



All performance values shown on this report are for products of a standard configuration, tested in accordance with AAMA specifications, in a laboratory environment under optimum conditions. They are provided for purposes of comparison only. Performance values will vary according to project specifications, such as but not limited to, quality installation workmanship, product size, configuration, hardware, glass type, and accessories. When field testing is required, it is recommended that all EFCO products be tested in accordance with AAMA 502-02 unless otherwise specified.

ASTM E 283 and ASTM E 331 TEST REPORT

Report No.: B9939.01-801-47

Rendered to:

EFCO, A PELLA COMPANY™
Monett, Missouri

PRODUCT TYPE: Curtain Wall
SERIES/MODEL: 5600 Duracast

Title	Summary of Results
Air Infiltration	<0.1 L/s/m ² (<0.01 cfm/ft ²)
Air Exfiltration	<0.1 L/s/m ² (<0.01 cfm/ft ²)
Water Penetration Resistance Test Pressure	718 Pa (15.00 psf)

Reference must be made to Report No. B9939.01-801-47, dated 06/11/12 for complete test specimen description and detailed test results.

1.0 Report Issued To: EFCO, A Pella Company™
1000 County Road
Monett, Missouri 65708

2.0 Test Laboratory: Architectural Testing, Inc.
2865 Market Loop
Southlake, Texas 76092
817-410-7202

3.0 Project Summary:

3.1 Product Type: Curtain Wall

3.2 Series/Model: 5600 Duracast

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method. The samples tested met the performance requirements set forth in the referenced test procedures.

3.4 Test Date: 05/10/12

3.5 Test Record Retention End Date: All test records for this report will be retained until June 11, 2016.

1.1 Test Location: EFCO test facility in Monett, MO. Calibration of test equipment was performed by Architectural Testing in accordance with AAMA 205-01 "In-Plant Testing Guidelines for Manufacturers and Independent Laboratories".

3.6 Test Sample Source: The test specimen was provided by the client. Representative samples of the test specimen(s) 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>
Terry Kee	EFCO
Andy Cost	Architectural Testing, Inc.

4.0 Test Specification(s):

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 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:

Overall Area: 7.0 m ² (75.4 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	2496	98-1/4	2864	112-3/4
Upper daylight opening	1153	45-3/8	1337	52-5/8
Lower daylight opening	1153	45-3/8	1337	52-5/8

5.2 Frame Construction:

Frame Member	Material	Description
All	Aluminum	Extruded aluminum

	Joinery Type	Detail
All corners	Shear block	Square cut, sealed, and secured with a shear block.

5.3 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type	Spacer Type	Type	Glazing Method
1" IG	Steel box	1/4" Annealed, 1/2" air space, 1/4" Annealed	Exterior glazed with compression gasket at the interior and a pressure bar and compression gasket at the exterior.

5.0 Test Specimen Description: (Continued)

5.4 Drainage: No drainage was utilized.

5.5 Hardware: No hardware was utilized.

5.6 Reinforcement: No reinforcement was utilized.

6.0 Installation:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/2" shim space. The exterior perimeter of the window was sealed with sealant.

Anchor Description	Anchor Location
Four 1/4" lag bolts at each F-anchor	Each end of the three vertical mullions.

7.0 Test Results: The results are tabulated as follows:

Title of Test	Results
Air Infiltration, per ASTM E 283 at 300 Pa (6.2 psf)	<0.1 L/s/m ² (<0.01cfm/ft ²)
Air Exfiltration, per ASTM E 283 at 300 Pa (6.2 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)
Water Penetration, per ASTM E 331 at 718 Pa (15.00 psf)	Pass

Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period.

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.



Digitally Signed by: Andy Cost

Andy Cost
Laboratory Manager



Digitally Signed by: John H. Waskow

John Waskow
Director – Regional Operations

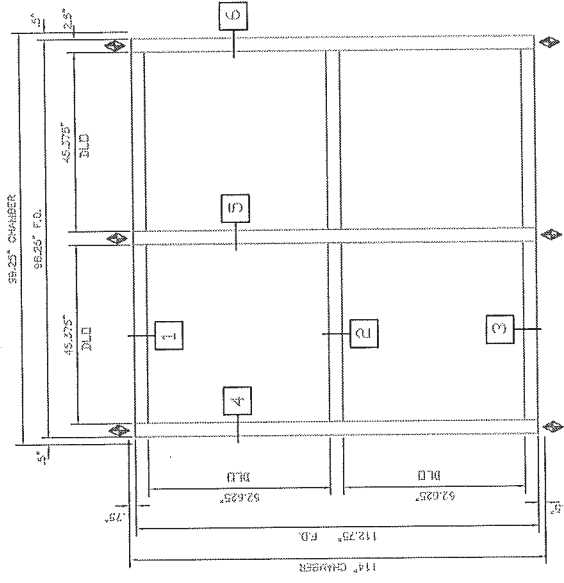
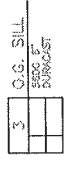
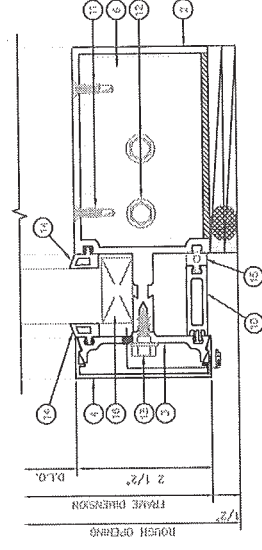
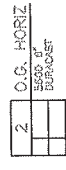
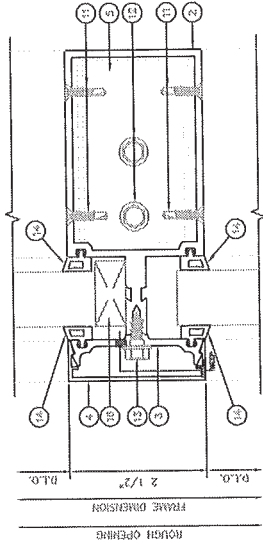
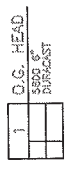
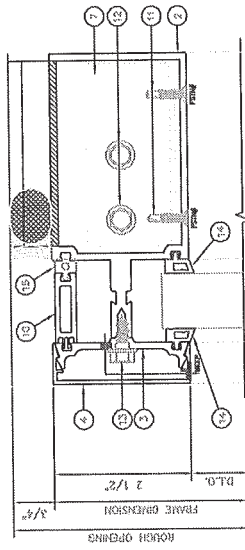
AC:hd

