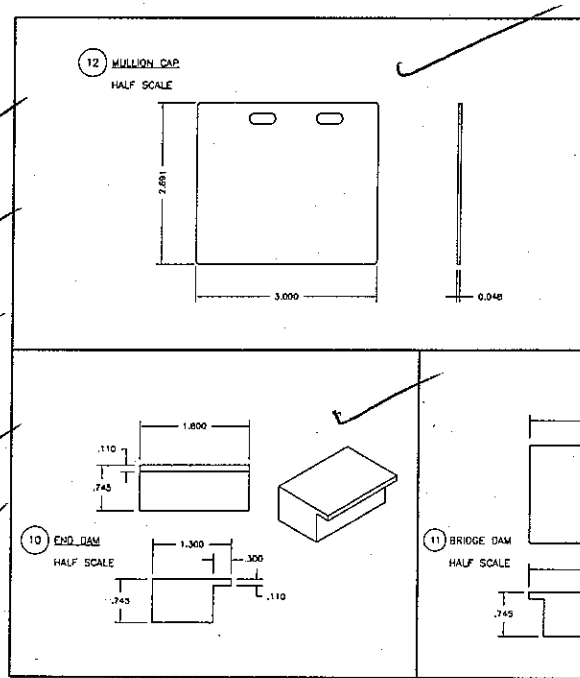
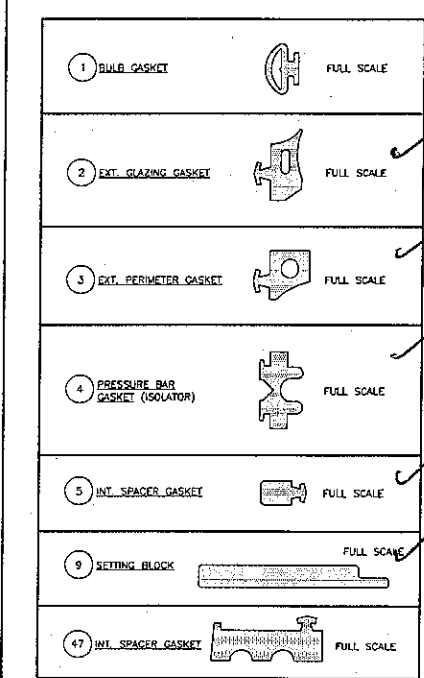
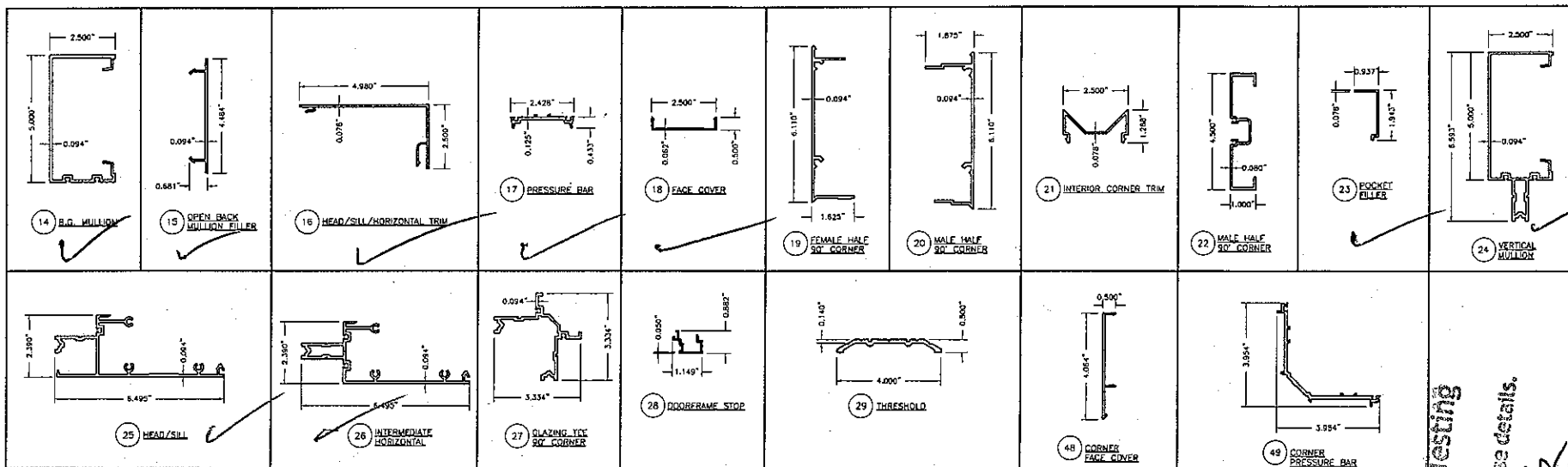
DATE: _____
 REV BY: _____
 DATE: _____



Coral
 Architectural Products
 3010 W. 110th Street, Suite 200
 Philadelphia, PA 19151
 PHONE: 800-772-7277 FAX: 800-443-9016

TEST REPORT DRAWINGS
 PW257 IMPACT RESISTANT
 CURTAIN WALL SYSTEM
 BILL OF MATERIALS AND GLAZING
 SCHEDULE

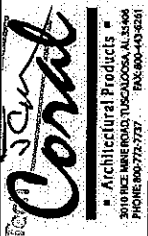
DATE: 8/24/2010
 DRAWN: ALL CHECKED: DCW APPROVED: DCW
 PROJECT NO.: _____
 DRAWING NO.: PW257_01
 SHEET 14 OF 15



Architectural Testing
 Test sample complies with these details.
 Deviations are noted.

Report# 42653.02
 Date 2/26/11

REV	BY	DATE



TEST REPORT DRAWINGS
 PW257 IMPACT-RESISTANT
 CURTAIN WALL SYSTEM
 DIE DRAWINGS

DATE	B/24/2010
DRAWN	ALL
CHECKED	DCW
APPROVED	DCW
DRAWING NO.	PW257_01
SHEET	15 OF 15