

AAMA 501-05 TEST REPORT

Report No.: A2657.03-401-44

Rendered to:

CORAL ARCHITECTURAL PRODUCTS
Tuscaloosa, Alabama

PRODUCT TYPE: Aluminum Curtain Wall
SERIES/MODEL: PW257 Dry Glazed

Title	Summary of Results
Design Pressure	3352 Pa (+70.00 psf)
Negative Design Pressure	3830 Pa (-80.00 psf)
Air Infiltration	<0.05 L/s/m ² (<0.01 cfm/ft ²)
Water Penetration Resistance Test Pressure	766 Pa (16.00 psf)
Uniform Load Structural Test Pressure	5746 Pa (±120.00 psf)

This report contains in its entirety:

Cover Page: 1 page
Report Body: 10 pages
Sketches: 1 pages
Photographs: 2 pages
Drawings: 15 pages

Reference must be made to Report No. A2657.03-401-44, dated 02/17/11 for complete test specimen description and detailed test results.

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 Dry Glazed

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). Test specimen description and results are reported herein.

3.4 Test Dates: 11/30/2010 - 12/30/2010

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

3.6 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 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 B. 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
John McClane	Architectural Testing, Inc.
Don Beltz	Architectural Testing, Inc.
Shawn G. Collins, P.E.	Architectural Testing, Inc.

4.0 Test Method(s):

AAMA 501-05, Methods of Tests for Exterior Walls.

ASTM E 283-04, *Test Method for Determining Rate of Airflow Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.*

ASTM E 330-02, *Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.*

ASTM E 331-00, *Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Test Specimens #1:

Overall Area: 17.66 m ² (190.1 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	4636	183	3810	150

5.0 Test Specimen Description: (Continued)

The following descriptions apply to all specimens.

5.2 Frame Construction:

Frame Member	Material	Description
Head / Sill	Extruded Aluminum	Drawing #16 (PW203), #23 (PW613) & #25 (PW652) on sheet 15 of 15
Vertical Mullion	Extruded Aluminum	Drawing #14 (PW151), #15 (PW202) & #24 (PW650) on sheet 15 of 15
Horizontal Mullion	Extruded Aluminum	Drawing #16 (PW203) & # 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 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 gasket (NG12)	1 row	Underside of the pressure bar; center
Interior gasket (NG16)	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	Reinforced Butyl spacer system	1/4" HS - 0.090" SGP interlayer - 1/4" - HS	1/4" - HS	The glass was exterior glazed against a 0.260" spacer gasket, and back sealed with Dow 995 sealant at all corners. The glass was secured from the exterior utilizing #12 x 1-1/4" hex washer head self drilling screws located @ 2" from ends and 12" on center through the aluminum pressure plates.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Bottom Lites	3	57-3/8" x 95-3/4"		3/4"
Top Lites	3	57-3/8" x 46-1/4"		3/4"

5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weep holes zoned draining system	1/4"	18	8" in from each vertical mullion on the under side of the horizontal mullion trim caps and 6" in from each vertical mullion on center of the pressure plates.

5.7 Hardware:

5.8 Reinforcement:

Drawing Number	Location	Material
Page 9 of 15 captured mullion- detail # 21 PN SR150	Vertical mullions	1/4" x 4-1/2" x 1- 7/8" Steel U-channel with 1/2" x 3-3/4" flat bar steel welded to the interior pocket of the U-channel.

5.9 Screen Construction: Not utilized

Installation:

The specimen was installed into a C-8 steel C-channel 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/Sill	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.
Vertical mullion reinforcement	1/4"-20 JZ307A bolts	The steel reinforcement was secured to the vertical mullions with one 1/4"-20 x 3" bolt through the mullion at the bottom, above the intermediate horizontal mullion and at the top. Each bolt utilized flat washers, lock washers and nuts. The bottom and top also utilized a second 1/4"-20 x 2" bolt that penetrated through the mullion and steel reinforcement and was secured with flat washers, lock washers and nuts.

6.0 Test Results: The temperature during testing was 16.1°C (61°F). The results are tabulated as follows:

Test Specimen #1:

Title of Test	Results	Allowed	Note
Preload @+1915 Pa (+35.0 psf)	Measured	No damage	
Air Leakage, per ASTM E 283 at 75 Pa (1.6 psf) at 300 Pa (6.2 psf)	<0.05 L/s/m ² <0.01 cfm/ft ² <0.05 L/s/m ² <0.01 cfm/ft ²	0.30 L/s/m ² 0.06 cfm/ft ² max. 0.30 L/s/m ² 0.06 cfm/ft ² max.	
Water Penetration, ASTM E 331 at 766 Pa (16.0 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 taken at vertical mullion +3352 Pa (+70.0 psf) -3830 Pa (-80.0 psf)	15.49 mm (0.61") 18.29 mm (0.72")	20.83 mm (0.82") max. 20.83 mm (0.82") max.	1, 2
Uniform Load Deflection, per ASTM E 330 taken at horizontal mullion at transom +3352 Pa (+70.0 psf) -3830 Pa (-80.0 psf)	0.25 mm (0.01") 2.54 mm (0.10")	8.13 mm (0.32") max. 8.13 mm (0.32") max.	1, 2
Uniform Load Deflection, per ASTM E 330 taken at sill anchor points +3352 Pa (+70.0 psf) -3830 Pa (-80.0 psf)	-0.25 mm (-0.01") <0.25 mm (<0.01")	7.11 mm (0.28") max. 7.11 mm (0.28") max.	1, 2
Uniform Load Deflection, per ASTM E 330 taken at jamb member +3352 Pa (+70.0 psf) -3830 Pa (-80.0 psf)	1.78 mm (0.07") 0.51 mm (<0.02")	14.22 mm (0.56") max. 14.22 mm (0.56") max.	1, 2

7.0 Test Results: (Continued)

Test Specimen:#1

Water Penetration, ASTM E 331 at 766 Pa (16.0 psf)	Pass	No leakage	
Uniform Load Structural, per ASTM E 330 taken at vertical mullion +5027 Pa (+105.0 psf) -5746 Pa (-120.0 psf)	1.02 mm (0.04") 3.56 mm (0.14")	7.37 mm (0.29") max. 7.37 mm (0.29") max.	1, 2
Uniform Load Structural, per ASTM E 330 taken at horizontal mullion at transom +5027 Pa (+105.0 psf) -5746 Pa (-120.0 psf)	0.51 mm (0.02") 0.76 mm (0.03")	2.79 mm (0.11") max. 2.79 mm (0.11") max.	1, 2
Uniform Load Structural, per ASTM E 330 taken at sill anchor points +5027 Pa (+105.0 psf) -5746 Pa (-120.0 psf)	0.25 mm (0.01") <0.25 mm (<0.01")	2.54 mm (0.10") max. 2.54 mm (0.10") max.	1, 2
Uniform Load Structural, per ASTM E 330 taken at jamb member +5027 Pa (+105.0 psf) -5746 Pa (-120.0 psf)	0.25 mm (0.01") 0.51 mm (0.02")	5.08 mm (0.20") max. 5.08 mm (0.20") max.	1, 2

7.0 Test Results: (Continued)

General Note: *All testing was performed in accordance with the referenced standard(s).*

Note 1: Loads were held for 30 seconds.

Note 2: Tape and film were not used to seal against air leakage during structural testing.