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Drawings (10)

Test Report No.: B9939.01-801-47
Report Date: 06/11/12

Appendix A
DRAWINGS

ITEM #	REC'D	PART #	DESCRIPTION	MFG.
1	Q	5120	WILLION	EFCD
2	Q	5120	HORIZONTAL RILL	EFCD
3	Q	5120	DURACAST PRESSURE PLATE	EFCD
4	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
5	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
6	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
7	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
8	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
9	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
10	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
11	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
12	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
13	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
14	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
15	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
16	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
17	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
18	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
19	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
20	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
21	Q	7090	LOVER BLOCK 7090 B 3204	EFCD
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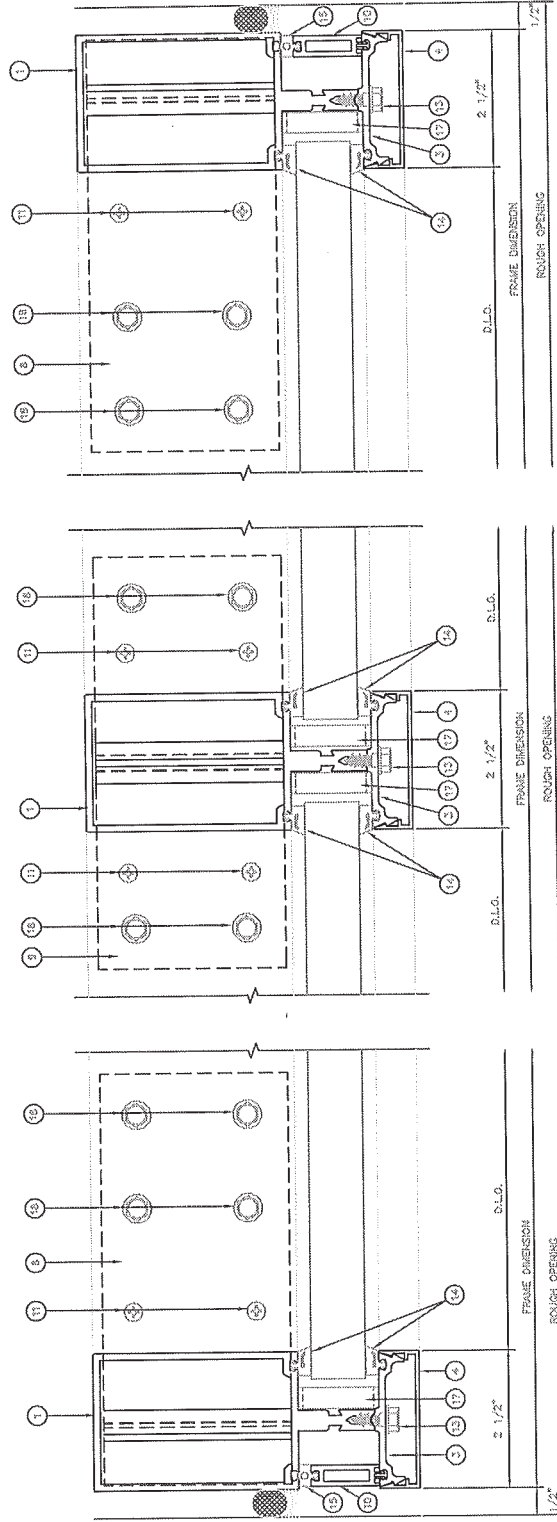


INSULATED GLASS DESCRIPTION

1\"/>

Architectural Testing

Test sample complies with these details.
Deviations are noted.
Report# B9939.01/02-801-47
Date 06/12/12 Tech



Architectural Testing

Test sample complies with these details.

Deviations are noted.

Report# B9939.01/02-801-47

Date 06/12/12 Tech J

4	O.G. FRAME
	5600 6"
	DURACAST

5	O.G. VERT
	5600 6"
	DURACAST

5	O.G. JAMBS
	5600 6"
	DURACAST

NOTES:

- 1) DRAWN PER ASME Y14.5-1994.
- 2) UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES.
- 3) WALL THICKNESSES TO BE 0.090 ± 0.010 " UNLESS OTHERWISE SPECIFIED.
- 4) CORNERS SHOWN SHARP ARE SHARP. RADII ARE R0.015 UNLESS OTHERWISE SPECIFIED.
- 5) F.C.F TO BE CHECKED AT INTERVALS OF 36 INCHES OR LESS.
- 6) 2 INCH LONG SAMPLES TO BE USED WHEN GAUGING AND CHECKING DIMENSIONS.
- 7) TWIST SHALL NOT EXCEED 10° OVER 240 INCHES.
- 8) BOW AND CAMBER SHALL NOT EXCEED $.750"$ OVER 20 FEET.
- 9) MATERIAL: PolyOne Geon HTX LA425
- 10) COLOR: BLACK
- 11) PART LENGTH: 144" MINIMUM
- 12) WEIGHT / FT: 0.148 lb/ft
- 13) AREA: 0.279 in^2



Architectural Testing

Test sample complies with these details.

Deviations are noted.

