

TEST REPORT

Report No.: A7901.01-701-44

Rendered to:

PRL ALUMINUM ARCHTECTURAL PRODUCTS City of Industry, California

PRODUCT TYPE: Aluminum Sliding Glass Door **SERIES/MODEL**: PRL Max Top Rolling Sliding Door "CABO"

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-08, NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights

Title	Summary of Results
Primary Product Designator	Class R-PG15-SD 2210 x 2134 (87x 84)
Design Pressure	±720 Pa (±15.04 psf)
Air Infiltration	1.5 L/s/m ² (0.28 cfm/ft ²)
Water Penetration Resistance Test Pressure	180 Pa (2.92 psf)

Test Completion Date: 5/3/2011

This report contains in its entirety:

Cover Page: 1 page

Report Body: 8 pages

Alteration Addendum: 1 page

Drawings: 19 pages

Reference must be made to Report No. A7901.01-701-44 dated 07/28/11 for complete test specimen description and detailed test results.

4 Rancho Circle Lake Forest, CA 92630 phone: 949-460-9600 fax: 949-460-9601 www.archtest.com



Test Report No.: A7901.01-701-44

Architectural Testing Report Date: 07/28/11

Test Record Retention End Date: 05/03/15

1.0 Report Issued To: PRL Aluminum Architectural Products

14760 Don Julian Road

City of Industry, California 91746

2.0 Test Laboratory: Architectural Testing, Inc.

4 Rancho Circle

Lake Forest, CA 92630

949.460.9600

3.0 Project Summary:

3.1 Product Type: Aluminum Sliding Glass Door

3.2 Series/Model: PRL Max Top Rolling Sliding Door "CABO"

- **3.3 Compliance Statement**: Results obtained are tested values and were secured by using the designated test method(s). The specimen tested successfully met the performance requirements for a **Class R-PG15-SD 2210 x 2134 (87x 84)** rating.
- **3.4 Test Dates**: 2/17/2011 5/3/2011
- **3.5 Test Location**: Architectural Testing's test facility in Lake Forest, California.
- **3.6 Test Sample Source**: The test specimen was provided by the client. Representative samples of the test specimen 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 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>

Frank Fisher PRL Aluminum

John Mayfield Architectural Testing, Inc.



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4.0 Test Specification(s):

AAMA/WDMA/CSA 101/I.S.2/A440-08, NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area:	Width		Height	
4.7 m ² (50.4 ft ²)	millimeters	inches	millimeters	inches
Overall size	2210	87	2121	83-1/2
Rough Opening	2216	87-1/4	2127	83-3/4
Active Panel Size	1118	44	2045	80-1/2

5.2 Frame Construction:

Frame Member	Material	Description
Head	Aluminum	Custom shaped extruded aluminum
Interior trim plate	Aluminum	Snapped into the accessory groove of the head and fully sealed along the exterior joint
Exterior trim plate	Aluminum	Snapped into the accessory groove of the head and fully sealed along the exterior joint
Top fixed panel shoe	Aluminum	Snapped in and fully sealed into the exterior pocket of the head and secured using one #10 x 2" sheet metal screw located 4" on center from the ends and 12" on center thereafter
Bottom fixed panel shoe	Aluminum	Bedded in sealant below the bottom rail of the fixed panel and secured to the test buck using one #8 x 1" sheet metal screw located 4" on center from the ends and 12" on center thereafter.
Sill/Track guide	Aluminum	Bedded in sealant full length and fully sealed to each jamb member; secured to the test buck using one #8 x 1" sheet metal screw located 10" on center from the ends and at the midpoint.
Jamb	Aluminum	Custom shaped extruded aluminum member with 2 pockets
Exterior jamb pocket cover	Aluminum	Snapped into the exterior jamb pocket of the strike jamb
Interior jamb pocket cover	Aluminum	Snapped into the interior jamb pocket of the fixed panel



5.0 Test Specimen Description: (Continued)

	Joinery Type	Detail
Head/Jamb	Butted and sealed	Corners were butted and sealed full perimeter
		using sealant
Threshold/jamb	Butted and sealed	Corners were butted and sealed full perimeter
Till esilolu/jalilb Butteu allu sealeu		using sealant

5.3 Panel Construction:

Fixed Panel Member	Material	Description
Rails	Aluminum	Custom shaped extruded aluminum
Stiles	Aluminum	Custom shaped extruded aluminum

Active Panel Member	Material	Description
Rails Aluminum		Custom shaped extruded aluminum
Stiles	Aluminum	Custom shaped extruded aluminum

	Joinery Type	Detail
Rail/Stile	Butted	Members are butted and secured using a custom-shaped aluminum L-shaped bracket that is secured through the glazing pocket of the rail member using two #10 x1" sheet metal screws and secured to the stile using a #10 x 3/4"socket head cap bolt with a #10 lock nut.



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5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
0.320" x 0.270 pile w/fin	1 Row	Interior face of the interior trim plate
0.320" x 0.270 pile w/fin	1 Row	Interior face of the exterior trim plate
0.320" x 0.270 pile w/fin	2 Rows	Jamb face of the lock stile
0.290" x 0.270 pile w/fin	1 Row	Interior leg of the interior jamb pocket
0.290" x 0.270 pile w/fin	1 Row	Exterior leg of the interior jamb pocket
0.320" x 0.270 pile w/fin	2 Rows	Jamb face of the fixed stile
0.290" x 0.270 pile w/fin	1 Row	Exterior leg of the exterior jamb pocket
0.290" x 0.270 pile w/fin	1 Row	Interior leg of the exterior jamb pocket
0.320" x 0.270 pile w/fin	2 Rows	Interior face of the fixed interlock stile
3" x 2" x 1" open cell foam	1 Plug	Fully sealed into the top hollow of the fixed interlock extrusion
2" x 2" x 1" open cell foam	1 Plug	Fully sealed into the bottom hollow of the fixed interlock extrusion
0.290" x 0.270 pile w/fin	2 Rows	Exterior face of the interlocking stile of the active panel

5.5 Glazing:

Glass Type	Spacer Type	Interior Lite	Exterior Lite		Glazing	Meth	od	
1-1/4" IG	Aluminum	1/4"	1/4"	Marine	glazed	into	a	rubber
1-1/4 10	box	Tempered	Tempered	glazing g	gasket			

Location Quantity		Dayligh	Glass Bite	
Location	Quantity	millimeters	inches	Glass Bite
Fixed panel	1	965 x 1778	38 x 70	0.625"
Active panel	1	965 x 1778	38 x 70	0.625"