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

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

- Appendix-A: Sketches (1)
- Appendix-A: Photographs (2)
- Appendix-B: Drawings (15)

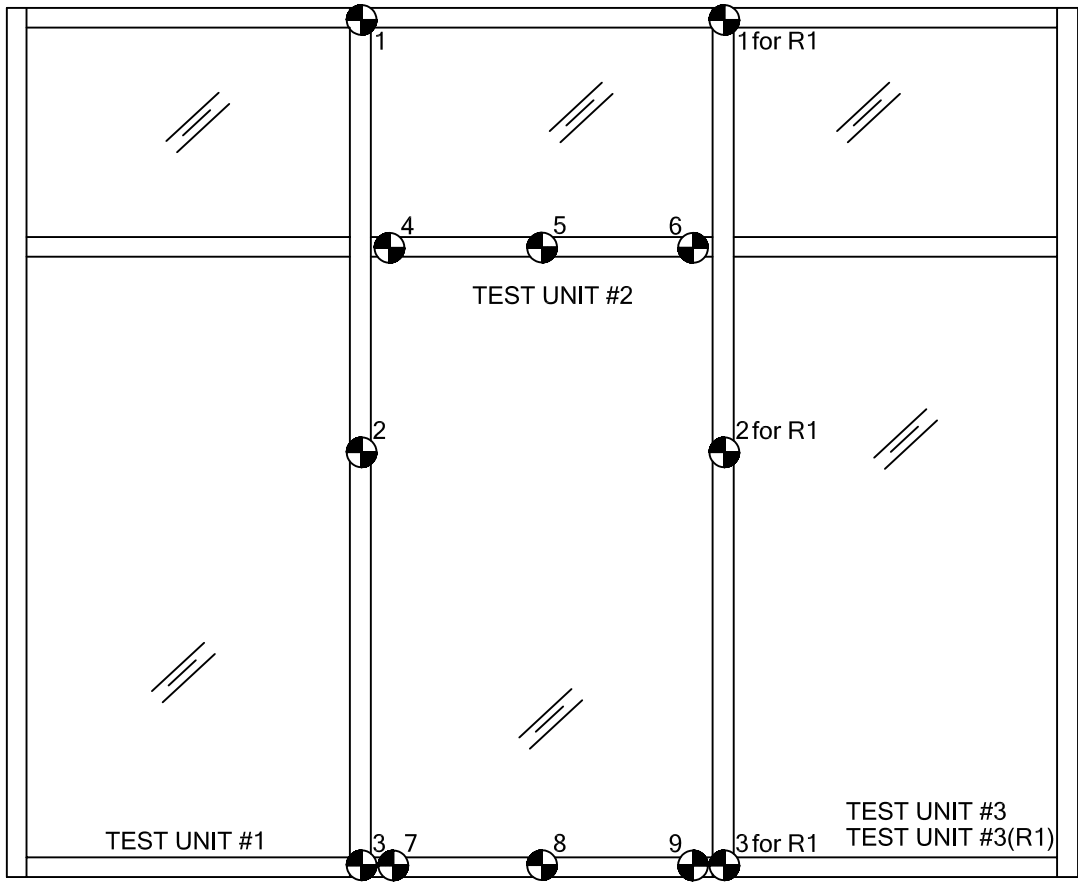


Test Report No.: A2657.03-401-44
Report Date: 01/07/11
Test Record Retention End Date: 12/30/14

Appendix A

Sketches

REV	DATE	DESCRIPTION



INDICATOR LOCATIONS

SCALE: NTS

Appendix B Photographs



Photo No. 1
Test equipment,



Photo No. 2
Deflection measuring equipment



Photo No. 3
Specimen # 1
Equipment set up



Photo No. 4
Specimen # 1
Set up for structural pressure test.



Test Report No.: A2657.03-401-44
Report Date: 01/07/11
Test Record Retention End Date: 12/30/14

Appendix C

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.
 if deviations are noted.

Project A2657.03
 Date 2/12/11 Tech JEM

REV	BY	DATE	DESCRIPTION

Coral
 Architectural Products
 3904 E. WINDY ROAD, TUSTALOOSA, AL 36689
 PHONE: (205) 772-7130 FAX: (205) 755-7850

TEST REPORT DRAWINGS
 PW257 IMPACT-RESISTANT
 CURTAIN WALL SYSTEM

INDEX TO DRAWINGS AND NOTES

DATE: 8/24/2010			
DRAWN <i>ALL</i>	CHECKED <i>DCW</i>	APPROVED <i>DCW</i>	
PROJECT NO. TEST			
DRAWING NO. PW257_01			
SHEET 1 OF 15			

SPECIMEN #E1	
TEST METHOD	TEST CONDITIONS
AIR INFILTRATION TEST (ASTM E283 AND TAS 302)	1.57 PSF & 0.24 PSF
WATER INFILTRATION TEST (ASTM E331 AND TAS 302)	20.00 PSF
UNIFORM STATIC LOAD TEST (ASTM E1330 AND TAS 202)	+/-80 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 4-OZ. 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 202)	+/-80 PSF DESIGN PRESSURE



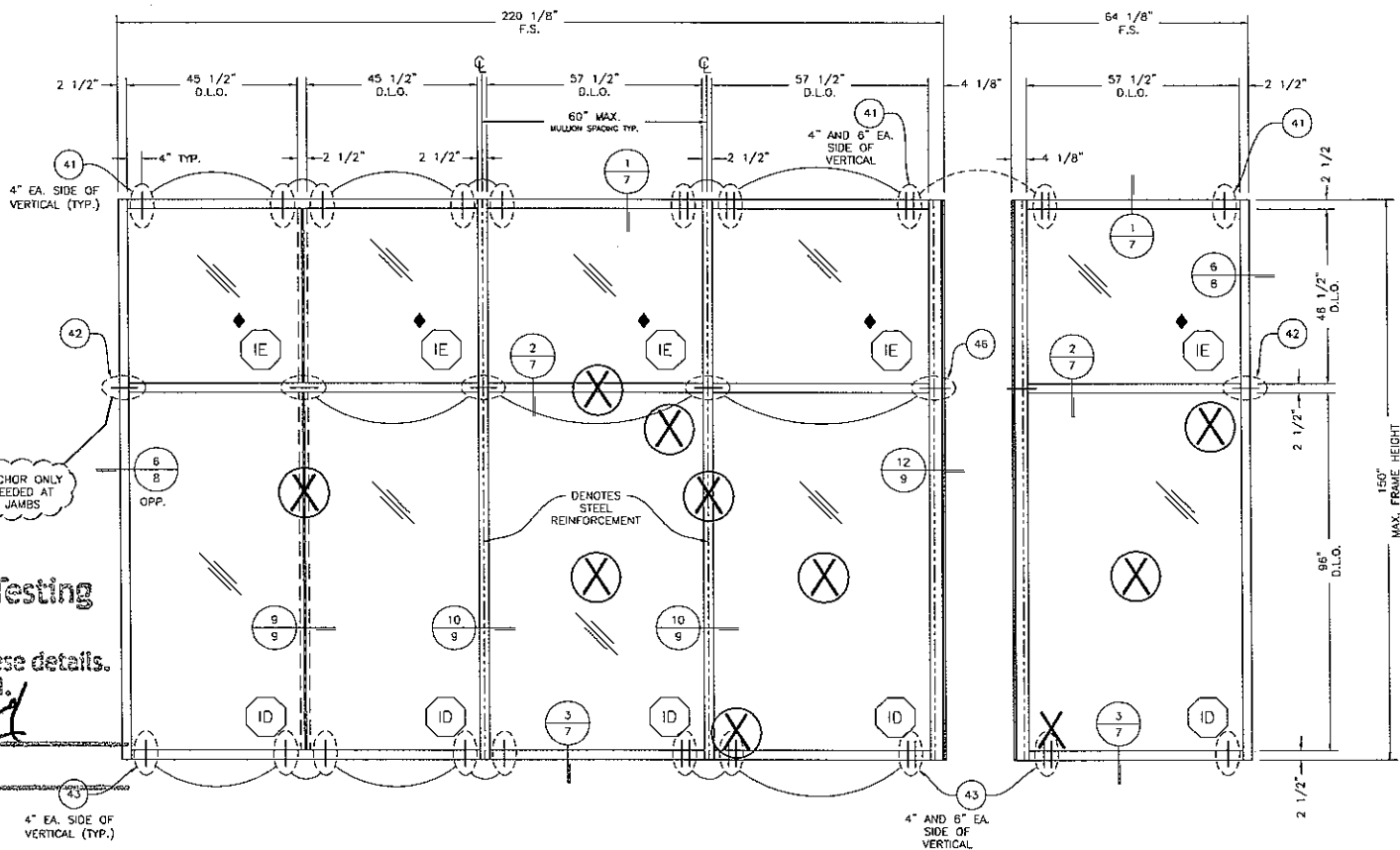
Architectural Testing

Test sample complies with these details.
Deviations are noted.

