

Fenestration Testing Laboratory, Inc.  
10235 8th. Street, Rancho Cucamonga, CA 91730

**REPORT SUMMARY**

**REPORT SPECIFICATION**

North American Fenestration Standard/specification for windows, doors, and skylights  
AAMA/WDMA/CSA 101/I.S.2/A440-11 & Canadian Supplement A440S1-09

**REPORT #**

**T15-082**

**TESTED FOR**

**Fleetwood Windows and Doors**

1 Fleetwood Way  
Corona, CA 92879

**PRODUCT TYPE**

Fixed Window (Aluminum Thermally Broken)

**SERIES**

250-T

**CONFIGURATION**

O

**PERFORMANCE GRADE**

PG 50

**PRIMARY DESIGNATOR**

Class CW - PG50: Size tested 1219.20mm x 3048.00mm (~48" x 120") - Type FW\*  
*Reference should be made to specimen Report No. T15-085 for gateway size compliance.*

**Secondary Designator**

Canadian Air Infiltration / Exfiltration = Fixed Level

**TEST COMPLETION DATE**

10/22/15

**REPORT DATE**

11/25/2015

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**REPORT #T15-082**

**1.0 Tested For: Fleetwood Window and Door**  
1 Fleetwood Way  
Corona, CA 92879

**2.0 Purpose:**  
The purpose of this report is to present the testing methods employed and the test results obtained during the performance testing of one (1) Aluminum fixed window described in paragraph 5.0 of this report.

**3.0 Test References:**

**3.1** NAFS – North American Fenestration Standard/specification for windows, doors, and skylights AAMA/WDMA/CSA 101/I.S.2/A440-11

**3.2** Canadian Supplement A440S1-09

**4.0 Compliance Statement:** The test results in paragraph 6.0 indicate that the test sample described in paragraph 5.0 of this report met the performance requirements of the above specifications for the performance grade shown in 4.1 below.

**4.1 Primary Designator:**  
Class CW - PG50: Size tested 1219.20mm x 3048.00mm (~48" x 120") - Type FW  
*Reference should be made to specimen Report No. T15-085 for gateway size compliance.*

**5.0 Sample Submitted**

**5.1 Product Type:** Fixed Window (Aluminum Thermally Broken)

**5.2 Series/Model:** 250-T

**5.3 Configuration** O

**5.4 Test Sample Provider:** Fleetwood Windows and Doors

**5.5 Product Size:**

	<b>Millimeters</b>	<b>Inches</b>
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Frame:	1219.20mm x 3048.00mm	~48.00 x 120.00"
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Lite DLO	1121.15mm x 2949.95mm	~44.14" x 116.14"
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**5.0 Sample Submitted (Continued)**

**5.6 Glass and Glazing**

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
1.0" Overall	0.5" wide metal Spacer	.250" clear tempered	.250" clear tempered	The glass lite rested on (2) 3"x1"x1/4" rubber setting blocks, centered 3" in from each end. The glass was outside glazed onto a bulb vinyl and secured with glass stop containing bulb vinyl. Silicone 6" each direction of glazing corner.

**5.7 Weepage**

Draining Method	Size	Quantity	Location
Weep slot	1.00" x 0.18"	2	Sill- 4.5" from each end

**5.8 Weatherstripping**

Type:	Quantity	Location
Hollow bulb vinyl	1 strip	On the glazing stops facing in.
Hollow bulb vinyl	1 strip	Frame, full perimeter, facing out.

**5.9 Hardware**

Type:	Quantity	Location
N/A	N/A	N/A

**5.10 Construction**

Location	Joinery Type	Number of Fasteners
All frame corners	The jambs are mitered to the head and sill, crimped over a corner key and welded	N/A
Frame	T.B. 1/4" debrided	N/A
Sill	Window sits over a sill pan	N/A

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**5.11 Reinforcement**

Location	Material
N/A	N/A

**5.12 Sealant**

Location
All frame corner joints.
Full perimeter of the sill pan vertical leg to the frame.