5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weep hole	1/2" wide x 1/2" high	6	4" on center from the ends and 16" on center thereafter through the exterior leg of the track guide
Weep hole with open cell foam baffle	1" wide by 1/4" high	2	3" on center from the ends of the fixed panel jambs through the interior and exterior leg of the shoe assembly

5.7 Hardware:

Description	Quantity	Location
Bottom mounting bar	2	Installed into the top rail of the active panel at each end using four 1/4" x 3-1/2" flat head machine screws that are secured through the top of the roller housing into an aluminum screw boss spacers, which are inserted into the top rail hollow
Top mounting bar	2	Inserted into the bottom mounting bar and secured using a #10 x 1" socket head cap screw stop and using a #8 x 1/2" grub screw
Top roller assembly	2	Attached to the top mounting bar at the midpoint
Track bar	2	Installed 4" on center from each of the head using two #8 x 3/4" flat head machine screws
Pemco weatherstripping assembly	1	Inserted into the bottom rail of the active panel and secured using one #8 x 1" pan head machine screw
Adams-Rite lock set	1	Located at the midpoint of the stile.

5.0 Test Specimen Description: (Continued)

5.8 Reinforcement: No reinforcement was utilized.

5.9 Screen Construction: No screen was utilized.

6.0 Installation:

The specimen was installed into a 2x6 aluminum test frame, which was secured into a 2x10 fir test buck using 3/4" wood stops located at the interior and exterior. The exterior perimeter of the door was sealed with sealant.

Location	Anchor Description	Anchor Location
Jambs	#10 x 2" Phillips flat head sheet	3" on center from the head and
	metal screw	sill and 16" on center thereafter
Head	#10 x 1" Phillips flat head sheet	3" on center from the ends and
пеац	metal screw	12" on center thereafter
Bottom fixed	#10 x 1" Phillips flat head sheet	4" on center from the ends and
panel shoe	metal screw	12" on center thereafter.
Track guide	#10 x 1" Phillips flat head sheet	10" on center from the ends and
Track guide	metal screw	at the midpoint.



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7.0 Test Results: The temperature during testing was 25°C (77°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
	Initiate motion:		
	62.3 N (14 lbf)	135.0 N (30 lbf) max.	
Operating Force,	Maintain motion:		
per ASTM E 2068	31.1 N (7 lbf)	90.0 N (20 lbf) max.	
	Lock:		
_	17.8 N (4 lbf)	100.0 N (22.5 lbf) max.	
Air Leakage,			
Infiltration per ASTM E 283	1.4 L/s/m ²	1.5 L/s/m ²	
at 75 Pa (1.57 psf)	(0.28 cfm/ft ²)	$(0.3 \text{ cfm/ft}^2) \text{ max.}$	1
Water Penetration,			
per ASTM E 547			
at 180 Pa (2.92 psf)	Pass	No leakage	2
Uniform Load Deflection,			
per ASTM E 330			
taken on the fixed interlock stile			
+720 Pa (+15.04 psf)	3.0 mm (0.12")	Report Only	
-720 Pa (-15.04 psf)	3.3 mm (0.13")	Report Only	4, 5, 6
Uniform Load Structural,			
per ASTM E 330			
taken on the fixed interlock stile	0.0 (0.041)	- 0 (0.0411)	
+1080 Pa (+22.56 psf)	0.2 mm (0.01")	7.8 mm (0.31") max.	
-1080 Pa (-22.56 psf)	0.2 mm (0.01")	7.8 mm (0.31") max.	5, 6
Forced Entry Resistance,			
per ASTM F 842,			
Type: A - Grade: 10	Pass	No entry	
Deglazing,			
per ASTM E 987			
Operating direction,			
320 N (70 lbf)	Pass	Meets as stated	
Remaining direction,			
230 N (50 lbf)	Pass	Meets as stated	



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Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: Without insect screen.

Note 3: The client opted to start at a pressure higher than the minimum required. Test results are reported under Optional Performance.

Note 4: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

Note 5: Loads were held for 10 seconds.

Note 6: Tape and film were not used to seal against air leakage during structural testing.

The service life of this report will expire on the stated Test Record Retention End Date, at which time such materials as drawings, data sheets, samples of test specimens, copies of this report, and any other pertinent project documentation, shall be discarded without notice.

If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) 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(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

John S. Mayfield Project Manager Shawn G. Collins, P.E. Laboratory Support Engineer

IM:cmd/bu

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

Appendix-A: Alteration Addendum (1)

Appendix-B: Drawings (19)



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Appendix A

Alteration Addendum

Alteration #1: Date - 4/27/11

Cause for alteration - Water infiltration over the interior sill leg

Remedial action taken - Cut additional weep holes into the sill member

and inserted open cell foam baffles



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Appendix B **Drawings**

PRL Max sliding door "CABO"

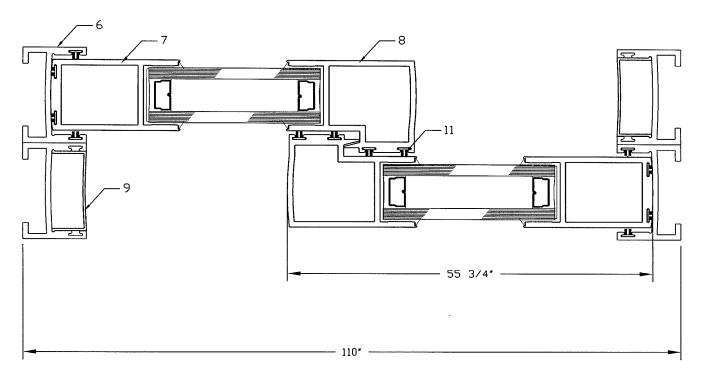
Bill of Materia	ı				
key number	PRL part number	manufacturer	description	qty required	size
1	2239	PRL proprietary	top frame rail	2	W
2	2238	PRL proprietary	top rail trim plates	2	W
3	2236	PRL proprietary	top and bottom fixed panel shoe	2	(W/2)+3/4"
4	2205	PRL proprietary	top and bottom sash rails	4	(W/2)- 5 1/16"
5	BS_F01	PRL proprietary	sill track/guide	2	W
6	2195	PRL proprietary	frame jamb	4	H- 1.6"
7	2201	PRL proprietary	sash lock/jamb stile	2	H-2 1/8"
8	2237	PRL proprietary	sash interlock stiles	2	H-2 1/8"
9	2197	PRL proprietary	frame jamb closer	2	H-1.6"
10	32027045BKQB	PRL proprietary	fin seal 0.320 x 0.270 base (typ horizontally)	2	W
11	29027045BKQB	Amesbury	fin seal 0.290 x 0.270 base (typ horizontally)	12	Н
12	BL-4288	bandlock	glazing channel	2	(4*H)+(2*W)
20	Roller Assembly	comprises:		2 per leaf	
Α		PRL proprietary	roller wheel	1	•
В	2329	PRL proprietary	top mounting bar	1	10"
С	2329-B	PRL proprietary	bottom mounting bar	1	12"
D	4766	Sierra aluminum	spacers	4	1"
E	commodity	commodity	1.28"x 0.6" track bar	1	7 1/2"
F		PRL proprietary	4" x 1.5" x 1/4" angle corner cleat	1	1 1/4"
1A		commodity	#8 x 1/2" grub screw	1	
2A		commodity	1/4" x 3 1/2" flat head screw	4	A
3A		commodity	#10x 1" socket head cap screw (mounting bar stop)	1	Architectural Testing
4 A		commodity	#10 x 3/4" flat head screw	2	
5A		commodity	#10 x 3/4" socket head cap screw (stile to rail secure)	1	Total complies with these details.
6A		commodity	#10 nylock nut	1	Test sample complies with these details. Deviations are noted.
7A		commodity	#10 x 1" sheet metal screw (stile to rail secure)	1	
8A		commodity	1/4" x 3/4" flat head screw	2	Report# 17901.01 Date 7/5/// Tech
22	CRL-434	Pemco	operating sash bottom rail weather-strip	1	(W/2) - 4 7/8"
23	generic		open cell foam	6	1"
			insulated glass width	2	(W/2)- 3 3/4"
			insulated glass height	2	H- 10 15/16"
			Adams Rite 4189 lock set with 4195 interior handle	e 1	