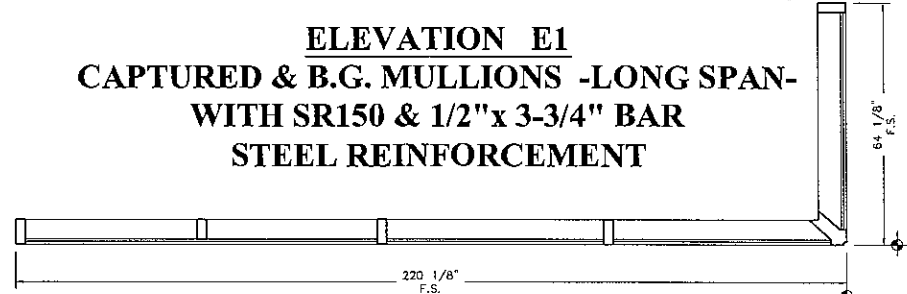
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Date _____

Tech _____



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



STEEL BUCK FRAME

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

MAX. ALLOWABLE DEFLECTION (L/180)= 0.633

DESIGN PRESSURE = +/-80 PSF

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

<p>TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM</p> <p align="right">FRAMING ELEVATION</p>	<p align="center">Conal Architectural Products 5750 W. 105th St., Suite 100 Minnetonka, MN 55345 PHONE: 952-727-7371 FAX: 952-727-7328</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: 2 OF 15</p>	<p>DESCRIPTION:</p> <p>REV:</p> <p>DATE:</p> <p>REV:</p> <p>DATE:</p>



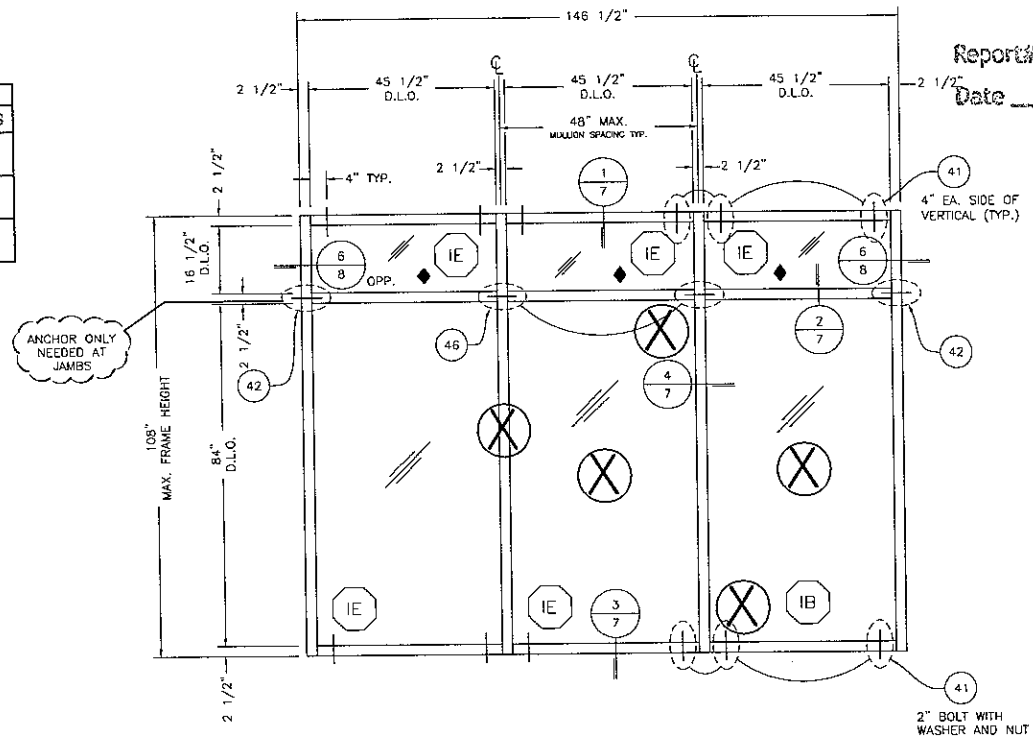
Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# NOT USED

Date _____ Tech _____

SPECIMEN #E2	
TEST METHOD	TEST CONDITIONS
UNIFORM STATIC LOAD TEST (ASTM E330 AND TAS 202)	+/- 65 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 4OZ, 7x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	+/- 65 PSF DESIGN PRESSURE



ELEVATION E2
CAPTURED MULLION -SHORT SPAN-
WITHOUT REINFORCEMENT

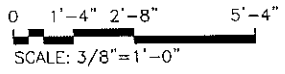
STEEL BUCK FRAME

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)



Coral
 Architectural Products
 3149 PACE MINE ROAD, TUSCALOOSA, AL 35404
 PHONE: 800-712-2737 FAX: 205-295-1306

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

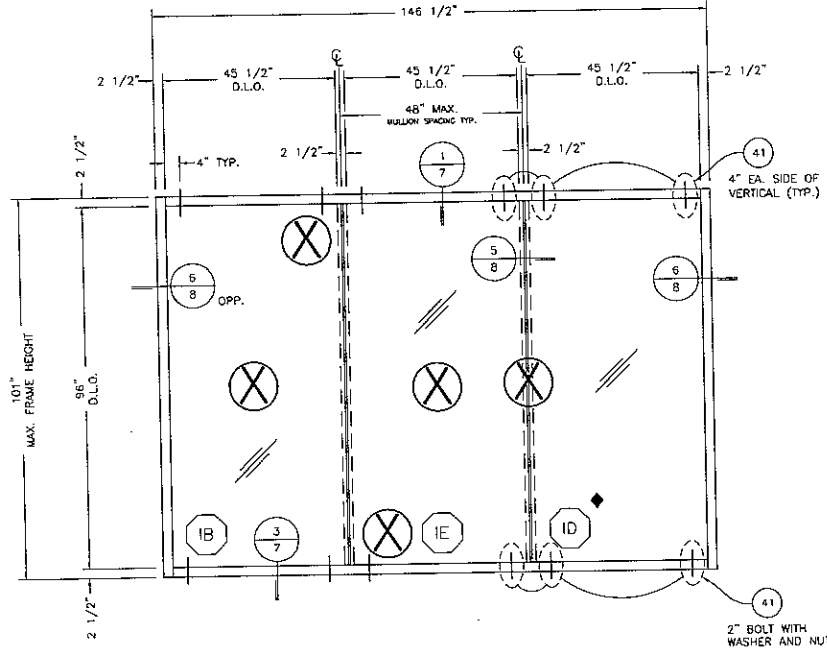
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DRAWN	CHECKED	APPROVED	
ALL	DCW	DCW	
PROJECT NO.	TEST		
DRAWING NO.	PW257_01		
SHEET	3 OF 15		

Test sample complies with these details.
Deviations are noted.