**5.13 Installation**

The test specimen was installed into a 2" x 8" wooden rough opening.

Location on frame	Anchor type	Spacing
Head, jambs, and sill	Nail fin, secured with #8 x 1.25" PFH screws	6" from each corner and 12" in the field

**6.0 Test Procedures and Results:** All testing procedures were conducted in accordance with the performance requirements of the test specifications referenced in paragraph 3.0 of this report. (Laboratory conditions during test were 23.8 degrees Celsius (75 degrees Fahrenheit))

**9.3.2 - Air Leakage (ASTM E 283-04)(2012) Infiltration**

Test Pressure	Results	Allowed
75 Pa	0.00 L/s*sq.m	1.5 L/s*sq.m
1.57 psf	0.00 cfm/sq.ft.	0.30 cfm/sq.ft.

**The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440-11 and Canadian Supplement A440S1-09 for air leakage resistance.**

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**Optional Performance Testing**

**Canadian (only) Air Infiltration/exfiltration levels**

**9.3.2 - Air Leakage (ASTM E 283-04)(2012) Infiltration - Canada**

75 Pa	0.00 L/s*sq.m	0.20 L/s*sq.m
1.57 psf	0.00 cfm/sq.ft.	0.04 cfm/sq.ft.

**9.3.2 - Air Leakage (ASTM E 283-04)(2012) Exfiltration - Canada**

75 Pa	0.00 L/s*sq.m	0.20 L/s*sq.m
1.57 psf	0.00 cfm/sq.ft.	0.04 cfm/sq.ft.

**Note: Canadian air infiltration/exfiltration = Fixed Level**

**Additional air testing at 300 Pa (6.27 psf) {Canadian AW Class at Fixed level}**

**9.3.2 - Air Leakage (ASTM E 283-04)(2012) Infiltration**

300 Pa	0.0 L/s*sq.m	0.20 L/s*sq.m
6.27 psf	0.0 cfm/sq.ft.	0.04 cfm/sq.ft.

**9.3.2 - Air Leakage (ASTM E 283-04)(2012) ex-filtration**

300 Pa	0.0 L/s*sq.m	0.20 L/s*sq.m
6.27 psf	0.0 cfm/sq.ft.	0.04 cfm/sq.ft.

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**9.3.3 Water Penetration (ASTM E 547-00) (2009)**

Test Pressure	Results	Allowed	Comments
580 Pa (12.11 psf)	Pass	No Leakage	

**9.3.4.2 Uniform Load Deflection at Design Pressure (ASTM E 330-14)**

Test Pressure & Direction	Results	Allowed	Comments
2400 Pa (50.13 psf) Pos	0.00mm (0.0In.)	17.53mm (0.69In. )	L/175
-2400 Pa (-50.13 psf) Neg	0.00mm (0.0In.)	17.53mm (0.36In. )	L/175

**9.3.4.3 Uniform load Structural Performance (Overload/Proof Load) (ASTM E 330-14)**

Test Pressure & Direction	Results	Allowed	Comments
3600 Pa (75.19 psf) Pos	0.00mm (0.00In. )	9.14mm (0.36In. )	0.3%
-3600 Pa (-75.19 psf) Neg	0.00mm (0.00In. )	9.14mm (0.36In. )	0.3%

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For a complete description of the tested sample refer to the attached 5 pages consisting of the bill of materials, cross section drawings, and individual die drawings. This report is complete only when all of the above referenced drawings and bill of materials are attached.


Cross section drawings and die drawings of frame members are on file and have been compared to the sample submitted. Test sample sections, drawings and a copy of this report will be retained at the test laboratory for four years.

This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory.

The preceding test results relate only to the tested specimen and were obtained by using the applicable test methods listed in sections 3.0 and 6.0 above. This report does not constitute certification of this product or an endorsement by this laboratory. It is the property of the client named in section 1.0 above. Certification can only be granted by an approved administrator and/or validator.