max sliding door "CABO"



Test sample complies with these details.
Deviations are noted.

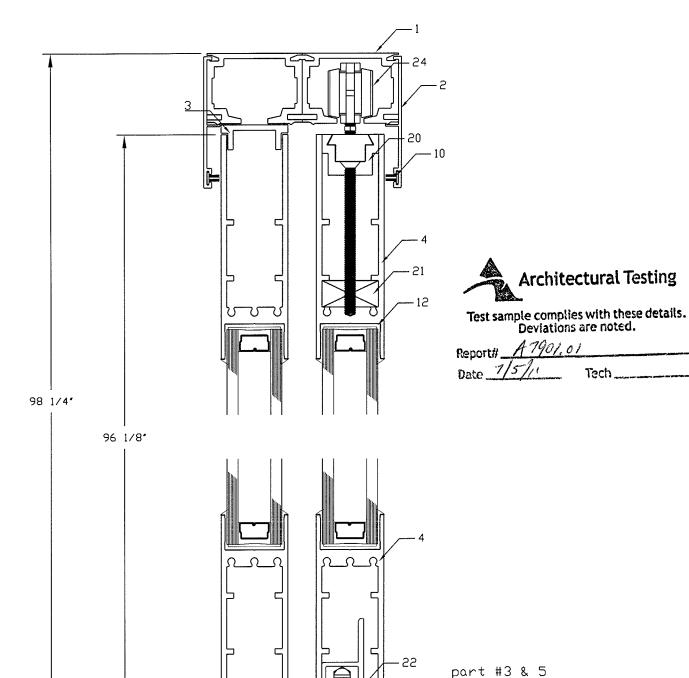
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Date <u>1/5///</u> Tech





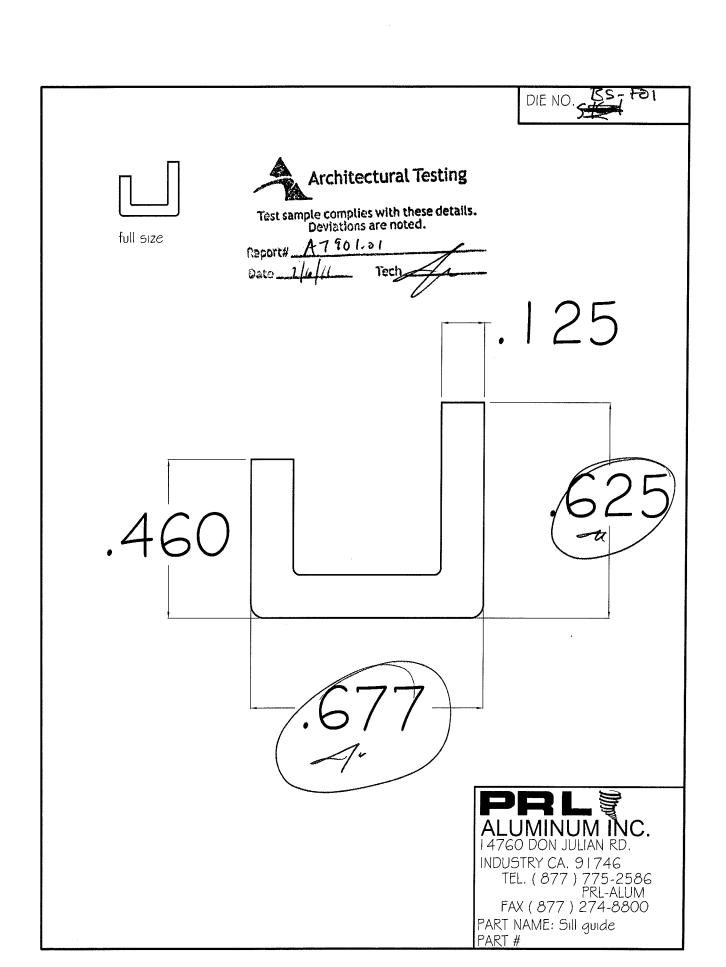
SCHIP 1

max sliding door "CABO"

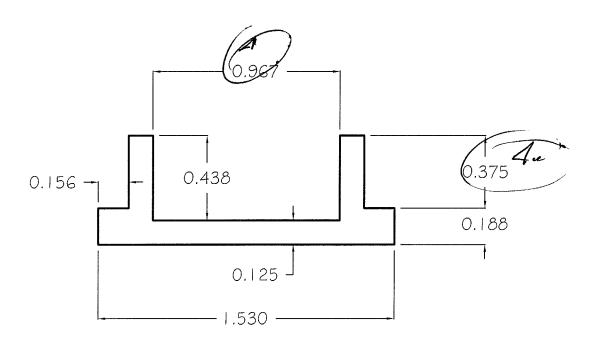




have 3 weep holes per light 1/2" wide.









Test sample complies with these details. Deviations are noted.

