

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 #

T15-083

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 35

PRIMARY DESIGNATOR

Class CW - PG35: 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

Reference should be made to Report No. T15-083 for complete test specimen description and data.

Fenestration Testing Laboratory, Inc.

10235 8th. Street, Rancho Cucamonga, CA 91730

REPORT #T15-083

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 - PG35: 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
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	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"

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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 annealed	.250" clear annealed	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.

Note: 6.27 psf readings are for informational purposes only.

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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
1680 Pa (35.09 psf) Pos	0.00mm (0.0In.)	17.53mm (0.69In.)	L/175
-1680 Pa (-35.09 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
2520 Pa (52.63 psf) Pos	0.00mm (0.00In.)	9.14mm (0.36In.)	0.3%
-2520 Pa (-52.63 psf) Neg	0.00mm (0.00In.)	9.14mm (0.36In.)	0.3%

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REPORT #T15-083

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

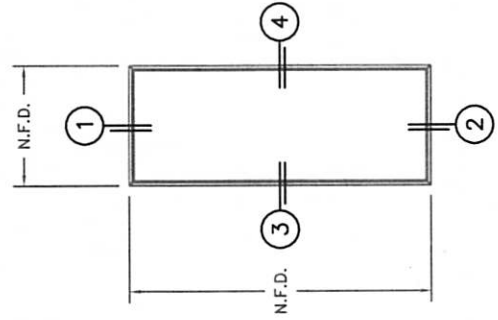
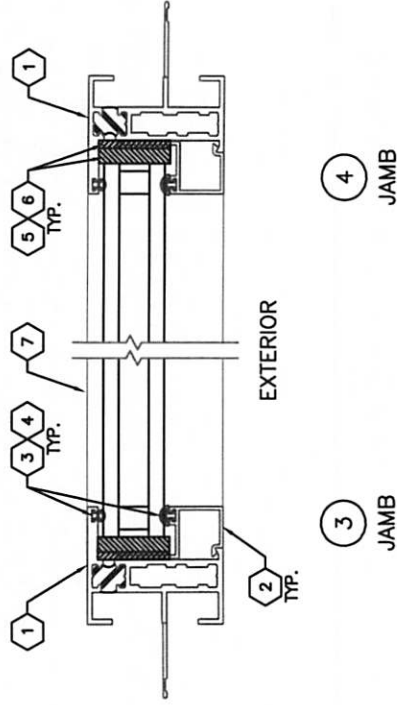
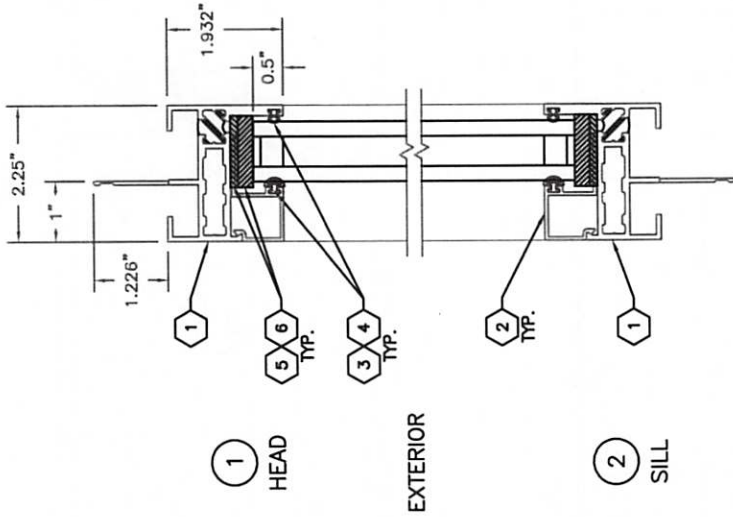


Sean Clevenger
Testing Manager

FENESTRATION TESTING LAB

REPORT NO: **TJ-083**

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	05P88	ALUMINUM EXTRUSIONS	FRONTIER	52788
2	05P09	HEAD, SILL, AND JAMB	SIERRA	6502
3	25031	1" GLASS STOP	MISCELLANEOUS	
4	25199	BULB VMYL - LARGE (EPDM 70 Durometer)	TREMCO	TX19638E
5	18620	BULB VMYL - MINI (EPDM 70 Durometer)	TREMCO	TX20801E
6	18621	4 x 1/4" x 1" SETTING BLOCK	SECOND RUBBER	58250-1000X4Z
		4 x 1/8" x 1" SETTING BLOCK	SECOND RUBBER	FLEETWOOD052302