Date Testing Completed:                      October 22, 2015

Date Report Completed:                      November 25, 2015



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Pete Cruz  
Test Engineer

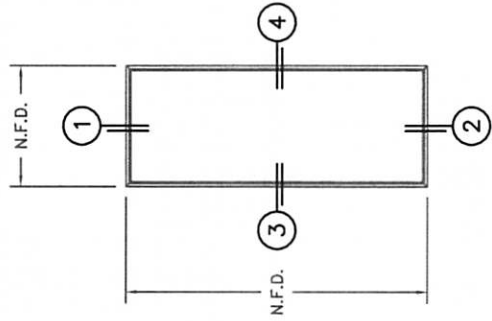
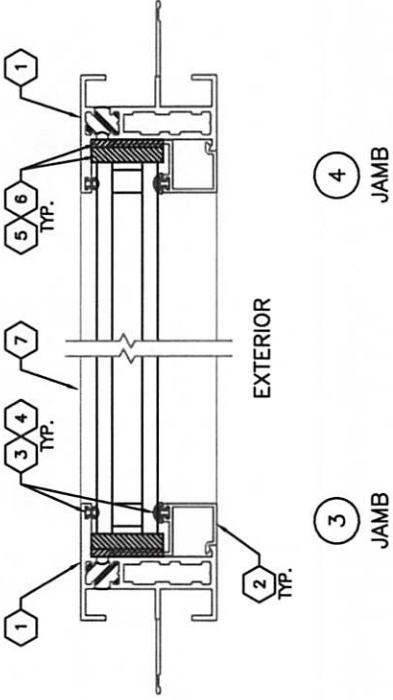
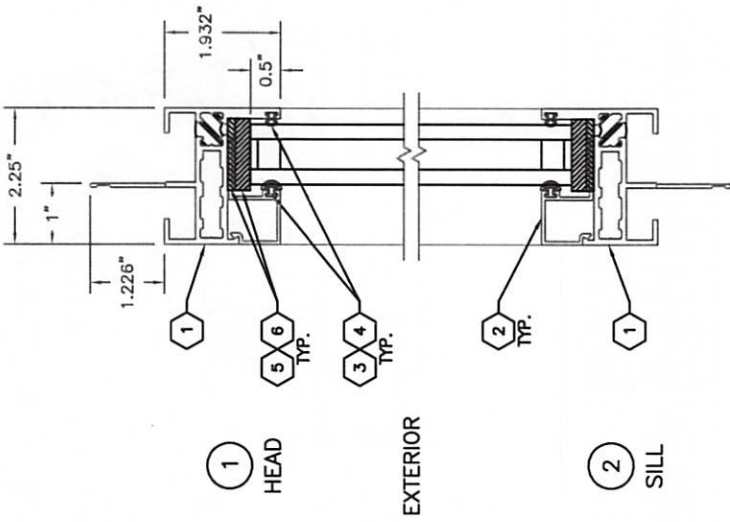


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Sean Clevenger  
Testing Manager

**FENESTRATION TESTING LAB**

REPORT NO: T15-082  
 DATE: 11/25/15



ANCHOR SPACING:  
 HEAD: 6" FROM ENDS; 12" O.C. MAX.  
 JAMB: 6" FROM ENDS; 12" O.C. MAX.  
 SILL: 6" FROM ENDS; 12" O.C. MAX.