Tech-

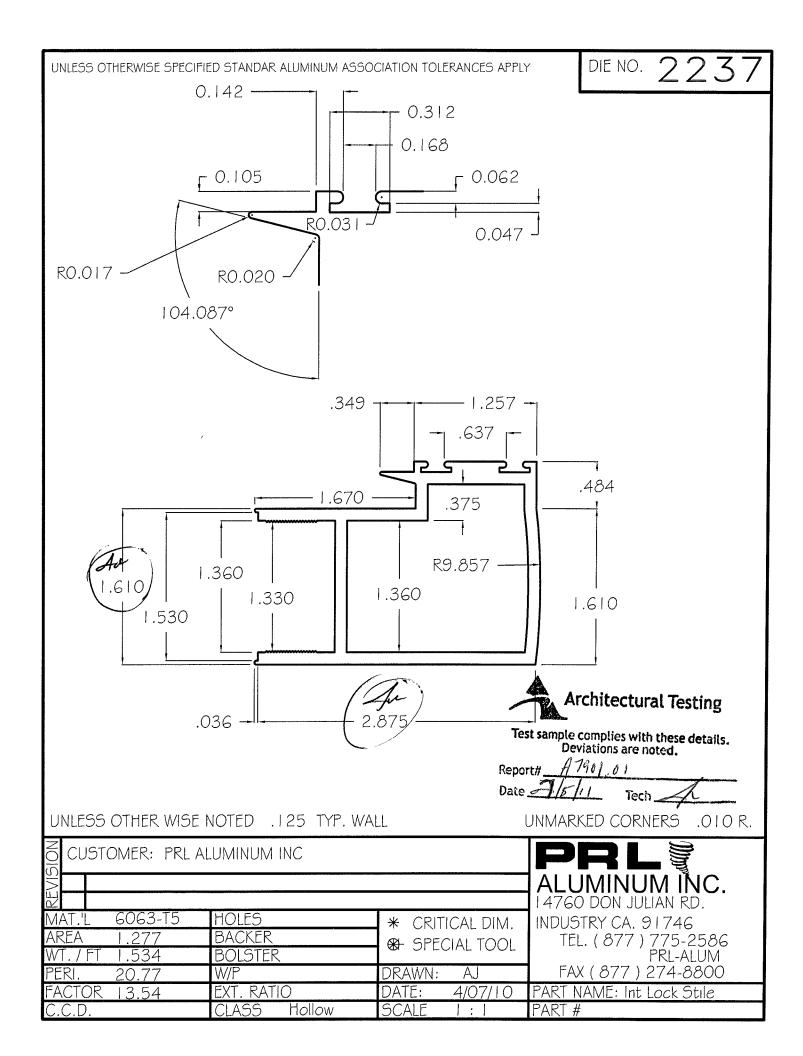
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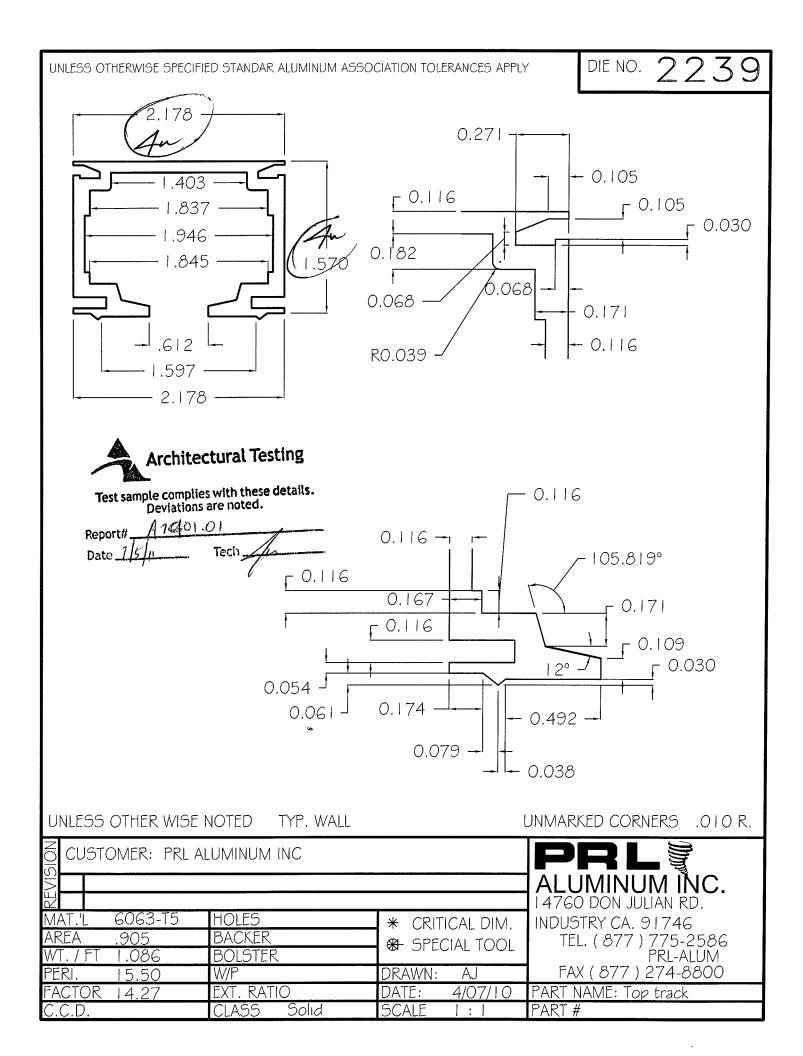
Date 7/5/11