DRAWN BY: **BRIAN L.** DATE: **12/2/15**
 SCALE: **NOT TO SCALE** SIZE: **D**
 PROJECT NO: **5528**

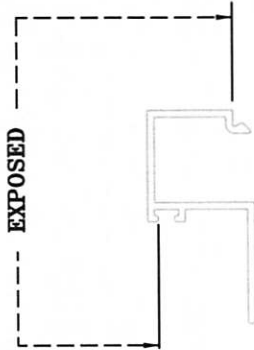
TITLE: **SERIES 250-T**
0-GTF
1" INSULATED GLAZING

FLEETWOOD
 W I N D O W S & D O O R S www.fleetwoodusa.com
 1 FLEETWOOD WAY
 CORONA, CA 92719

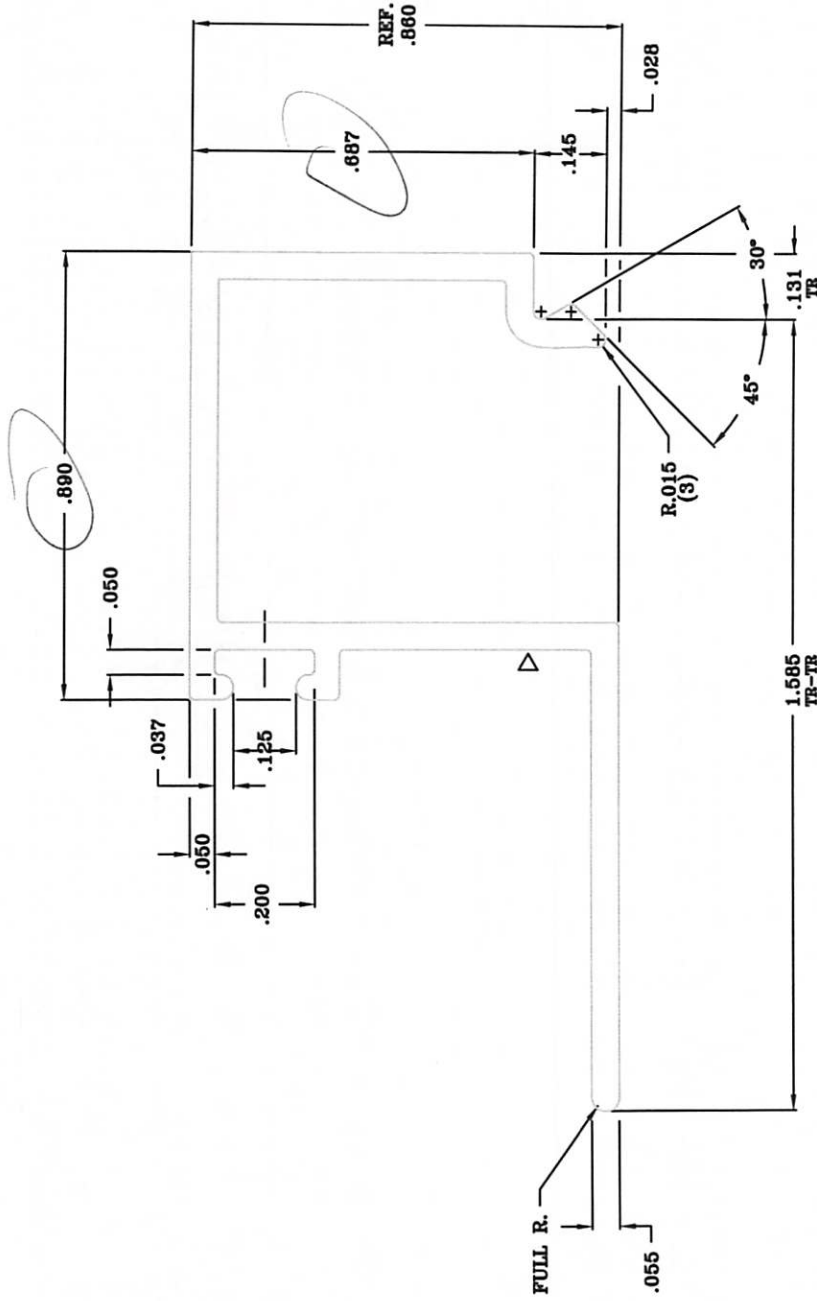
TRAINING NUMBER: **250-T** AMMA CERTIFICATION

