

MIAMI-DADE COUNTY PERFORMANCE TEST REPORT

Report No.: A2658.01-401-18

Rendered to:

CORAL ARCHITECTURAL PRODUCTS
Tuscaloosa, Alabama

PRODUCT TYPE: Aluminum Curtain Wall
SERIES/MODEL: PW257

This report contains in its entirety:

Cover Page: 1 page
Report Body: 15 pages
Sketches: 1 page
Photographs: 2 pages
Drawings: 16 pages

Test Dates: 12/09/10
Through: 12/10/10
Report Date: 04/21/11
Test Record Retention End Date: 12/10/20
Miami-Dade County Notification No.: ATI FL 10006

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: Aluminum Curtain Wall

3.2 Series/Model: PW257

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The samples were tested per Florida Building Code, Test Protocols for High Velocity Hurricane Zone, Protocols TAS 201-94, TAS 202-94, and TAS 203-94. The sample tested met the performance requirements set forth in the protocols for a ± 80.00 psf *Design Pressure* rating.

3.4 Miami-Dade County Notification No.: ATI FL 10006

3.5 Test Dates: 12/09/2010 - 12/10/2010

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

3.7 Test Sample Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Architectural Testing for a minimum of ten years from the test completion date.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen 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.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
William Smith	Coral Architectural Products
Scott Parker	Architectural Testing, Inc.
Shawn G. Collins, P.E.	Architectural Testing, Inc.

4.0 Test Specification(s):

TAS 201-94, *Impact Test Procedures.*

TAS 202-94, *Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading.*

TAS 203-94, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 157.3 ft ²	Width (inches)	Height (inches)
Overall size	151	150

5.2 Frame Construction:

Frame Member	Material	Description
Head/ Sill	Extruded Aluminum	Drawing #23 (PW 613), #25 (PW652) & #16 (PW203) on sheet 13 of 15
Vertical Mullion	Extruded Aluminum	Drawing #24 (PW650)& #15 (PW202) on sheet 13 of 15
Horizontal Mullion	Extruded Aluminum	Drawing #26 (PW655) & #16 (PW203) on sheet 13 of 15
Jambs	Extruded Aluminum	Drawing #23 (PW613), #24(PW650) & #15 (PW202) on sheet 13 of 15

	Joinery Type	Detail
All frame corners	Mechanical	The horizontal members were square cut, sealed with silicone and secured with three (3) #14 x 1" hex head screws; through the vertical members into the adjacent horizontal members screw spline.
Threshold to door jamb corners	Mechanical	The threshold was sealed and secured to the door jambs utilizing a threshold clip (#30 on Bill of Materials) with four (4) #12 X 1/2" flat head Phillips screws located two (2) through the threshold into the clip and two (2) through the door jamb into the clip.

5.0 Test Specimen Description: (Continued)

5.3 Weatherstripping:

Description	Quantity	Location
Exterior glazing gasket (NG10)	2 rows	Interior side of pressure bars; outer edges.
Exterior perimeter gasket (NG11)	1 row	Interior side of pressure bars at the perimeter of frame members
Pressure bar gasket (NG12)	1 row	Interior side of pressure bars; center.
Interior spacer gasket (NG14)	1 row	Exterior side of vertical and horizontal mullions; glazing perimeter.

5.4 Glazing:

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
1-5/16" IG	Silicone Foam	1/4" heat strengthened -0.090" Sentry Glass Plus®- 1/4" heat strengthened	1/4" heat strengthen	The unit was exterior glazed onto a foam silicone spacer at the perimeter, back bedded with Dow Corning 995 and secured with pressure bar utilizing #12 x 1-1/4" hex washer head self drilling screws located 12" on center.

Location	Quantity	Daylight Opening	Glass Bite
Transom	1	86-1/4" wide by 47-1/4" high	3/4"
Top side lite	1	57-1/2" wide by 47-1/4" high	3/4"
Bottom side lite	1	57-1/2" wide by 95-1/4" high	3/4"

5.0 Test Specimen Description: (Continued)

5.5 Drainage:

Drainage Method	Size	Quantity	Location
Weeps	1/4" diameter	1	16" on center of the horizontal pressure bars; above center.
Weeps	1/4" diameter	1	8" from each end and one at the mid-span of the horizontal cover plates; bottom leg.
Mullion caps (SP211)	3"x 2.691"x 0.048"	1	Top and bottom of vertical mullions.
EVA Foam End dam (SP204)	1.287"x 1.787"x 0.745"	1	Each horizontal to vertical connection

5.6 Hardware:

Description	Quantity	Location
3/8" x 2-1/2" long hexagon through bolts	1	Top and bottom of active panel lock stile.
1/2" diameter x 4-1/8" long through bolts.	1	Top and bottom of inactive panel lock stile.
4-3/4" x 4" hinges	3	8-1/2" from top and bottom of hinge stiles and one at the mid-span.

5.7 Reinforcement:

Drawing Number	Location	Material
Detail #17 on Sheet #11	Vertical mullion	4-1/2" wide by 1-7/8" deep by 1/4" thick steel channel with a 4" wide by 3/4" thick flat plate welded inside the channel.

6.0 Installation:

The specimen was installed into a C-10 steel buck. (See Drawing # Elevation E5) The rough opening allowed for a 1/2" shim space. The interior and exterior perimeter of the unit was sealed with Dow Corning 795.

Location	Anchor Description	Anchor Location
Sill to steel buck	1/2"-13 x 1" hex head bolts	4" and 6" from corner of vertical mullion and 4" from the jamb.
Head to steel buck	1/2"-13 x 2" hex head bolts with washers and nuts.	4" and 6" each side of the vertical mullion, 4" from the jamb corners and one at the mid-span of the transom lite.
Door jamb through frame jamb to steel buck	1/2"-13 x 4-1/2" hex head bolts with washers and nuts.	2", 45-1/2", 50-1/2" and 68" from the bottom corner.
Frame jambs to steel buck	1/2"-13 x 4-1/2" hex head bolts with washers and nuts.	2" up from horizontal to jamb corners.
Door sub-frame jamb to frame jamb and vertical mullion	#12 x 3/4" hex head self drilling screws	4" up from the bottom corners, four (4) at 18" on center and one (1) 2" down from top corners. (Total 12)
Door sub-frame head to horizontal mullion	#12 x 2" hex head self drilling screws	4" from each corner and 18" on center. (Total 4)
Threshold to steel buck	#12 x 1-1/4" flat head screws	5-1/2" from each corner and 24" on center. (Total 4)
Vertical mullion to reinforcement	1/4" - 20 x 3" hex head bolt with washers and nuts.	Through bolted 1" from all horizontal connections.
Vertical mullion to reinforcement	1/4" - 20 x 2" hex head bolt with washers and nuts.	2" from head and sill; through vertical mullion (PW650) and the reinforcement.

7.0 Test Results: The temperature during testing was 69°F. The results are tabulated as follows:

Protocol TAS 202-94, Static Air Pressure Tests

Test Unit #1

Design Pressure: ±80.0 psf

Structural Loads	Indicator Reading (inches)					
	#1	#2	#3	#4	#5	#6
50% of Test Pressure (+60.0 psf)						
Maximum Deflection	0.19	0.75	0.25	0.29	0.73	0.76
Permanent Set	0.04	0.13	0.11	0.05	0.08	0.10
Design Pressure (+80.0 psf)						
Maximum Deflection	0.26	0.88	0.31	0.34	0.83	0.88
Permanent Set	0.07	0.17	0.14	0.07	0.12	0.15
50% of Test Pressure (-60.0 psf)						
Maximum Deflection	0.51	1.08	0.52	0.43	0.98	1.08
Permanent Set	0.23	0.30	0.28	0.10	0.23	0.35
Design Pressure (-80.0 psf)						
Maximum Deflection	0.64	1.37	0.66	0.58	1.26	1.38
Permanent Set	0.26	0.37	0.34	0.14	0.29	0.44
Test Pressure (+120.0 psf)						
Maximum Deflection	0.53	1.46	0.55	0.55	1.39	1.47
Permanent Set	0.22	0.33	0.26	0.10	0.23	0.30
Test Pressure (-120.0 psf)						
Maximum Deflection	0.75	1.57	0.83	1.70	1.59	0.65
Permanent Set	0.23	0.22	0.30	0.19	0.09	0.02

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

7.0 Test Results: (Continued)

Protocol TAS 201-94, *Impact Test Procedures*

Missile Weight: 9.25 lbs
Missile Length: 7' 11"
Muzzle Distance from Test Specimen: 17 ft.

Test Unit #1:

Impact #1: Missile Velocity: 49.8 fps	
Impact Area:	Mid-span of the horizontal mullion.
Observations:	Missile hit target area, fractured outboard lite of I.G. glass at transom and dented aluminum face plate and pressure plate.
Results:	Pass

Impact #2: Missile Velocity: 50.2 fps	
Impact Area:	Mid-span of the vertical mullion.
Observations:	Missile hit target area, dented aluminum face plate and pressure plate.
Results:	Pass

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

7.0 Test Results: (Continued)

Protocol TAS 203-94, Cyclic Wind Pressure Loading

Test Unit #1

Design Pressure: ±80.0 psf

POSITIVE PRESSURE

Pressure Range psf	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inches)					
			#1	#2	#3	#4	#5	#6
16 to 40	3500	1.70	0.31	0.72	0.50	0.28	0.60	0.73
0 to 48	300	6.54	0.43	0.82	0.59	0.32	0.70	0.84
40 to 64	600	2.07	0.53	1.02	0.71	0.41	0.90	1.03
24 to 80	100	4.91	0.63	1.23	0.80	0.48	1.09	1.24
			Permanent Set (inches)					
			0.34	0.37	0.48	0.17	0.25	0.38

NEGATIVE PRESSURE

Pressure Range psf	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inches)					
			#1	#2	#3	#4	#5	#6
24 to 80	50	6.20	0.52	1.19	0.58	0.45	1.05	1.09
40 to 64	1050	2.61	0.44	0.98	0.51	0.37	0.95	0.95
0 to 48	50	6.26	0.40	0.86	0.48	0.27	0.73	0.73
16 to 40	3350	3.12	0.32	0.77	0.45	0.24	0.61	0.62
			Permanent Set (inches)					
			0.04	0.02	0.15	0.03	0.07	0.07

Observations: Two (2) #12 x 1-1/4" flat head screws sheared at the threshold; no deglazing was observed.