Report# NOT USED

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 E1866/E1996 AND TAS 201)	94 LB 40Z 2x4 @ 50 FT/SEC
CYCLIC LOAD TEST (ASTM E1994 AND TAS 709)	+/- 65 PSF DESIGN PRESSURE



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

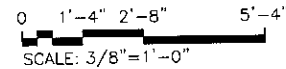
STEEL BUCK FRAME

TESTING:
STATIC, IMPACT, AND CYCLE

MAX. ALLOWABLE DEFLECTION (L/180)= 0.561

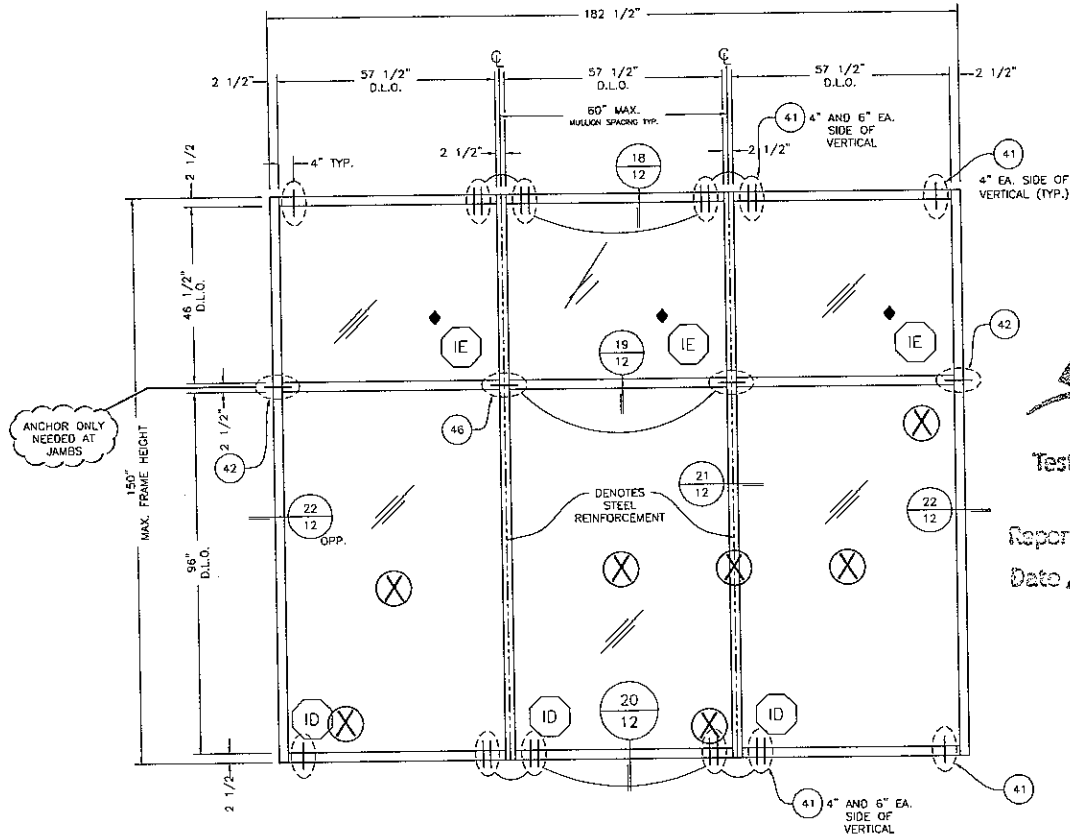
DESIGN PRESSURE = +/- 65 PSF

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



ARCHITECTURAL TESTING	
DESCRIPTION	
DATE	
REV	
BY	
DATE	
 Architectural Products 1010 RICE WIRE ROAD, TUSCALOOSA, AL 35606 PHONE: 601/7272101 FAX: 601/5081348	
TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM FRAMING ELEVATION	
DATE	3/24/2010
DRAWN	MEL
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)	+/- 80 PSF DESIGN PRESSURE
LARGE MISSILE IMPACT TEST (ASTM E1886/E1996 AND TAS 201)	9-LB 40Z, 2x4 @ 50°F/SEC.
CYCLIC LOAD TEST (ASTM E1199 AND TAS 203)	+/- 80 PSF DESIGN PRESSURE



**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

(X) = SMALL MISSILE IMPACT LOCATIONS

◆ = INFILL ONLY (DO NOT IMPACT)

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



Test sample complies with these details.
Deviations are noted.

Report# A2657.03
Date 2/17/11 Tech JCM

REV	BY	DATE	DESCRIPTION

Architectural Products
300 BEECHER ROAD, TUSCALOOSA, AL 35406
PHONE: 205-772-7727 FAX: 205-772-6811

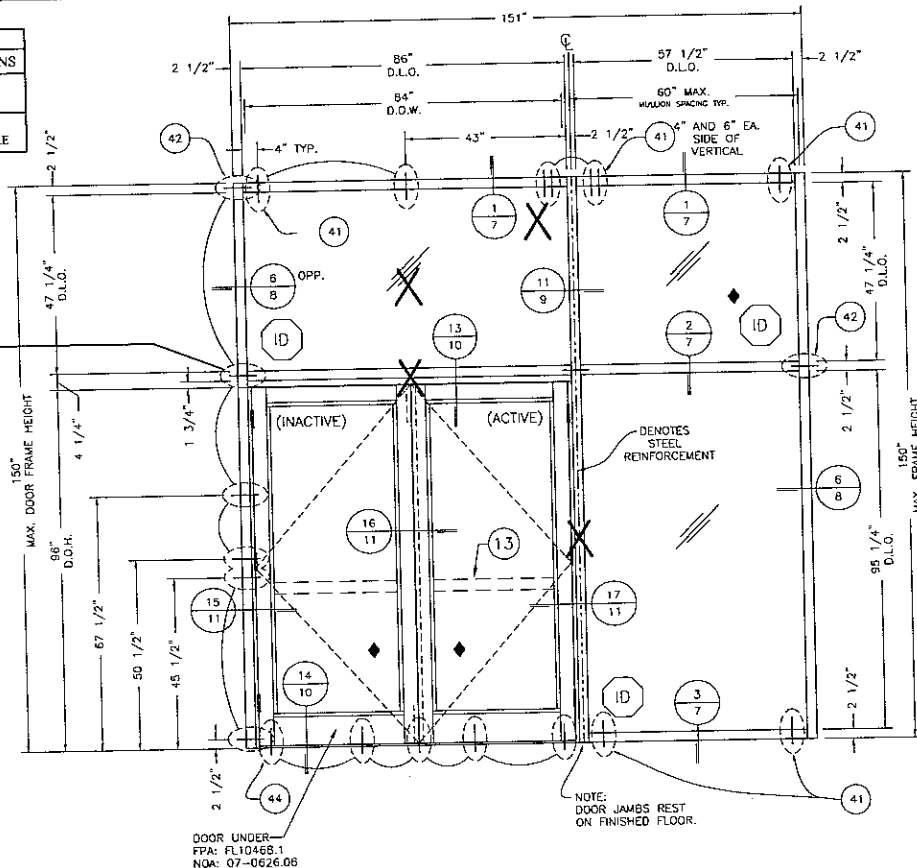
Coral

TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

FRAMING ELEVATION

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

SPECIMEN #E5	
TEST METHOD	TEST CONDITIONS
LARGE MISSILE IMPACT TEST (ASTM E1362/E1396 AND TAS 201)	9-LB 40Z, 2x4 @ 50FT/SEC
CYCLIC LOAD TEST (ASTM E1996 AND TAS 203)	4/-80 PSF DESIGN PRESSURE

