

# 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:	Millimeters	Inches
	Frame:	1219.20mm x 3048.00mm	~48.00 x 120.00"
	Lite DLO	1121.15mm x 2949.95mm	~44.14" x 116.14"

# Fenestration Testing Laboratory, Inc.

10235 8th. Street, Rancho Cucamonga, CA 91730

**REPORT #T15-082**

## 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" debriged	N/A
Sill	Window sits over a sill pan	N/A

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REPORT #T15-082

## 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.**

**Fenestration Testing Laboratory, Inc.**  
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**REPORT #T15-082**

**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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**REPORT #T15-082**

**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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**REPORT #T15-082**

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.

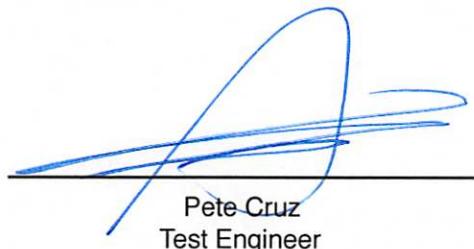
Cross section drawings and die drawings of frame members are on file and have been compared to the sample submitted. Test sample sections, drawings and a copy of this report will be retained at the test laboratory for four years.

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



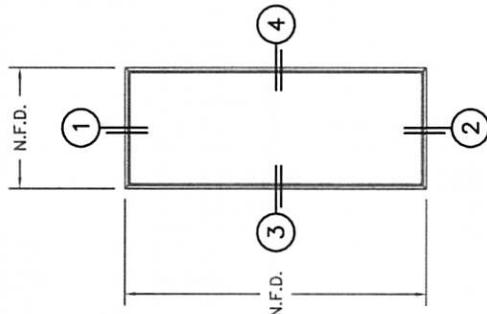
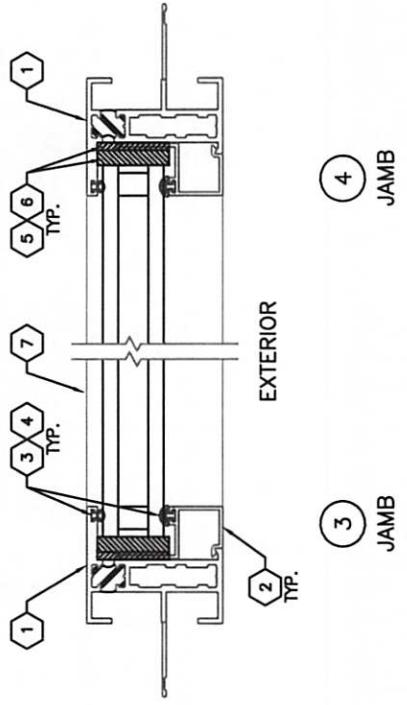
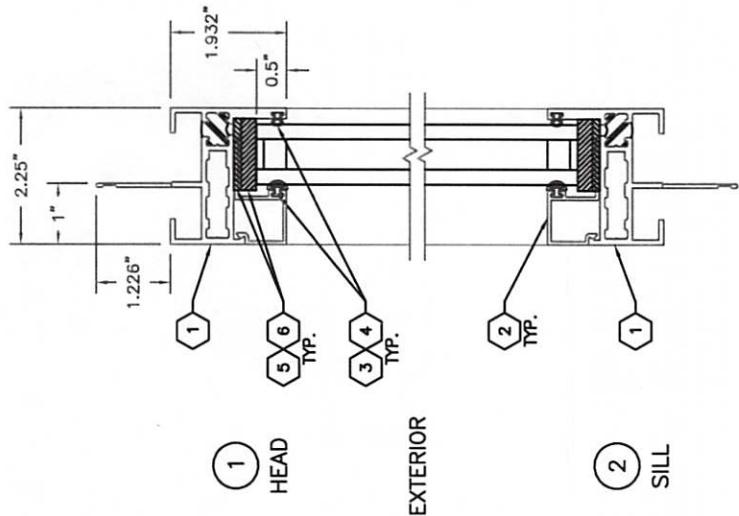
Pete Cruz  
Test Engineer