Result: Pass

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

8.0 Test Equipment:

Cannon: 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

9.0 Laboratory Compliance Statements: The following are provided as required by the protocols for the testing reported herein.

Upon completion of testing, specimens tested for TAS 201-94 met the requirements of Section 1626 of the Florida Building Code, Building (2007).

AND

Upon completion of testing, specimens tested for TAS 202-94 met the requirements of Section 1620 of the Florida Building Code, Building (2007).

AND

Upon completion of testing, specimens tested for TAS 203-94 met the requirements of Section 1626 of the Florida Building Code, Building (2007).

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 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

SP:ck/sc

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

- Appendix-A: Sketches (1)
- Appendix-B: Photographs (2)
- Appendix-C: Drawings (16)



Test Report No.: A2658.01-401-18
Report Date: 04/21/11
Test Record Retention End Date: 12/10/20

Appendix A

Sketches



Architectural
Testing

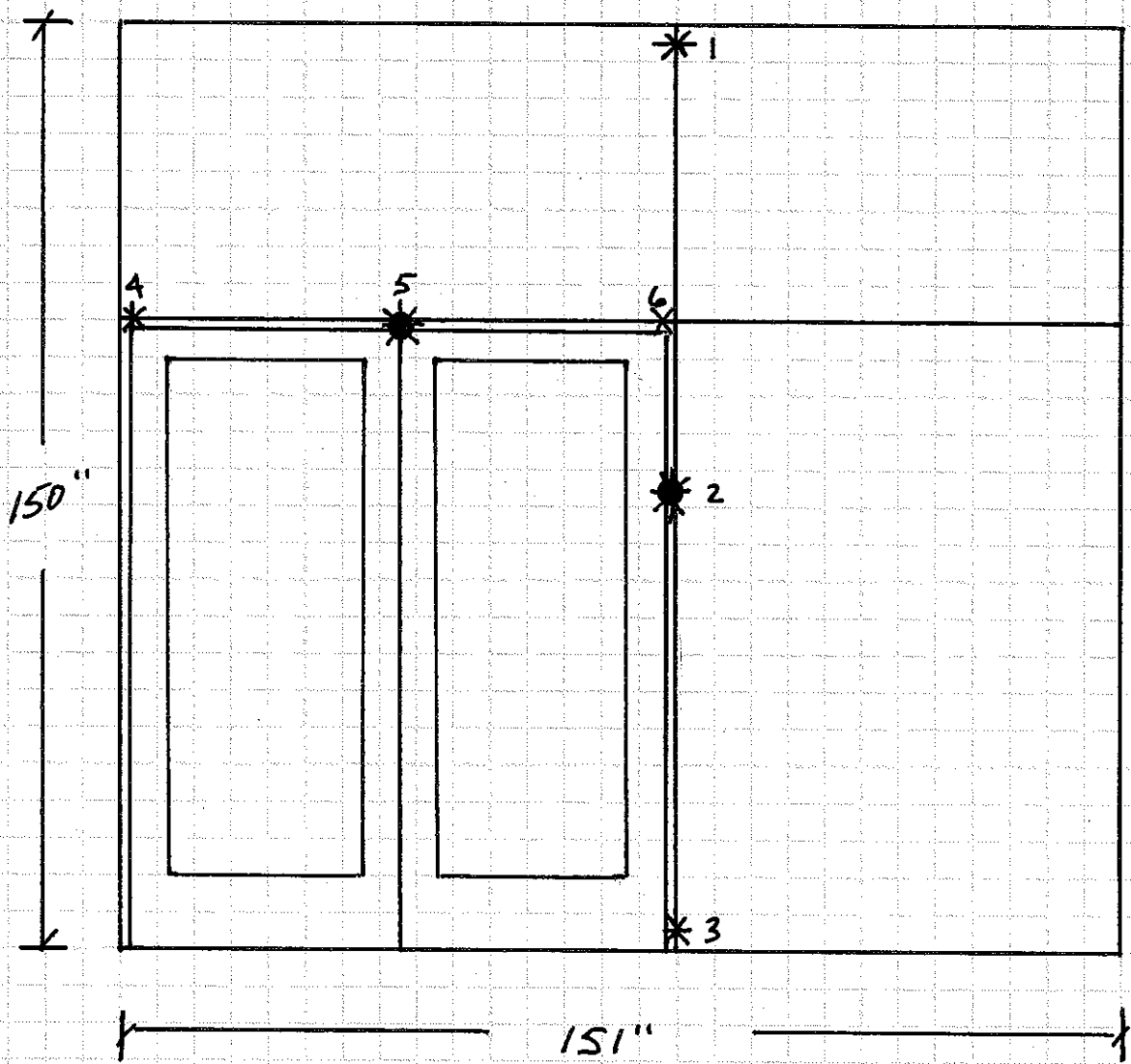
DATE: 01/03/2011
BY: SP

PROJECT NO. A2650-01-401-18 SHEET 1 OF 1
PROJECT NAME: Canal - Elevation E5

SKETCH #1

ELEVATION E5

* - INDICATOR LOCATIONS
● - IMPACT LOCATIONS



Appendix B
Photographs



Photo No. 1
Elevation E5
Reinforced Captured Mullion with Series 381 Entrance Door



Photo No. 2
Indicator locations for Elevation E5

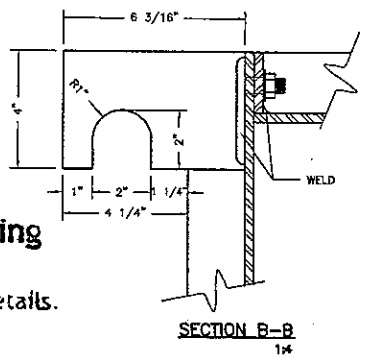
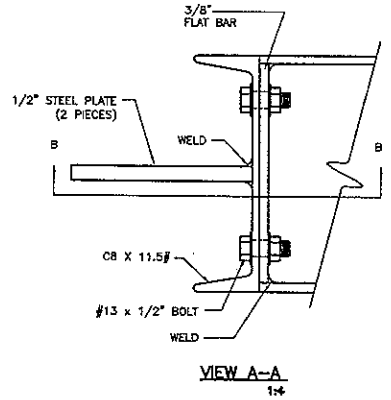
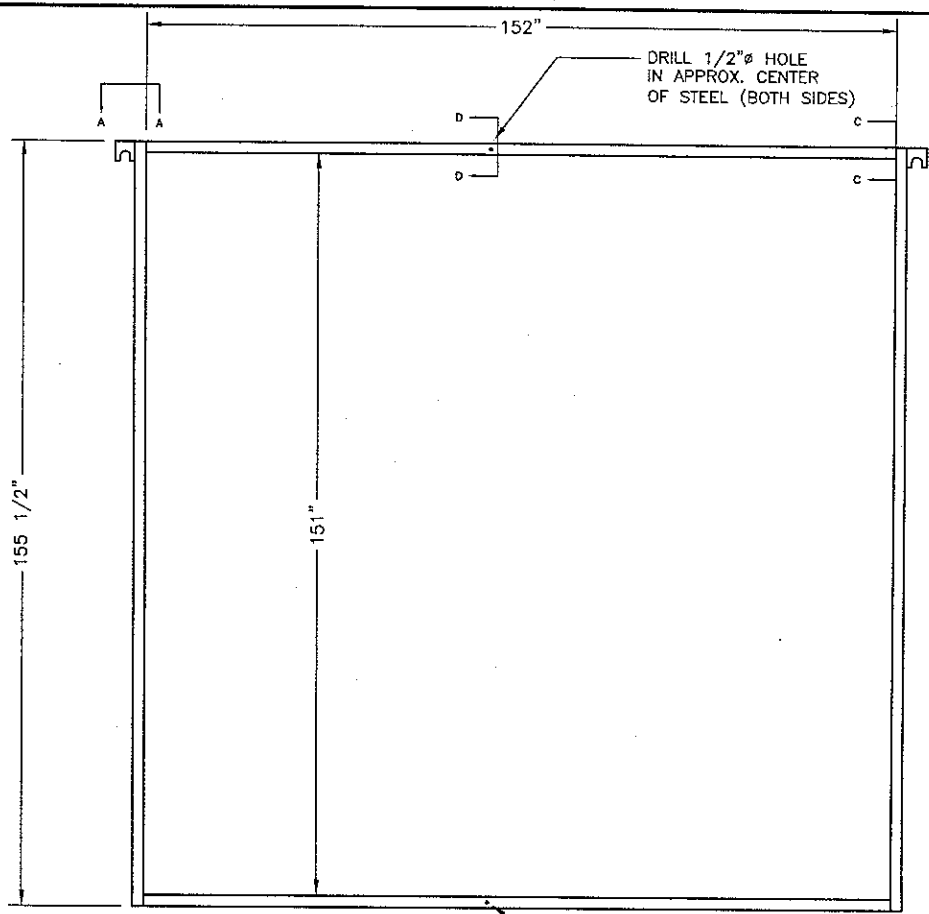


Test Report No.: A2658.01-401-18
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Appendix C

Drawings

Coral Architectural Products		DATE	3/4/2010
PART NAME	PW257_01 TEST BUCK	DRAWN	ALL
PART NO.	ELEVATION ES	CHG.	APP.
		SCALE	VARIES



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A2658.01-401-18

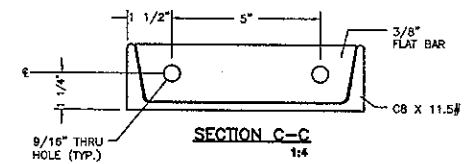
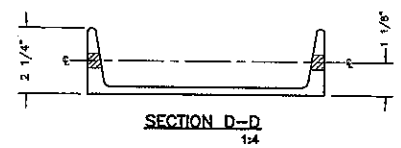
Date 4/19/11 Tech SP

ELEVATION ES
1/2" = 1'-0"

DRILL 1/2" Ø HOLE
IN APPROX. CENTER
OF STEEL (BOTH SIDES)

NOTE:
MAKE 1 AS SHOWN

NO	REVISION	BY	DATE
#			



(TOP SHOWN, BOTTOM SIMILAR)

SPECIMEN #E1	
TEST METHOD	TEST CONDITIONS
AIR INFILTRATION TEST (ASTM E283 AND TAS 202)	1.57 PSF & 6.34 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 E1886/E1996 AND TAS 201)	9-LB 4OZ. 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM F1996 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE



Test sample complies with these details.
Deviations are noted.

