

**AAMA 501-05
TEST REPORT**

Rendered to:

AMERICAN PRODUCTS, INC. (API)

SERIES/MODEL: 1800

PRODUCT TYPE: Aluminum Storefront with Center Transom

Title	Summary of Results
Design Pressure	2400 Pa (50.16 psf)
Air Infiltration	<0.05 L/s/m ² (<0.01 cfm/ft ²)
Water Penetration Resistance Test Pressure	580 Pa (12.12 psf)
Uniform Load Structural Test Pressure	±3600 Pa (±75.24 psf)

Test Completion Date: 08/03/09

This report contains in its entirety:

Cover Page: 1 page
Report Body: 5 pages
Alteration Addendum: 1 page
Test Equipment: 1 page
Photograph: 1 page
Drawings: 8 pages

Reference must be made to Report No. 93330.01-401-44, dated 09/23/09 for complete test specimen description and data.

AAMA 501-05 TEST REPORT

Rendered to:

AMERICAN PRODUCTS, INC. (API)
12157 W. Linebaugh Avenue, Unit #335
Tampa, Florida 33626

Report No.: 93330.01-401-44
Test Date: 08/03/09
Report Date: 09/23/09
Expiration Date: 08/03/13

Project Summary: Architectural Testing, Inc. was contracted by American Products, Inc. to perform testing on a Series/Model 1800, aluminum storefront with center transom at the Architectural Testing, Inc. test facility in Tampa, Florida. The sample was provided by the client.

Test Specification: The test specimen was evaluated in accordance with AAMA 501-05, *Methods of Tests for Exterior Walls*.

Test Specimen Description:

Series/Model: 1800

Product Type: Aluminum Storefront with Center Transom

Overall Size: 3734 mm (147") wide by 2464 mm (97") high

End Daylight Opening Size (2): 1168 mm (46") wide by 2337 mm (92") high

Center Bottom Daylight Opening Size: 1168 mm (46") wide by 1829 mm (72") high

Center Transom Size: 1168 mm (46") wide by 457 mm (18") high

Overall Area: 9.2 m² (99 ft²)

Finish: All aluminum was polished.

Test Specimen Description: (Continued)

Frame Construction: The frame was constructed of extruded aluminum. The corners were straight cut, sealed and secured with two #12 x 1" pan head screws located through the jambs into the head, sill and vertical mullions. The horizontal mullion was secured with two #12 x 1" pan head screws located through the vertical mullions into the horizontal mullion screw boss. The sill was set into an aluminum receptor system and secured with silicone on the interior side. The mullions employed a two-piece snap-together mullion.

Weatherstripping:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Custom vinyl wedge gasket	1 Row	Interior and exterior glass perimeter

Glazing Details: The storefront utilized a nominal 1" thick clear insulating glass fabricated from two sheets of 1/4" thick clear tempered glass separated by a desiccant-filled spacer system. The lites were exterior glazed onto a vinyl wedge gasket and secured with snap-in aluminum glazing beads and a vinyl wedge gasket.

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Sloped sill	1	Length of sill

Hardware: No hardware was utilized.

Reinforcement: No reinforcement was utilized.

Installation: The specimen was installed into a #2 Southern Yellow Pine wood buck with a 1/16" thick aluminum wrap. The specimen was secured with #14 x 3" flat head screws located 46" and 49" from the sill through the jambs into the wood buck. The head and sill were secured with #14 x 3" pan head screws located 3" and 6" from jambs and each side of each vertical mullion. Silicone was utilized around the exterior perimeter.

Test Results: The temperature during testing was 31.1°C (88°F). The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.3	Air Leakage Resistance per ASTM E 283		
	75 Pa (1.6 psf)	<0.05 L/s/m ² (<0.01 cfm/ft ²)	0.5 L/s/m ² (0.06 cfm/ft ²) max.
	300 Pa (6.2 psf)	<0.05 L/s/m ² (<0.01 cfm/ft ²)	0.5 L/s/m ² (0.06 cfm/ft ²) max.
2.4	Water Penetration Resistance per ASTM E 331		
	580 Pa (12.12 psf)	No leakage	No leakage
2.9	Uniform Load Deflection per ASTM E 330 (Loads were held for 10 seconds)		
	Deflections taken on the vertical mullion		
	2400 Pa (50.16 psf) (positive)	12.7 mm (0.50")	13.7 mm (0.54") max.
	2400 Pa (50.16 psf) (negative)	11.9 mm (0.47")	13.7 mm (0.54") max.
	Deflections taken on the horizontal mullion		
	2400 Pa (50.16 psf) (positive)	1.3 mm (0.05")	6.6 mm (0.26") max.
	2400 Pa (50.16 psf) (negative)	1.0 mm (0.04")	6.6 mm (0.26") max.
2.10	Water Penetration Resistance per ASTM E 331		
	580 Pa (12.12 psf)	No leakage	No leakage
2.11	Uniform Load Structural per ASTM E 330 (Loads were held for 10 seconds)		
	Permanent sets taken on the vertical mullion		
	3600 Pa (75.24 psf) (positive)	0.3 mm (0.01")	9.6 mm (0.38") max.
	3600 Pa (75.24 psf) (negative)	0.3 mm (0.01")	9.6 mm (0.38") max.
	Permanent sets taken on the horizontal mullion		
	3600 Pa (75.24 psf) (positive)	0.3 mm (0.01")	4.6 mm (0.18") max.
	3600 Pa (75.24 psf) (negative)	0.5 mm (0.02")	4.6 mm (0.18") max.

