Intertek | Architectural Testing

TEST REPORT

Report No.: D8932.01-301-44

Rendered to:

ALL WEATHER ARCHITECTURAL ALUMINUM
Vacaville, California

SERIES/MODEL: 6000
PRODUCT TYPE: Aluminum Awning Window

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 AW–PG80–Size Tested 1526 x 914 mm (60 x 36) – Awning
Design Pressure	±3840 Pa (±80.20 psf)
Air Infiltration	<0.05 L/s/m^2 (<0.01 cfm/ft^2)
Water Penetration Resistance Test Pressure	580Pa (12.11 psf)

Test Completion Date: 07/24/14

Reference must be made to Report No. D8932.01-301-44 dated 08/15/14 for complete test specimen description and detailed test results.

1.0 Report Issued To: All Weather Architectural Aluminum
777 Aldridge Road
Vacaville, California 95688

2.0 Test Laboratory: Architectural Testing, Inc.
2524 East Jensen Avenue
Fresno, California 93706
559-233-8705

3.0 Project Summary:

3.1 Series/Model: 6000

3.2 Product Type: Aluminum Awning Window

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 rating of **Class AW–PG80–Size Tested 1526 x 914 (60 x 36) – Awning**.

3.4 Test Dates: 06/11/2014 – 07/24/2014

3.5 Test Record Retention End Date: All test records for this report will be retained until July 24, 2018.

3.6 Test Location: Architectural Testing, Inc. test facility in Fresno, California.

3.7 Test Sample Source: The test specimen was provided by the client.

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

3.9 List of Official Observers:

Name	Company
Anthony Dan	All Weather Architectural Aluminum
Jay Ratliff	Architectural Testing, Inc.
David Douglass	Architectural Testing, Inc.

4.0 Test Specifications:

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

AAMA 910-93, *Voluntary "Life Cycle" Specifications and Test Methods for Architectural Grade Windows and Sliding Glass Doors*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 1.39 m^2 (15.0 ft^2)	**Width**		**Height**	
	millimeters	**inches**	**millimeters**	**inches**
Overall size	1526	60-1/16	914	36
Panel	1499	59	889	35

5.2 Frame Construction:

Member	**Material**	**Description**
Jambs, Head & Sill	Aluminum	Extruded, with crimped thermal break.

Location	**Joinery Type**	**Detail**
All corners	Mitered	Sealed, joined using corner keys, and fastened with two #10 x 1-1/2" square drive pan head self-drilling sheet metal screws and two #10 x 1" square drive pan head self-drilling sheet metal screws.

5.3 Panel Construction:

Member	**Material**	**Description**
Stiles & Rails	Aluminum	Extruded, with crimped thermal break.

Location	**Joinery Type**	**Detail**
All corners	Mitered	Sealed, and fastened with staked corner keys.

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
Hollow bulb rubber	1 row	Frame
Hollow bulb rubber	1 row	Panel

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

Type	Spacer	Interior & Exterior	Glazing Method
1" IG	Metal box	3/16" annealed	Double-sided adhesive foam tape against interior stop; secured with snap-fit aluminum bead with rubber gasket; corners sealed with silicone sealant.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Panel	1	1372 x 762	54 x 30	9/16"

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weep notch	1" long	2	Bottom rail weatherstripping, 1" from each corner.
Pressure equalization notch	1" long	2	Stiles weatherstripping, 1" from each top corner.

5.7 Hardware:

Description	Quantity	Location
Multi-arm steel hinge with snubber	2	Fastened with #10 x 3/4" square drive pan head self-drilling sheet metal screws: 5 in each stile, and 4 in each jamb.
Sweep lock	2	Fastened to bottom rail using two #10 x 1-1/2" Phillips flat head sheet metal screws.
Strike plate	2	Fastened to sill using two #10-24 x 5/16" Phillips flat head machine screws.

5.8 Reinforcement: No reinforcement was utilized.

6.0 Installation:

The specimen was installed into a Douglas fir wood test buck. The rough opening allowed for a 1/4" shim space. The exterior perimeter of the window was sealed with Silicone sealant.

Location	Anchor Description	Anchor Spacing
Nail fin	1/4" x 1-1/2" square drive pan head screws	1" from each corner; spaced 12" – 15" on center.

7.0 Test Results: The temperature during testing was 26°C (79°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Notes
Life Cycle per AAMA 910			
Operating Force, per ASTM E 2068	Initiate motion: 160 N (36.0 lbf) Maintain motion: 107 N (24.1 lbf) Latches: 85 N (19.1 lbf)	Report Only 135 N (30.3 lbf) max. 100 N (22.5 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 300 Pa (6.27 psf)	<0.05 L/s/m^2 (<0.01 cfm/ft^2)	0.5 L/s/m^2 (0.10 cfm/ft^2) max.	1
Water Penetration, per ASTM E 547 & ASTM E 331 at 580 Pa (12.11 psf)	Pass	No leakage	2, 7
Cycling (First Half) per AAMA 910			
Vent Panel: 2000 cycles	Pass	No damage	3
Locking Hardware: 2000 cycles	Pass	No damage	4
Misuse Testing per AAMA 910			
Ventilator Torsion Test at 330 N (74.2 lbf)	Pass	No damage	
Ventilator Vertical Load Test at 670 N (150.6 lbf)	Pass	No damage	
Cycling (Second Half) per AAMA 910			
Vent Panel: 2000 cycles	Pass	No damage	5
Locking Hardware: 2000 cycles	Pass	No damage	6