Report# A2658-01-401-18

Date 4/19/11 Tech SP

STEEL BUCK FRAME

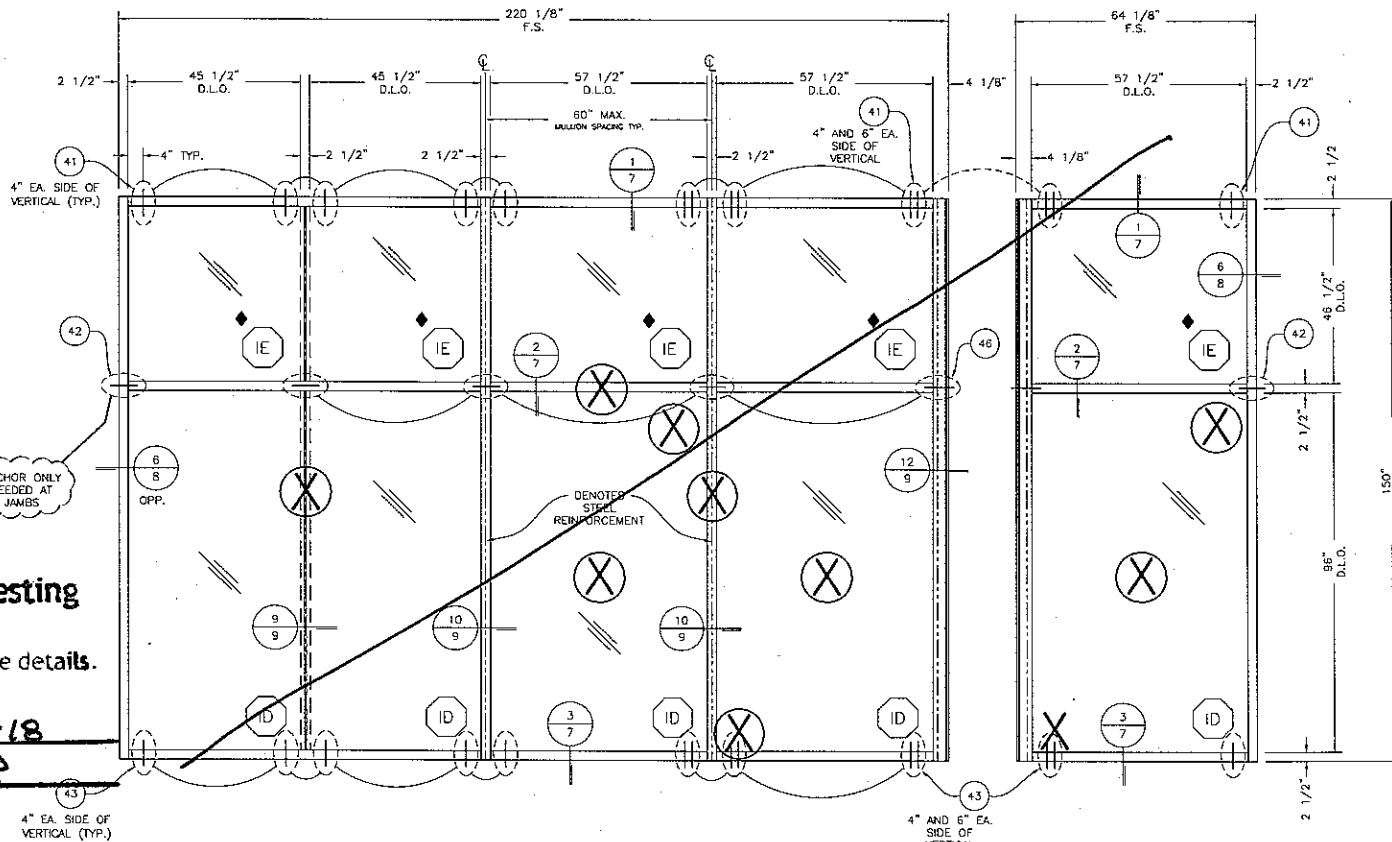
TESTING:
AIR, WATER, STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180) = 0.833

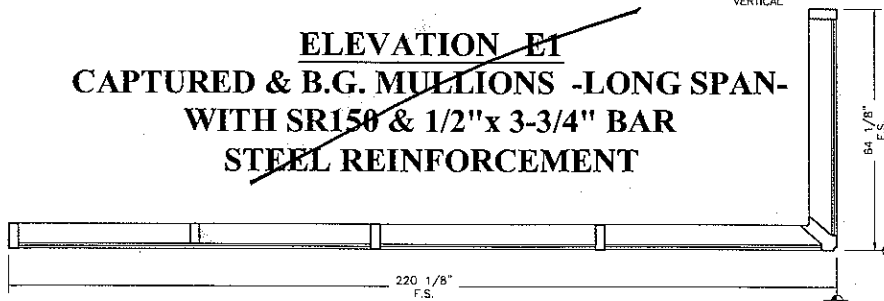
DESIGN PRESSURE = +/- 80 PSF

(X) = LARGE MISSILE IMPACT LOCATIONS

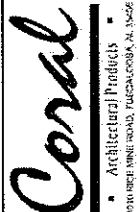
◆ = INFILL ONLY (DO NOT IMPACT)



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



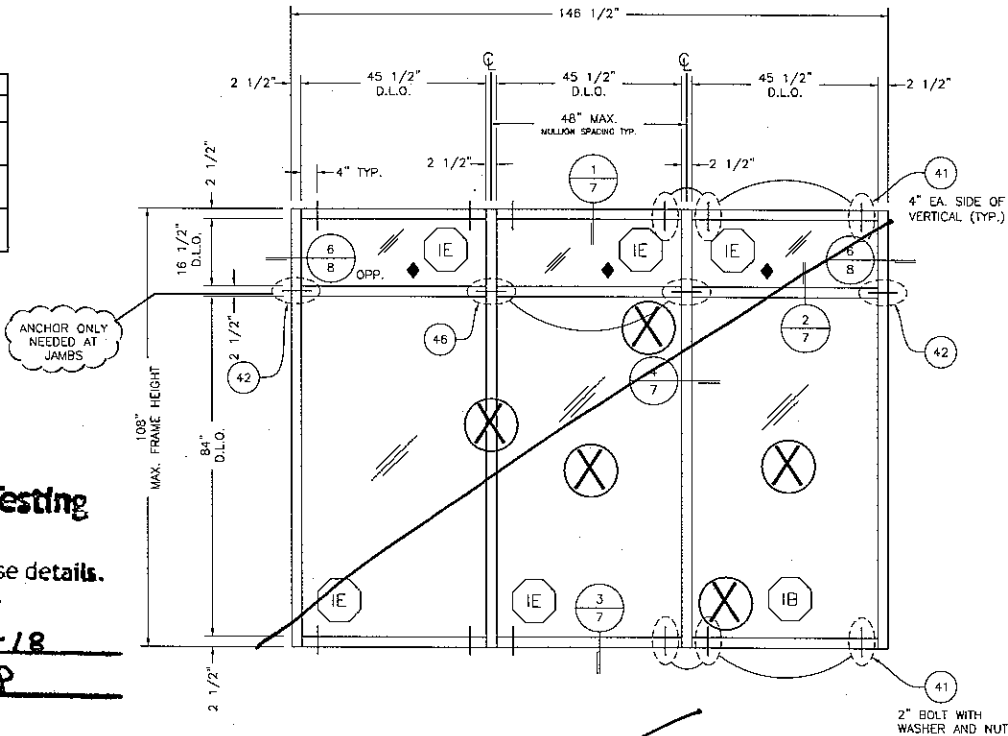
0 1'-4\" 2'-8\" 5'-4\"
SCALE: 3/8\"=1'-0\"



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

DATE	3/24/2010		
DRAWN	CHECKED	APPROVED	
ALL	DCW	DCW	
PROJECT NO.	TEST		
DRAWING NO.	PW257_01		
SHEET	2 OF 15		

SPECIMEN #E2	
TEST METHOD	TEST CONDITIONS
UNIFORM STATIC LOAD TEST (ASTM E330 AND TAS 202)	4/- 65 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 40Z, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	4/- 65 PSF DESIGN PRESSURE