Tape and film were not used to seal against air leakage during structural testing.

Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen reported herein.

List of Official Observers:

<u>Name</u>	<u>Company</u>
Mark Lucas	American Products, Inc.
Jack Hook	Architectural Testing, Inc.
Mark A. Hess	Architectural Testing, Inc.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of four years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen can be made. 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 tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.

Mark A. Hess
Technician

Joseph A. Reed, P.E.
Director - Engineering and Product Testing

MAH:ck/cmd

Attachments (pages): This report is complete only when all attachments listed are included.

- Appendix-A: Alteration Addendum (1)
- Appendix-B: Test Equipment (1)
- Appendix-C: Photograph (1)
- Appendix-D: Drawings (8)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	09/23/09	N/A	Original report issue

Appendix A
Alteration Addendum

Note: No alterations were required.

Appendix B
Test Equipment

Instrument	Manufacturer	Asset #
Control Panel	Architectural Testing, Inc.	004180
Spray Racks	Architectural Testing, Inc.	005279
Linear Transducers	Celesco	62507
Linear Transducers	Celesco	005427
Linear Transducers	Celesco	004281
Linear Transducers	Celesco	005428
Linear Transducers	Celesco	004279
Linear Transducers	Celesco	G1804203A

Appendix C

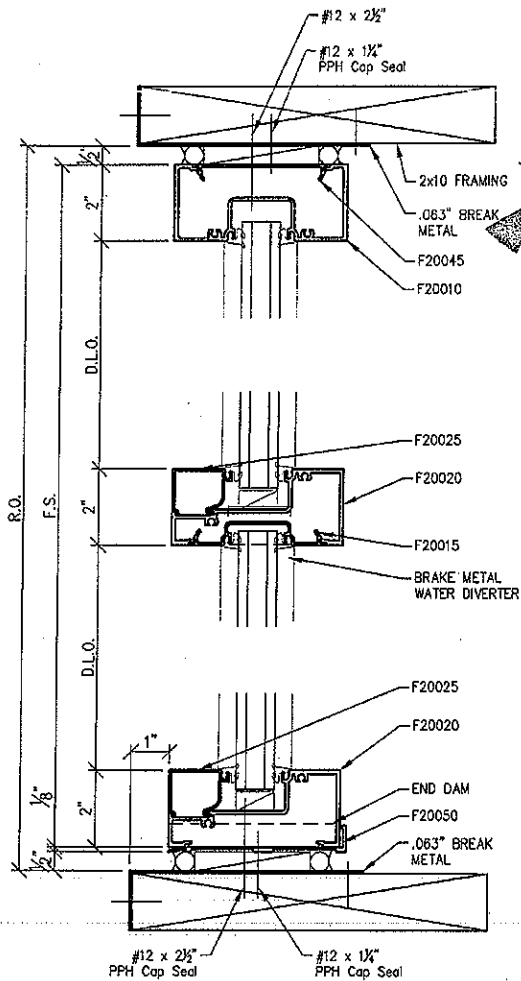
Photograph



Photo No. 1
Overall View of Specimen

Appendix D

Drawings



Detail A
ARCH. REF.
SCALE:

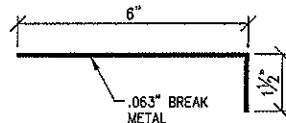
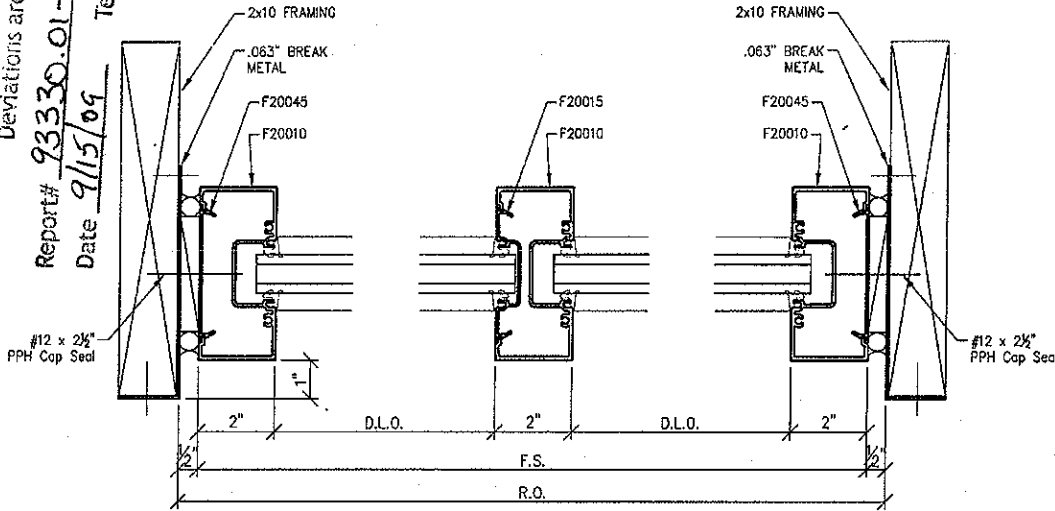
Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 93330.01-401-44

Date 9/15/09

Tech M.A.B.



