

AMERICAN TEST LABORATORY, LLC

Testing & Evaluation Solutions

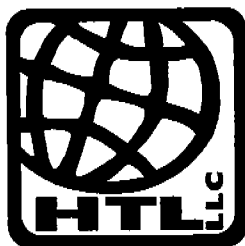


CORAL ARCHITECTURAL PRODUCTS

"Front Line FL200 Framing System"

HTL # G402-0701-05 *FL6384*

TEST REPORT



MANUFACTURER'S IDENTIFICATION

- 1.0 NAME OF APPLICANT:** CORAL ARCHITECTURAL PRODUCTS
3010 Rice Mine Road
Tuscaloosa, Alabama 35406
(800) 772-7737
- 2.0 CONTACT PERSON:** J.D. Williams
- 3.0 TEST NOTIFICATION #:** N/A
- 4.0 HTL LAB CERTIFICATION:** Miami-Dade County (03-0507.09); Florida Building Code (TST1527);
AAMA; WDMA; Keystone Certifications

PRODUCT IDENTIFICATION

- 5.0 Product Type:** Aluminum Glazed Wall Section
- 6.0 Model Number:** Front Line FL200 Framing System
- 7.0 Performance Class:**

Specimen #	Design Pressure
1 (Coral Elevation E2)	+/- 40 psf
2 (Coral Elevation E1)	+ 60 /- 50 psf

- 8.0 Overall Sample Size:**

Specimen #	Size
1 (Coral Elevation E2)	145-3/4" (w) x 96" (h)
2 (Coral Elevation E1)	145-3/4" (w) x 120" (h)

- 9.0 Configuration:** Both test units consisted of three (3) bays. See Coral drawings "FL200-02", sheets 2 and 3 of 7 for an elevation of these test units.
- 10.0 Drawing:** This report is incomplete if not accompanied by CORAL Drawing "FL200-02" and accompanying sheets bearing the raised seal of Hurricane Test Laboratory, LLC.
- 11.0 Sample Source and Test Location:** Sample provided by CORAL ARCHITECTURAL PRODUCTS.

PRODUCT DESCRIPTION

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

Description	Part #
Standard Vertical Mullion	FL209
Open Back Mullion Filler	FL205
Horizontal Mullion	FL206
Glass Stops	FL203
Head/Wall Jamb	FL201
Sill/Head	FL202
Sub Sill Flashing	FL219

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

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

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Additional Reinforcement: Specimen # 2 (Elevation E1), has steel reinforcing (Part # SR101) inside both vertical mullions. The steel reinforcing is attached to the vertical mullions using #12 -24 x 3/8" UCPFH located 12" o.c.

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

13.0 Glazing:

12.1 Glazing Material: The glazing material used in this sample was 1/4" tempered glass.

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

Interior/Exterior Side: Using continuous strips of an extruded EPDM gasket (Part #NG1). Each corner of the gasket is sealed using a bead of Dow Corning 995 Structural Silicone Sealant in both directions of the gasket.

12.2 Daylight Opening:

Specimen # 2 (Elevation E1)		
Qty.	Daylight Opening	Glass Bite
3	46-1/4" (w) x 42-3/4" (h)	5/16"
3	46-1/4" (w) x 72" (h)	
Specimen # 1 (Elevation E2)		
2	46-1/2" (w) x 92-1/2" (h)	5/16"
1	46-1/4" (w) x 25-3/8" (h)	
1	46-1/4" (w) x 65-3/8" (h)	

14.0 Sealant's Used:

Location	Sealant
Perimeter Sealant	Dow Corning 795 Silicone Sealant
Frame Joint Sealant	

INSTALLATION

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

Location	Anchor Description & Schedule
Frame Head and Sill.	The frame head and sill are attached to the opening using #14 x 1-1/4" HHW Tek Screws located 2" from the ends and 2" on each side of the vertical mullions.

NOTE: There is a 1/4" shim space used around the perimeter of this test sample at the head, sill, and jamb locations.