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A2698.01-401-18

Date 4/19/11 Tech SP

ELEVATION. E2
CAPTURED MULLION -SHORT SPAN-
WITHOUT REINFORCEMENT

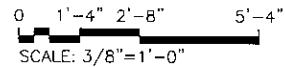
STEEL BUCK FRAME

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)



Coral
Architectural Products
3500 W. 108th Street, Suite 100
Tulsa, OK 74133

DATE
REV. BY
DESCRIPTION

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

FRAMING ELEVATION

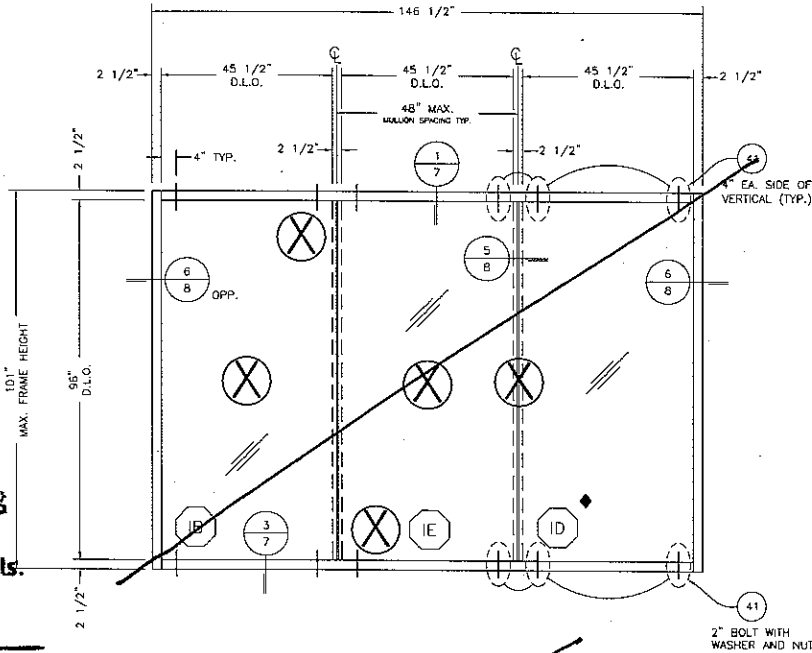
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DRAWN	CHECKED	APPROVED
MLL	DCW	DCW
PROJECT NO.	TEST	
DRAWING NO.	PW257 01	
SHEET	3 OF 15	

SPECIMEN #E3	
TEST METHOD	TEST CONDITIONS
UNIFORM STATIC LOAD TEST (ASTM E230 AND TAS 202)	+/- 65 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E186/E195 AND TAS 201)	9-LB 40Z, 2x4 @ 50FTSRC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 65 PSF DESIGN PRESSURE



Test sample complies with these details.
Deviations are noted.

Report# A265B.01-401-18
Date 4/19/11 Tech SP



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

STEEL BUCK FRAME

TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180)= 0.561

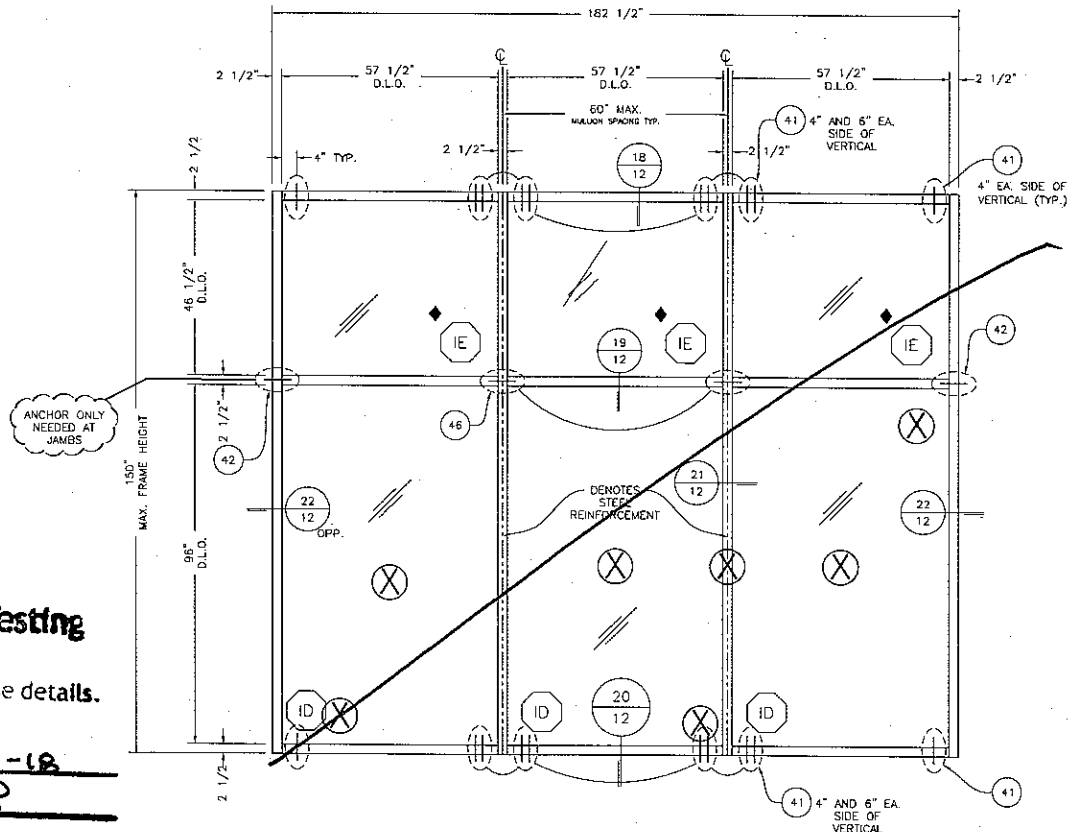
DESIGN PRESSURE = +/-65 PSF

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

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

	DATE
	REV. BY
<p>TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM</p> <p>FRAMING ELEVATION</p>	<p>DATE 3/24/2010</p> <p>DRAWN: MLL CHECKED: DCW APPROVED: DCW</p> <p>PROJECT NO. TEST</p> <p>DRAWING NO. PW257_01</p> <p>SHEET 4 OF 15</p>

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 203)	20.00 PSF
UNIFORM STATIC LOAD TEST (ASTM F330 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 40Z, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE



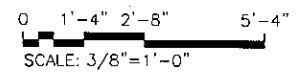
Test sample complies with these details.
Deviations are noted.

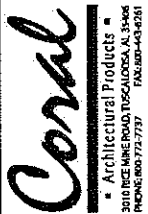
Report# A2658-01-401-18
Date 4/19/11 Tech SP

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

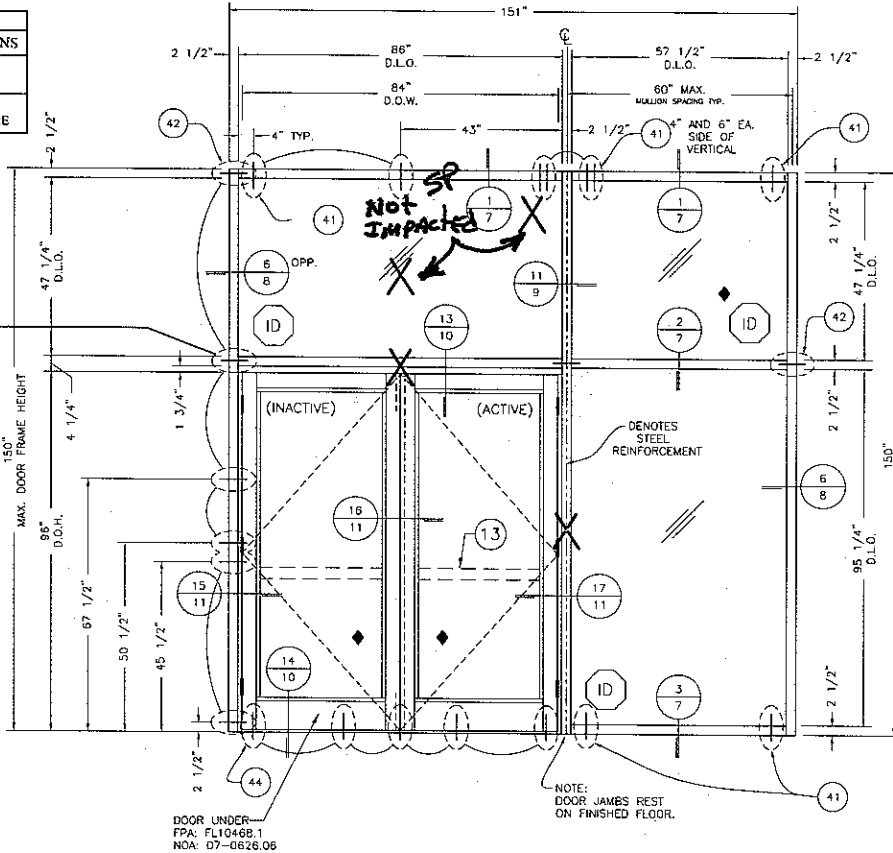
- STEEL BUCK FRAME
- TESTING:
IMPACT, AND CYCLE
- MAX. ALLOWABLE DEFLECTION (L/180) = 0.833
- DESIGN PRESSURE = +/- 80 PSF

⊗ = SMALL MISSILE IMPACT LOCATIONS
◆ = INFILL ONLY (DO NOT IMPACT)