7.0 Test Results: (Continued)

Title of Test	Results	Allowed	Notes
Life Cycle per AAMA 910 (Continued)			
Operating Force, per ASTM E 2068	Initiate motion: 191 N (42.9 lbf) Maintain motion: 102 N (22.9 lbf) Latches: 31 N (7.0 lbf)	Report Only 135 N (30.3 lbf) max. 100 N (22.5 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 300 Pa (6.27 psf)	<0.05 L/s/m^2 (<0.01 cfm/ft^2)	0.5 L/s/m^2 (0.10 cfm/ft^2) max.	1
Water Penetration, per ASTM E 547 & ASTM E 331 at 580 Pa (12.11 psf)	Pass	No leakage	2, 7
Uniform Load Deflection, per ASTM E 330	N/A	N/A	7
Uniform Load Structural, per ASTM E 330	N/A	N/A	7
Forced Entry Resistance, per ASTM F 588 Type: B - Grade: 10	Pass	No entry	
Sash/Leaf Torsion 70 N (15.7 lbf)	44.2 mm (1.74")	44.4 mm (1.75") max.	
Optional Performance			
Uniform Load Deflection, per ASTM E 330 +3840 Pa (+80.20 psf) -3840 Pa (-80.20 psf)	Top rail 4.4 mm (0.18") 0.9 mm (0.04")	8.6 mm (0.34") max. 8.6 mm (0.34") max.	7, 8, 9
Uniform Load Structural, per ASTM E 330 +5760 Pa (+120.3 psf) -5760 Pa (-120.3 psf)	Top rail 0.1 mm (0.01") 0.3 mm (0.01")	3.0 mm (0.12") max. 3.0 mm (0.12") max.	7, 8, 9

7.0 Test Results: (Continued)

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: *Observations: No changes were noted during the first 2000 panel cycles.*

Note 4: *Observations: Paint wore off the locks and strike plates during the first 2000 lock cycles.*

Note 5: *Observations: After second 2000 panel cycles were complete, the friction shoe would no longer hold the panel at intermediate open positions. The friction shoe was adjusted prior to the next operating force measurement.*

Note 6: *Observations: The second 2000 lock cycles wore metal of the locks and strike plates.*

Note 7: *The client opted to start at a pressure higher than the minimum required.*

Note 8: *Loads were held for 10 seconds.*

Note 9: *Tape and film were used to seal against air leakage during structural testing. In the opinion of the test lab, the tape and film did not influence the results of the test.*

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: David Douglass

David Douglass
Project Manager

Digitally Signed by:Leaton Kirk

Leaton Kirk
Director – Regional Operations

DD: ms

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Alteration Addendum (1)
Appendix-B: Drawings (8)

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Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	08/14/14	N/A	Original Report Issue.
1	08/15/14	2	Corrected reference to AAMA 910-93.
		5	Removed test results not required by AAMA 910-93.

Appendix A

Alteration Addendum

Alteration #1: Date – 07/21/2014
Cause for alteration – Water leakage
Remedial action taken – Sealed corners of weatherstripping.

Appendix B

Drawings

Bill of Materials Series 6000 Awning

All Weather Part 601 ✓

All Weather Part 626 ✓

All Weather Part 603 ✓

Glazing Bead Vinyl – Trelleborg 8742-02-00

Glazing Tape – Bron 1/16" x 1/2" black

Seam Sealant – Schnee Morehead SM 5504

¼" Neoprene Setting Blocks

Weatherstrip – Amesbury E20118KN5020

Cam Handle – Truth 25.70.31.01

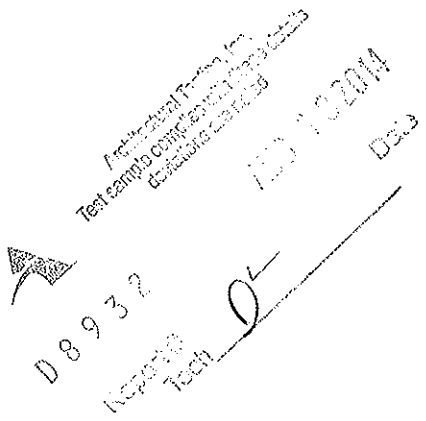
Screws for Cam Handle – Flat Head 10-24 x 5/8"