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TEST RESULTS

16.0 SUMMARY OF RESULTS:

Specimen # 1 (Elevation E2)			
Test Method	Test Conditions	Measured	Allowed
Air Infiltration Test (ASTM E283)	1.57 psf	0.003 cfm/ft ²	0.06 cfm/ft ²
	6.24 psf	0.004 cfm/ft ²	0.06 cfm/ft ²
Water Infiltration Test (ASTM E331)	15 psf	PASSED per ASTM E331	
Uniform Load Deflection Test (ASTM E330)	+ 40 psf	Deflection	
		Vertical Mullion	
		0.480"	0.548"
	- 40 psf	Horizontal Mullion	
		0.100"	0.284"
		Vertical Mullion	
Uniform Load Structural Test (ASTM E330)	+ 60 psf	Horizontal Mullion	
		0.492"	0.548"
		Vertical Mullion	
	- 60 psf	Horizontal Mullion	
		0.060"	0.284"
		Vertical Mullion	
	+ 60 psf	Permanent Set	
		Vertical Mullion	
		0.107"	0.192"
	- 60 psf	Horizontal Mullion	
		0.050"	0.098"
		Vertical Mullion	
	- 60 psf	Horizontal Mullion	
		0.041"	0.1925"
		Vertical Mullion	
		0.035"	0.098"

- **PLEASE NOTE THAT NO OTHER MEMBERS DEFLECTED MORE THAN THE ALLOWABLE DEFLECTIONS AT OTHER LOCATIONS ON THE TEST UNIT.**
- **THESE TESTS WERE COMPLETED ON 7/25/05**

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Specimen # 2 (Elevation E1)			
Test Method	Test Conditions	Measured	Allowed
Air Infiltration Test (ASTM E283)	1.57 psf	0.008 cfm/ft ²	0.06 cfm/ft ²
	6.24 psf	0.012 cfm/ft ²	0.06 cfm/ft ²
Water Infiltration Test (ASTM E331)	15 psf	PASSED per ASTM E331	
Uniform Load Deflection Test (ASTM E330)	+ 60 psf	Deflection	
		Vertical Mullion	
		0.672"	0.686"
		Horizontal Mullion	
		0.125"	0.284"
	- 50 psf	Vertical Mullion	
		0.680"	
		Horizontal Mullion	
		0.125"	
Uniform Load Structural Test (ASTM E330)	+ 90 psf	Permanent Set	
		Vertical Mullion	
		0.115"	0.240"
		Horizontal Mullion	
		0.055"	
	- 75 psf	Vertical Mullion	
		0.125"	
		Horizontal Mullion	
		0.065"	

- **PLEASE NOTE THAT NO OTHER MEMBERS DEFLECTED MORE THAN THE ALLOWABLE DEFLECTIONS AT OTHER LOCATIONS ON THE TEST UNIT.**
- **THESE TESTS WERE COMPLETED ON 7/27/05**

MISCELLANEOUS INFORMATION

17.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were conducted in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 6655 Garden Road, Riviera Beach, FL 33404. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing

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products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All results obtained apply only to the specimen tested and they do indicate compliance with the performance requirements of the test methods and specifications listed in the following section. Please note that a copy of this report will be forwarded to the AAMA Validator if requested and that this report does not constitute AAMA certification of this product, which may only be granted by the AAMA Validator.

18.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E283-04 - Standard Test Method For Determining The Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences.