ITEM NO.	FLEETWOOD PART NO.	PART DESCRIPTION	VENDOR NAME	VENDOR PART NO.
1	OSP88	ALUMINUM EXTRUSIONS	FRONTIER	52788
2	OSP09	HEAD, SILL AND JAMB	SIERRA	8502
3	25031	1" GLASS STOP	MISCELLANEOUS	
4	25199	BULB VMPL - LARGE (EPDM 70 Durometer)	TREMCO	TX19638E
5	18620	BULB VMPL - MINI (EPDM 70 Durometer)	TREMCO	TX20801E
6	18621	4 x 1/4" x 1" SETTING BLOCK	SECON RUBBER	SB250-1000X4Z
		4 x 1/8" x 1" SETTING BLOCK	SECON RUBBER	FLEETWOOD052302

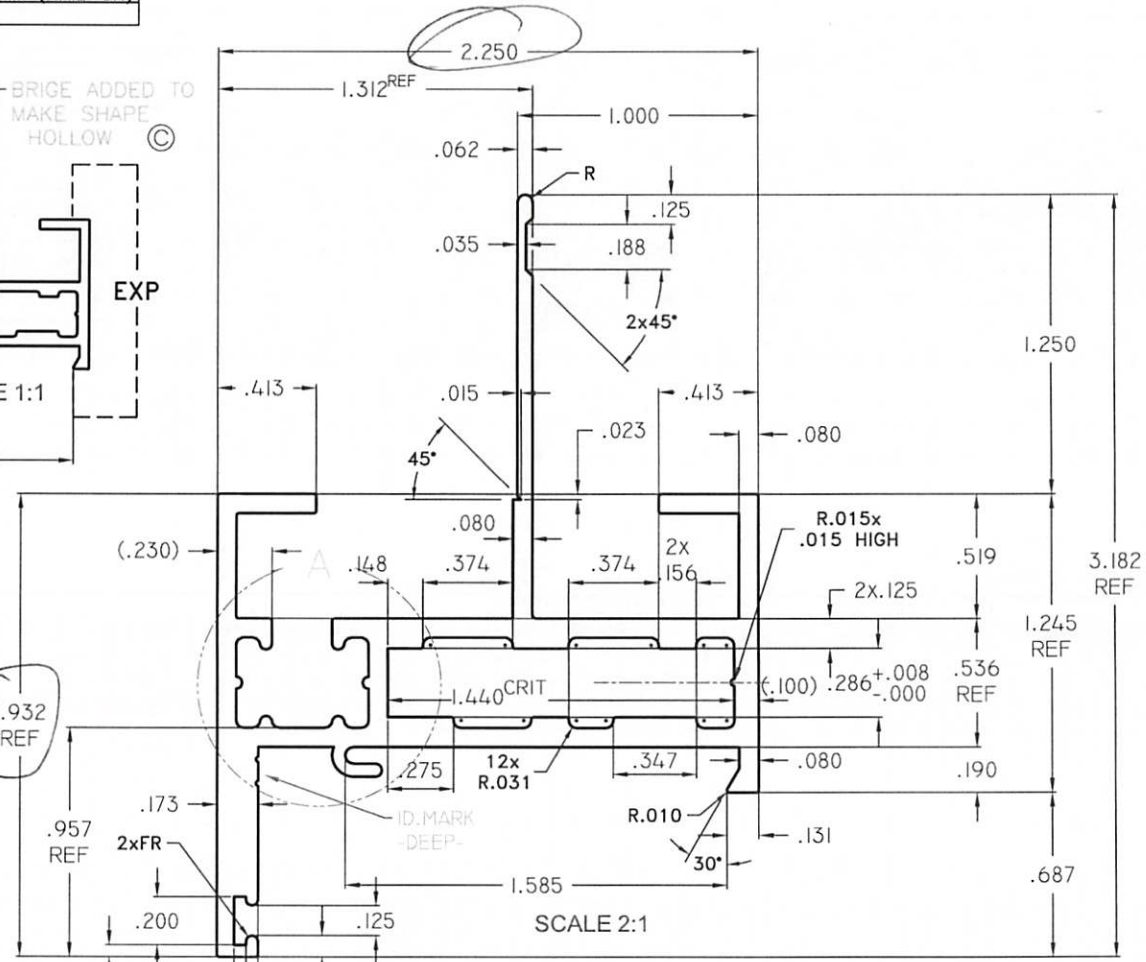
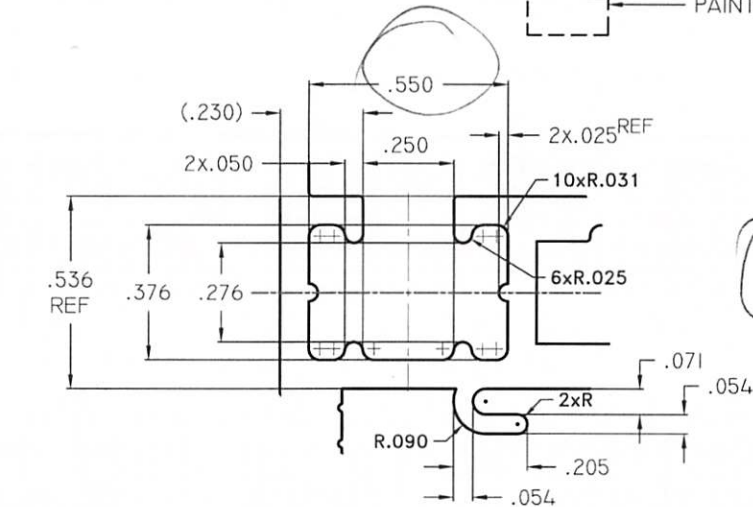
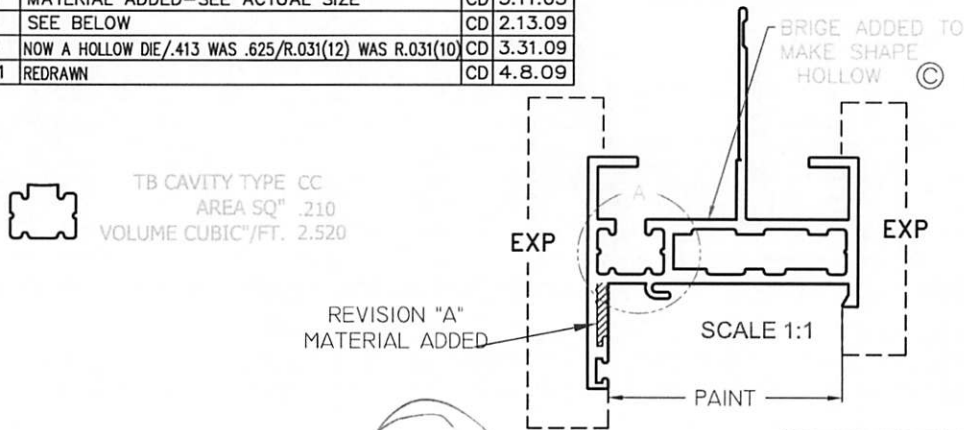
OWNER: BRIAN L. DATE: 12/2/15  
 TITLE: SERIES 250-T  
 NOT TO SCALE: D  
 PRODUCT NO: 5528  
 1" INSULATED GLAZING  
 FLEETWOOD WOODWAY CORPORATION  
 250-T AAMA CERTIFICATION