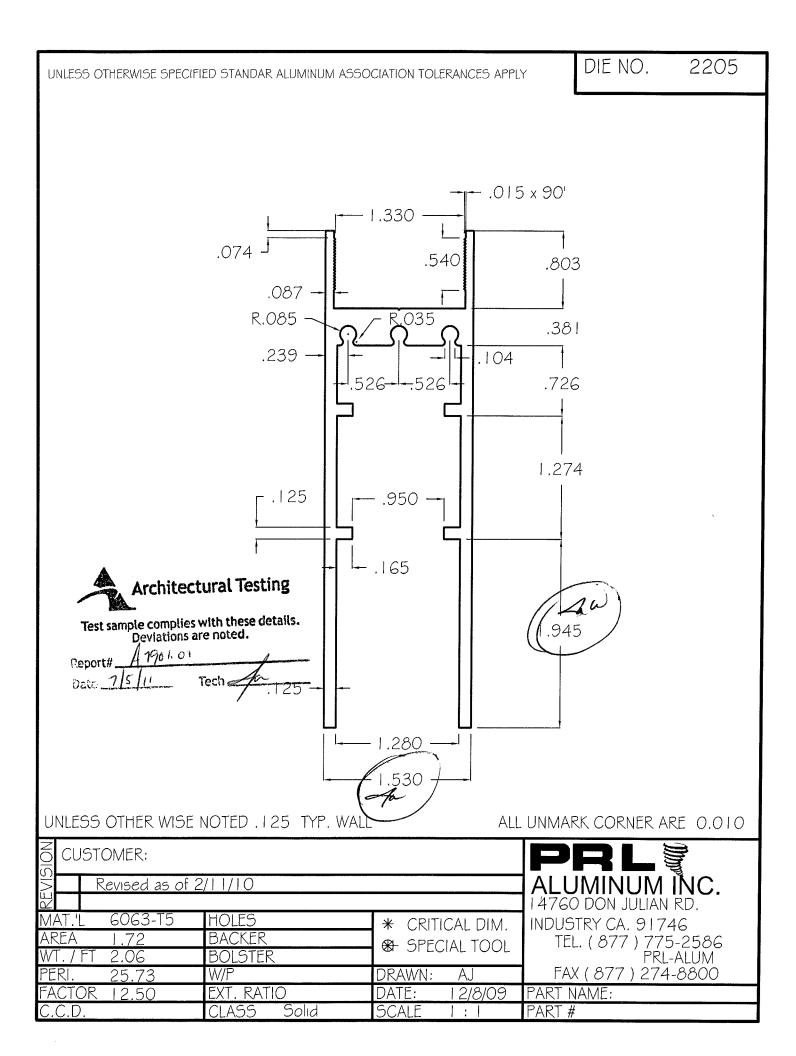
UNLESS OTHER WISE NOTED . 125 TYP. WALL

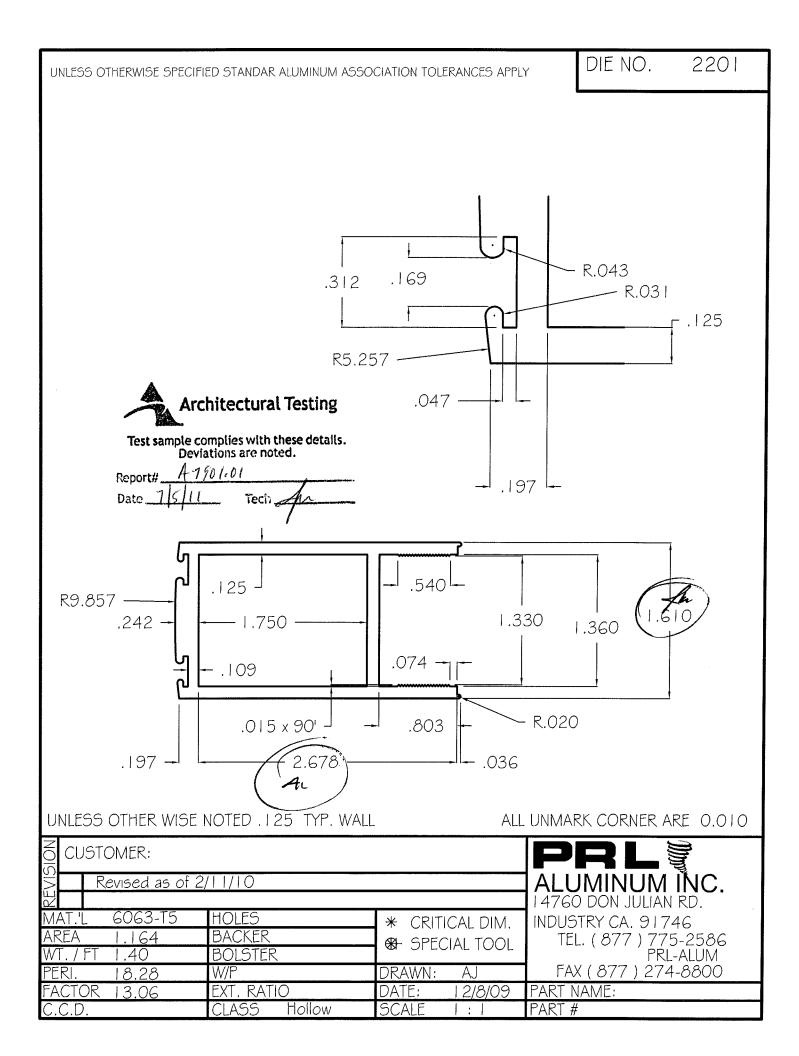
UNMARKED CORNERS .010 R.

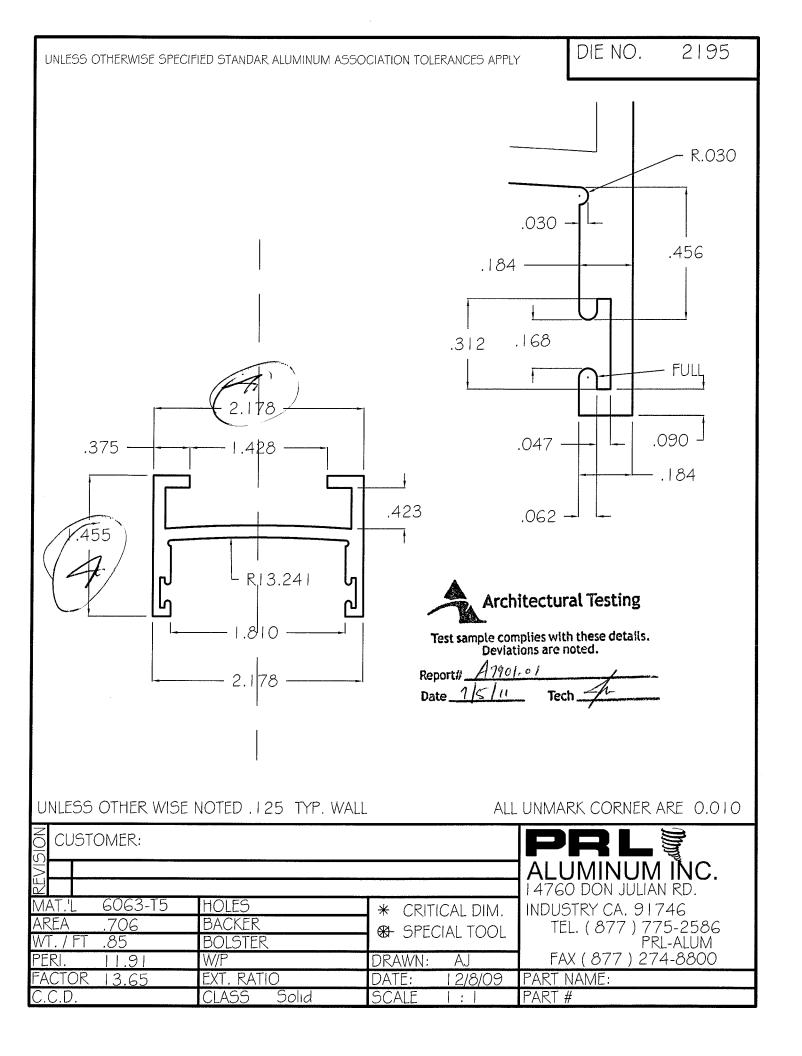
CUSTOMER: PRL A	LUMINUM INC		PRL
	Tuoise		ALUMINUM INC. 14760 DON JULIAN RD.
MAT.'L 6063-T5 AREA 0.321 WT. / FT 0.384	HOLES BACKER BOLSTER	* CRITICAL DIM. SPECIAL TOOL	INDUSTRY CA. 91746 TEL. (877) 775-2586 PRL-ALUM
PERI. 5.06	W/P	DRAWN: AJ	FAX (877)274-8800
FACTOR 13.17 C.C.D.	EXT. RATIO CLASS Solid	DATE: 4/07/10 SCALE 1 : 2	PART NAME: Setting track PART #