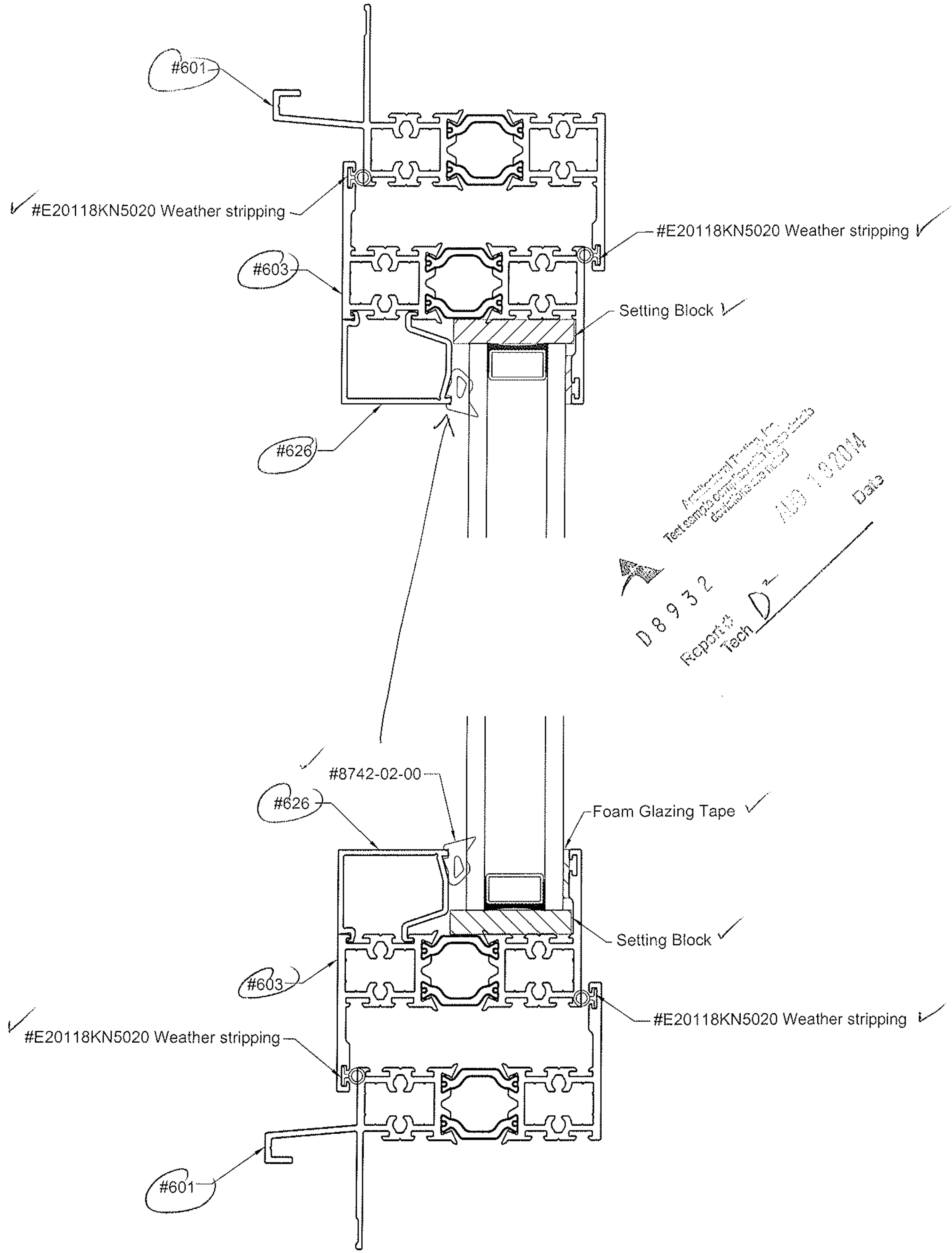
Strike – Truth 23036.01

Screws for Strike – Flat Head 10-24 x 5/16"

Hinge – AMC S4000 CSMT Hinge 12"

Screws for Hinge – 10-16 x ¾"