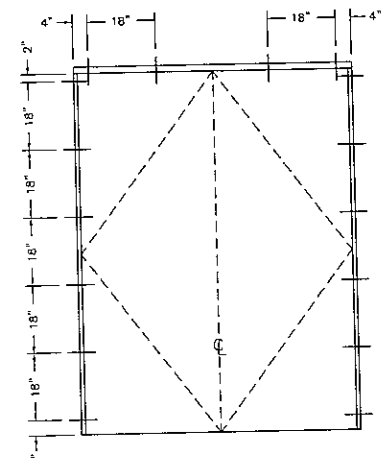


Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# NOT USED

Date _____ Tech _____

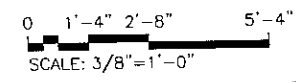


**LOCATIONS FOR
DOOR SUB-FRAME ATTACHMENT
TO CURTAIN WALL ALUMINUM**

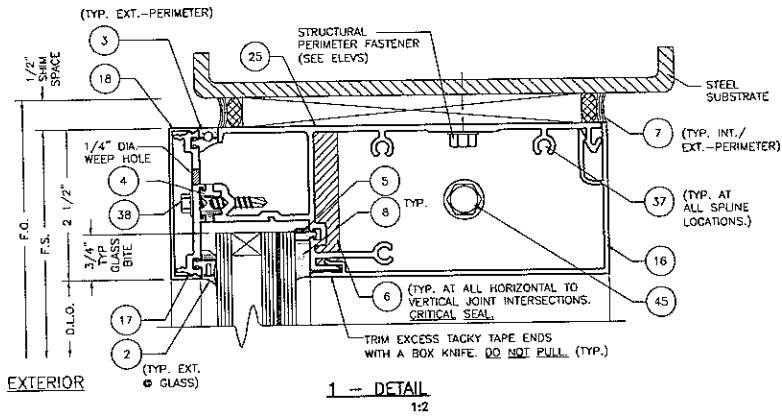
**ELEVATION E5
CAPTURED MULLION -LONG SPAN-
WITH SR150 & 3/4" x 3-3/4" BAR STEEL REINFORCEMENT
FOR SERIES 381 ENTRANCE DOORS**

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

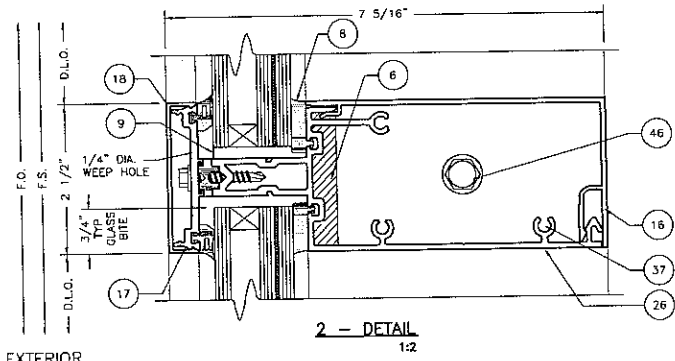
X = LARGE MISSILE IMPACT LOCATIONS
◆ = INFILL ONLY (DO NOT IMPACT)



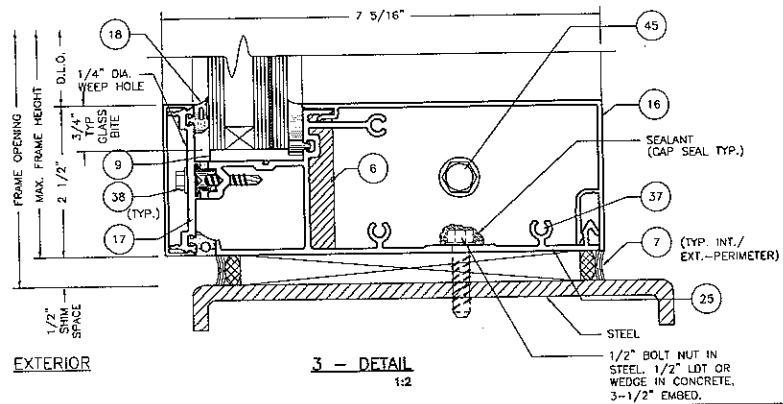
Coral	
Architectural Products 3010 RICE WARE ROAD, TUSCALOOSA, AL 35606 PHONE: 800.727.2721 FAX: 205.295.6300	
TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM	
FRAMING ELEVATION FOR DOORS	
DATE	3/24/2010
DRAWN	MLL
CHECKED	DCW
APPROVED	DCW
PROJECT NO.	TEST
DRAWING NO.	PW257_01
SHEET	6 OF 15



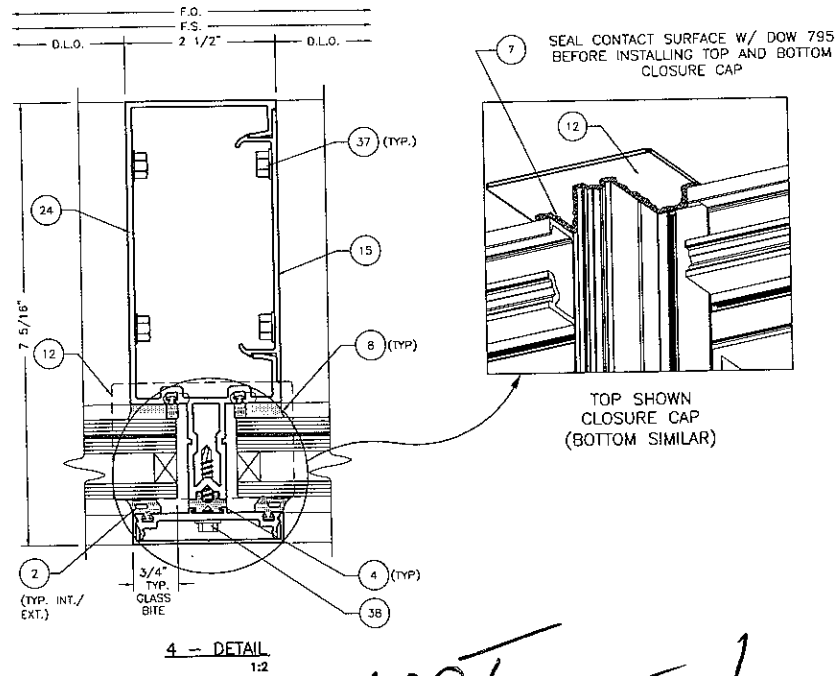
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1:2



2 -- DETAIL
1:2



3 -- DETAIL
1:2



4 -- DETAIL
1:2

NOT USED



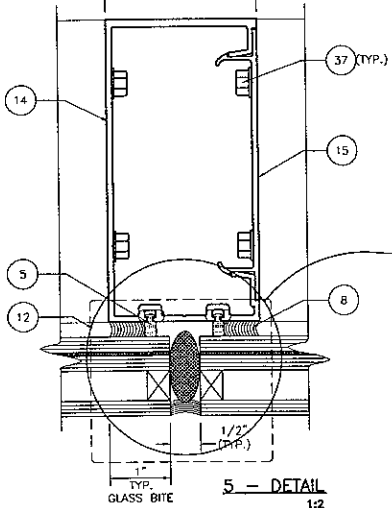
Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# _____
Date _____ Tech _____

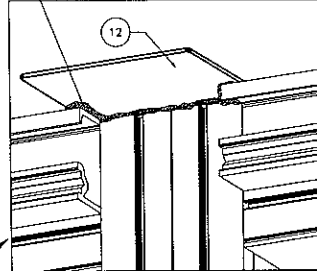
DRAWING NO.		PROJECT NO.		DATE	
DRAWING NO.		PROJECT NO.		DATE	
 Coral Architectural Products 3010 RICE BLVD. FORT WORTH, TEXAS 76106 PHONE: 800-772-7327 FAX: 817-343-8204					
TEST REPORT DRAWINGS PW257 IMPACT-RESISTANT CURTAIN WALL SYSTEM FRAMING DETAILS					
DATE: 8/24/2010					
DRAWN	CHECKED	APPROVED			
ALL	DCW	DCW			
DRAWING NO.					
PW257_01					
SHEET 7 OF 15					