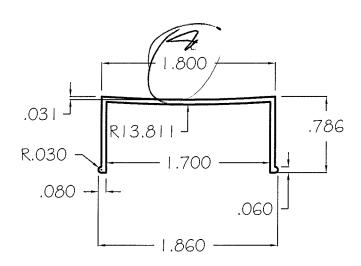














Test sample complies with these details.

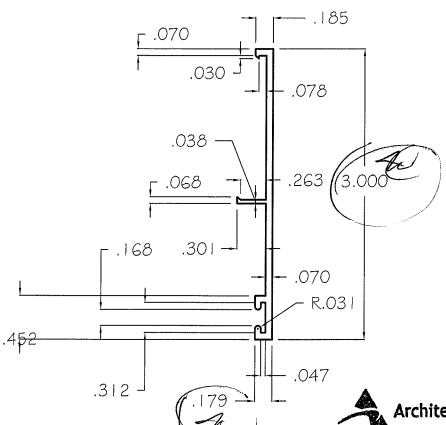
Deviations are noted.

Report# <u>A 7901.01</u>
Date <u>1 | 5 | 11</u> Tech

UNLESS OTHER WISE NOTED .050 TYP. WALL

ALL UNMARK CORNER ARE 0.010

O CUSTOMER:			PRL S ALUMINUM INC.
REV.			ALUMINUM INC. 14760 DON JULIAN RD.
MAT.'L 6063-T5	HOLES	* CRITICAL DIM. SPECIAL TOOL	INDUSTRY CA. 91746
AREA .167	BACKER		TEL. (877) 775-2586
WT. / FT .20	BOLSTER	DRAWN: AJ	PRL-ALUM
PERI. 6.70	W/P		FAX (877) 274-8800
FACTOR 33.50	EXT. RATIO	DATE: 2/8/09	PART NAME:
C.C.D.	CLASS Solid	SCALE 1 :	PART #



Architectural Testing

Test sample complies with these details.
Deviations are noted.

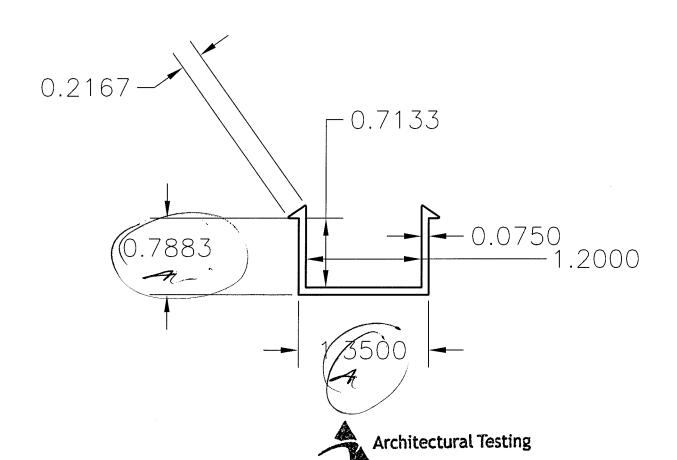
Report# 47901.01

Date 7/5/11 Tech

UNLESS OTHER WISE NOTED .070 TYP. WALL

UNMARKED CORNERS .010 R.

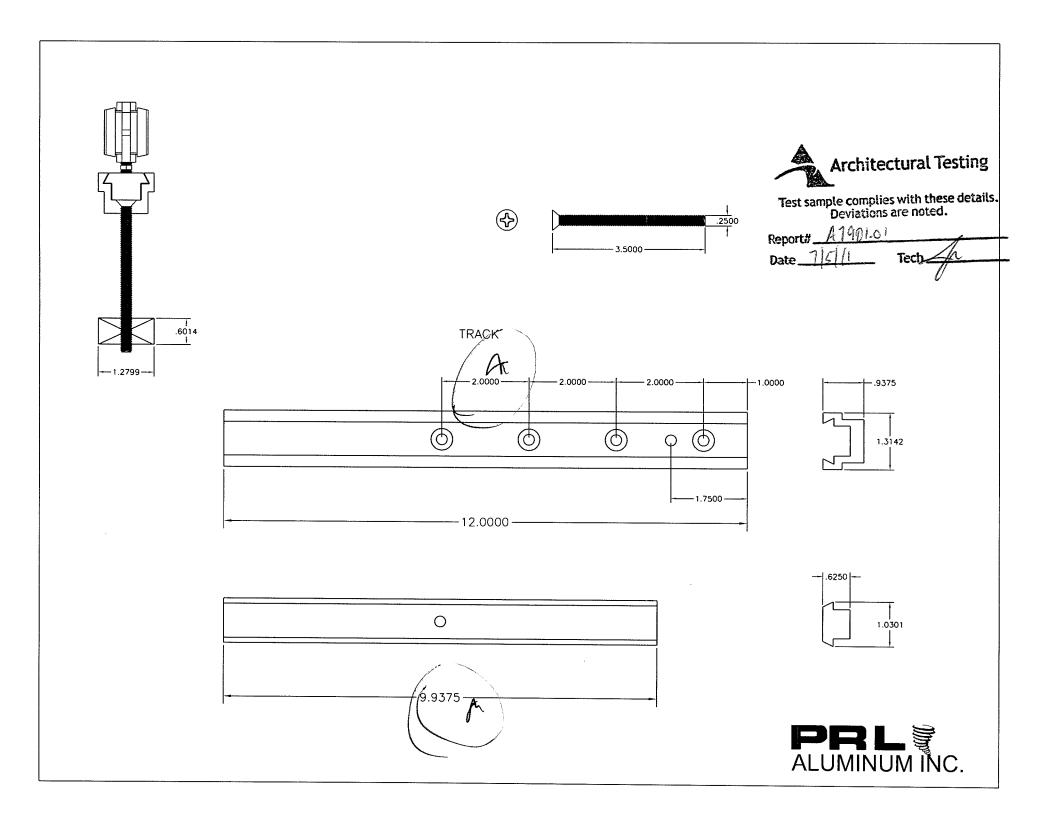
SION	CUSTOMER: PRL ALUMINUM INC				PRL
REVI					ALUMINUM INC. 14760 DON JULIAN RD.
M.	<u> AT.'L</u>	6063-T5	HOLES	* CRITICAL DIM.	INDUSTRY CA. 91746
ΑF	REA	0.254	BACKER	SPECIAL TOOL	TEL. (877) 775-2586
W	T. / FT	0.305	BOLSTER	W STESTAL TOOL	PRL-ALUM
PE	RI.	7.724	W/P	DRAWN: AJ	FAX (877) 274-8800
FA	CTOR	25.32	EXT. RATIO	DATE: 4/07/10	PART NAME: Side Cover
С.	C.D.		CLASS Solid	SCALE 1:1	PART #