Report# B9939.01/02-801-47

Date 06/12/12 Tech _____



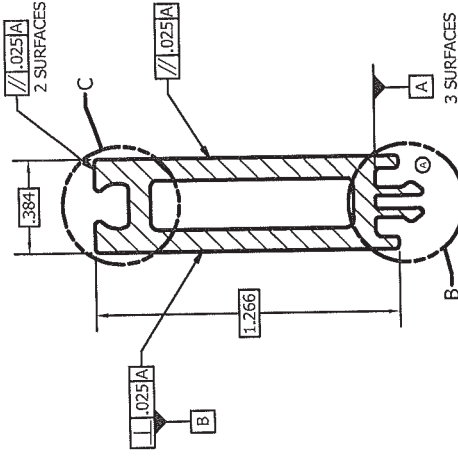
ACTUAL SIZE

© 2011 EFCO CORPORATION ALL RIGHTS RESERVED

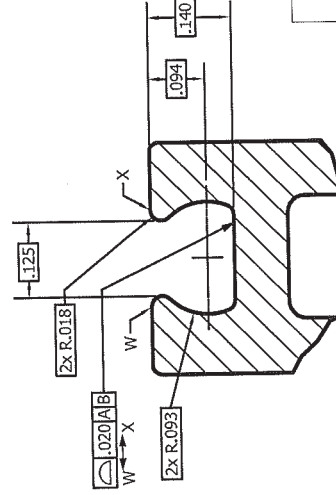
EFCO CORP.

1000 COUNTY ROAD
MONETT, MO. 65708

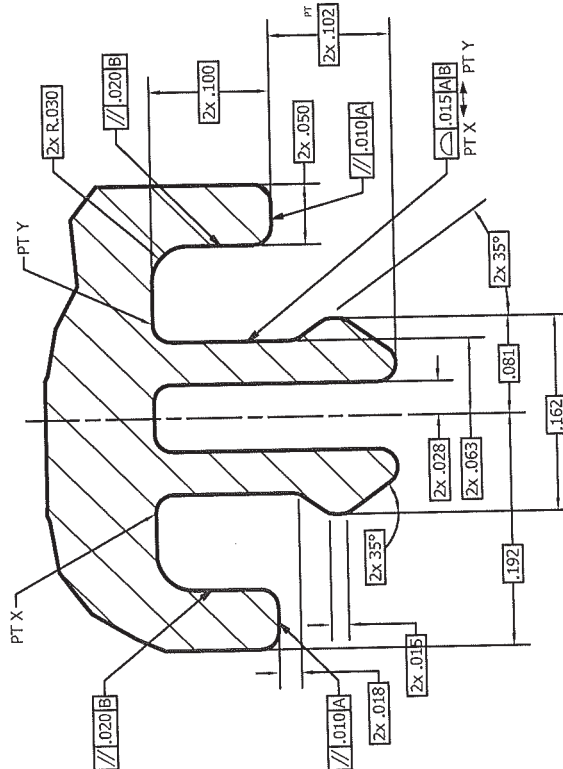
DRAWN	JAH	REVISIONS W/DATES
DATE	3/31/2011	REDESIGNED SNAP GEOMETRY & UPDATED NOTES 9/29/11 JAH
APPROVED	SCC	
DATE	4/21/2011	
TITLE	1" PERIMETER SPACER	
REV	EFCO PART NO.	LC44
A		



SECTION A-A
SCALE 2 : 1



DETAIL C
SCALE 5 : 1



DETAIL B @
SCALE 10 : 1



Architectural Testing

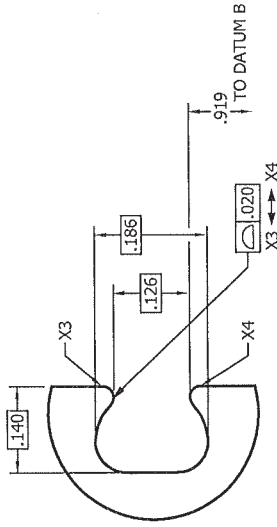
Test sample complies with these details.
Deviations are noted.

Report# B9939.01/02-801-47

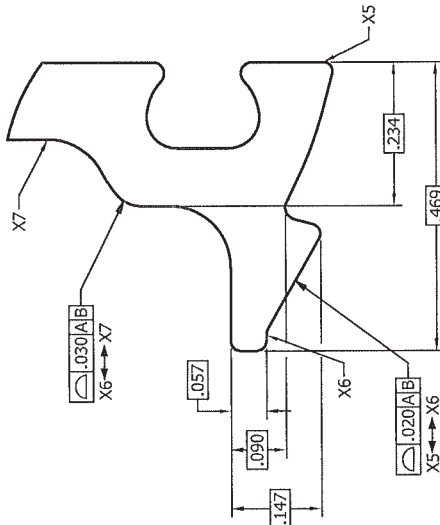
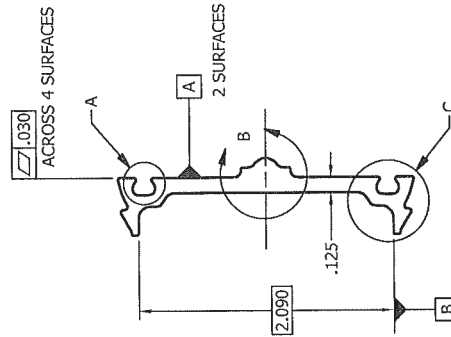
Date 06/12/12 Tech