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



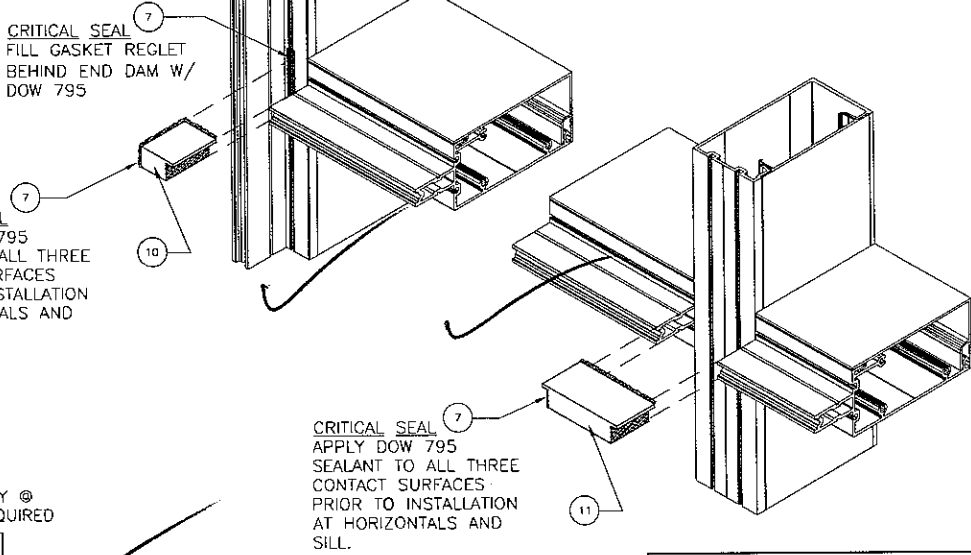
5 - DETAIL
1:2

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



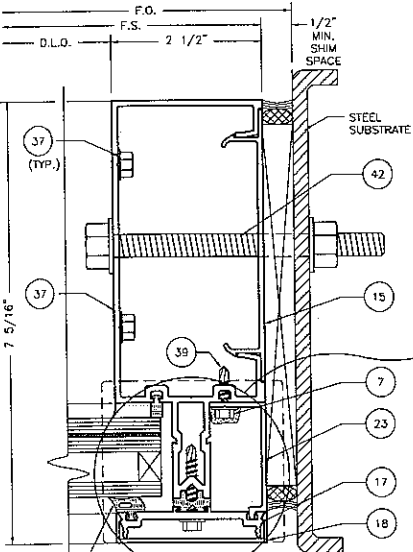
TOP SHOWN CLOSURE CAP (BOTTOM SIMILAR)

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



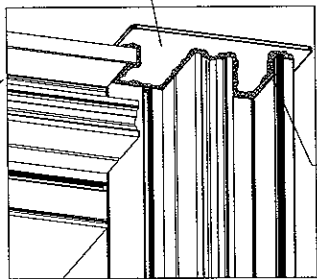
7 CRITICAL SEAL APPLY DOW 795 SEALANT TO ALL THREE CONTACT SURFACES PRIOR TO INSTALLATION AT HORIZONTALS AND SILL.

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



6 - DETAIL
1:2

12 FIELD MODIFY @ JAMB IF REQUIRED



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

TOP SHOWN CLOSURE CAP (BOTTOM SIMILAR)

Architectural Testing

Test sample complies with these details. Deviations are noted.

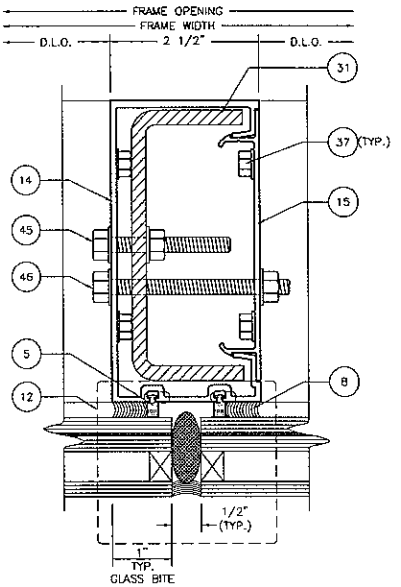
Report# A2657.03
Date 2/12/11 Tech JCm

NO.	DESCRIPTION	REV.	BY	DATE

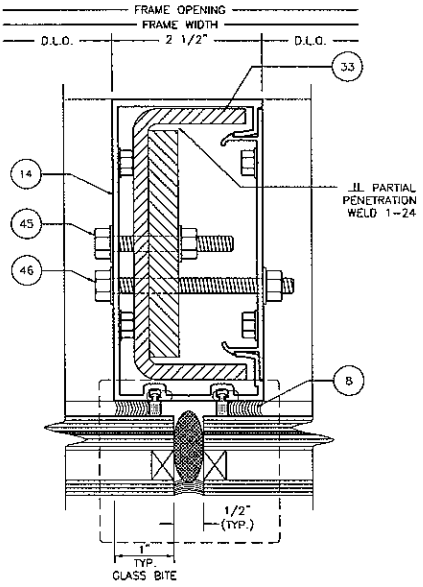
Coral
Architectural Products
2910 W. GARDNER BLVD. SUITE 1000 ALBUQUERQUE, NM 87106
PHONE: 505-775-2727 FAX: 505-443-2061

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

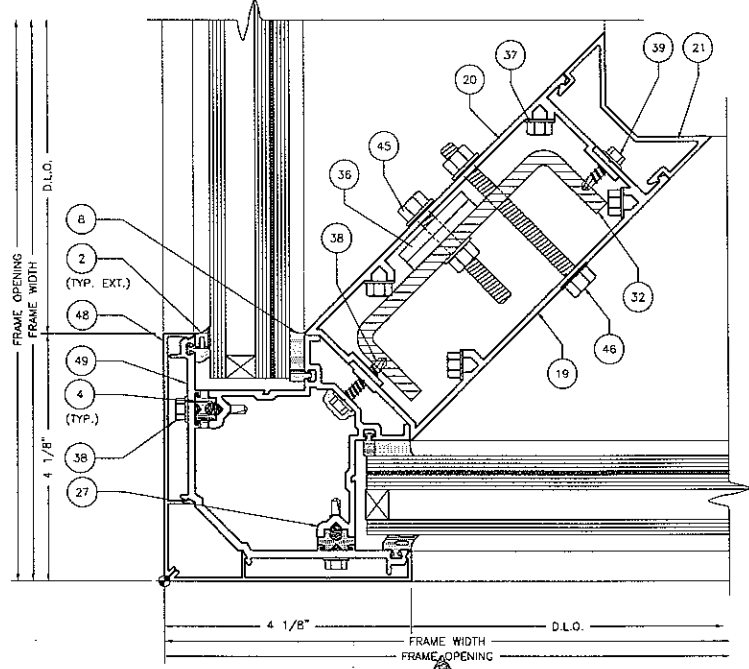
DATE	8/24/2010	
DRAWN	CHECKED	APPROVED
MIL	DCW	DCW
PROJECT NO.		
DRAWING NO.	PW257_01	
SHEET	8 OF 15	



7 - DETAIL
1:2



9 - DETAIL
1:2

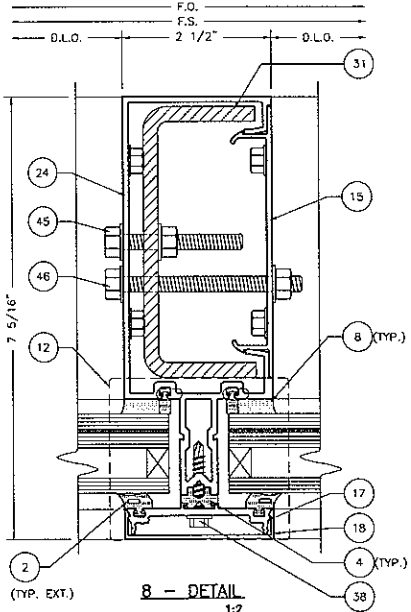


12 DETAIL
Architectural Testing

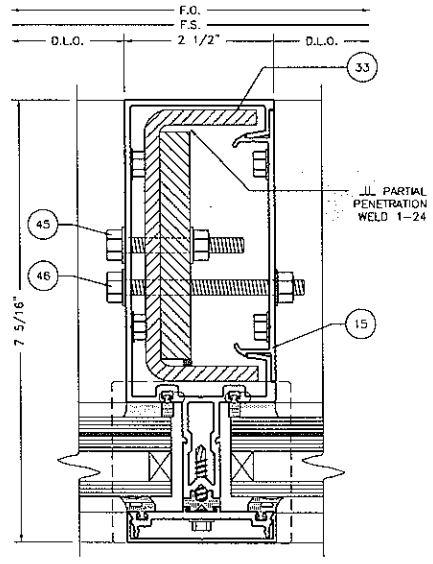
Test sample complies with these details
Deviations are noted.