FRAMING WRAP

Detail B
ARCH. REF.
SCALE:

Bill of Materials			
Part No.	Description	Dimensions	Material
Woodframing	2x10 Framing	2x10	PT Wood
Brake-Metal	Framing Wrap	.063"	Brake Metal
Brake-Metal	End Dam	.040"	Brake Metal
F20045	Flat Filler	3.5"x.406"	Aluminum
F20010	Head/Jamb	2"x4.5"	Aluminum
F20025	Glass Stop	1.537"x1.198"	Aluminum
F20020	Horizontal/Sill	4.448"x2"	Aluminum
F20015	Shallow Pocket Filler	3.5"x.624"	Aluminum
F20050	Sill Flashing	4.625"x.687"	Aluminum
F51010	Glazing Gasket		
F200SB	Setting Block		
F20095	Water Diverter		
Fastener-Pkg-12x2.5	#12 x 2 1/2" Fastener		
F50045	#12 x 1 1/4" Fastener		
Caulk-Silicone	Dow #795 Caulk		

NO.	REVISION	ISSUE DATE	LOC BY

AMERICAN PRODUCTS, INC. (API)
12157 W LINEBAUGH AVENUE #335
TAMPA, FL 33626
CONTACT: KERRI BEALS
PH (813)925-0144 / FAX (813)925-1414
WWW.AMERICANPROD.COM



Project Name: API Window Test
Project No.
Sheet Title: Details

Drawn: CDT Date: 08/24/09
Scale:

Sheet No. 2



Architectural Testing

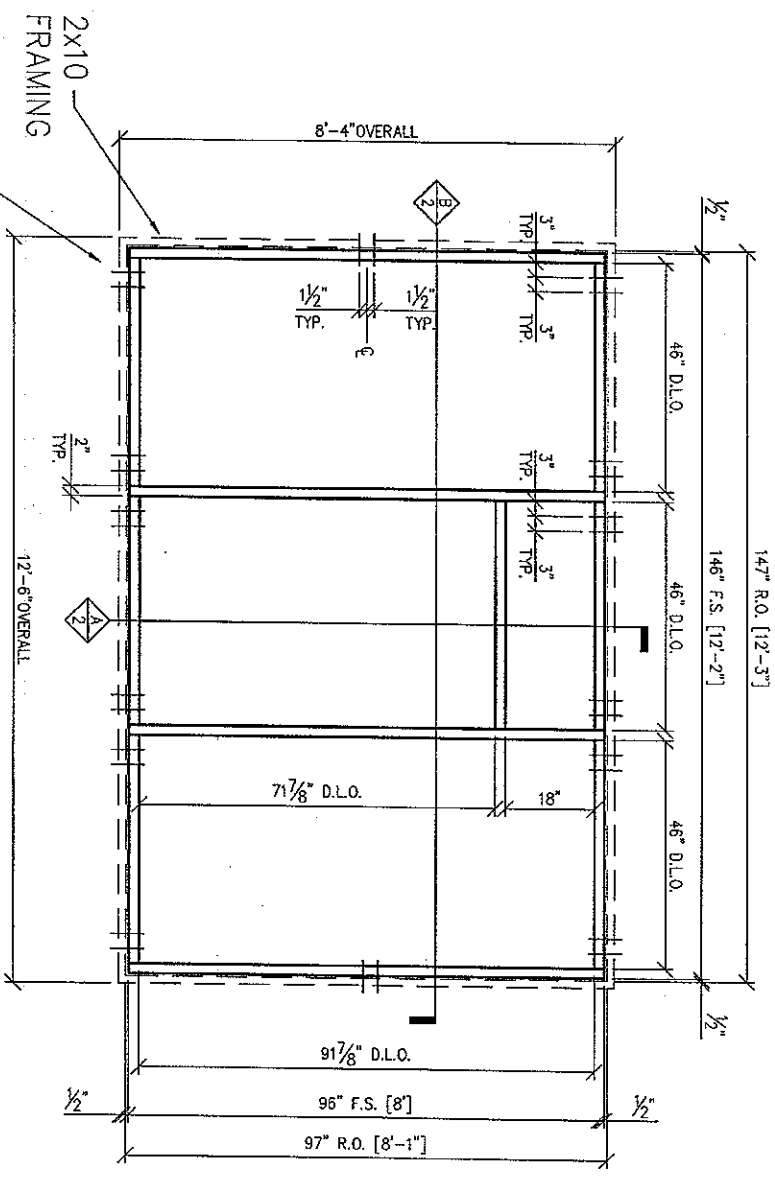
Test sample complies with these details.
Deviations are noted.