CUSTOMER: **FLEETWOOD ALUMINUM** PART NAME: 5000 INSIDE GLAZE PERIM. (NAIL-ON)  
 PART NUMBER: 05P88

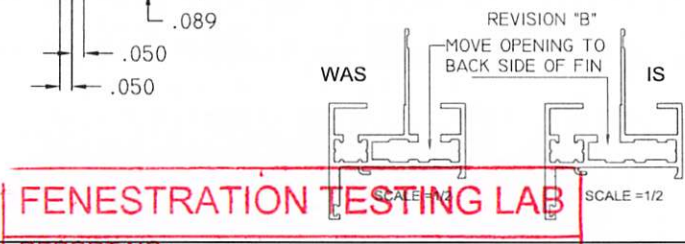
REV	REVISIONS	BY	DATE
A	MATERIAL ADDED-SEE ACTUAL SIZE	CD	3.11.03
B	SEE BELOW	CD	2.13.09
C	NOW A HOLLOW DIE/.413 WAS .625/R.031(12) WAS R.031(10)	CD	3.31.09
C1	REDRAWN	CD	4.8.09

TB CAVITY TYPE CC  
 AREA SQ" .210  
 VOLUME CUBIC"/FT. 2.520



UNMARKED WALLS: .080	UNMARKED CORNERS: R.010	UNMARKED FILLETS: R.010
UNLESS OTHERWISE SPECIFIED, STANDARD ALUMINUM ASSOCIATION TOLERANCES APPLY • FRONTIER ID. MARK: TWO .010 R x .100 APART		
AREA .927	PRESS 4	DWN CD
WT/FT 1.113	PORTS 11x7-2H	DATE 3.16.2015
PERI. 21.012	W/P HOLLOW	D 5278
FACTOR 19	BKR. HOLLOW	CLASS HOLLOW
C.C.D. 3.57	BOL. STD-2	17.205
AW:0201/92	RATIO: PRESS 1:	PRESS 2:
	PRESS 3:	
ALLOY & TEMPER 6063-T6		DIE NO. 5278
		REV. C1

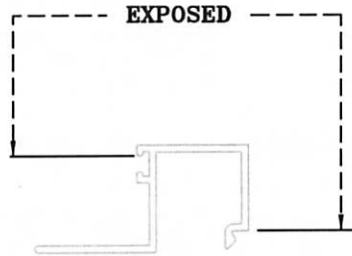
4/8/2009U:\Cadfiles\_Admin\Products\250-T\Cert Dwgs\_(np)\250-T Cert\_2015AAMA CERT DIE DRAWINGS\05P88 DATE: 12/2/2015 7:00 AM



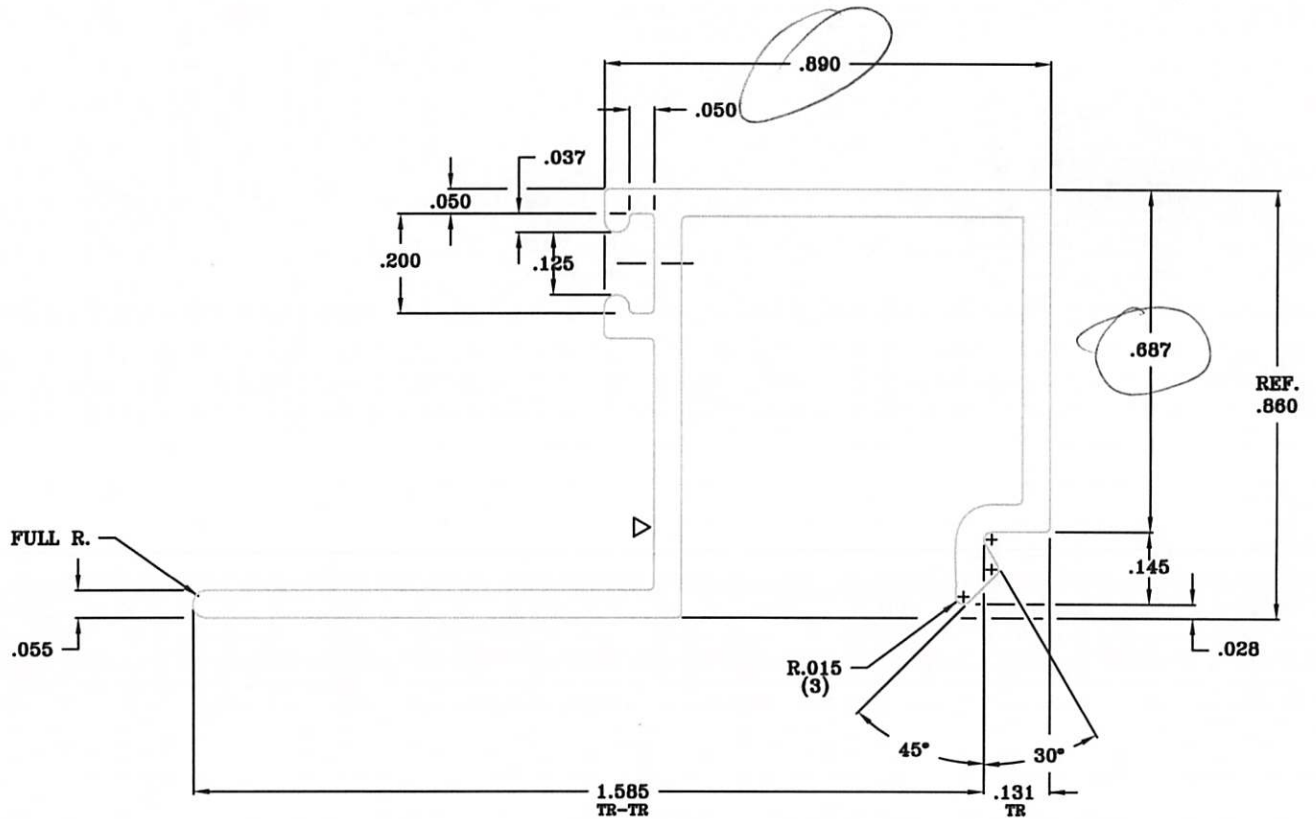
**FENESTRATION TESTING LAB**  
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FITS WITH PART#