ASTM E330-02 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E331-00 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

AAMA 501-05 - Methods of Tests for Exterior Walls

19.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. - HTL, General Manager
José E. Colón, E.I. - HTL, Operations Manager
J.D. Williams - CORAL ARCHITECTURAL PRODUCTS
Bill Smith, Jr. - CORAL ARCHITECTURAL PRODUCTS
Scott Dooley - CORAL ARCHITECTURAL PRODUCTS
Grant McAllister - CORAL ARCHITECTURAL PRODUCTS

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8/8/05

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FL Reg. # 53820

DRAWINGS

HTL TEST DRAWINGS FRONT LINE FL200 FRAMING SYSTEM

INDEX TO DRAWINGS

- SHEET 1 - INDEX TO DRAWINGS AND NOTES
 SHEET 2 - E1 TYPICAL ELEVATION-STANDARD ALUMINUM MULLION WITH STEEL-LONG SPAN
 SHEET 3 - E2 TYPICAL ELEVATION-STANDARD ALUMINUM MULLION-SHORT SPAN -INTERIOR GLAZED
 SHEET 4 - FRAMING DETAILS
 SHEET 5 - FRAMING DETAILS
 SHEET 6 - GLASS LEGEND
 SHEET 7 - BILL OF MATERIALS

Hurricane Test Laboratory, LLC



AS TESTED UNLESS
OTHERWISE NOTED

Date 8/1/05
John 2402-0701-05

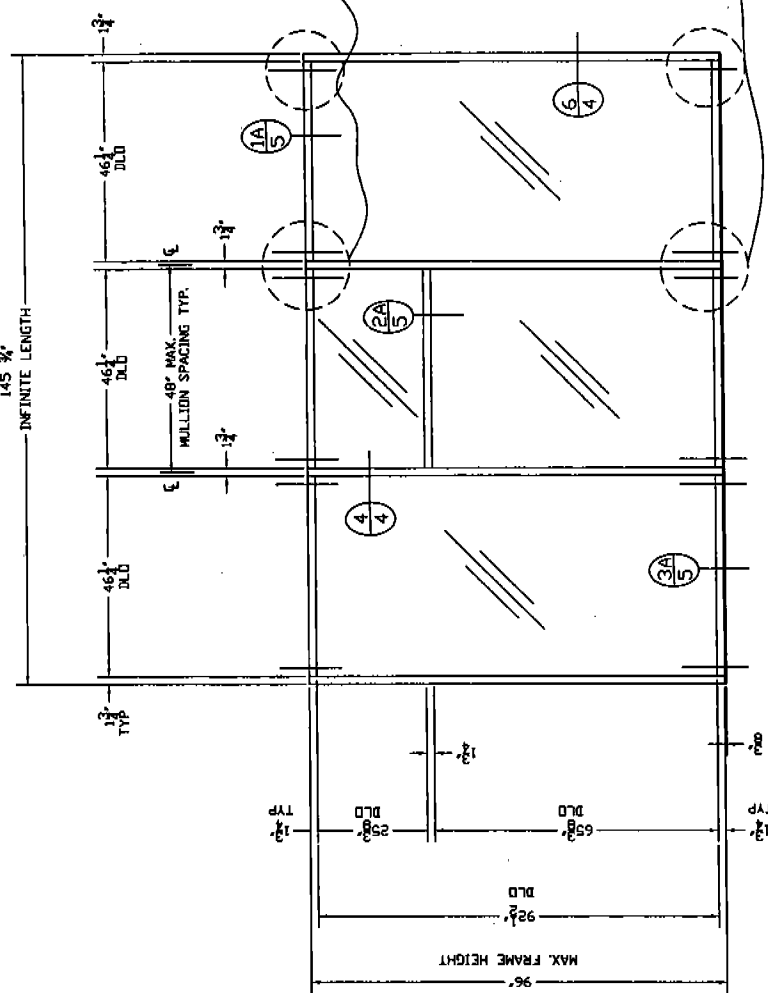
Coral
ARCHITECTURAL PRODUCTS
3010 RICE MINE ROAD
TUSCALOOSA, AL 35406
205-773-7777 FAX 205-773-7778

HTL TEST
FL200 FRAMING SYSTEM
GENERAL NOTES
AND INFORMATION

PROJECT

PROJECT NO.
DRAWING NO.
SCALE
DATE
SHEET 1 OF 7

1



NOTE:
ANCHORS ARE LOCATED
APPROXIMATELY 2" FROM EDGE OF
VERTICAL

PERIMETER FASTENERS:
LOCATE AS SHOWN:
1/4" Ø X 1 3/4" TEK SCREW Q12
E.A.