Report# 93330.01-401-44

Date 9/15/09 Tech MAN

ALL ASSEMBLY FASTENERS TO
BE #12x1 1/4"

ALL PERIMETER FASTENERS AS
SHOWN ON ELEVATION TO BE
#12x2 1/2"



Sheet No. 1	Drawn: CDT	Date: 08/24/09	Project Name: API Window Test	 AMERICAN PRODUCTS, INC. (API) 12157 W LINEBAUGH AVENUE #335 TAMPA, FL 33626 CONTACT: KERRI BEALS PH (813)925-0144 / FAX (813)925-1414 WWW.AMERICANPROD.COM	NO.	REVISION	ISSUE DATE	BY	CHK BY
	Scale:	Project No.:			Sheet Title: Window Elevation				

Architectural Testing

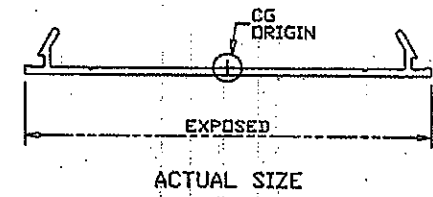
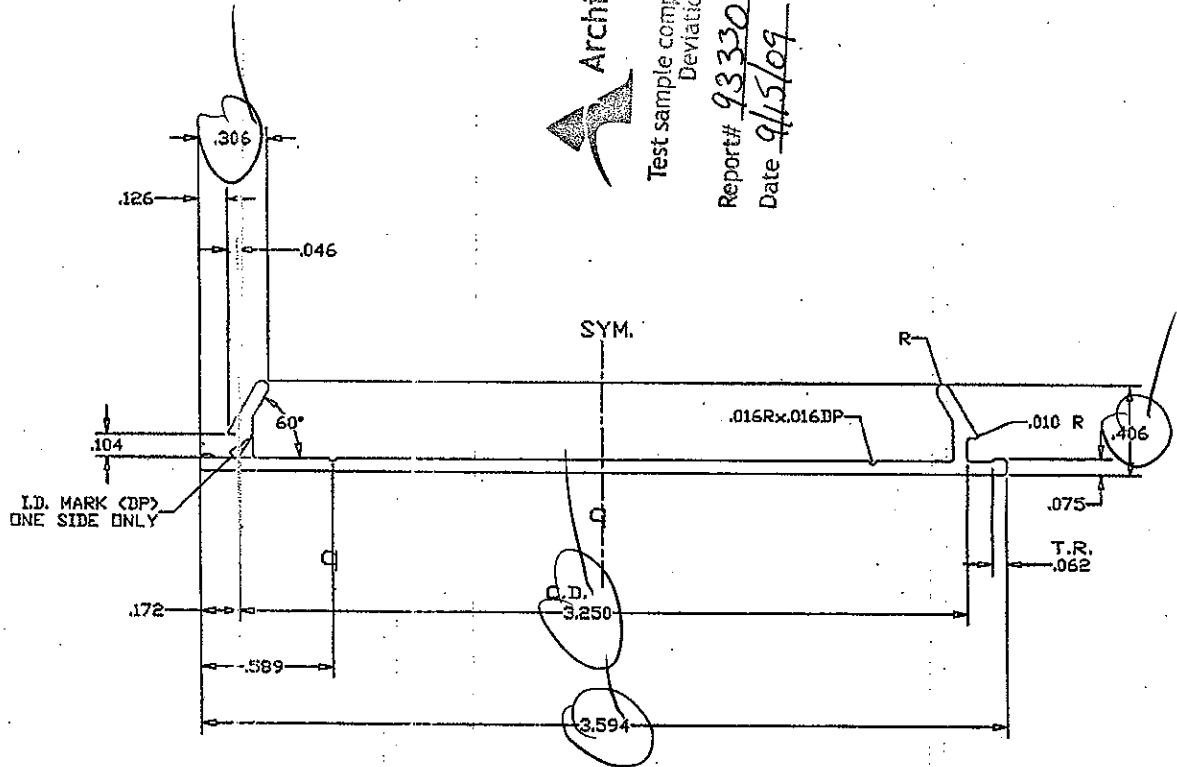
Test sample complies with these details.
Deviations are noted.

Report# 93330.01-201-44

Date 9/15/09

Tech MAA

C 154
6063-T5



Structural values estimated for reference only.					
Ix:	$0.00 \times 10^6 \text{ mm}^4$	0.002 in^4	Iy:	$0.15 \times 10^6 \text{ mm}^4$	0.366 in^4
Sx:	$0 \times 10^2 \text{ mm}^3$	0.006 in^3	Sy:	$3 \times 10^2 \text{ mm}^3$	0.204 in^3
CGx:	8.61 mm	0.339 in	CGy:	45.67 mm	1.798 in

REV	DESCRIPTION OF REVISION	DATE	BY
	CONVERTED TO AUTOCAD FORMAT	8/19/96	LS

1.57	2.4	0.328
.062	224.43	8.836
0.41R		
.016R		
4-14-89		
LB		Solid
2-1	94	27
NO	76.20	3"-4"
NO		

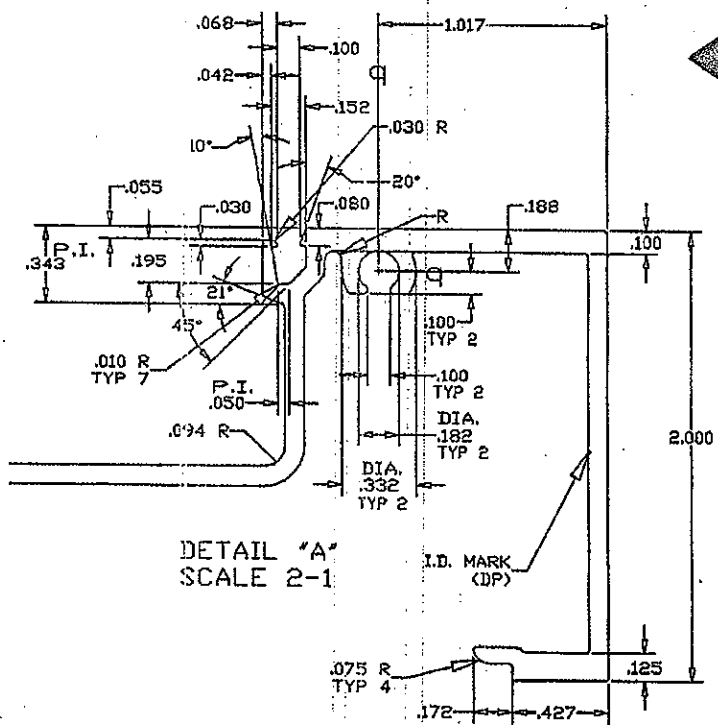
Architectural Testing

Test sample complies with these details.
Deviations are noted.