NOTES

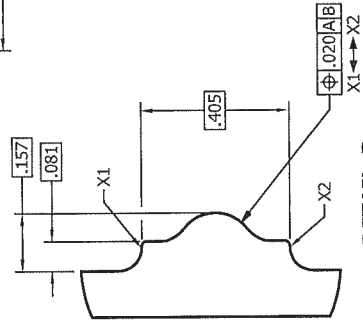
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE GIVEN IN INCHES
2. ONE INCH LONG SAMPLES TO BE USED WHEN GAUGING AND CHECKING DIMENSIONS
3. F.C.F. TO BE CHECKED AT INTERVALS OF 36" OR LESS
4. BOW AND CAMBER SHALL NOT EXCEED .750" OVER 20.0 FEET
5. TWIST SHALL NOT EXCEED 10° OVER 20.0 FEET
6. UNLESS OTHERWISE SPECIFIED ALL RADII ARE R.015
7. (PT) INDICATES DIMENSION IS GIVEN TO TANGENCY POINT
7. PELLA PULLTRUSION P/N: 602L



DETAIL A
2 PLACES
SCALE 5 : 1



DETAIL C
2 PLACES
SCALE 5 : 1



DETAIL B
SCALE 3 : 1

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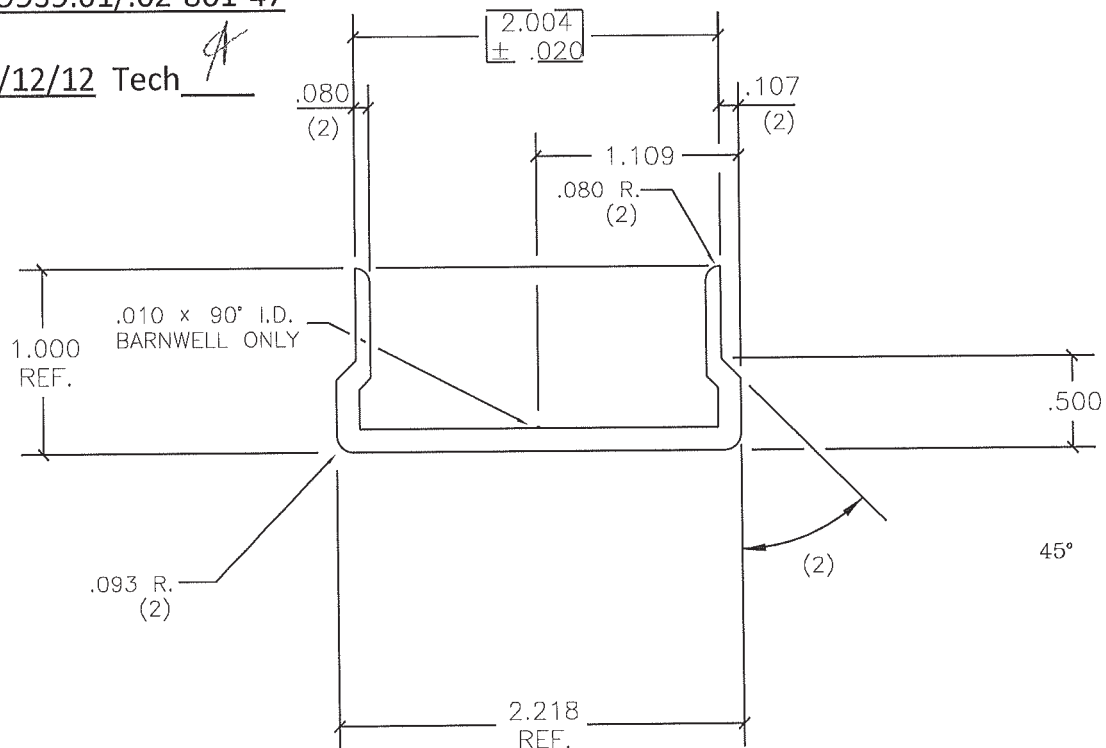
Duracast		EFCO CORP.		1000 COUNTY ROAD MONETT, MO. 65708	
MATERIAL	TOLERANCES UNLESS OTHERWISE SPECIFIED				
	DECIMALS				
	.X	± .X	DRAWN		
	.XX	± .XX	JAH		
	.XXX	± .015	DATE		
	.XXXX	± .000X	3/1/2010		
ANGLES		± .5°	APPROVED		
			DATE		
TITLE		PELLA PART NO.		DWG NO.	
2-1/2" DURACAST PRESSURE PLATE		602L0240		LC28	
				REV	
				A	

STD. EXTRUSION TOLERANCES AS DEFINED BY
THE ALUMINUM ASSOCIATION UNLESS OTHERWISE
STATED. CORNER RADII .015 EXCEPT AS NOTED



Test sample complies with these details.

Report# B9939.01/.02-801-47

Date 06/12/12 Tech 71

ACTUAL SIZE

NO EXPOSED SURFACES

© 1994 EFCO CORPORATION ALL RIGHTS RESERVED

MATERIAL: = 6063-T6 ALUM.		EFCO CORP.		1000 COUNTY ROAD	
WALL THICKNESS: = 0.125 & AS NOTED				MONETT, MO. 65708	
PERIMETER: = 8.088	OS = IS =	DRAWN: G.W.S.	SCALE:	REVISIONS W/DATES:	
AREA: = .449		DATE: 03/08/98	FULL	A .107 WAS .063	
WT/FT: = .539		APPROVED:		B .080 WAS .125 10-13-92	
				C ADDED TOLERANCES & REF. DIM. G.W.S. 3-08-98	
FACTOR: = 15		DATE:	DIE CIRCLE: 3"		
Ix = Iy =		TITLE		S-5600	NO. 7093 C
		SHEAR BLOCK			



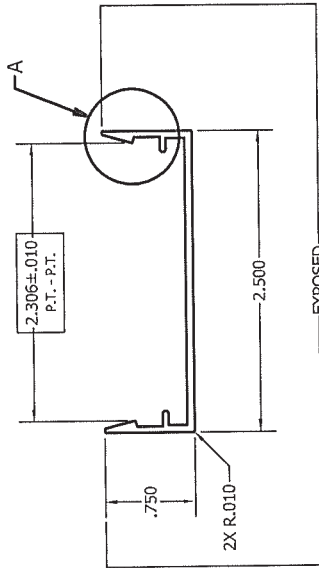
Architectural Testing

Test sample complies with these details.