FITS WITH PART#

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



ACTUAL SIZE



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

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

CONTAINER	DIE RING	SPACER RING							
AREA	.202	4	6502						
WT/FT	.242		4-9						
FELL	7.337	FLEE 6048	DIE SIZE 9X1						
DEF. BY	KEN	DATE 10/15/99	MAT'L 6063-T6	B	MAT'L VAL 6063-T6	ED	10/06/00		
CRD. BY			STANDARD TOLERANCES UNLESS OTHERWISE NOTED	LET.		BY	DATE		
			CUSTOMER	REVISION	SCALE	PART NO.	05P09		
			FLEETWOOD ALUMINUM PROD.	4:1					
			PART NAME	GLASS STOP 1"					
									006502
SIERRA ALUMINUM COMPANY 2345 Fleetwood Drive Riverside, California 92509 (909)781-7800 FAX (909)781-7864									

FENESTRATION TESTING LAB

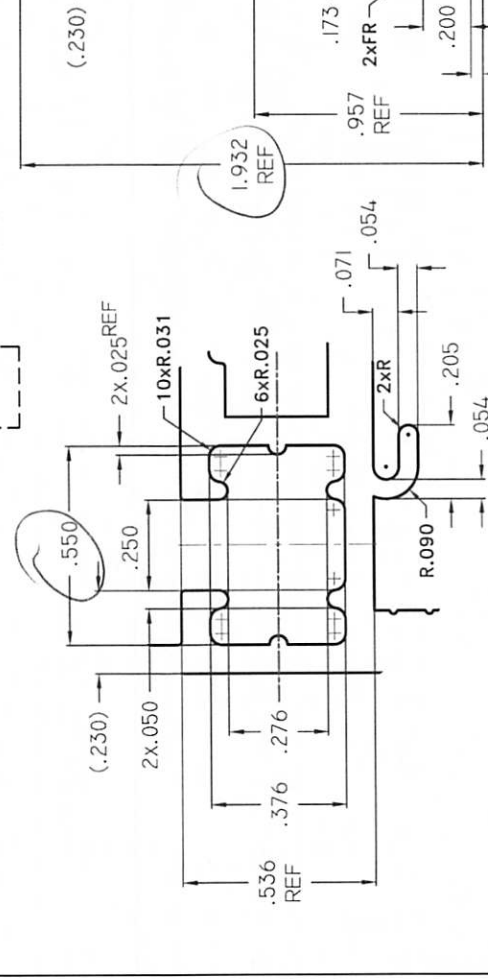
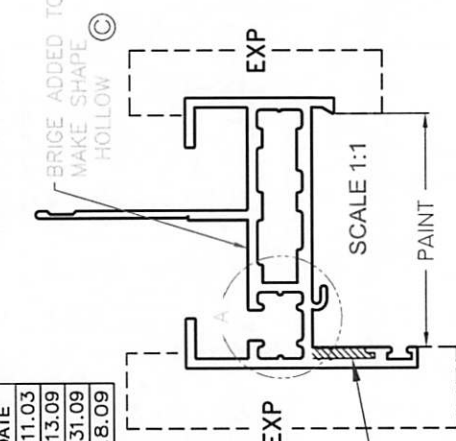
REPORT NO: T15-083

DATE: 11/25/15

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

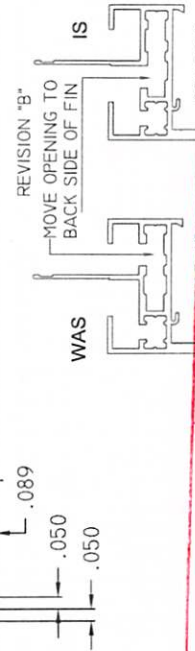
REV	BY	DATE	REVISIONS
A	CD	3.11.03	MATERIAL ADDED—SEE ACTUAL SIZE
B	CD	2.13.09	SEE BELOW
C	CD	3.31.09	NOW A HOLLOW DIE/.413 WAS .625/R.031(12) WAS R.031(10)
C1	CD	4.8.09	REDRAWN