Sean Clevenger  
Testing Manager

## FENESTRATION TESTING LAB

REPORT NO: 715-082  
DATE: 1/25/87



### 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	0SP88	ALUMINUM EXTRUSIONS	FRONTIER	52788
2	0SP09	HEAD, SILL, AND JAMB 1" GLASS STOP	SIERRA	6502
3	25031	MISCELLANEOUS		
4	25199	BULB VINYL - LARGE (EPDM 70 Durometer)	TREACO	TX19638E
5	18620	BULB VINYL - MINI (EPDM 70 Durometer)	TREACO	TX20801E
6	18621	4 x 1/4" x 1" SETTING BLOCK	SECON RUBBER	SB250-1000X4+Z
		4 x 1/8" x 1" SETTING BLOCK	SECON RUBBER	FLEETWOOD005202

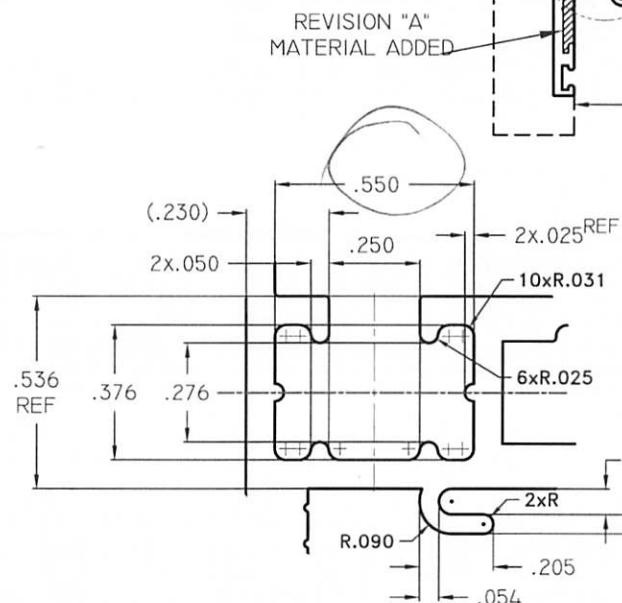
DRAWN BY: <b>BRIAN L.</b>		DATE: <b>12/2/15</b>	REVISION: <b>0</b>	FLEETWOOD	
NOT TO SCALE		SCALE: <b>D</b>	WINDOWS		11 FLEETWOOD WAY CORONA CA 92876 www.fleetwoodusa.com
PRODUCT NO.: <b>5528</b>		SERIES: <b>250-T</b>		DRAWING NUMBER: <b>250-T AAA CERTIFICATION</b>	
		0-GTF		REV: <b>—</b>	
		1" INSULATED GLAZING			

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

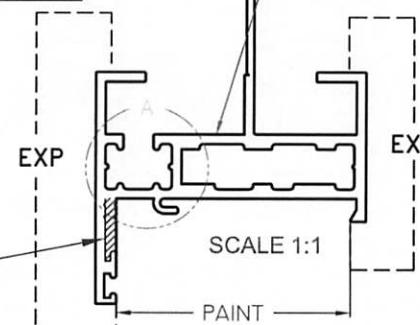
REV	REVISIONS	BY	DATE
A	MATERIAL ADDED-SEE ACTUAL SIZE	CD	3.11.03
B	SEE BELOW	CD	2.13.09
C	NOW A HOLLOW DIE .413 WAS .625/R.031(12) WAS R.031(10)	CD	3.31.09
C1	REDRAWN	CD	4.8.09