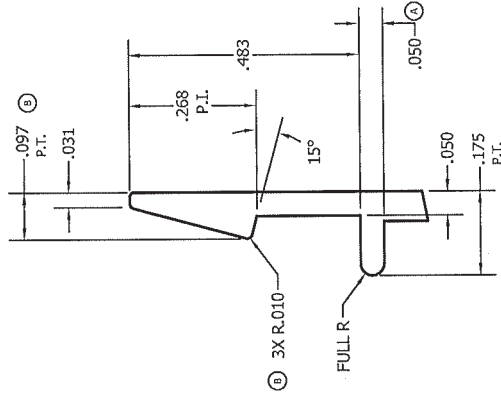
Deviations are noted.

Report# B9939.01/02-801-47

Date 06/12/12 Tech AK



ACTUAL SIZE



DETAIL A
SCALE 4:1

STD. EXTRUSION TOLERANCES AS DEFINED BY THE ALUMINUM ASSOCIATION UNLESS OTHERWISE STATED.
CORNER RADI .015 EXCEPT INSIDE CORNERS WHERE SHOWN SQUARE OR AS NOTED.

SNAP FIT WITH #7089

DO NOT SCALE PRINT

DO NOT SCALE PRINT		© 2011 EFCO, A PELLA COMPANY ALL RIGHTS RESERVED	
MATERIAL: 6063-T6 ALUM.		REVISIONS W/ DATES:	
WALL THICKNESS: .062" & AS NOTED		DATE: 6/25/2002	
TOTAL FINISHERS: 8.300		APPROVED: B.J.W.	
FINISHED PERIMETER: 4.040		DATE: 6/29/2002	
AREA: 0.248		SERIES: S-5600	
FACTOR: 28		SCALE: AS NOTED	
THERMAL CAVITY: N/A		TITLE: 2 1/2" X 3/4" COVER	
		DWG NO.: 7090	
		REV.: C	

EFCO
Pella Company
1000 County Road
Monroe, Missouri 65708
1-800-221-1459
Pella Windows & Doors
www.pella.com

.010 x 90° I.D. MARK TO BE INCORPORATED
INTO DIE @ EFCO BARNWELL ONLY. EFCO
MONETT IS NOT TO HAVE I.D. MARK.

STD. EXTRUSION TOLERANCES AS DEFINED BY THE
ALUMINUM ASSOCIATION UNLESS OTHERWISE
STATED. CORNER RADII .015 EXCEPT AS NOTED.



Architectural Testing

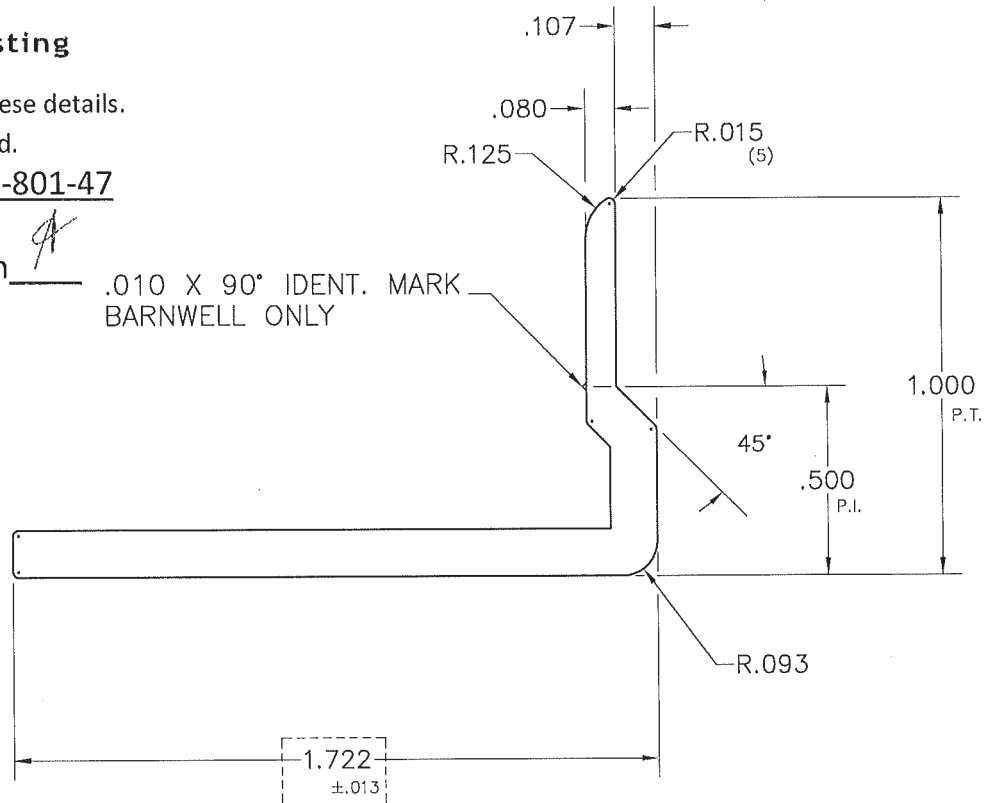
Test sample complies with these details.

Deviations are noted.

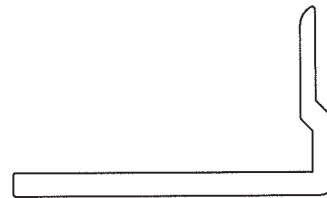
Report# B9939.01/.02-801-47

Date 06/12/12 Tech AK

.010 X 90° IDENT. MARK
BARNWELL ONLY



2 X SIZE



ACTUAL SIZE

NO EXPOSED SURFACES

6333

DO NOT SCALE PRINT

© 1998–2005 EFCO CORPORATION ALL RIGHTS RESERVED

MATERIAL: 6063–T6 ALUM.