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



UNMARKED WALLS: .080	UNMARKED R.010	UNMARKED R.010	ALLOY & TEMPER	DIE NO.	REV.
CORNERS:	FILLETS:	APERTURES:	6063-16	5278 C1	
AREA .927	PRESS 4	DWN CD	FRONTIER ALUMINUM CORP.		
WT/FT 1.113	PORTS 11x7-2H	DATE 3.16.2015	2480 Railroad St. Corona, Ca		
PERI. 21.012	W/P HOLLOW	D 5278	PH: (951) 735-1770 Fax 735-1895		
FACTOR 19	BKR. HOLLOW	CLASS HOLLOW	http://www.frontier-aluminum.com		
C.C.D. 3.57	BOL. STD-2	17.205			
AW: 020/92	RATIO: PRESS 1:	PRESS 2:			
		PRESS 3:			

4/8/2009U:\Cadfiles_Admin\Products\250-T\Cart Dwg\ (np)250-T Cart_2015\AAMA CERT DIE DRAWINGS\05P88 DATE: 12/22/2015 7:00 AM

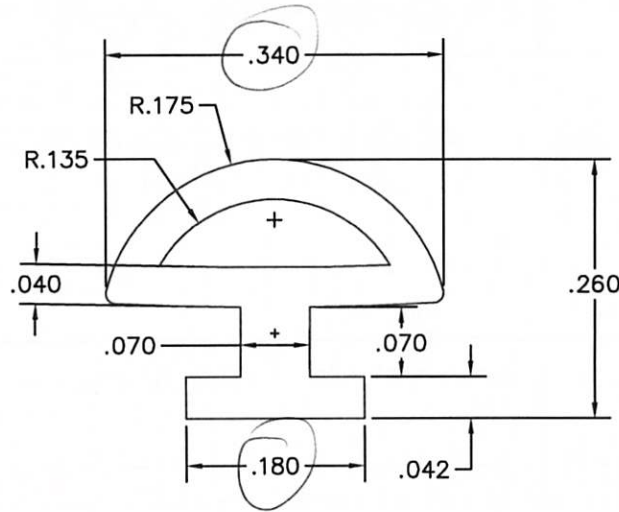


FENESTRATION TESTING LAB
 REPORT NO: TJS-083
 DATE: 11/25/15

STANDARDS FOR CROSS SECTIONAL TOLERANCE (ASTM C864)

DIMENSION	TOLERANCE +/-
0 - 0.06	.010
0.06 - 0.10	0.014
0.10 - 0.16	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



FENESTRATION TESTING LAB

REPORT NO:

T15-083


DATE:

11/25/15

NOTES:

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

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

 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

STANDARDS FOR CROSS SECTIONAL TOLERANCE (ASTM C864)

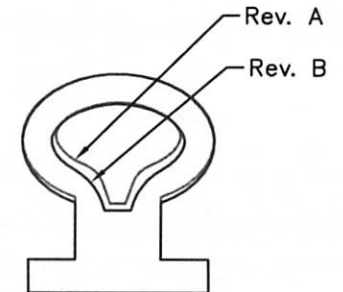
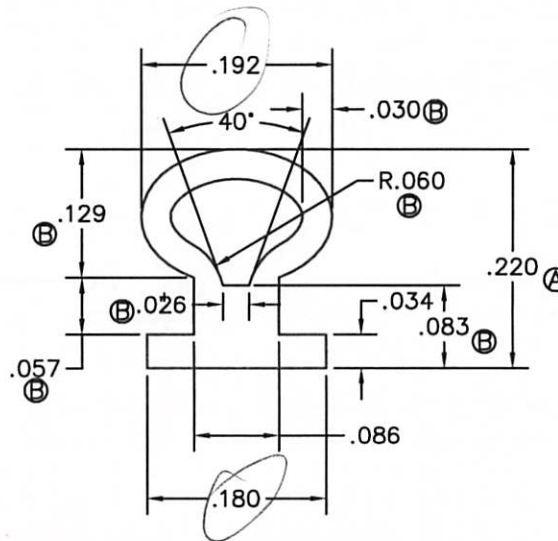
DIMENSION	TOLERANCE +/-
0 - 0.06	.010
0.06 - 0.10	0.014
0.10 - 0.016	0.016
0.16 - 0.25	0.020
0.25 - 0.39	0.027
0.39 - 0.63	0.031
0.63 - 0.98	0.039
0.98 - 1.57	0.051
1.57 - 2.48	0.063
2.48 - 3.94	0.079

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

NOTES:

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

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:

T15-083

DATE:

1/25/13

FLEETWOOD Windows & Doors		1 FLEETWOOD WAY Corona, CA 92679 (800) 738-7383 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