- NOTES:
1. DESIGN PRESSURE = +40/-40 PSF
 2. AIR TEST AT 6.24 PSF
 3. WATER TEST AT 15 PSF
 4. MAXIMUM DEFLECTION = L/175 OR .549"

E2
TYPICAL ELEVATION
-STANDARD ALUMINUM MULLION
INTERIOR GLAZED

Hurricane Test Laboratory, LLC



AS TESTED UNLESS
OTHERWISE NOTED
Date 9/11/05
Job # 040210701-05

Coral
ARCHITECTURAL PRODUCTS
3010 RICE MINE ROAD
TUSCALOOSA, AL 35406
800-772-7737 FAX: 205-255-7320

PROJECT
HTL TEST
FL200 FRAMING SYSTEM
ELEVATIONS

PROJECT NO.
DRAWN DATE
EF 08-08-05
SCALE 3/8" = 1'-0"
DRAWING NO.
FL200 - 02
SHEET 3 OF 7



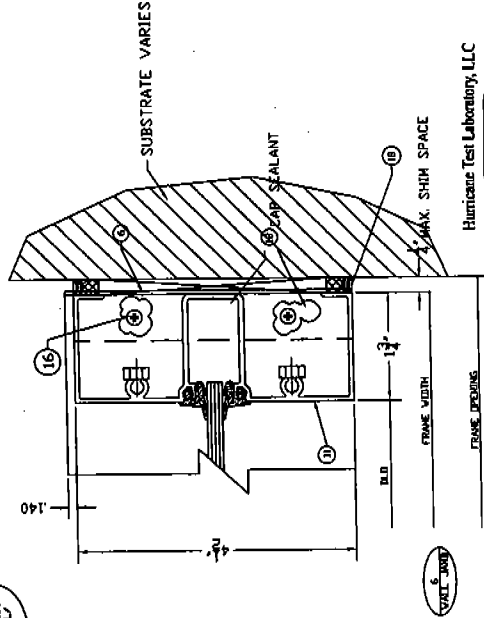
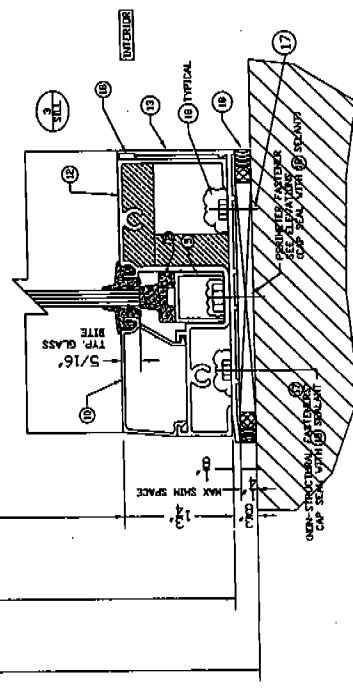
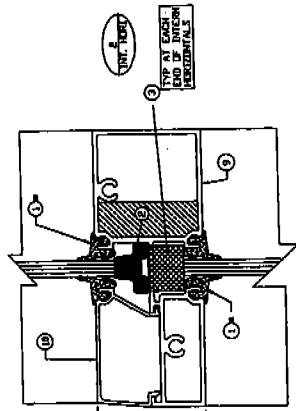
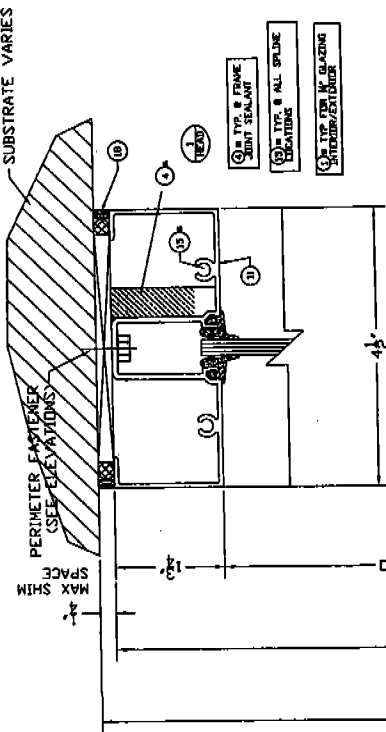
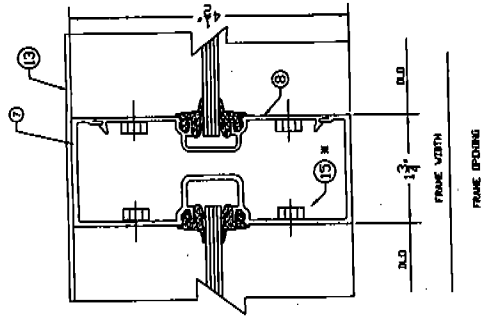
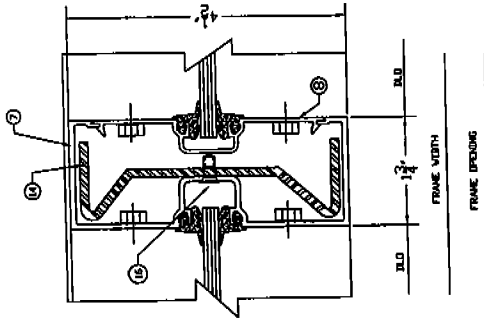
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OTHERWISE NOTED