WALL THICKNESS: .125 & AS NOTED

TOTAL PERIMETER: 5.369

PAINTED PERIMETER: NO EXPOSURE

AREA: .300 WT/FT: .360

FACTOR: 15 $I_x = .017$

$I_y = .088$



EFCO CORPORATION
1000 County Road
Monett, Missouri 65708
1-800-221-4169
Fax: 417 225 7312

DRAWN BY: D.E.N.

DATE: 2-24-2005

APPROVED: B.J.W.

DATE: 2-24-2005

SERIES: S-5600

TITLE: HEAD / SILL

SHEARBLOCK

REVISIONS W/ DATES:
① PROFILE REDRAWN TO I.S.O. 9001. PROPERTIES
RECALCD D.E.N. 2/24/2005

ORIGINALLY DRAWN J.D.A. 1/20/1998

JOB REF. NO.:

SCALE: AS NOTED

DIE CIRCLE: 2"

DWG NO.

6333

A

STD. EXTRUSION TOLERANCES AS DEFINED BY THE ALUMINUM ASSOCIATION UNLESS OTHERWISE STATED. CORNER RADII .015 EXCEPT AS NOTED. Δ

.010 x 90° I.D. MARK TO BE INCORPORATED INTO DIE @ EFCO BARNWELL ONLY. EFCO MONETT IS NOT TO HAVE I.D. MARK. Δ



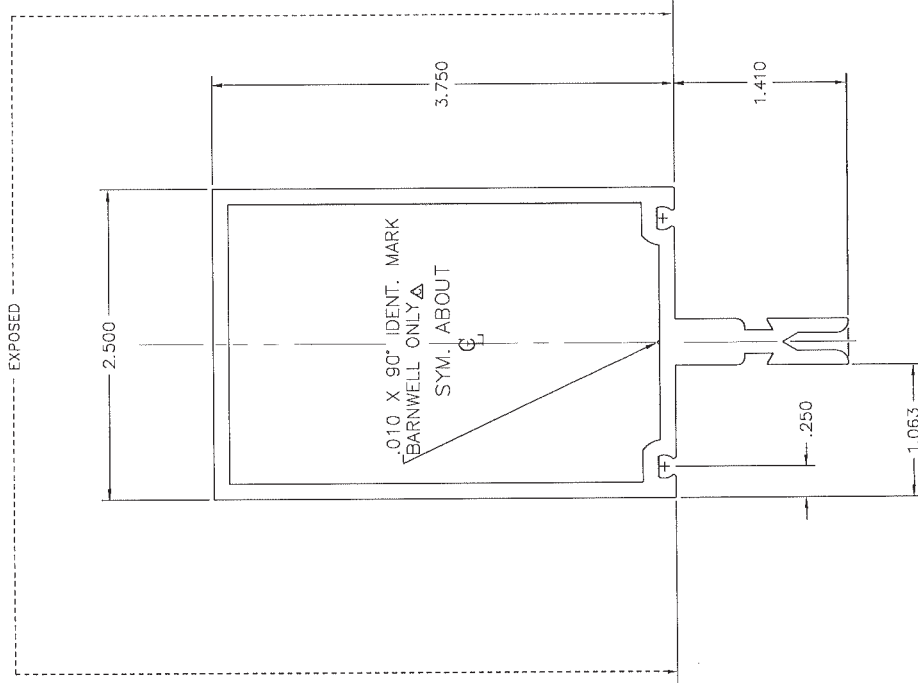
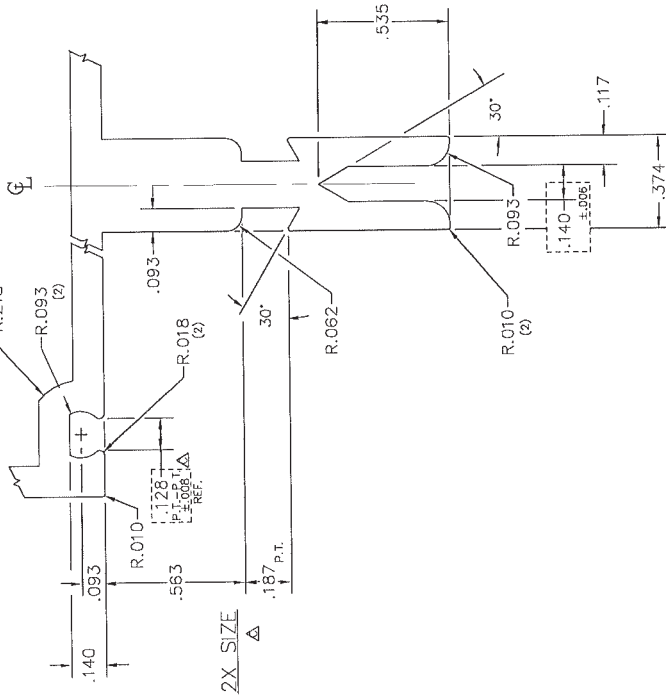
Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# B9939.01/.02-801-47

Date 06/12/12 Tech 4

SYM. | ABOUT



©2002 EFCO CORPORATION ALL RIGHTS RESERVED

MATERIAL = 6063-T6 ALUMINUM		EFCO CORP.		1000 COUNTY ROAD MONETT, MO. 65708	
WALL THICKNESS = .125 & AS NOTED		DRAWN: D.E.N.		REVISIONS W/DATES:	
PERIMETER = 28.640 Δ		DATE: 5/7/02		Δ CHANGED PROPERTIES 8-1-90 C.F.	
AREA = 1.958 Δ		APPROVED: R. LYMAN		Δ CHANGED WALL THICKNESS 9-28-90 S.C.C.	
WT/FT = 2.350 Δ		DATE: 5/7/02		Δ PROFILE REDRAWN TO I.S.O. 9001, PROPERTIES RECALC'D D.E.N. 5/2/02	
FACTOR = 12		SCALE: AS NOTED		ORIGINALLY DRAWN: FAULK 5/20/90	
I _x = 5.099 Δ		TITLE		DIE CIRCLE = 6"	
I _y = 1.602 Δ		2 1/2" X 6" MULLION		NO. S-5600	
				5120	
				C	