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#E20118KN5020 Weather stripping
#603
Setting Block
#626
Architectural Testing Inc.
Report #
D 8 9 3 2
Tech
Date
#8742-02-00
#626
Foam Glazing Tape
Setting Block
#603
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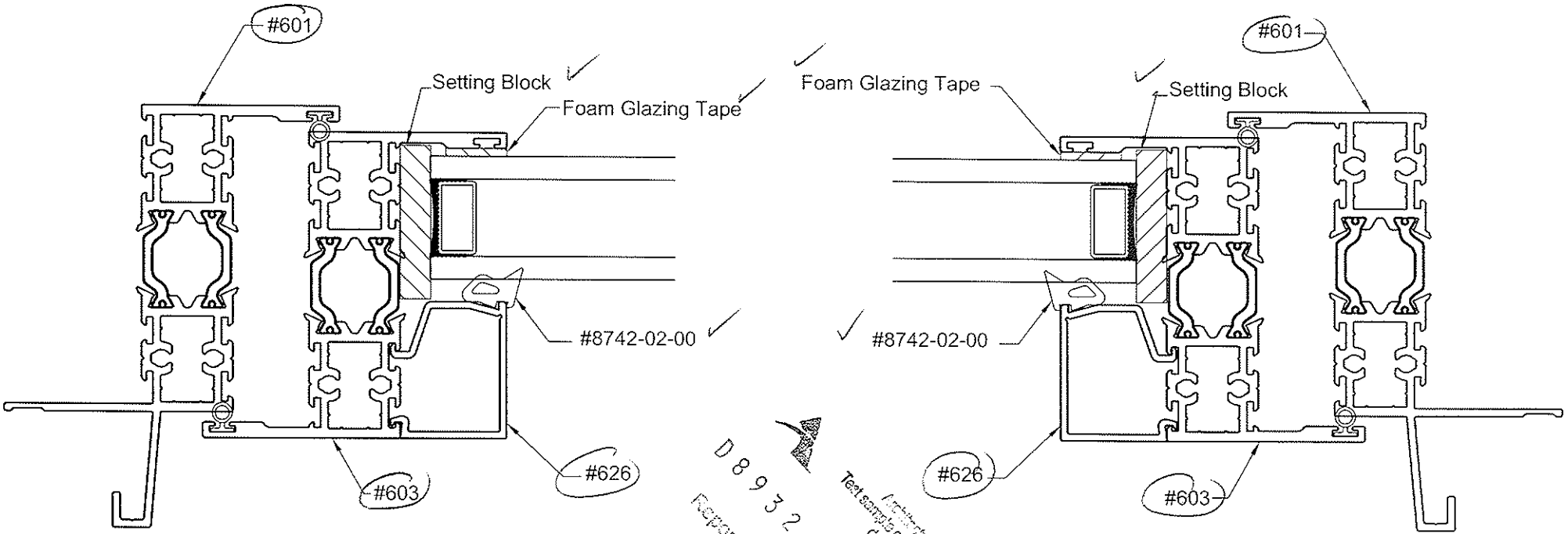
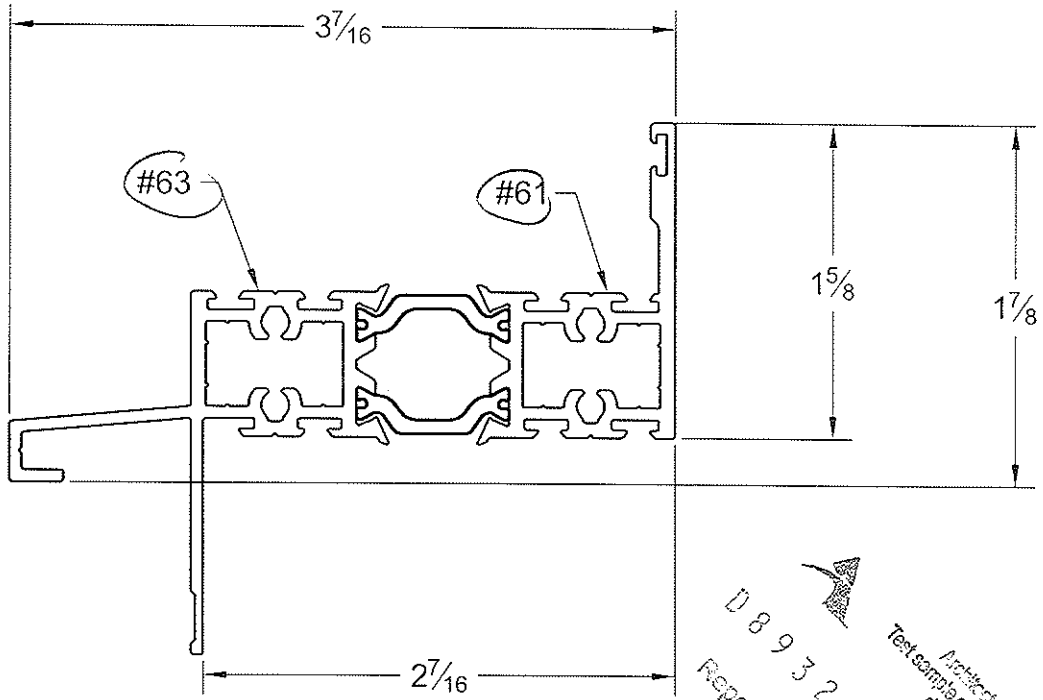
#601



D8932
Report #
Tech QT
Architectural Testing Inc.
Test samples complied with these details
deviations are noted
ATI 1/3/2014
Date



Architectural Testing Inc.
Test sample complies with these details
deviations are noted