05P01,05P11,05P71,05P81,05P70



ACTUAL SIZE



D.010 R. X .010 DEEP I.D. MARK

NOTE: .055 TYP. WALL EXCEPT AS NOTED UNMARKED CORNERS .010 R.

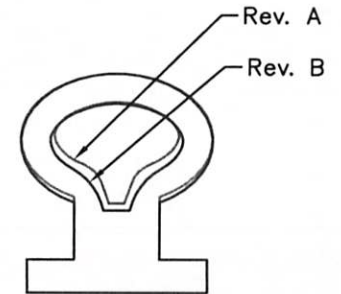
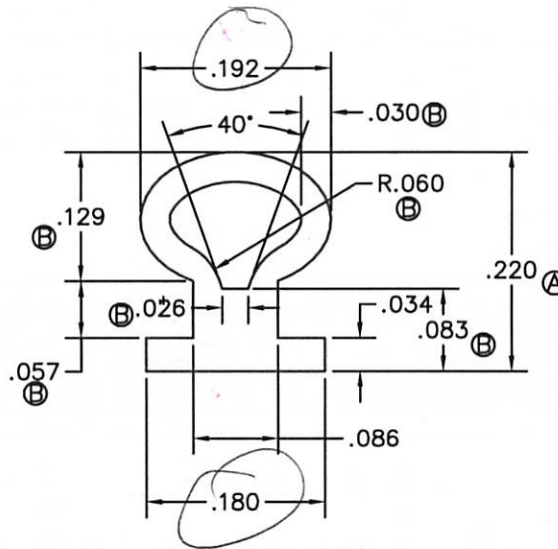
CONTAINER	DIE RING	SPACER RING					
AREA	.202	PORTS	4	EXR	8502		
WT/PT	.242	W/P	-	BOLSTER	4-9		
PERL	7.337	FLEE	6048	DIE SIZE	9X1		
OWN. BY	KEN	DATE	10/15/99	MAT'L	6063-T6	B	MAT'L WAS 6063-T6
CHKD. BY							ED 10/06/00
SIERRA ALUMINUM COMPANY		FLEETWOOD ALUMINUM PROD.		SCALE	4:1	PART NO.	05P09
2345 Fleetwood Drive		PART NAME		DIE NO.		006502	
Riverside, California 92509		GLASS STOP 1"					
(909)781-7800 FAX (909)781-7864							