Δ DO NOT SCALE FROM DRAWING



Architectural Testing

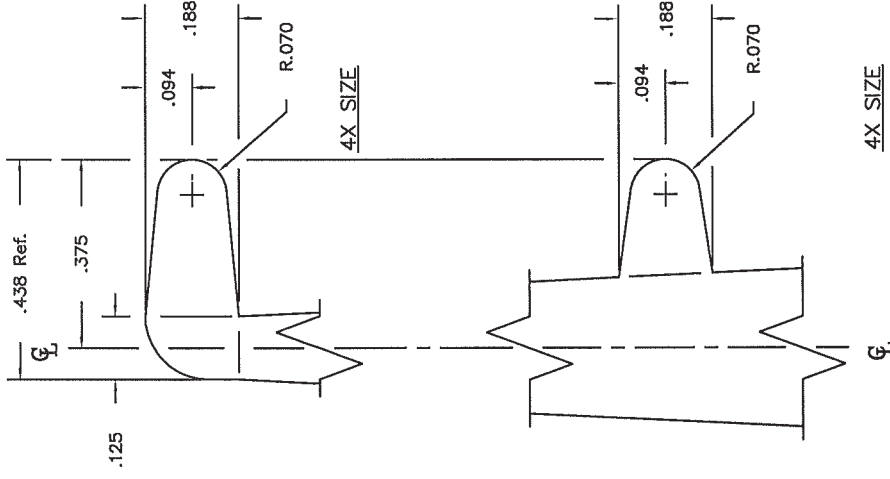
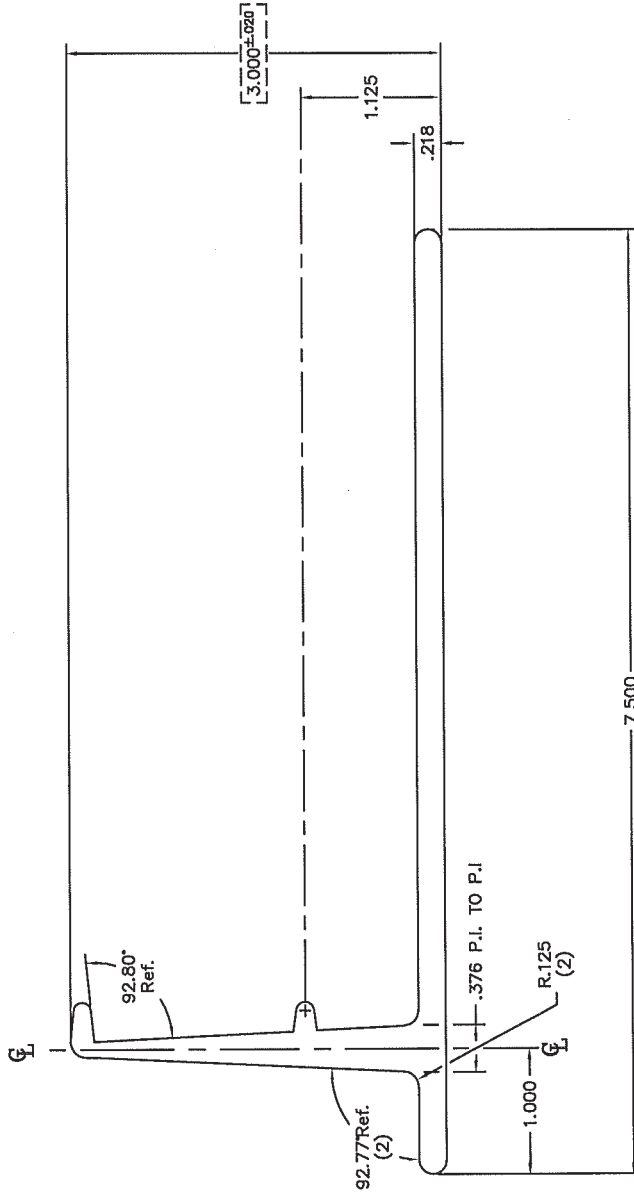
STD. EXTRUSION TOLERANCES AS DEFINED BY THE ALUMINUM ASSOCIATION UNLESS OTHERWISE STATED. CORNER RADII .015 EXCEPT AS NOTED.

Test sample complies with these details.

Deviations are noted.

Report# B9939.01/.02-801-47

Date 06/12/12 Tech



ACTUAL SIZE

NO EXPOSED SURFACES

© 2009 EFCO CORPORATION ALL RIGHTS RESERVED

MATERIAL = 6063-T6 ALUMINUM	EFCO CORP.	1000 COUNTY ROAD MONETT, MO. 65708
WALL THICKNESS = AS NOTED	REVISIONS W/DATES:	
PERIMETER = 21.301	DRAWN: C BOLIN	
AREA = 2.379	DATE: 7/20/09	
WT/FT = 2.855	APPROVED:	
FACTOR = 7	DATE:	
IX = 1.628	SCALE: AS NOTED	DIE CIRCLE = 8"
IY = 11.360	TITLE	NO.
DO NOT SCALE FROM DRAWING	UNIVERSAL "F" ANCHOR	19Y8

STD. EXTRUSION TOLERANCES AS DEFINED BY THE ALUMINUM ASSOCIATION UNLESS OTHERWISE STATED. CORNER RADII .015 EXCEPT AS NOTED.