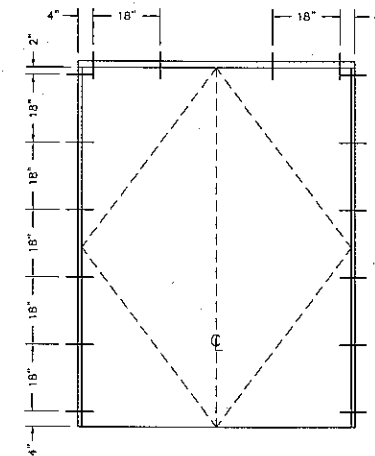
 <p>Architectural Products 3010 PACE CREST BLVD. SUITE 100 PHOENIX, AZ 85028 TEL: 602.772.7373 FAX: 602.772.7373</p>	<p>TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM</p> <p>FRAMING ELEVATION</p>
<p>DATE: 3/24/2010</p> <p>DRAWN: MLL CHECKED: DCW APPROVED: DCW</p> <p>PROJECT NO.:</p> <p>DRAWING NO. PW257_01</p> <p>SHEET 5 OF 15</p>	

SPECIMEN #E5	
TEST METHOD	TEST CONDITIONS
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 40Z, 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# A2658.01-401-18
Date 4/19/11 Tech SP



**LOCATIONS FOR
DOOR SUB-FRAME ATTACHMENT
TO CURTAIN WALL ALUMINUM**

*REVIEW STEEL
REQUIREMENTS ONCE
DIES ARE APPROVED*

ANCHOR ONLY
NEEDED AT
JAMBS

**ELEVATION E5
CAPTURED MULLION -LONG SPAN-
WITH SR150 & 3/4" x 36" BAR STEEL REINFORCEMENT
FOR SERIES 381 ENTRANCE DOORS**

STEEL BUCK FRAME

TESTING:
IMPACT, AND CYCLE

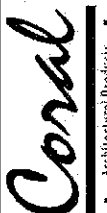
MAX. ALLOWABLE DEFLECTION (L/180) = 0.833

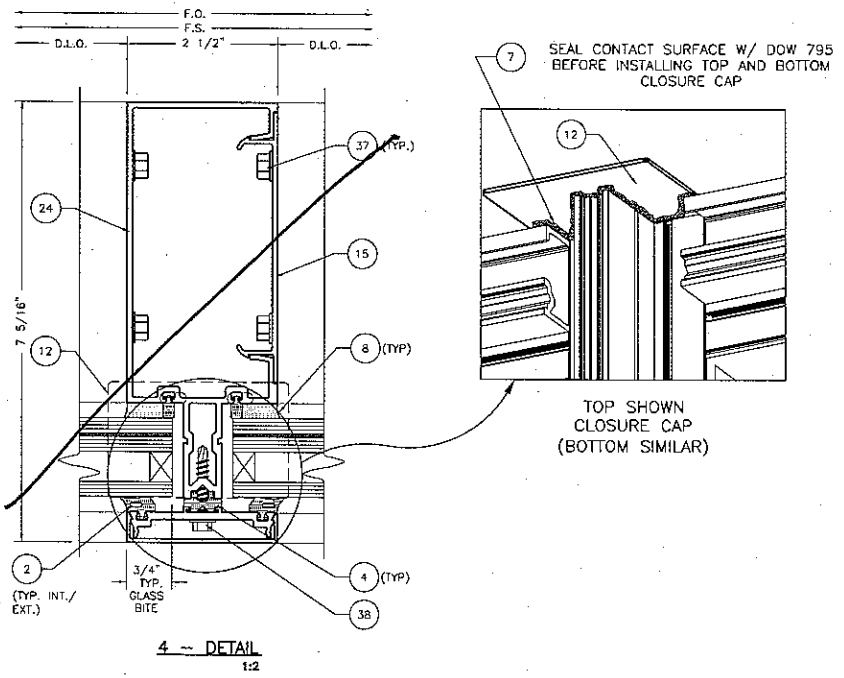
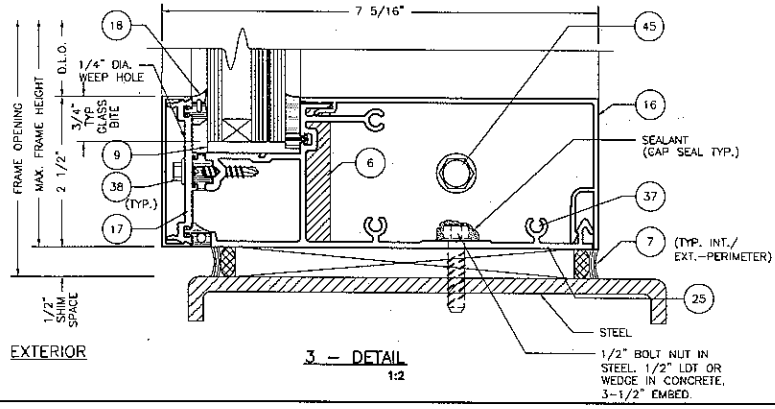
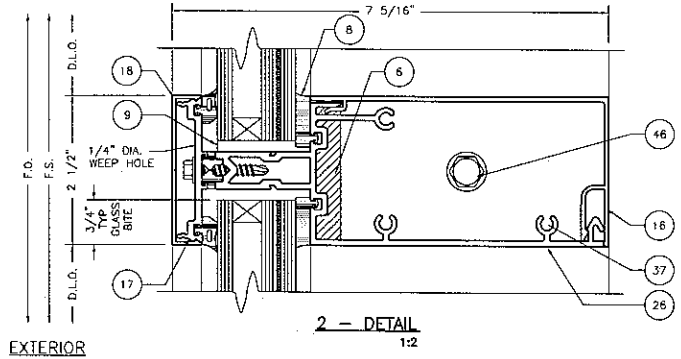
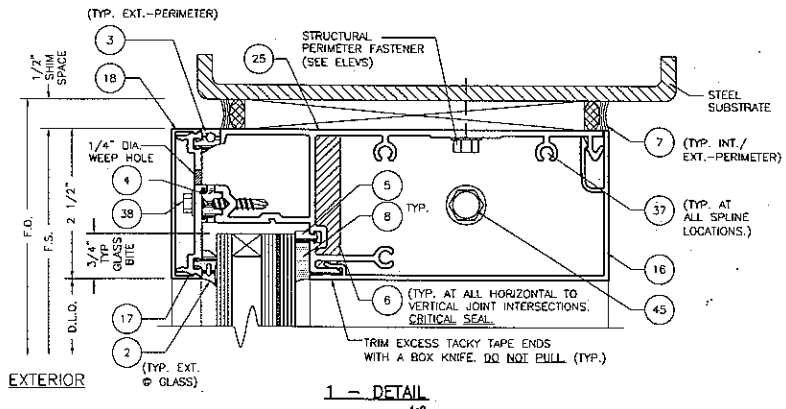
DESIGN PRESSURE = +/- 80 PSF

X = LARGE MISSILE IMPACT LOCATIONS

◆ = INFILL ONLY (DO NOT IMPACT)

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

DESCRIPTION	
REV	DATE
	
Architectural Products 13745 STATE ROUTE 1830, SUITE 200, ALBANY, NY 12209 PHONE: 518-772-7337 FAX: 518-772-7339	
TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM	
FRAMING ELEVATION FOR DOORS	
DATE	3/24/2010
DRAWN	MLL
CHECKED	DCW
APPROVED	DCW
PROJECT NO.	TEST
DRAWING NO.	PW257_01
SHEET	6 OF 15



Architectural Testing

Test sample complies with these details.
Deviations are noted.

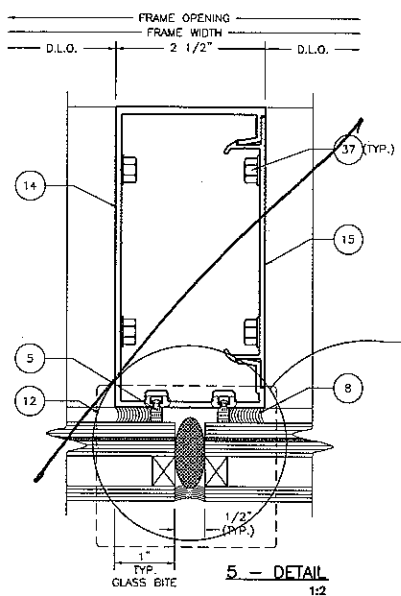
Report# A2658.01-401-18

Date 4/19/11 Tech SP

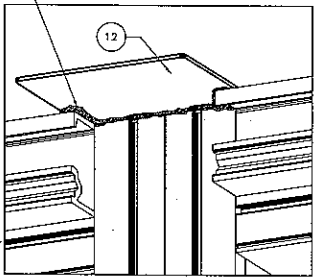
DATE 8/24/2010		
DRAWN MLL	CHECKED DCW	APPROVED DCW
PROJECT NO.		
DRAWING NO. PW257_01		
SHEET 7 OF 15		

Coral
Architectural Products
3865 W. 130th Street, Suite 200
Phone: 865/723-7717 Fax: 865/413-9811