**FENESTRATION TESTING LAB**  
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STANDARDS FOR CROSS SECTIONAL TOLERANCE (ASTM C864)

DIMENSION	TOLERANCE +/-
0 - 0.06	.010
0.06 - 0.10	0.014
0.10 - 0.016	0.016
0.16 - 0.25	0.020
0.25 - 0.39	0.027
0.39 - 0.63	0.031
0.63 - 0.98	0.039
0.98 - 1.57	0.051
1.57 - 2.48	0.063
2.48 - 3.94	0.079

DIMENSIONS MARKED "REF" ARE NOT SUBJECT TO INSPECTION DURING THE EXTRUSION PROCESS



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	.220 WAS .210, AS INDICATED	02/04/13	KN
B	AS INDICATED	02/22/13	KN

**FENESTRATION TESTING LAB**  
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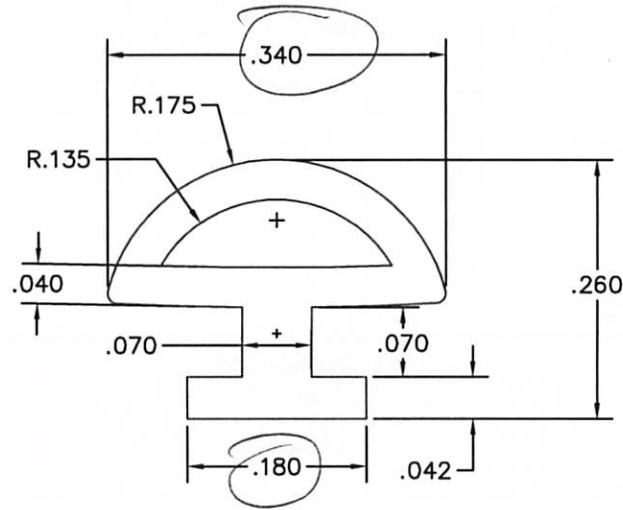
- NOTES:  
 1. MATERIAL:  
 A. EPDM.  
 B. MUST MEET ASTM C864  
 2. COLOR: BLACK  
 3. HARDNESS: 70 +/-5, SHORE A.

		<b>FLEETWOOD</b> Windows & Doors		1 FLEETWOOD WAY Corona, CA 92679 (800) 736-7363 www.fleetwoodusa.com	
MINI BULB VINYL, T-SLOT WEATHERSEAL					
SIZE B	DWG NO. 25199			REV B	
DRAWN BY KEVIN	DATE 1/25/13	SCALE 8X	SHEET 1 of 1		

STANDARDS FOR CROSS SECTIONAL TOLERANCE (ASTM C864)

DIMENSION	TOLERANCE +/-
0 - 0.06	.010
0.06 - 0.10	0.014
0.10 - 0.16	0.016
0.16 - 0.25	0.020
0.25 - 0.39	0.027
0.39 - 0.63	0.031
0.63 - 0.98	0.039
0.98 - 1.57	0.051
1.57 - 2.48	0.063
2.48 - 3.94	0.079

DIMENSIONS MARKED "REF" ARE NOT SUBJECT TO INSPECTION DURING THE EXTRUSION PROCESS



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

FENESTRATION TESTING LAB

REPORT NO: T15-082

DATE: 11/25/15

**FLEETWOOD**  
Windows & Doors

1 FLEETWOOD WAY  
Corona, CA 92679  
(800) 736-7363  
www.fleetwoodusa.com

OBLONG BULB VINYL  
T-SLOT WEATHERSEAL

SIZE B	DWG NO. 25031	REV -
DRAWN BY BLP	DATE 1/30/12	SCALE 8X
SHEET 1 of 1		

- NOTES:
- MATERIAL:
    - EPDM.
    - MUST MEET ASTM C864
  - COLOR: BLACK
  - HARDNESS: 70 +/-5, SHORE A.