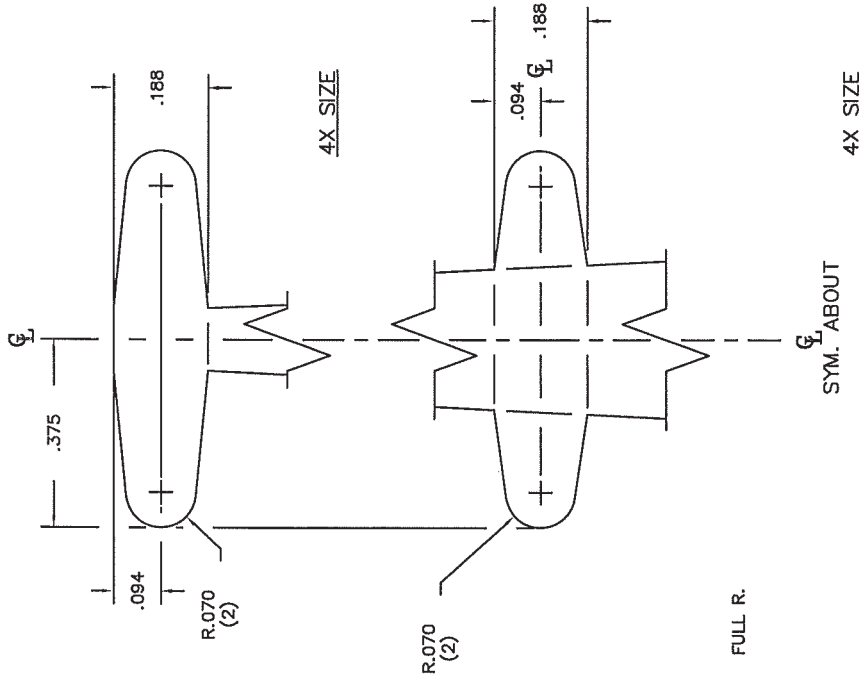
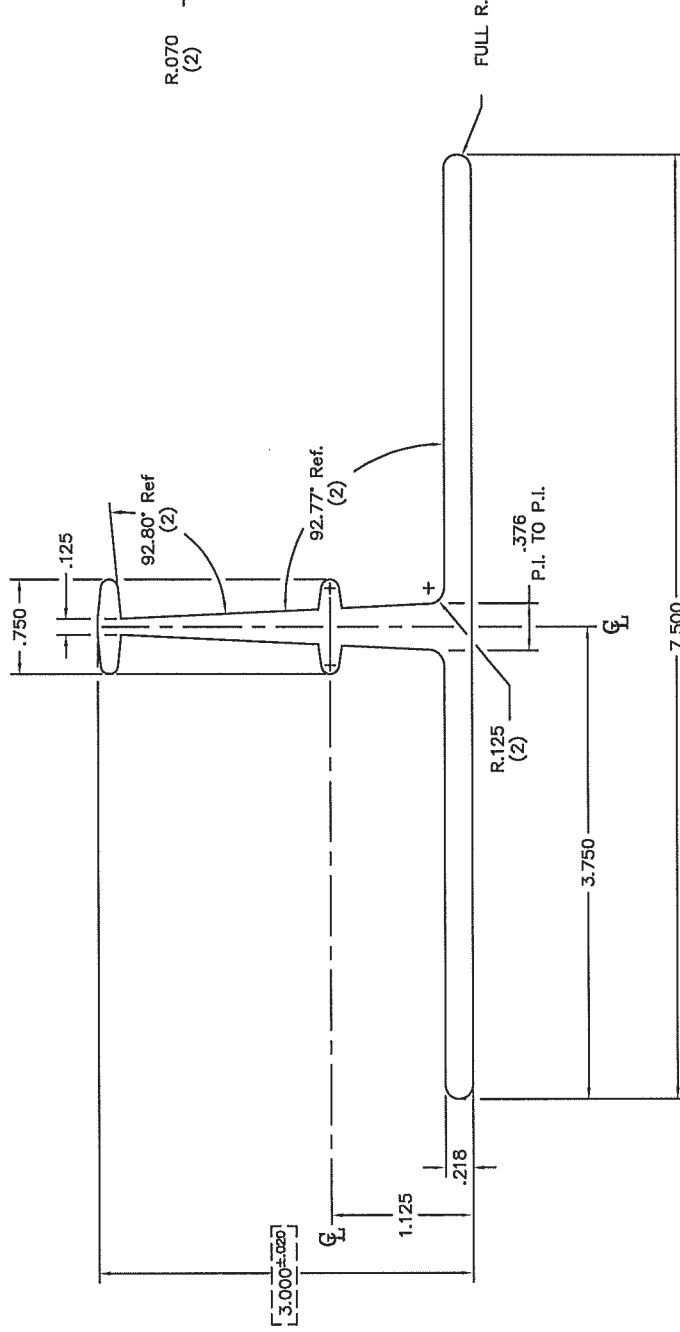
Architectural Testing

Test sample complies with these details.

Deviations are noted.

Report# B9939.01/02-801-47

Date 06/12/12 Tech AK



SYM. ABOUT

© 2009 EFCO CORPORATION ALL RIGHTS RESERVED

EFCO CORP.		1000 COUNTY ROAD MONETT, MO. 65708	
DRAWN: C BOLIN		REVISIONS W/DATES:	
DATE: 7-17-09			
APPROVED:			
DATE:			
SCALE: AS NOTED		DIE CIRCLE = 8"	
TITLE		S-5600 NO. 19Y7	
UNIVERSAL "T" ANCHOR			

MATERIAL = 6063-T6 ALUMINUM	
WALL THICKNESS = AS NOTED	
PERIMETER = 22.238	
AREA = 2.460	
WT/FT = 2.952	
FACTOR = 8	
ix = 1.717	
iy = 7.602	

ACTUAL SIZE
NO EXPOSED SURFACES

DO NOT SCALE FROM DRAWING