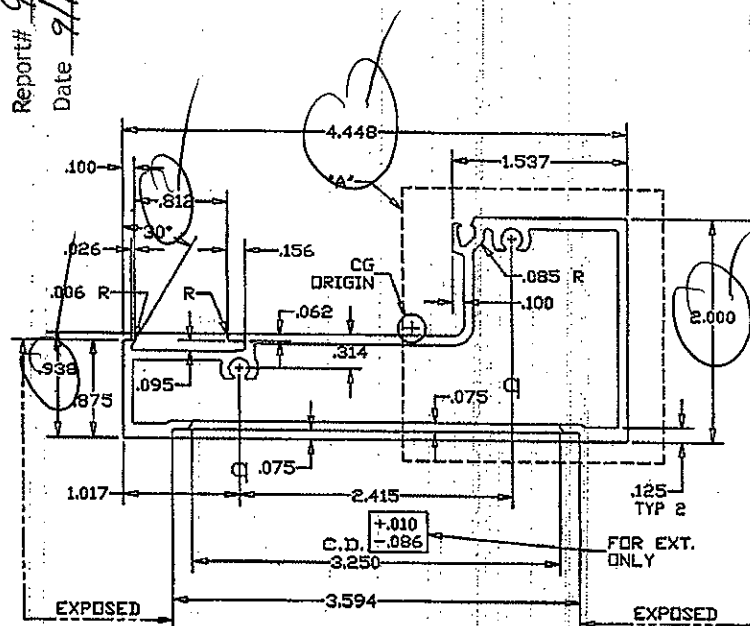
Report# 93330.01-401-94

Date 9/15/09 Tech M.A.H

6063-T5 154

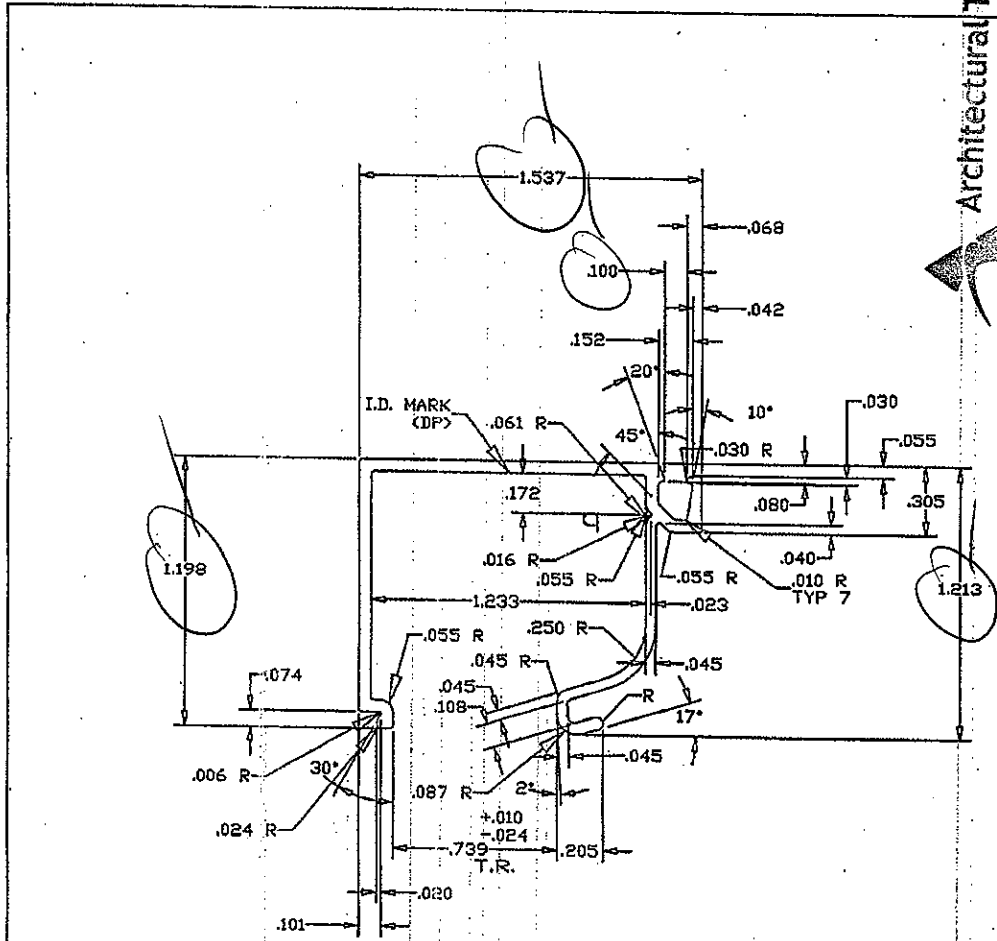


DETAIL 'A'
SCALE 2-1



APPLICATION: SNAP FITS WITH					
Structural values estimated for reference only.					
Ix:	0.15 x 10 ⁶ mm ⁴	0.363 in ⁴	Iy:	0.94 x 10 ⁶ mm ⁴	2.261 in ⁴
Sx:	6 x 10 ³ mm ³	0.363 in ³	Sy:	15 x 10 ³ mm ³	0.888 in ³
CGx:	25.43 mm	1.001 in	CGy:	64.69 mm	2.547 in