8/11/05

Date _____

DATE 6/10/05
JOB# 6462-0701-05



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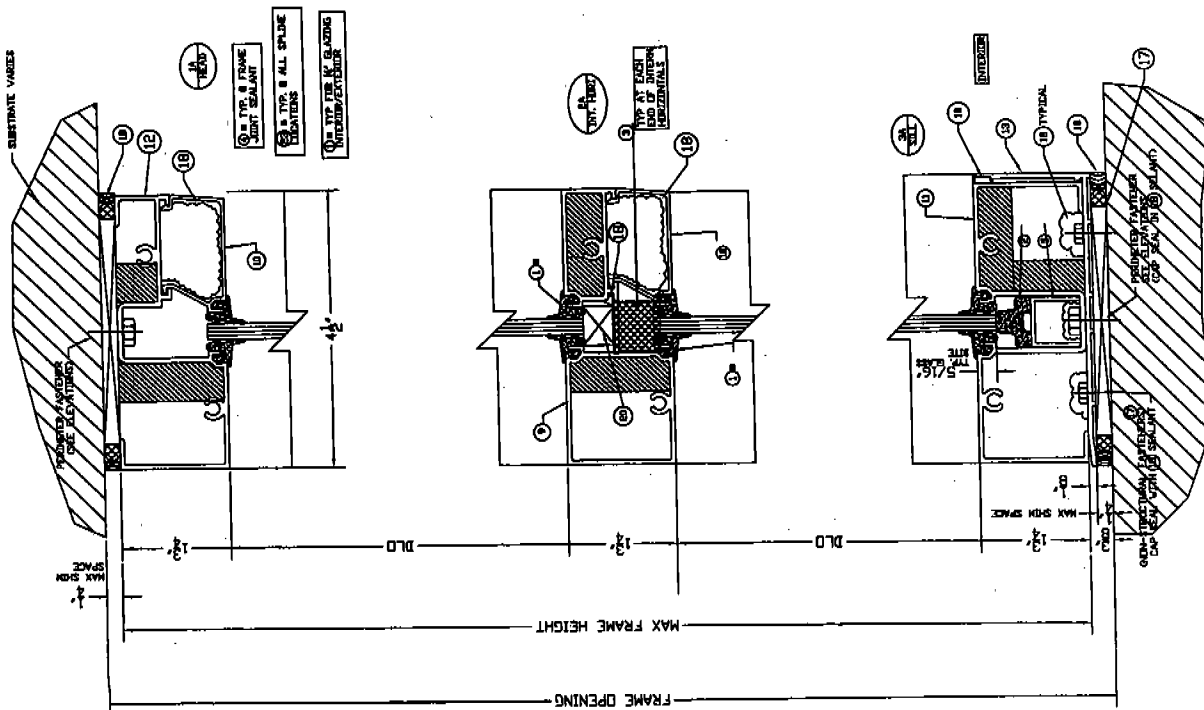