D8932

Report #

Tech

Date 7/3/2014

REVISION	1	SCALE	1:1
DATE	7/28/2014		
DRAWN	J. Otaegui		
APPROVED			

601

ALL WEATHER
ARCHITECTURAL ALUMINUM

T: 707.452.1600
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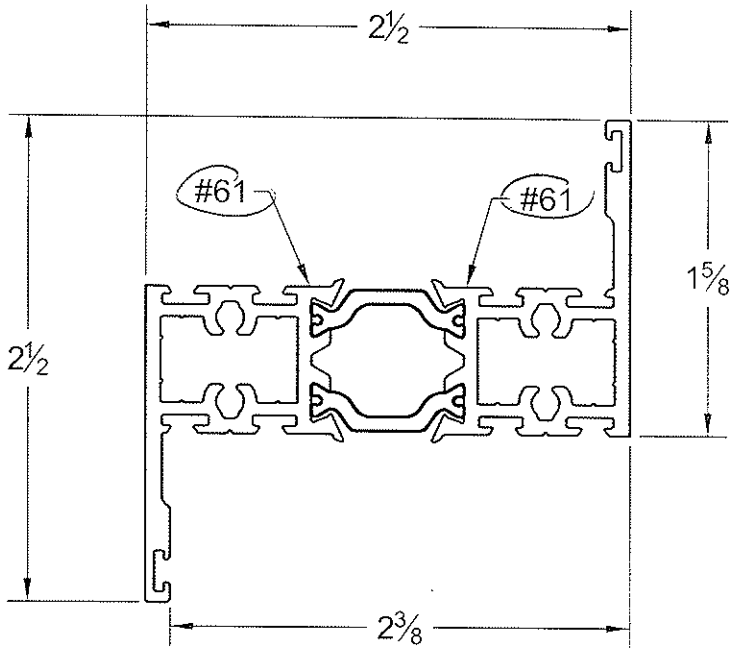
777 ALDRIDGE ROAD ▲ VACAVILLE, CA 95688 ▲ www.allweathersweb.com



Architectural Testing, Inc.
Test sample complies with these details
deviations are noted

D8932

Report #

Tech

1/13/2014

Date

603

REVISION 1	SCALE 1:1
DATE	7/28/2014
DRAWN	J. Otaegui
APPROVED	X

ALL WEATHER
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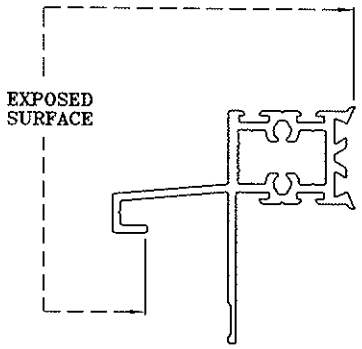
FITS WITH PART#