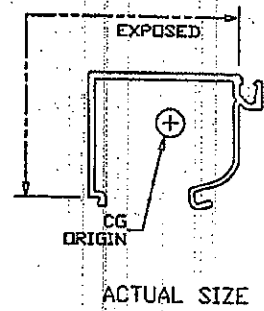
2.16	1.6	1.104
.085	530.76	20.896
0.41R		
.016R		
4-13-89		
LB		Soil
1-1	332	19
NO	123.88	4.877
NO		



Architectural Testing

Test sample complies with these details. Deviations are noted.

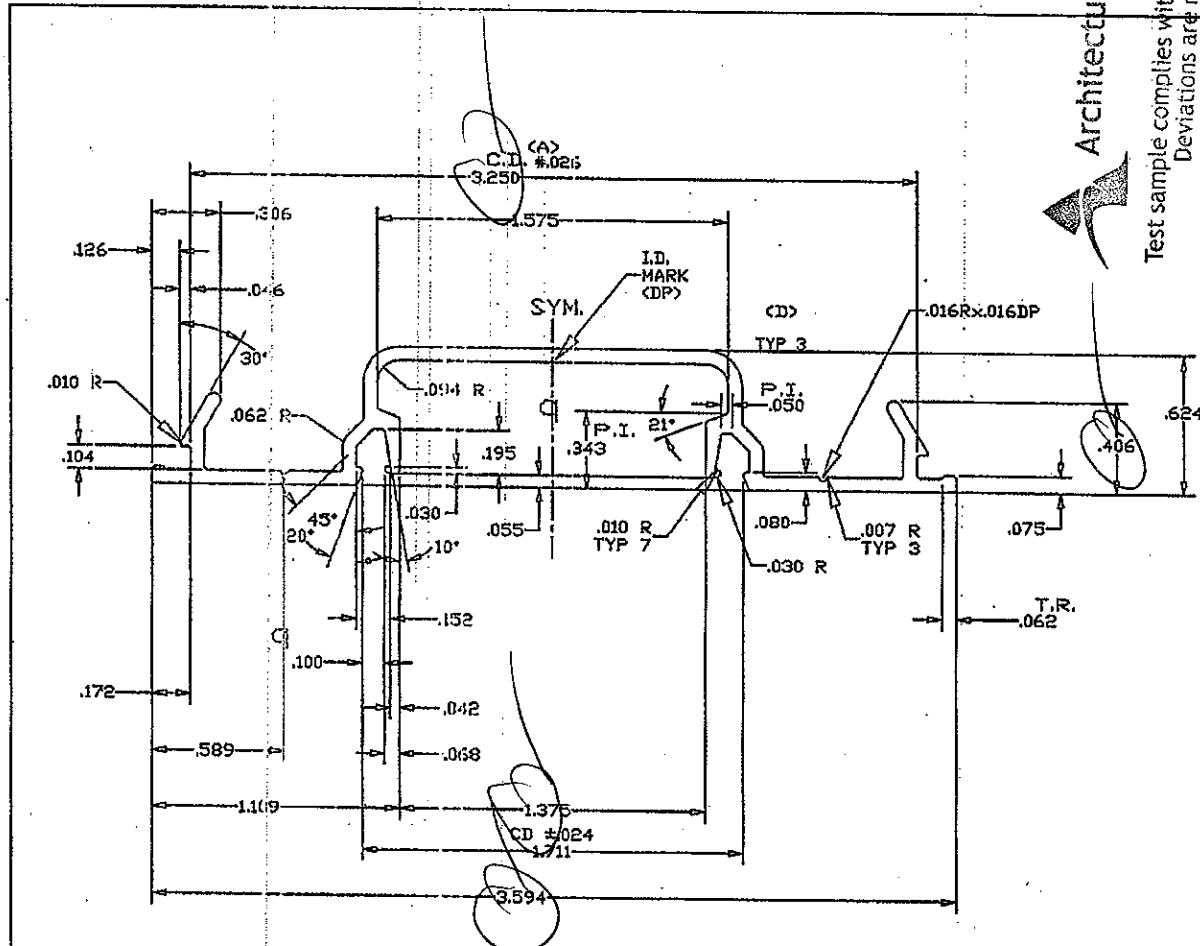
Report# 93330.D1-401-44
Date 9/15/09 Tech MAA