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



BRIDGE ADDED TO  
MAKE SHAPE  
HOLLOW



EXP

©

SCALE 1:1

PAINT

REVISION "A"  
MATERIAL ADDED

EXP

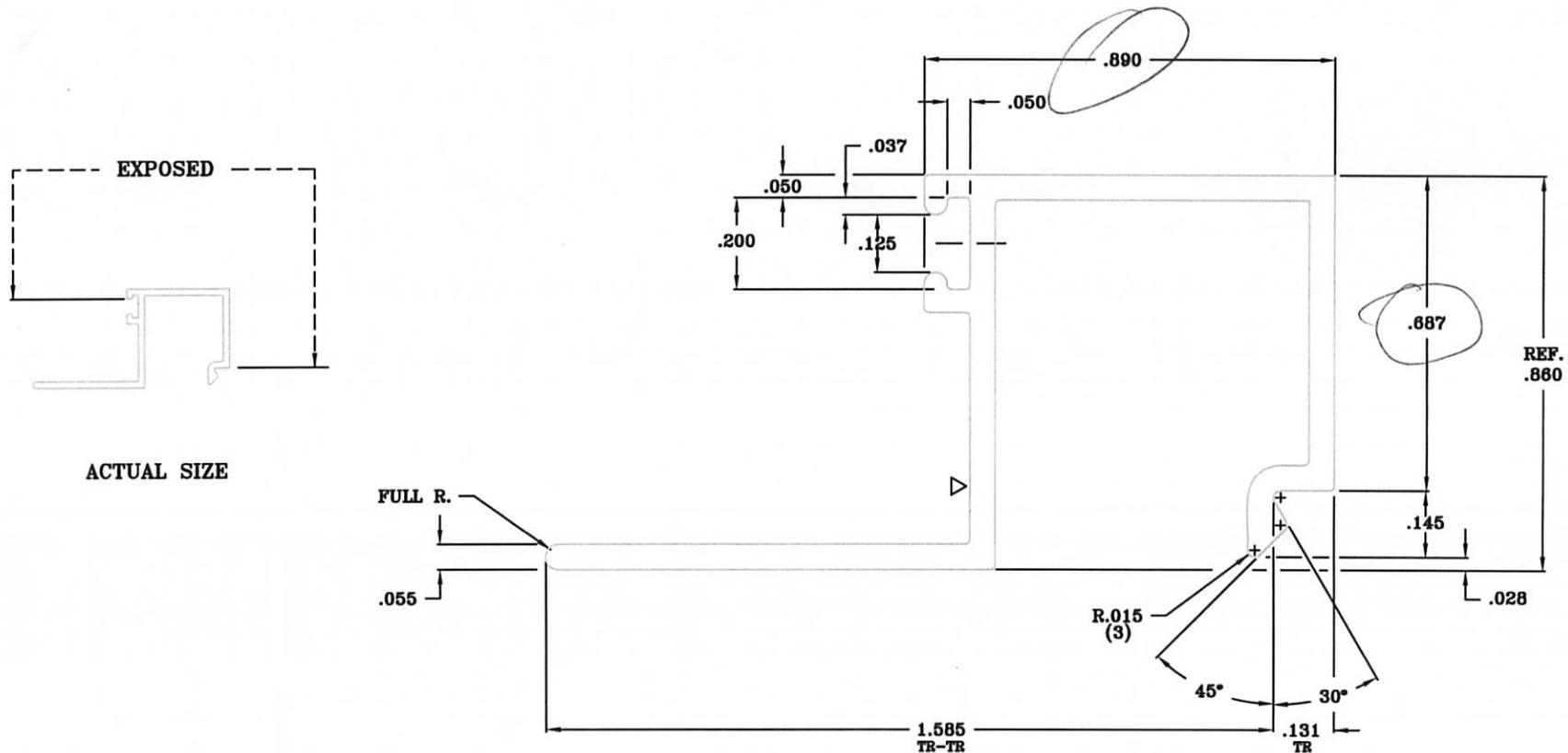
SCALE 1:1

PAINT

REVISION "A"  
MATERIAL ADDED

FITS WITH PART#

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



.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	ERK 6502			
WT/FT .242	w/p	BOLSTER 4-9			
PERL 7.337	FLEE 6048	DIE SIZE 9X1			
DNW. BY KEN DATE 10/15/99	MAT'L 6063-T6	B	MAT'L. WAS 6063-T5	ED 10/06/00	
CHKD. BY DATE	STANDARD TOLERANCES UNLESS OTHERWISE NOTED	LET.	REVISION	BY	DATE
	CUSTOMER FLEETWOOD ALUMINUM PROD.	4:1	SCALE	PART NO. 05P09	
	PART NAME GLASS STOP 1"	-	SCALE	DIE NO. 006502	