PLEASE INDICATE
CRITICAL DIMENSIONS

SUBMITTED BY _____ DATE ____



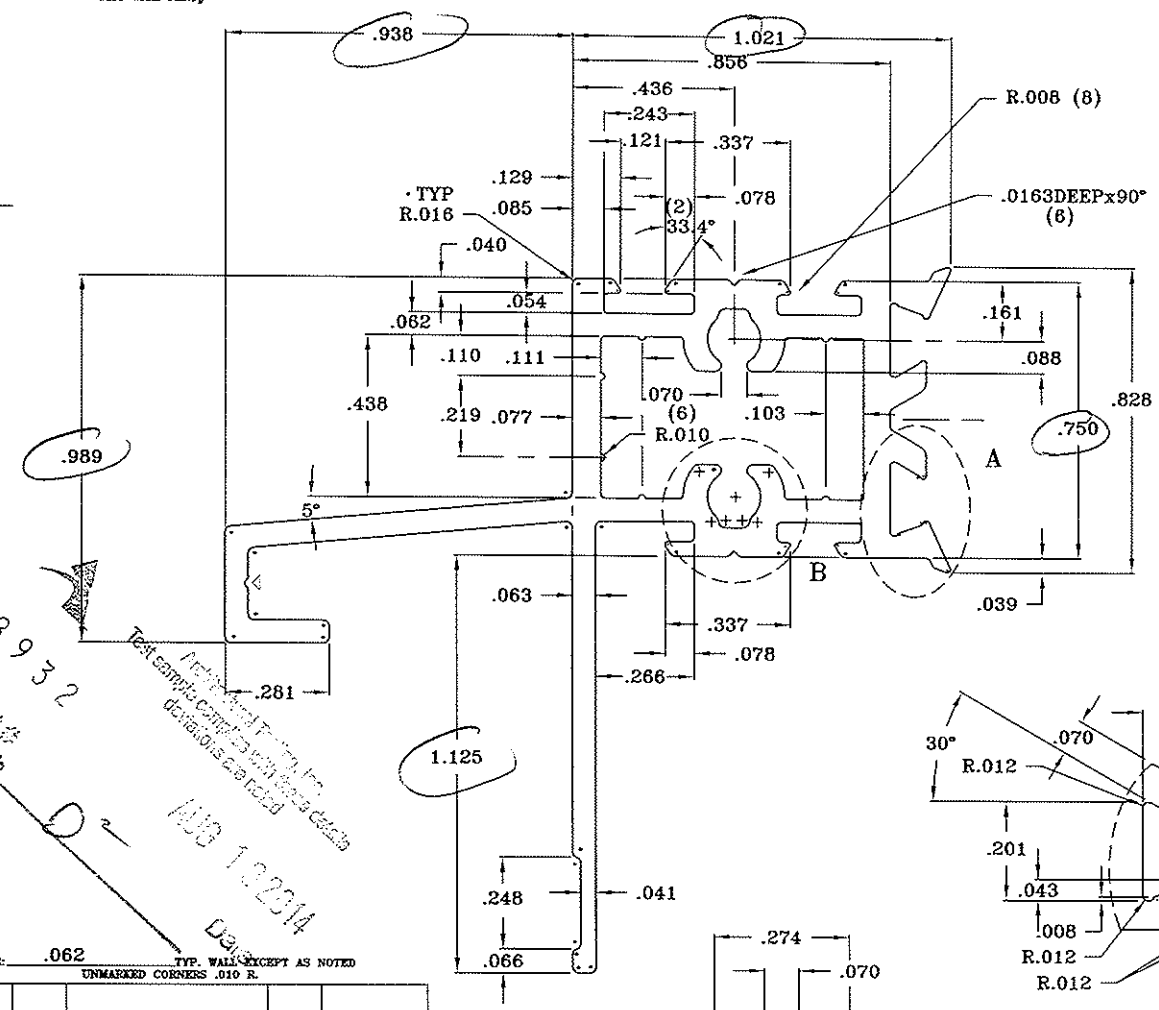
ACTUAL SIZE

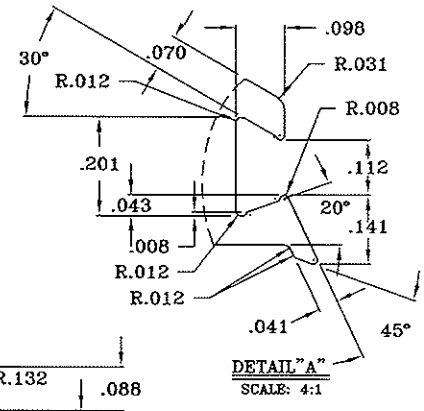
THESE PRINTS ARE SUBMITTED FOR YOUR APPROVAL. PROCESSING OF YOUR PART WILL NOT CONTINUE UNTIL WE RECEIVE ONE COPY APPROVED FOR PRODUCTION.