6063-T5 154

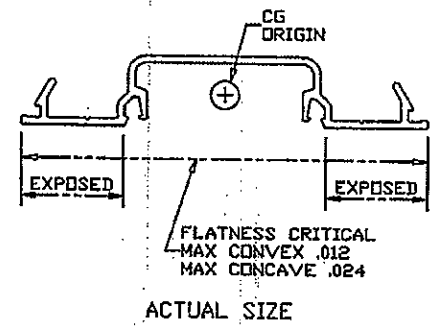
APPLICATION: SNAP FITS W/					
Structural values estimated for reference only.					
Ix:	0.02 x 10 ⁶ mm ⁴	0.040 mm ⁴	Iy:	0.03 x 10 ⁶ mm ⁴	0.074 mm ⁴
Sx:	1 x 10 ³ mm ³	0.052 mm ³	Sy:	1 x 10 ³ mm ³	0.091 mm ³
CGx:	19.66 mm	0.774 mm	CGy:	20.62 mm	0.812 mm

1.40	0.4	0.284
.055	230.25	9.065
0.41R		
.016R		
4-14-89		
LB		Solid
2-1	576	32
NO	25.40	1"-3"
NO		



Architectural Testing
 Test sample complies with these details.
 Deviations are noted.
 Report# 93330 01-901-44
 Date 9/15/09 Tech. MAN

6063-T5 154



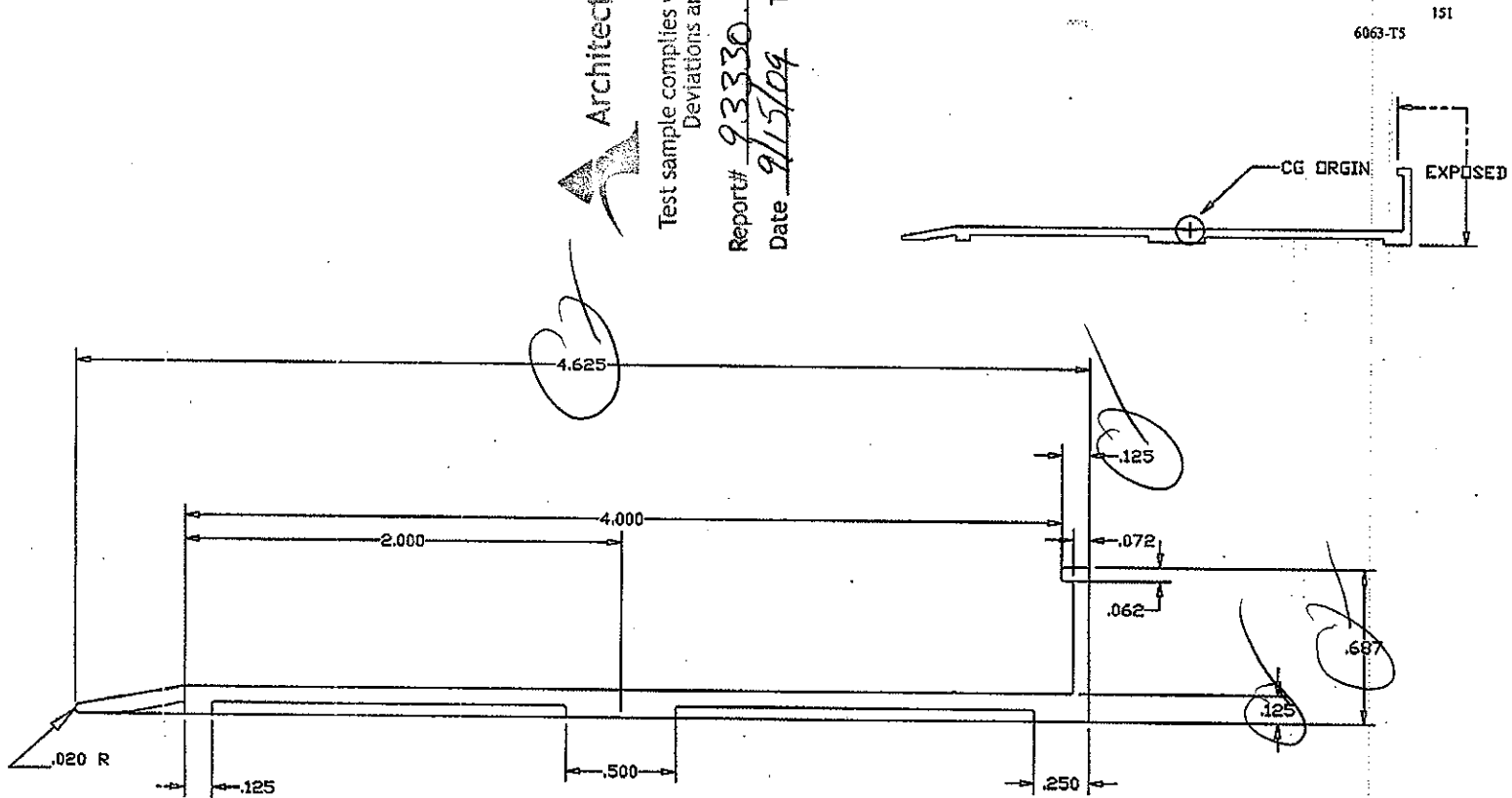
APPLICATION: SNAP FITS W/					
Structural values estimated for reference only.					
Ix:	0.01 x 10 ⁶ cm ⁴	0.019 in ⁴	Iy:	0.18 x 10 ⁶ cm ⁴	0.428 in ⁴
Sx:	1 x 10 ³ cm ³	0.055 in ³	Sy:	4 x 10 ³ cm ³	0.238 in ³
CGx:	8.84 mm	0.348 in	CGy:	45.64 mm	1.797 in