  
SIERRA ALUMINUM COMPANY  
2345 Fleetwood Drive  
Riverside, California 92500  
(909)781-7800 FAX (909)781-7864

FENESTRATION TESTING LAB

REPORT NO:

T15-082

DATE:

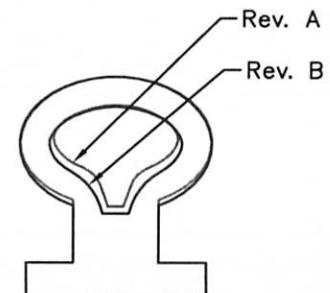
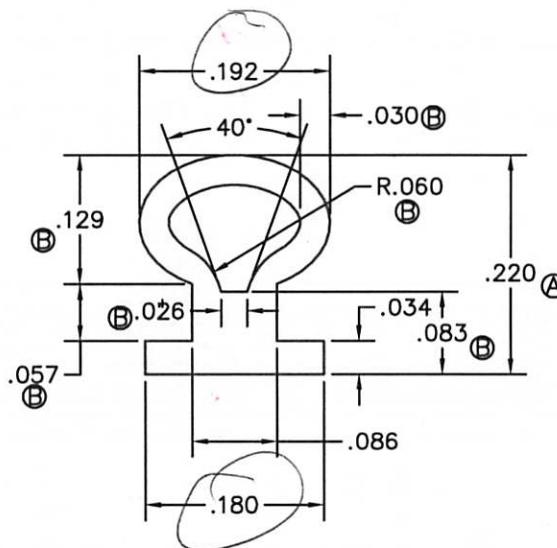
11/25/15

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

REPORT NO:

T.15-082

DATE:

11/25/15



FLEETWOOD  
Windows & Doors

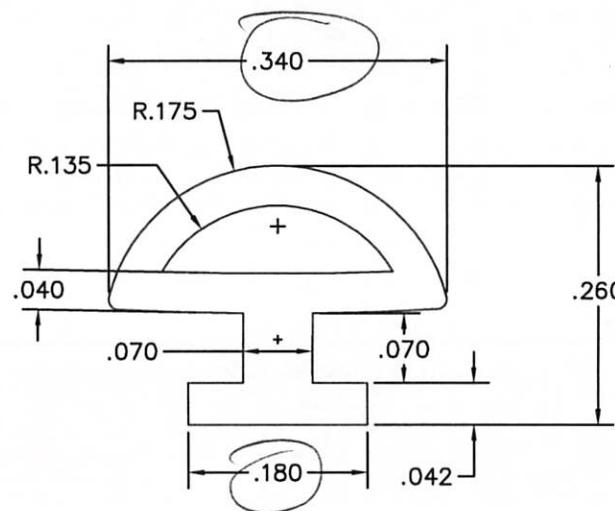
1 FLEETWOOD WAY  
Corona, CA 92379  
(800) 736-7363  
[www.fleetwoodusa.com](http://www.fleetwoodusa.com)

MINI BULB VINYL,  
T-SLOT WEATHERSEAL

SIZE	DWG NO.	REV
B	25199	B
DRAWN BY KEVIN	DATE 1/25/13	SCALE 8X

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

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	



- NOTES:
1. MATERIAL:  
A. EPDM.
  2. COLOR: BLACK
  3. HARDNESS: 70 +/−5, SHORE A.

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REPORT NO:	T15-082
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 <b>FLEETWOOD</b> Windows & Doors		1 FLEETWOOD WAY Corona, CA 92879 (800) 736-7363 <a href="http://www.fleetwoodusa.com">www.fleetwoodusa.com</a>	
OBLONG BULB VINYL T-SLOT WEATHERSEAL			
SIZE	DWG NO.	REV	
B	25031	—	
DRAWN BY	BLP	DATE	1/30/12
SCALE	8X	SHEET	
		1 of 1	