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



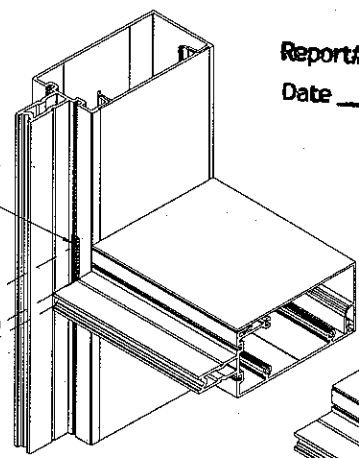
7 SEAL CONTACT SURFACE W/ DOW 795 BEFORE INSTALLING TOP AND BOTTOM CLOSURE CAP



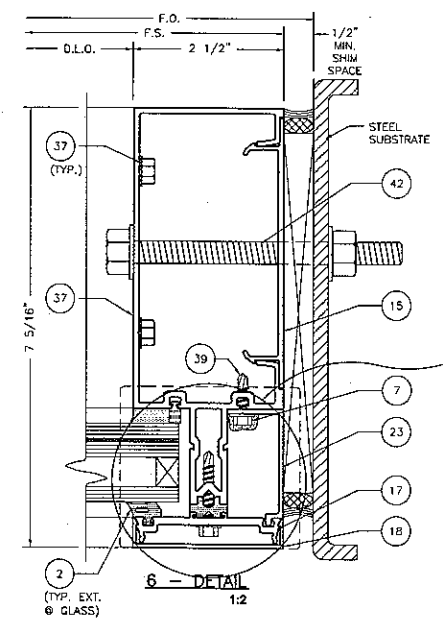
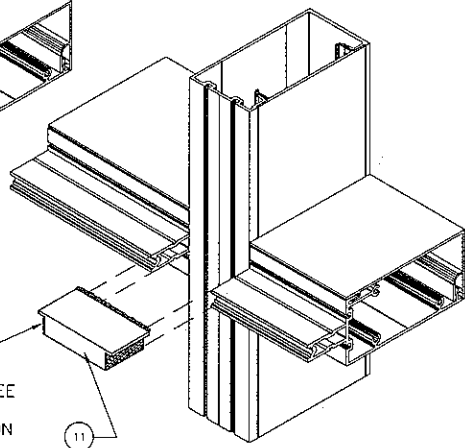
TOP SHOWN CLOSURE CAP (BOTTOM SIMILAR)

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

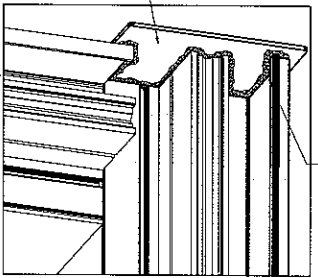
7 CRITICAL SEAL APPLY DOW 795 SEALANT TO ALL THREE CONTACT SURFACES PRIOR TO INSTALLATION AT HORIZONTALS AND SILL.



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



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# A 2658.01-401-18

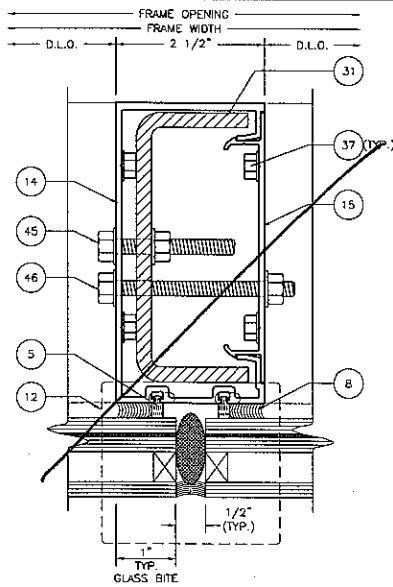
Date 4/19/11 Tech SP

NO.	DESCRIPTION	REV.	BY	DATE

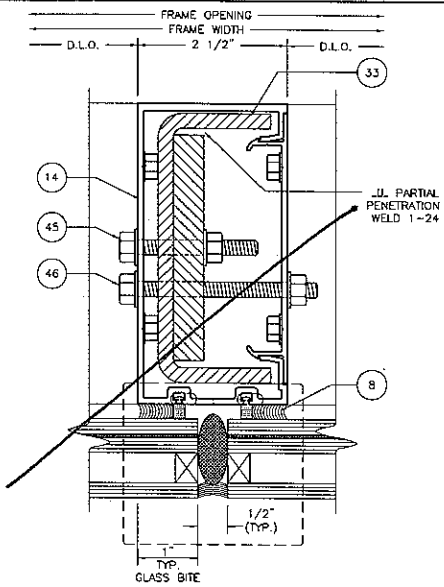
Coral
 Architectural Products
 300 BCT WISE ROAD, TUSCALOOSA, AL 35408
 PHONE: 800-778-7737 FAX: 205-443-0261

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

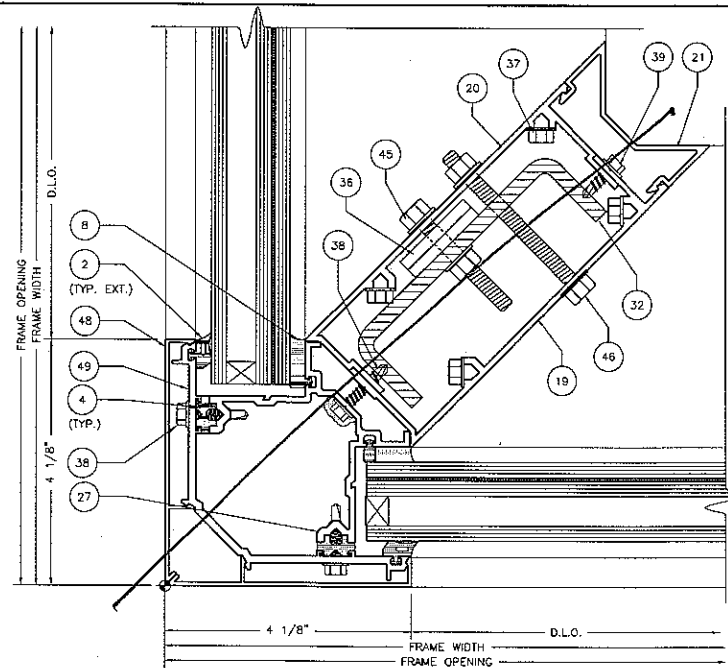
DATE	8/24/2010		
DRAWN	MLL	CHECKED	APPROVED
		DCW	DCW
PROJECT NO.			
DRAWING NO.	PW257_01		
SHEET	8 OF 15		



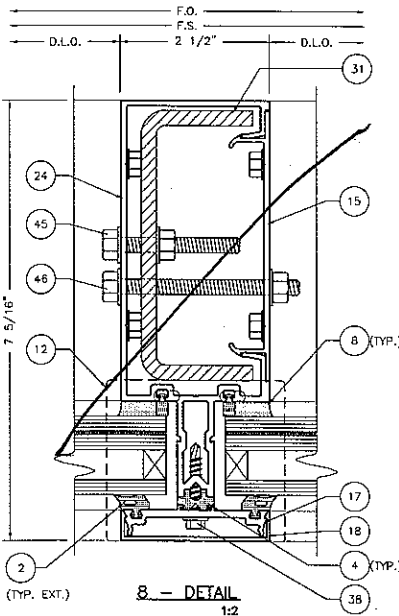
7 - DETAIL
1:2



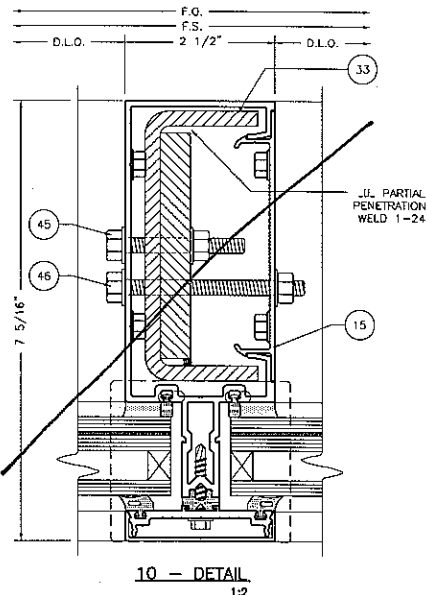
9 - DETAIL
1:2



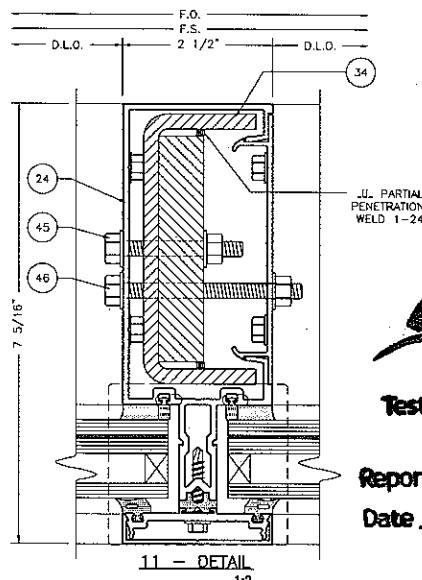
12 - DETAIL
1:2



8 - DETAIL
1:2



10 - DETAIL
1:2



11 - DETAIL
1:2



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A2658.01-401-1A

Date 4/19/11 Tech SP

REV	BY	DATE	DESCRIPTION

Coral
Architectural Products
3010 BEAUFORT ROAD, TUSCALOOSA, AL 35406
PHONE: 205-772-7737 FAX: 205-482-0261