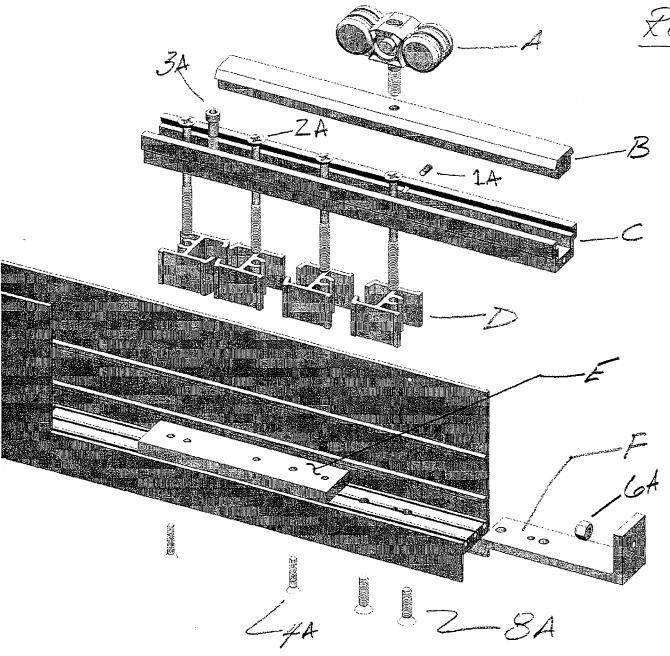


CUSTOMER:			PRL
$\stackrel{\circ}{>}$			JALUMINUM INC.
R			14760 DON JULIAN RD.
MAT.'L XX	HOLES	* CRITICAL DIM.	INDUSTRY CA. 91746
area XX	BACKER	SPECIAL TOOL	TEL. (877) 775-2586 PRL-ALUM
WT. / FTXX	BOLSTER		PRL-ALUM
PERI. XX	W/P	DRAWN: AJ	FAX (877) 274-8800
FACTOR XX	EXT. RATIO	DATE: xx	PART NAME:
C.C.D.	CLASS Solid	SCALE 1:1	PART #

Test sample complies with these details.
Deviations are noted.