1.57	0.7	0.442
.062	299.26	11.782
0.41R		
.016R		
4-13-89		
LB		Solid
2-1	428	27
NO	76.20	3"-4"
NO		

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 93330-01-401-44
Date 9/15/09 Tech MAM



1.83	0.8	0.504
.072	275.92	10.863
0.25R		
.010R		
04-27-98		
SEH		Solid
2:1	345	22
NO	118.77	4.676
NO		

CONVERTED TO AUTO CAD	04-27-98	SEH
REV	DESCRIPTION OF REVISION	DATE BY

Structural values estimated for reference only.					
Ix:	$0.00 \times 10^6 \text{ mm}^4$	0.006 in^4	Iy:	$0.35 \times 10^6 \text{ mm}^4$	0.848 in^4
Sx:	$0 \times 10^3 \text{ mm}^3$	0.010 in^3	Sy:	$5 \times 10^3 \text{ mm}^3$	0.324 in^3
CGx:	14.55 mm	0.573 in	CGy:	66.57 mm	2.621 in

Xref_stdwalltol.dwg

Xref TITLEBLK.dwg

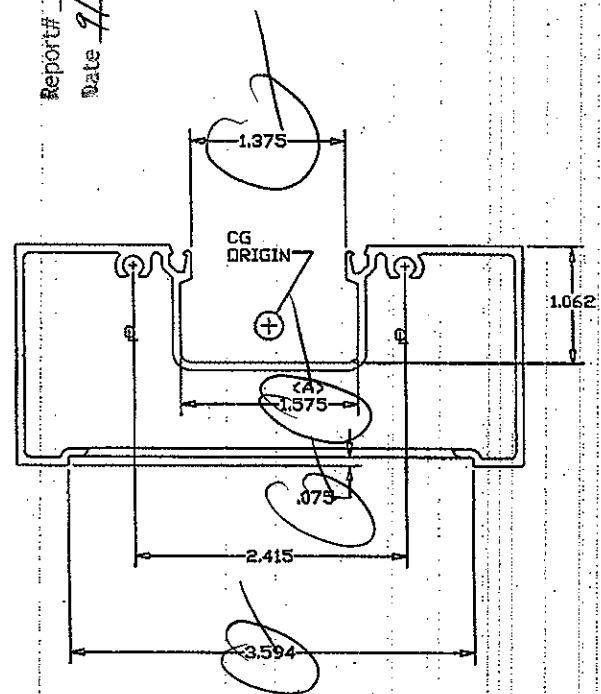
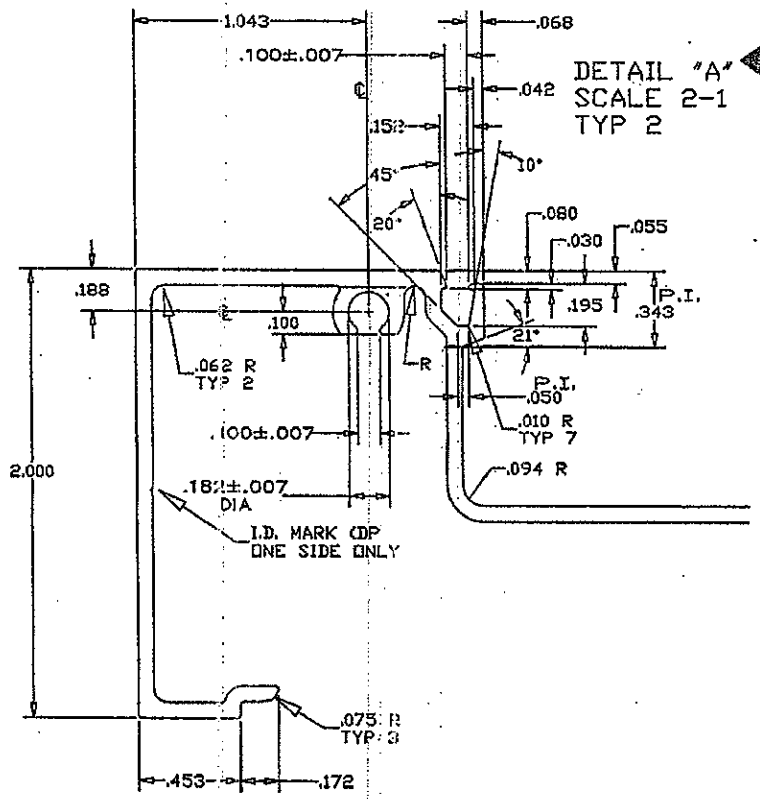
Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 93330 01-467-44
Date 9/15/09 Tech M.A.A

154

6063-T5



APPLICATION: SNAP FITS W/					
Structural values estimated for reference only.					
Ix:	.1640 × 10 ⁶ mm ⁴	.394 mm ⁴	Iy:	1.0006 × 10 ⁶ mm ⁴	2.404 mm ⁴
Sx:	5.088 × 10 ³ mm ³	.310 mm ³	Sy:	17.509 × 10 ³ mm ³	1.068 mm ³
CCx:	32.23 mm	1.269 mm	CGy:	57.15 mm	2.250 mm

1.79:	1.648	1.108
.070:	649.66	25.577
.41R:		
.016R:		
4-12-89		
LE		Solid
FULL	394	23
NO	125.08	4.924
NO		