Report# NOT USED

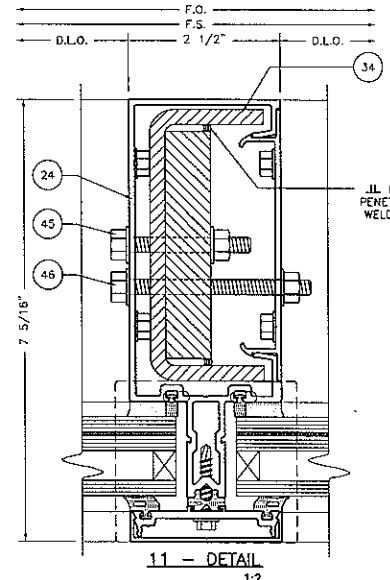
Date _____ Tech _____



8 - DETAIL
1:2



10 - DETAIL
1:2



11 - DETAIL
1:2

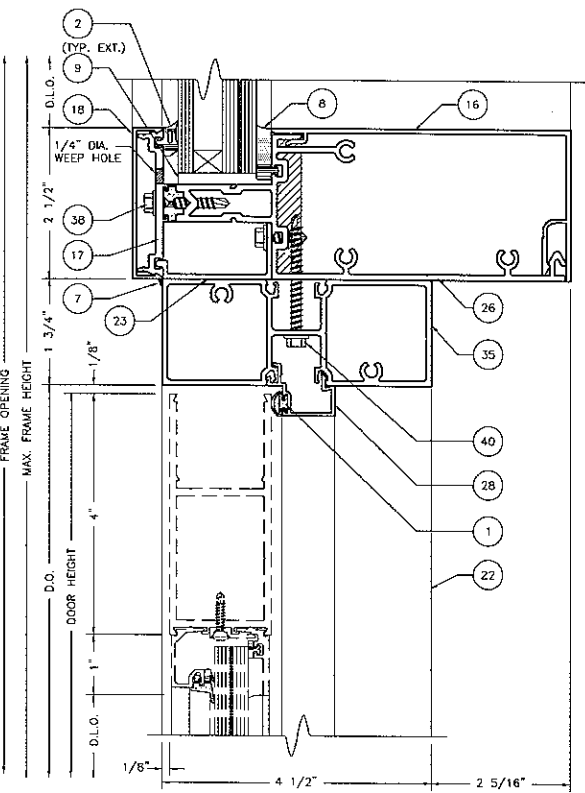
Coral
Architectural Products
3019 HENRIE ROAD, TUCUMAN, ARGENTINA
PHONE: 54 911 441 4000

REV	BY	DATE	DESCRIPTION

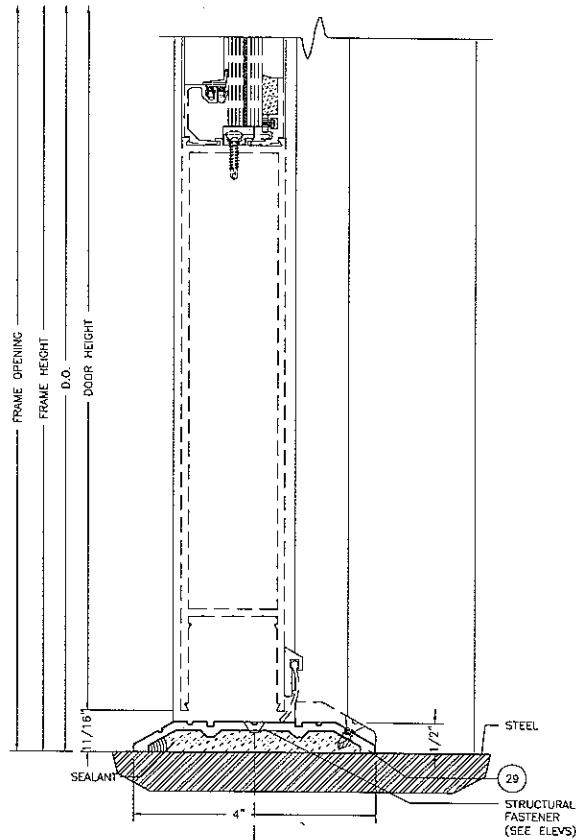
TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

FRAMING DETAILS

DATE	8/24/2010
DRAWN	ALL
CHECKED	DCW
APPROVED	DCW
PROJECT NO.	
DRAWING NO.	PW257 01
SHEET	9 OF 15



13 - DETAIL
1/2



14 - DETAIL
1/2

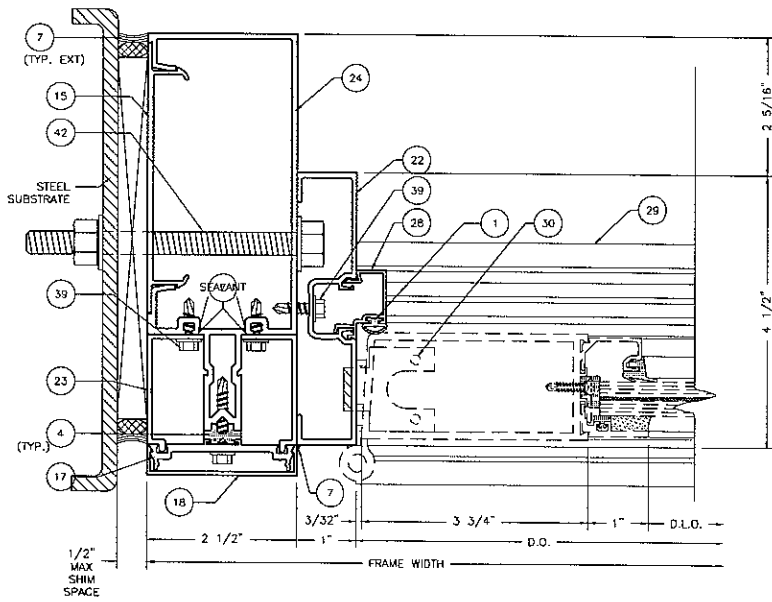


Test sample complies with these details.
Deviations are noted.

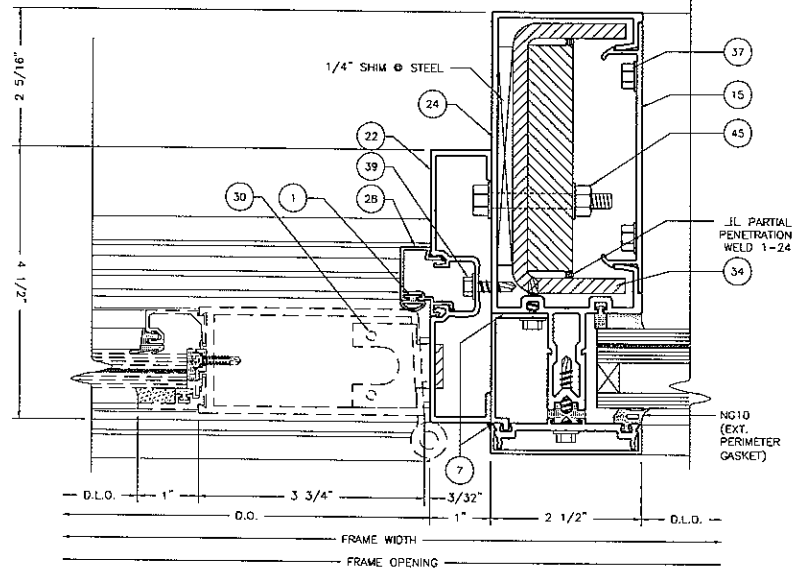
Report# _____
Date _____ Tech _____

NOT
USED

DATE			DESCRIPTION		
REV	BY	DATE			
Coral			Architectural Products		
			3009 E. WINE ROAD TUSCALOOSA, AL 35404		
			PHONE 205/772-7272 FAX 205/443-0081		
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					