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 9 OF 15			

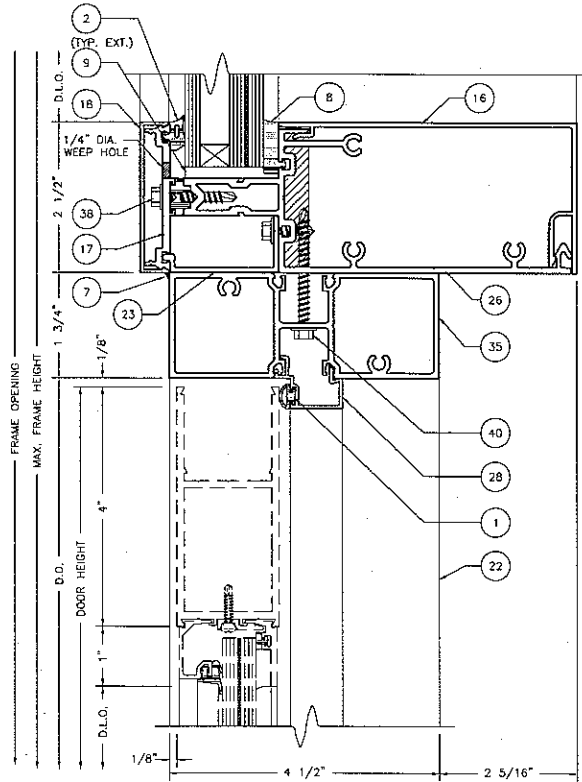


Architectural Testing

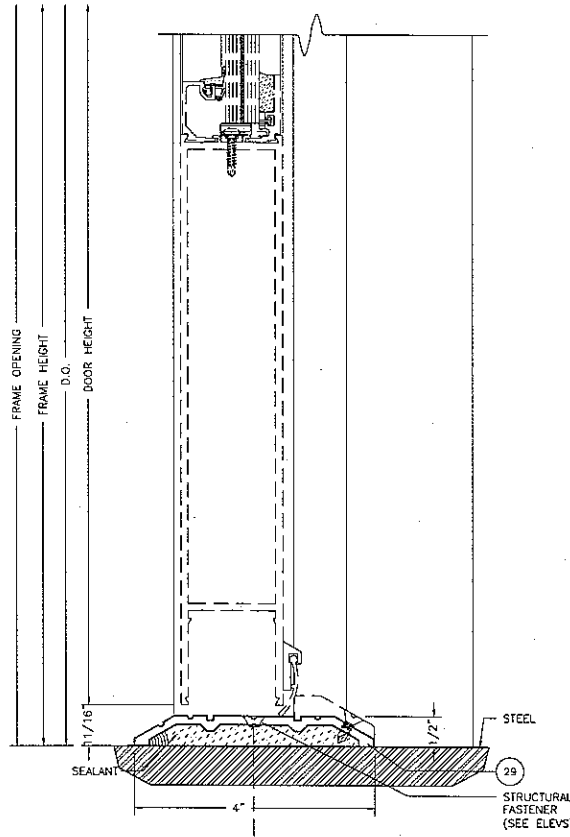
Test sample complies with these details.
Deviations are noted.

Report# A2658.01-401-18

Date 4/19/11 Tech SP



13 - DETAIL
1:2



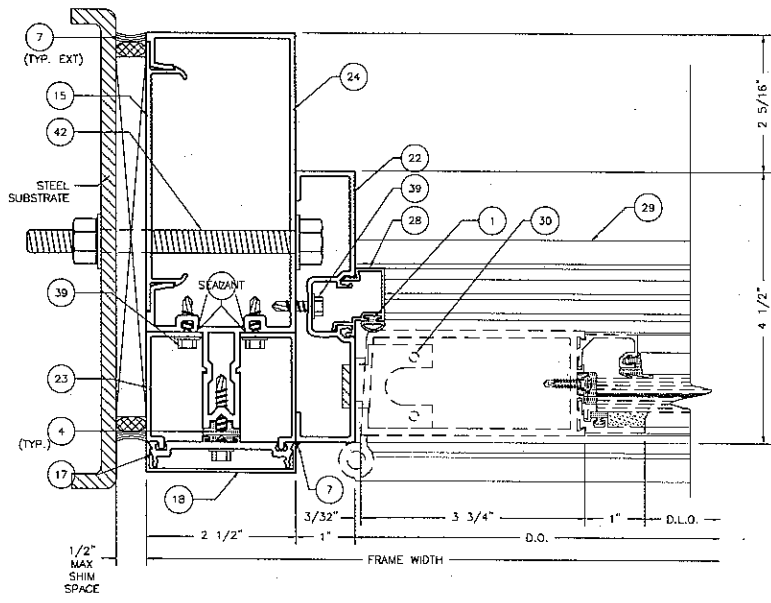
14 - DETAIL
1:2

NO.	REV.	DATE	DESCRIPTION

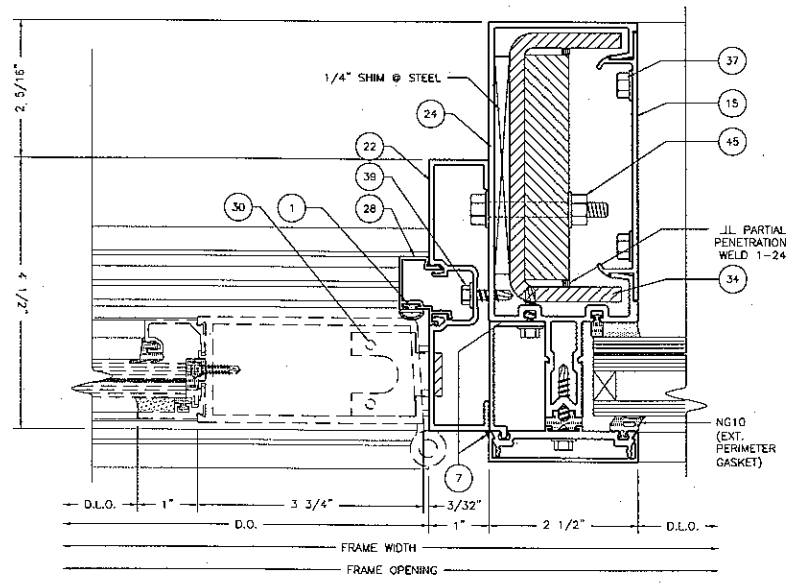
Coral
Architectural Products
3000 GOLF LINKS ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 205-413-6981

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

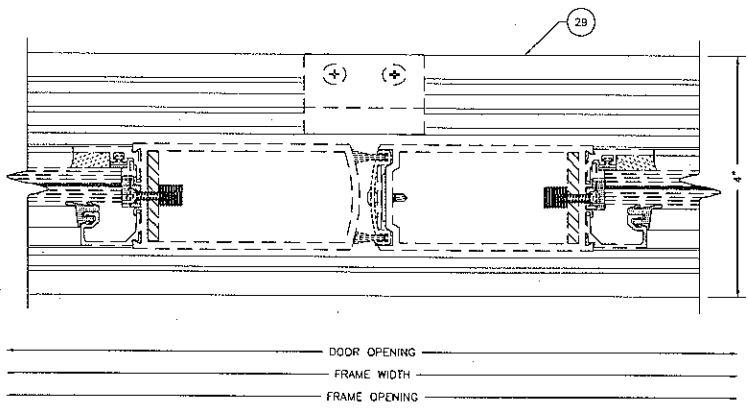
DATE	8/24/2010		
DRAWN	CHECKED	APPROVED	
MLL	DCW	DCW	
PROJECT NO.			
DRAWING NO. PW257_01			
SHEET 10 OF 15			



15 - DETAIL
1:2



17 - DETAIL
1:2



16 - DETAIL
1:2



Test sample complies with these details.
Deviations are noted.

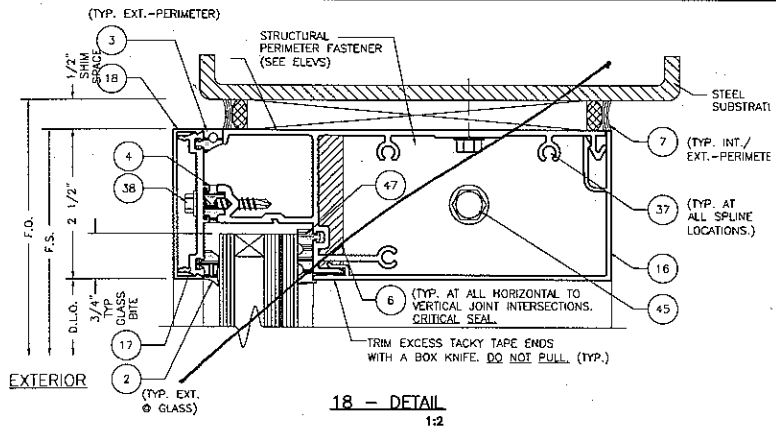
Report# A2658.01-401-18
Date 4/19/11 Tech SP

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

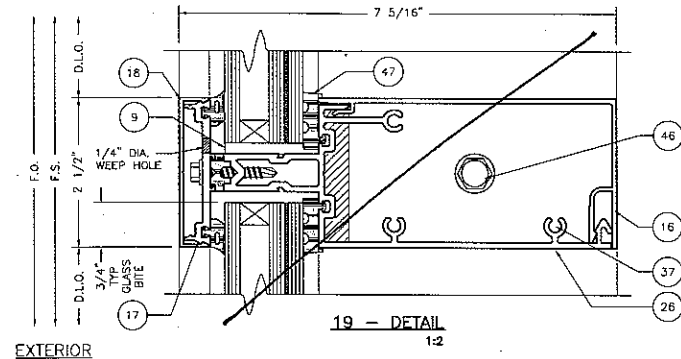
TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

DOOR AND FRAMING DETAILS

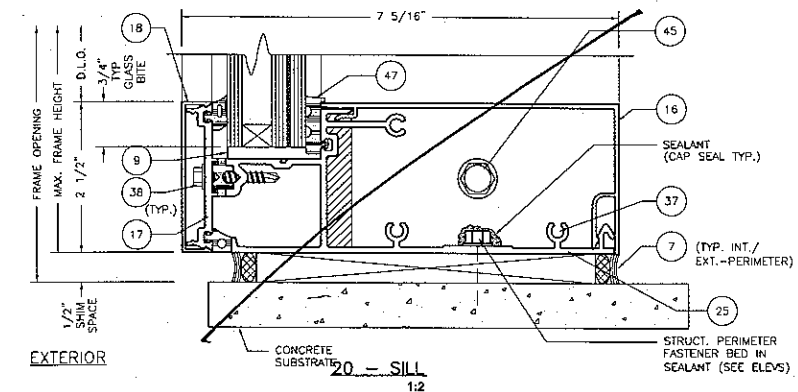
Coral
Architectural Products
3010 BECKMAN ROAD, FUSCALDESSA, AL 34406
PHONE: 904-372-7737 FAX: 904-443-6261