AS TESTED UNLESS OTHERWISE NOTED

Date 8/11/05

50-1020-204-2
#4909
Date 5/21/18

50-1070-2045 #905



ITEM NO.	PART #	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG1	GLAZING GASKET EXTERIOR/INTERIOR	.197 SPACE	EPDM	VARIES	
2	SB2	SETTING BLOCK AT INTERM. HORIZONTAL/SILL	1.50 X 4.00 X .625	EPDM	VARIES	MIN. 4" LONG
3	WD200-1	WATER DEFLECTOR	1.358 X .700 X .040	RIGID PVC	CORAL	LOCATE ONE AT EACH END OF EACH ITEM #9
4	SMS601	JOINT SEALANT TAPE	.125 X .500	BUTYL	SCHNEE-MOREHEAD	
5	CS100-1	SETTING CHAIR	.794 X .790 X .040	6063-T6 ALUMINUM	CORAL	4" LONG
6	ED219-1	END DAM	.750 X 1.938 X .080	6063-T6 ALUMINUM	CORAL	FABRICATED LENGTH = 4.625
7	FL209	STANDARD VERTICAL MULLION	1.75 X 4.5 X .080	6063-T6 ALUMINUM	CORAL	
8	FL205	OPEN BACK MULLION FILLER - SHALLOW POCKET	.562 X 3.75 X .062	6063-T6 ALUMINUM	CORAL	
9	FL206	HORIZONTAL MULLION	1.75 X 4.460 X .070	6063-T6 ALUMINUM	CORAL	
10	FL203	GLASS STOP	.875 X 1.918 X .050	6063-T6 ALUMINUM	CORAL	
11	FL201	HEAD/WALL JAMB	1.75 X 4.5 X .070	6063-T6 ALUMINUM	CORAL	
12	FL202	SILL/HEAD	1.75 X 4.460 X .070	6063-T6 ALUMINUM	CORAL	
13	FL219	SUBSILL FLASHING	1.875 X 4.714 X .078	6063-T6 ALUMINUM	CORAL	
14	SR101	10 GA. FORMED STL. REINFORCING	1.25 X 4.18 X .119	A36 STEEL	VARIES	
15	AS16	SPLINE ASSEMBLY SCREW	#14 X 1" HHSTS	STEEL	VARIES	TYPICAL SPLINE SCREW
16	AS23	ATTACH SR101 STL TO MULLIONS ø 12" OC	#12 - 24 X ¾" UCPFH	STEEL	VARIES	ATTACH ø 12" DN CENTER
17	FASTENER	FOR ATTACHING SUBSILL FLASHING TO STEEL SUBSTRATE	¾" X 1" PHSMS	STEEL	VARIES	
18	921	PERIMETER/INTERNAL SEALANT	FILL SPACE	POLYURETHANE	TREMCO	
19	NOT USED					
20	SB5	SETTING BLOCK FL 206 - INTERIOR GLAZED	.625 X .500	EPDM	VARIES	

PROJECT

PROJECT NO.	
DRAWN	DATE
EF	08-08-00
CALC	FULL
DRAWING NO.	
FL200 - 02	
SHEET	7 OF 7

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AS TESTED UNLESS
OTHERWISE NOTED

Date 8/11/05

6402-0701-05