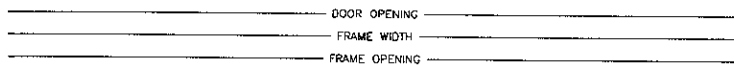
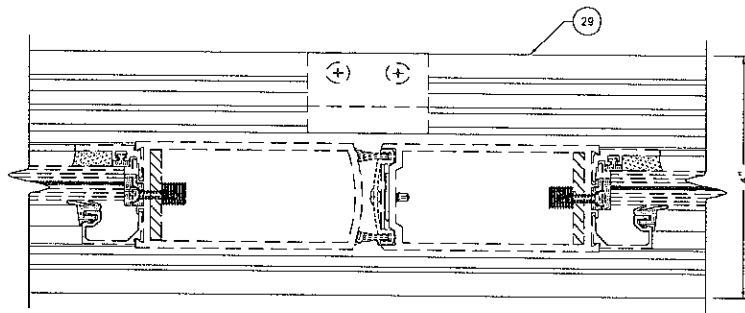


15 - DETAIL
1:2



17 - DETAIL
1:2

NOT USED



16 - DETAIL
1:2



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# _____

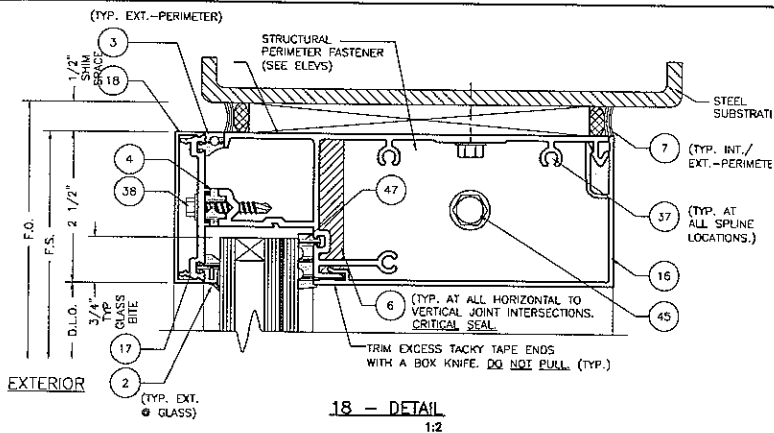
Date _____ Tech _____

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

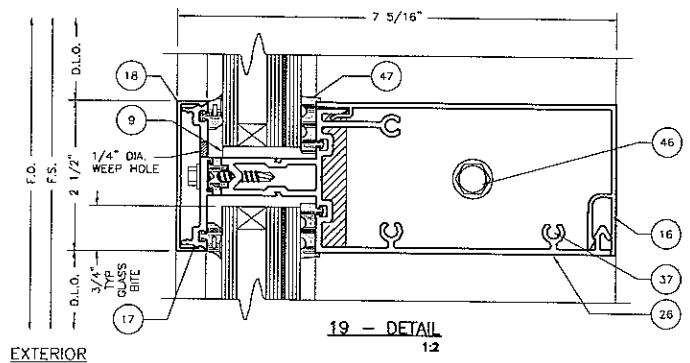
TEST REPORT DRAWINGS
PW257 IMPACT-RESISTANT
CURTAIN WALL SYSTEM

DOOR AND FRAMING DETAILS

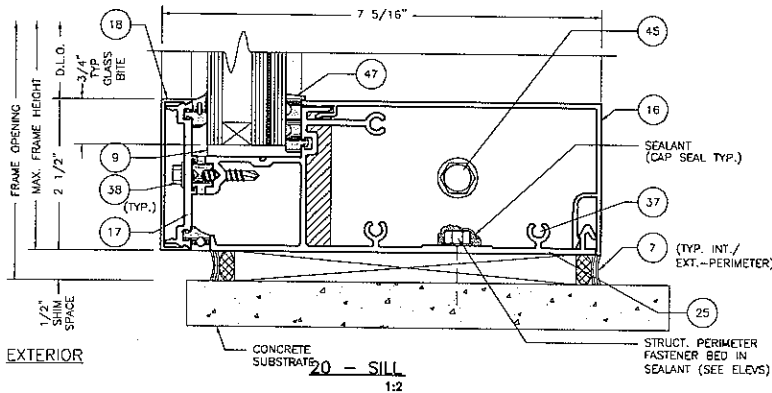
Coral
Architectural Products
3010 RICHMOND ROAD, SUITE 200, ALBANY, NY 12206
PHONE: 518-466-7727 FAX: 518-466-6151



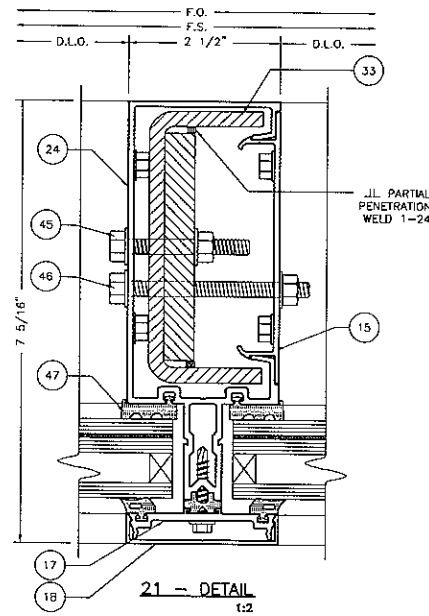
18 - DETAIL
1:2



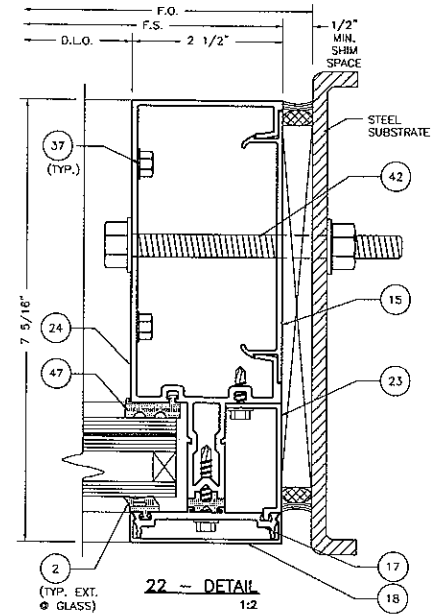
19 - DETAIL
1:2



20 - SILL
1:2



21 - DETAIL
1:2



22 - DETAIL
1:2



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A21657.03
Date 2/12/11 Tech SCM

DESCRIPTION			
REV	BY	DATE	
<p>Coral Architectural Products 3000 West Loop South, Suite 1408 Houston, TX 77027 PHONE 281-752-7737 FAX 281-414-8281</p>			
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			
12 OF 15			

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# A2657.03
Date 7/17/11 Tech JCM

REV	BY	DATE	DESCRIPTION

Coral

Architectural Products
300 WILSON ROAD, TUCULUCOSCA, AL 3409
PHONE: 904-776-7737 FAX: 904-449-6270

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	3NOTES
31	SR150	REINFORCEMENT CHANNEL ✓	4.500 X 1.875 X 0.250	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (14) AND (24)
32	SR504	REINFORCEMENT CHANNEL ✓	4.562 X 1.250 X 0.250	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (14) AND (24)
33		SR150 WITH REINFORCEMENT BAR ✓	3.750 X 0.500	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (14) AND (24)
34		SR150 WITH REINFORCEMENT BAR	3.750 X 0.750	A36 STEEL	VARIES	STEEL REINFORCEMENT FOR (14) AND (24)
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

Coral
 * Architectural Products *
 10000 WILSON BLVD SUITE 100
 PHOENIX AZ 85044
 PHONE 602-972-7271 FAX 602-972-8861

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

Report# 42657.03
 Date 2/12/11 Tech JCM

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

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