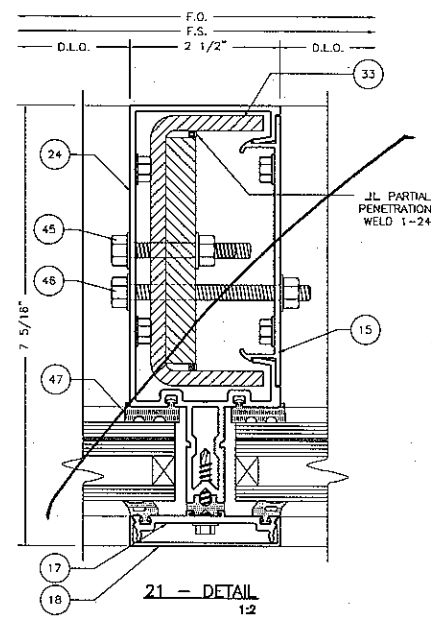
18 - DETAIL
1:2



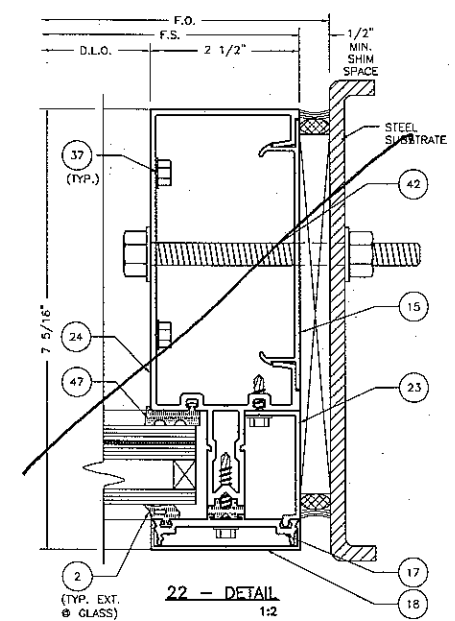
19 - DETAIL
1:2



20 - SILL
1:2



21 - DETAIL
1:2



22 - DETAIL
1:2



Test sample complies with these details.
Deviations are noted.

Report# A 2658.01-401-18
Date 4/19/11 Tech SP

DATE		8/24/2010	
DRAWN	MLL	CHECKED	DCW
APPROVED	DCW	PROJECT NO.	
DRAWING NO. PW257 01			
SHEET 12 OF 15			

Coral
Architectural Products
3010 PINE WILLOW ROAD, ALBUQUERQUE, NM 87106
PHONE: 505/797-9727 FAX: 505/494-8851

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

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	3.125 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 ZURB PANIC	36.000 X 7.3125 X 3.000	ALUMINUM	JACKSON	
14	PW131	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	1.075 X 6.110 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
21	PW210	INTERIOR CORNER TRIM	2.500 X 1.268 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# A2658.01-401-18
Date 4/19/11 Tech SP

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

BILL OF MATERIALS

DATE: 8/24/2010

DRAWN: MLL CHECKED: DCW APPROVED: DCW

PROJECT NO.:

DRAWING NO. PW257_01

SHEET 13 OF 15

Coral
Architectural Products
3015 BCE HWY ROAD, TUSCALOOSA, AL 35468
PHONE: 800-772-7727 FAX: 800-442-9381

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 1.260 X 0.260	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	4" 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	NC16	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

REV. BY: _____ DATE: _____

Coral
Architectural Products
3000 BAYVIEW BLVD., SUITE 100
PHOENIX, AZ 85040 FAX: 602-443-9881

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 SABLEX 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



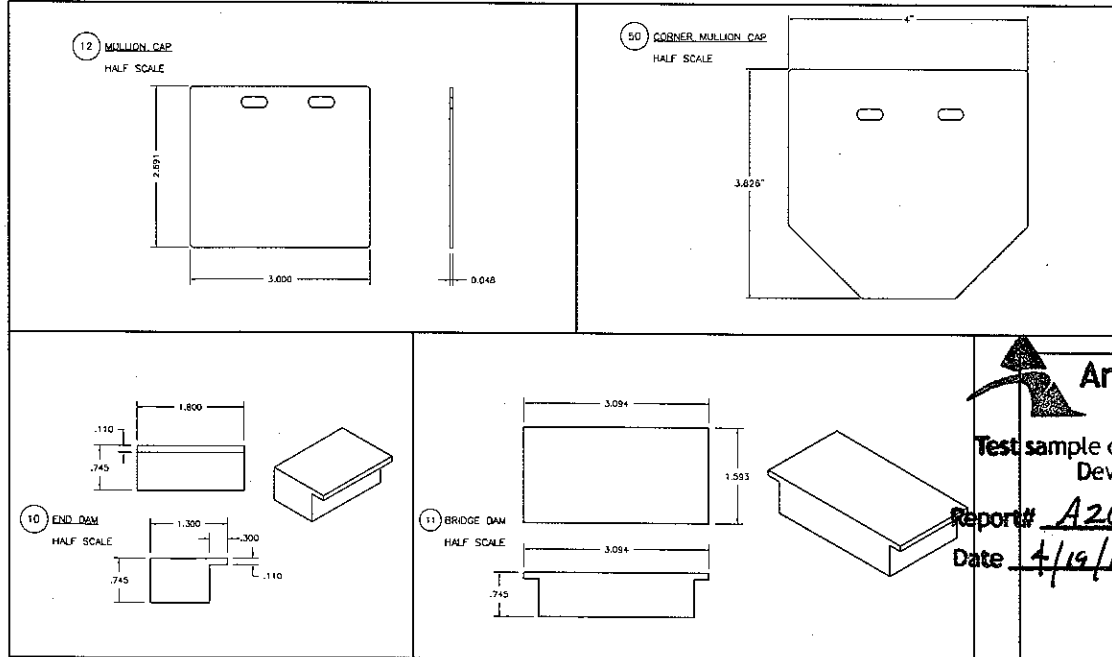
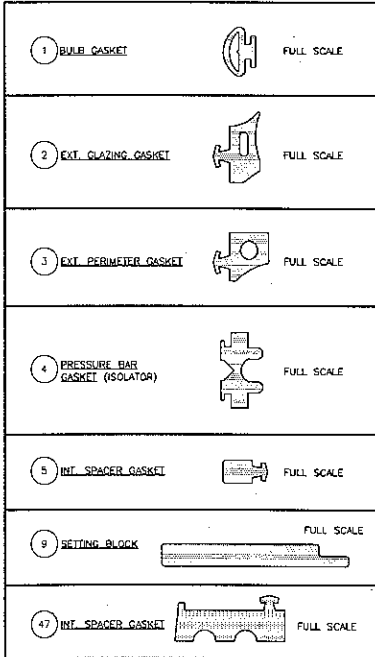
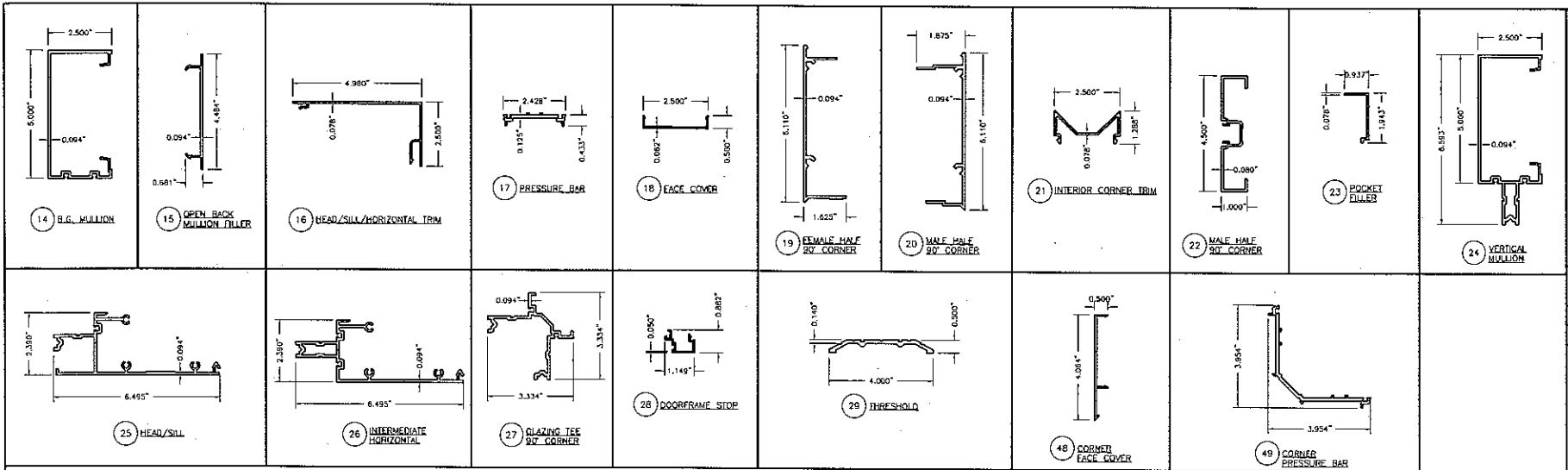
Test sample complies with these details.
Deviations are noted.

Report# A2658.01-401-18
Date 4/19/11 Tech SP

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

8/24/2010

DRAWN MLL	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# A2658.01-401-18
 Date 4/19/11 Tech SP

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

Coral
 Architectural Products
 3010 BEECHER ROAD, TUCUMAN, ARGENTINA
 PHONE: 505-773-7737 FAX: 505-493-6561

REPORT DRAWINGS
 PW257 IMPACT-RESISTANT
 CURTAIN WALL SYSTEM
 DIE DRAWINGS