Report# <u>A 7901.01</u>





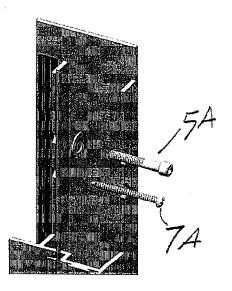
ROLLER ASSEMBLY

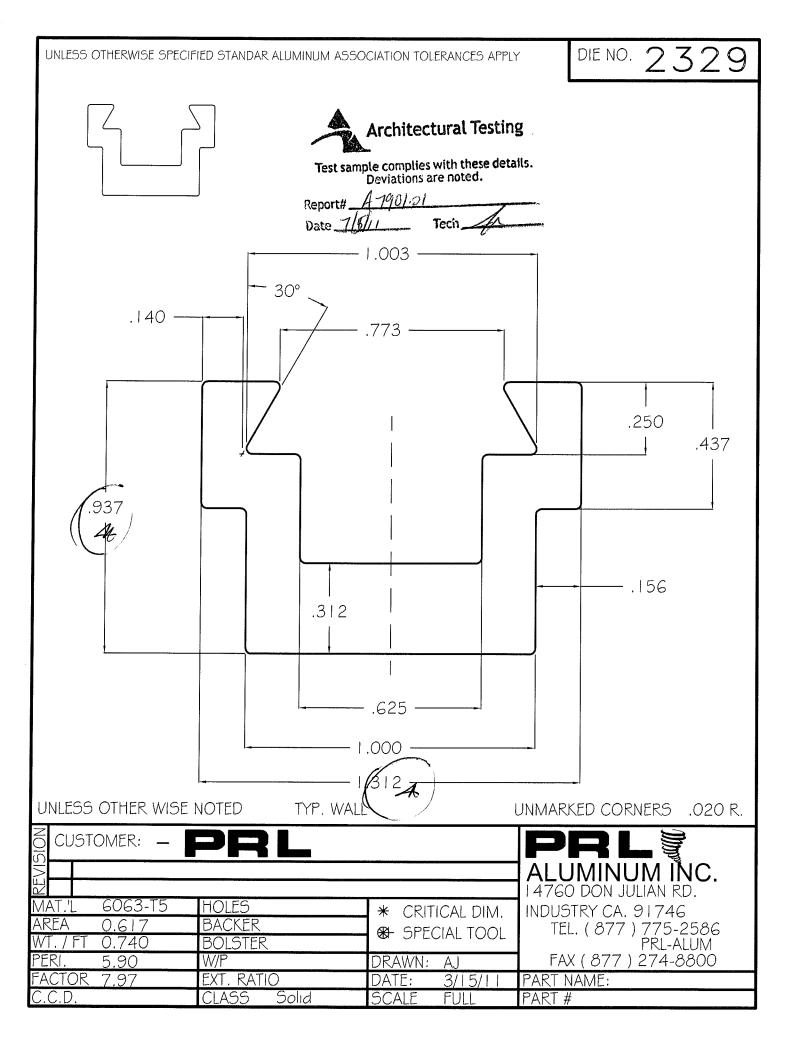


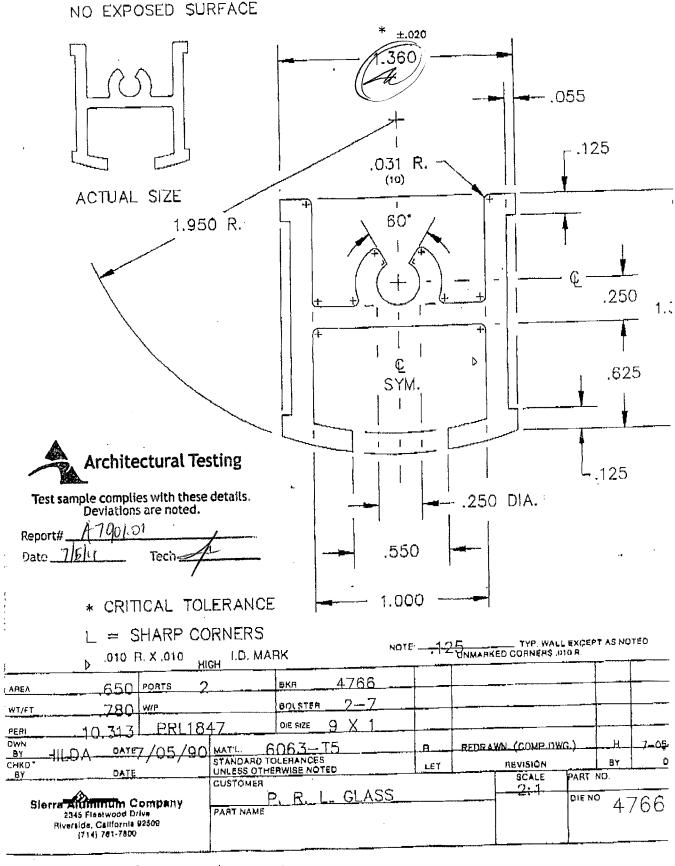
Test sample complies with these details.
Deviations are noted.

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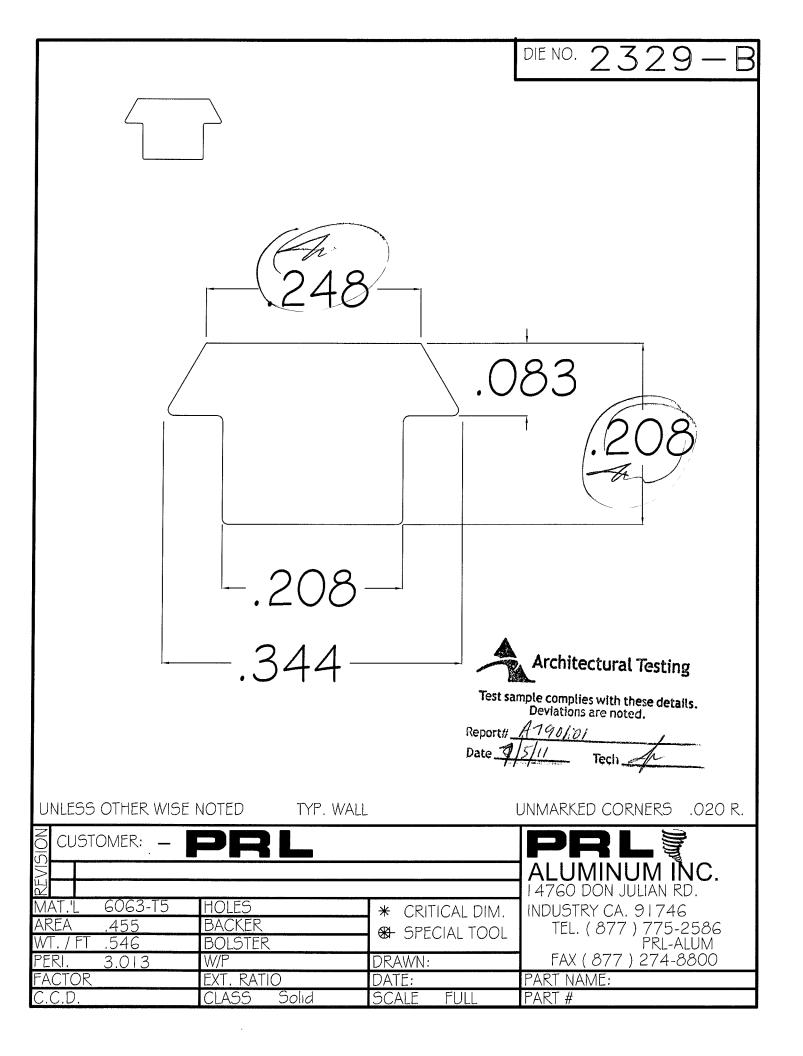
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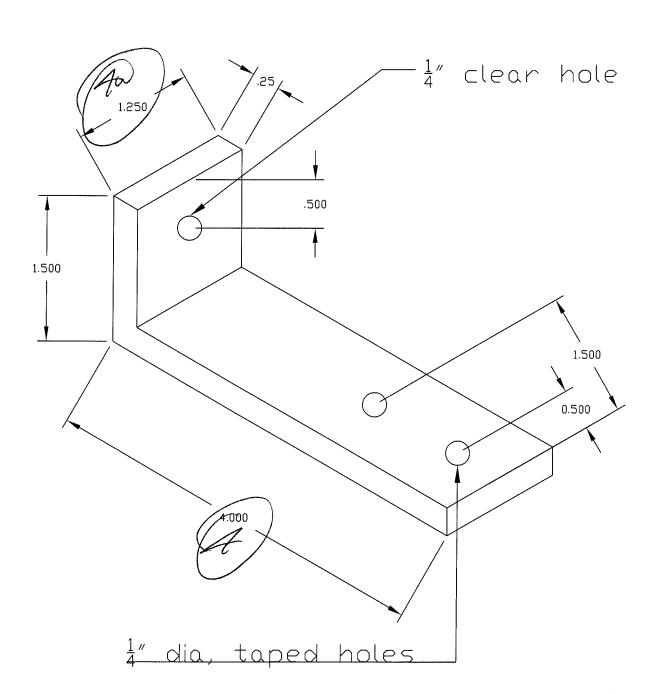






FOR Split endcaps:







Test sample complies with these details.
Deviations are noted.

901.01 Report#

ALUMINUM ÎNC. 14760 DON JULIAN RD. INDUSTRY CA. 91746

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max slider corner angles