APPROVED BY _____ DATE ____

FINISH: ANODIZE, MILL

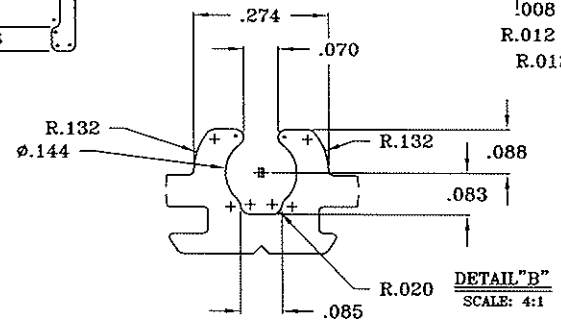
▷.010 R. X .010DEEP I.D. MARK





DETAIL"A"
SCALE: 4:1

MIRROR IMAGE

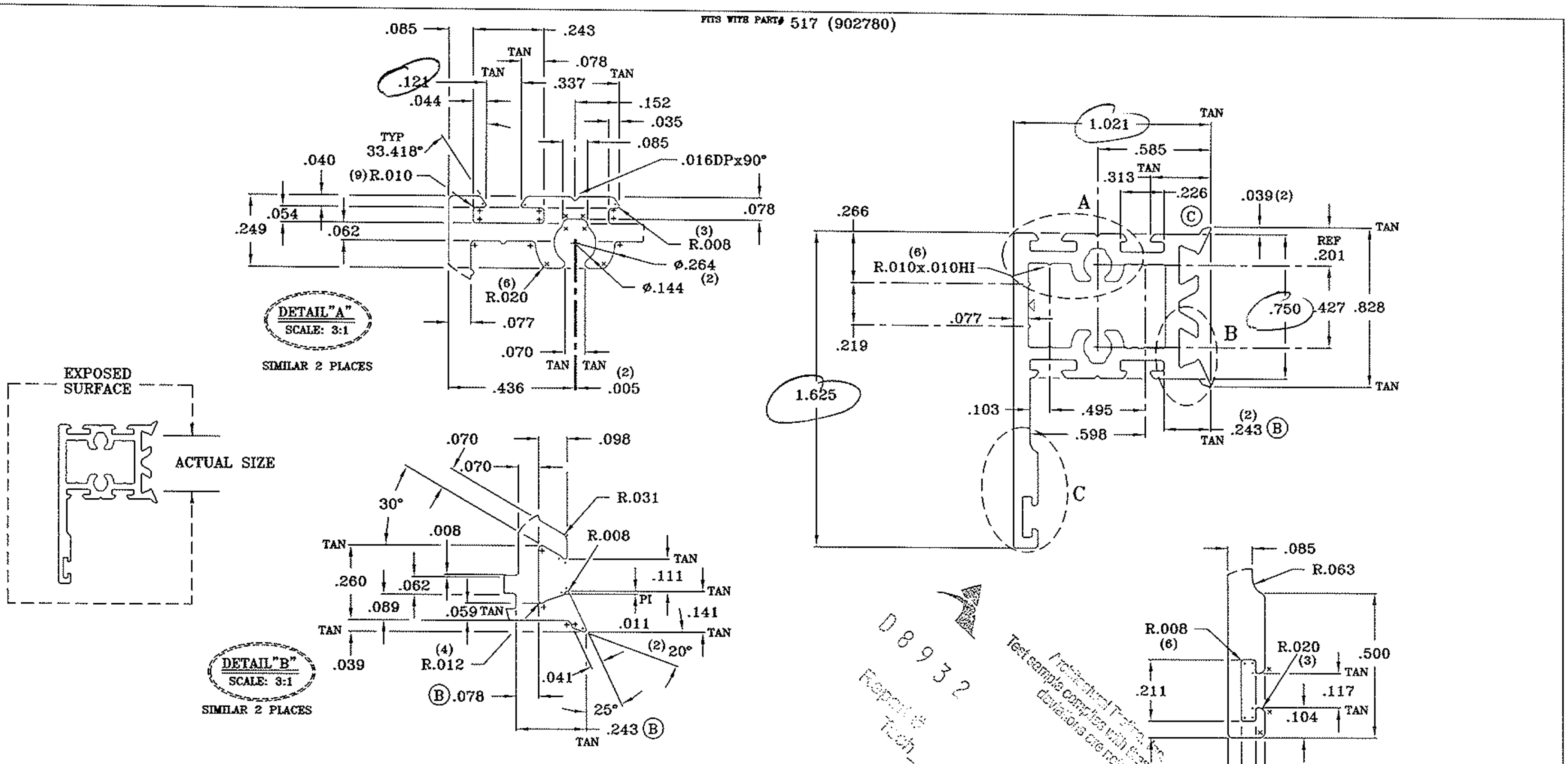


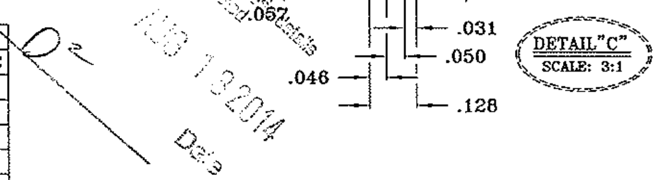
DETAIL"B"
SCALE: 4:1

CONTAINER	DIE RING	SPACER RING				
AREA .456	PORTS	RKR				
WT/FT .550	W/P	BOLSTER				
PERI. 14.139	ALL45304	DIE SIZE				
DWN. BY KEN DATE 8/02/10	MAT'L. 6063-T6					
CHKD. BY DATE	STANDARD TOLERANCES UNLESS OTHERWISE NOTED	LET.	REVISION	BY	DATE	

SIERRA ALUMINUM COMPANY
2345 Fleetwood Drive
Riverside, California 92509
(951)781-7800 FAX (951)781-7864

CUSTOMER: ALL WEATHER ALUMINUM PROD.
PART NAME:
SCALE: 2:1
PART NO.: 63
DIE NO.:





▷.010 R. X .010DEEP I.D. MARK

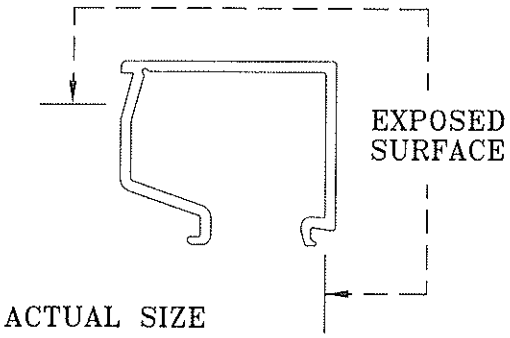
NOTE: .062 TYP. WALL EXCEPT AS NOTED
UNMARKED CORNERS ~~XXXX~~ .016R

CONTAINER 7	DIE RING 5	SPACER RING 2				
AREA .391	PORTS 2	BKR –				
WT/FT .469	W/P –	BOLSTER STD-2				
PERI 11.277	ALL40975	DIE SIZE 9x5	C	ADD DIM .226	TAS	5/10/09
DWN. BY TAS DATE 8/13/08	MAT'L 6063-T6		B	WT/FT WAS .468; PERI 11.302 DIM .243 WAS .236 – 2 PLACES DIM .078 WAS .070 – DET. C	TAS	9/19/08
CHKD. BY DATE	STANDARD TOLERANCES UNLESS OTHERWISE NOTED		LET.	REVISION	BY	DATE

SIERRA ALUMINUM COMPANY 2345 Fleetwood Drive Riverside, California 92509 (951)781-7800 FAX (951)781-7864	CUSTOMER ALL WEATHER ALUMINUM PROD.	SCALE 2:1	PART NO. 503
	PART NAME SASH/FRAME HALF W/O STOP	1000 140	DIE NO. H-902777

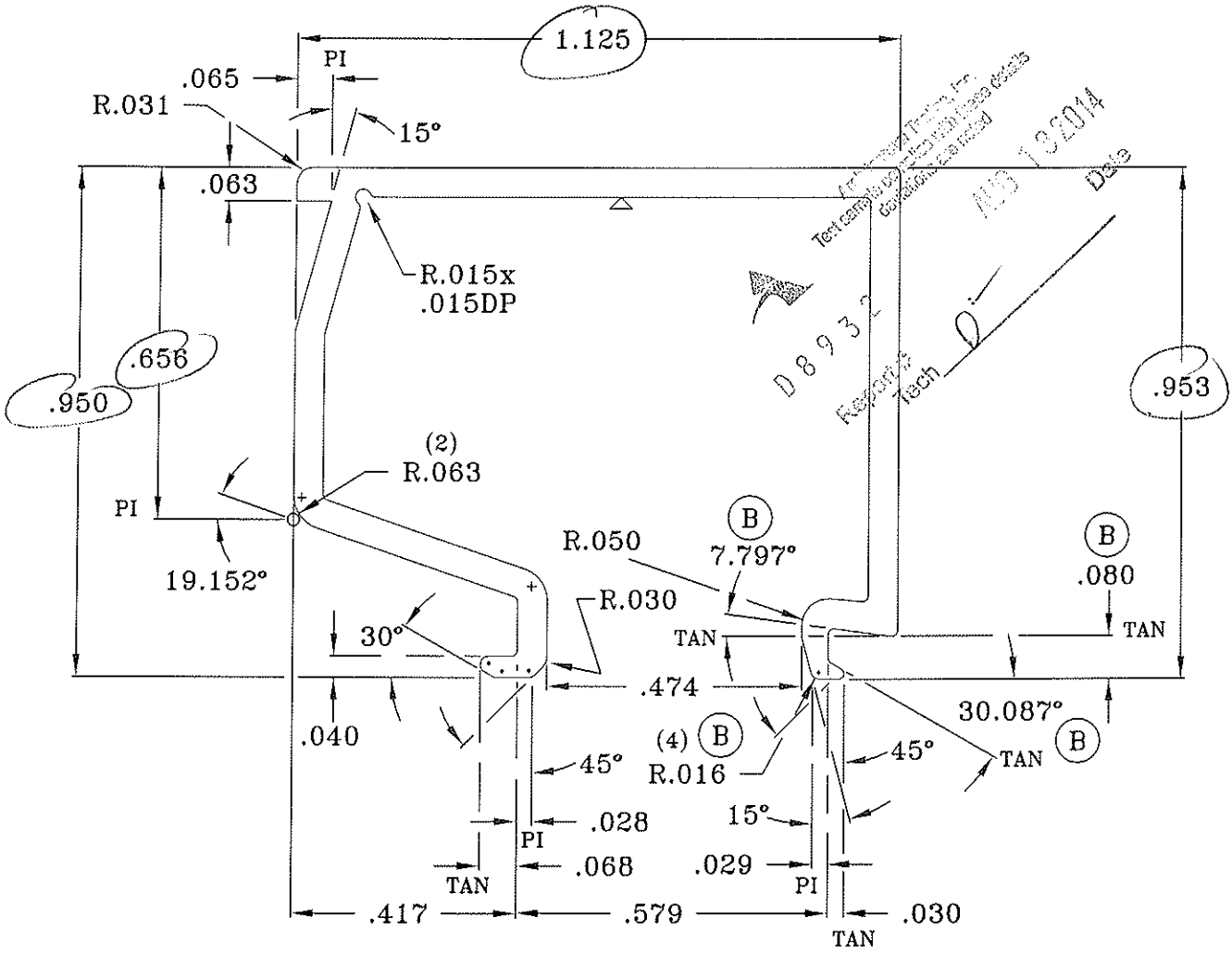
UNLESS OTHERWISE SPECIFIED	
SPECIFIED DIM.	TOLERANCE
UP THRU.124	±.006
.125–.249	±.007
.250–.499	±.008
.500–.749	±.009
.750–.999	±.010
1.000–1.499	±.012
1.500–1.999	±.014
2.000–3.999	±.024
ANGULAR	±1°

FITS WITH PART#



ACTUAL SIZE

UNLESS OTHERWISE SPECIFIED	
SPECIFIED DIM.	TOLERANCE
UP THRU.124	±.006
.125–.249	±.007
.250–.499	±.008
.500–.749	±.009
.750–.999	±.010
1.000–1.499	±.012
1.500–1.999	±.014
ANGULAR	±1°



▷.010 R. X .010DEEPI.D. MARK

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

CONTAINER 7	DIE RING 5	SPACER RING 2					
AREA .185	PORTS 4	BKR 911261					
WT/FT .222	W/P POCKET	BOLSTER STD-4					
PERI. 6.881	ALL40983	DIE SIZE 9x2	B	PERI WAS 6.872 DIM .080 WAS .085		TAS	9/12/08
DWN. BY TAS	DATE 8/13/08	MAT'L. 6063-T6	B	DIM 30.087° WAS 6° DIM R.016 QUANTITY WAS (6) DIM 7.797° WAS 4.996°		TAS	9/12/08
CHKD. BY	DATE	STANDARD TOLERANCES UNLESS OTHERWISE NOTED	LET.	REVISION		BY	DATE

SIERRA ALUMINUM COMPANY
2345 Fleetwood Drive
Riverside, California 92509
(951)781-7800 FAX (951)781-7864

CUSTOMER
ALL WEATHER ALUMINUM PROD.

PART NAME
1" SQUARE GLASS STOP

SCALE 3:1

487/200

PART NO. 525

DIE NO. 902782