Architectural Testing

AAMA 1503-09 THERMAL PERFORMANCE TEST REPORT

Rendered to:

UNITED STATES ALUMINUM

SERIES/MODEL: 8100

TYPE: Fixed

Summary of Results	
Thermal Transmittance (U-Factor)	0.36
Condensation Resistance Factor - Frame (CRF_f)	68
Condensation Resistance Factor - Glass (CRF_g)	74

Unit Size	47-3/8" x 59-1/8" (1203 mm x 1502 mm)
Layer 1	DS AFG Comfort Ti-AC36 (e=0.034*, #2)
Gap 1	0.50" Gap, Super Spacer Standard (OF-S), 100% Air-Filled*
Layer 2	DS Clear
Gap 2	0.37" Gap, Super Spacer Standard (OF-S), 100% Air-Filled*
Layer 3	DS Clear

Reference must be made to Report No. A1443.02-301-46, dated 01/27/11 for complete test specimen description and data.

2524 E. Jensen Ave
Fresno, CA 93706
phone: 559-233-8705
fax: 559-233-8360
www.archtest.com

Architectural Testing

AAMA 1503-09 THERMAL PERFORMANCE TEST REPORT

Rendered to:

UNITED STATES ALUMINUM
200 Singleton Drive
Waxahachie, Texas 75165

Report Number:	A1443.02-301-46
Test Date:	11/30/10
Report Date:	01/27/11
Test Record Retention Date:	11/30/14

Test Sample Identification:

Series/Model: 8100

Type: Fixed

Test Sample Submitted by: Client

Test Procedure: The condensation resistance factor (CRF) and thermal transmittance (U) were determined in accordance with AAMA 1503-09, *Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections*

1. Average warm side ambient temperature 69.80 F
2. Average cold side ambient temperature -0.66 F
3. 15 mph dynamic wind applied to test specimen exterior.
4. 0.0" $\pm$0.04" static pressure drop across specimen.

Test Results Summary:

1. Condensation resistance factor - Frame (CRF_f) 68
   Condensation resistance factor - Glass (CRF_g) 74
2. Thermal transmittance due to conduction (U) 0.36
   (U-factors expressed in Btu/hr·ft^2·F)

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Test Sample Description:

CONSTRUCTION	Frame
Size (in.) Non-Standard	47-3/8 x 59-1/8
Daylight Opening (in.)	43-1/8 x 53-7/8
CORNERS	Coped
Fasteners	Screws
Sealant	Yes
MATERIAL	AT (0.31")
Color Exterior	White
Finish Exterior	Paint
Color Interior	White
Finish Interior	Paint
GLAZING METHOD	Exterior

Glazing Information:

Layer 1	DS AFG Comfort Ti-AC36 (e=0.034*, #2)
Gap 1	0.50" Gap, Super Spacer Standard (OF-S), 100% Air-Filled*
Layer 2	DS Clear
Gap 2	0.37" Gap, Super Spacer Standard (OF-S), 100% Air-Filled*
Layer 3	DS Clear
Gas Fill Method	N/A*
Desiccant	Yes - Contained within the spacer

**Stated per Client/Manufacturer*
NA Non-Applicable
See Description Table Abbreviations

Test Sample Description: (Continued)

COMPONENTS			
	Type	**Quantity**	**Location**
WEATHERSTRIP			
	No weatherstrip		
HARDWARE			
	No hardware		
DRAINAGE			
	No visible weeps		

Test Duration:

1. The environmental systems were started at 16:06 hours, 11/29/10.

2. The thermal performance test results were derived from 03:58 hours, 11/30/10 to 07:58 hours, 11/30/10.

Condensation Resistance Factor (CRF):

The following information, condensed from the test data, was used to determine the condensation resistance factor:

T_h	=	Warm side ambient air temperature	69.80 F
T_c	=	Cold side ambient air temperature	-0.66 F
FT_p	=	Average of pre-specified frame temperatures (14)	48.21 F
FT_r	=	Average of roving thermocouples (4)	39.66 F
W	=	$[(FT_p - FT_r) / (FT_p - (T_c + 10))] \times 0.40$	0.088
FT	=	$FT_p(1-W) + W (FT_r)$ = Frame Temperature	47.46 F
GT	=	Glass Temperature	51.60 F
CRF_g	=	Condensation resistance factor – Glass	74
		$CRF_g = (GT - T_c) / (T_h - T_c) \times 100$	
CRF_f	=	Condensation resistance factor – Frame	68
		$CRF_f = (FT - T_c) / (T_h - T_c) \times 100$	

The CRF number was determined to be 68 (on the size as reported). When reviewing this test data, it should be noted that the frame temperature (FT) was colder than the glass temperature (GT) therefore controlling the CRF number. Refer to the 'CRF Report' page and the 'Thermocouple Location Diagram' page of this report.

Thermal Transmittance (U_c):

T_h	=	Average warm side ambient temperature	69.80	F
T_c	=	Average cold side ambient temperature	-0.66	F
P	=	Static pressure difference across test specimen	0.00	psf
		15 mph dynamic perpendicular wind at exterior		
Nominal sample area			19.45	ft^2
Total measured input to calorimeter			581.49	Btu/hr
Calorimeter correction			86.54	Btu/hr
Net specimen heat loss			494.95	Btu/hr
U	=	Thermal Transmittance	0.36	Btu/hr·ft^2·F

Glazing Deflection (in.):

	Gap 1	Gap 2
Edge Gap Width	0.50	0.37
Estimated center gap width upon receipt of specimen in laboratory (after stabilization)	0.50	0.00
Center gap width at laboratory ambient conditions on day of testing	0.50	0.40
Center gap width at test conditions	0.50	0.40

The sample was inspected for the formation of frost or condensation, which may influence the surface temperature measurements. The sample showed no evidence of condensation/frost at the conclusion of the test.

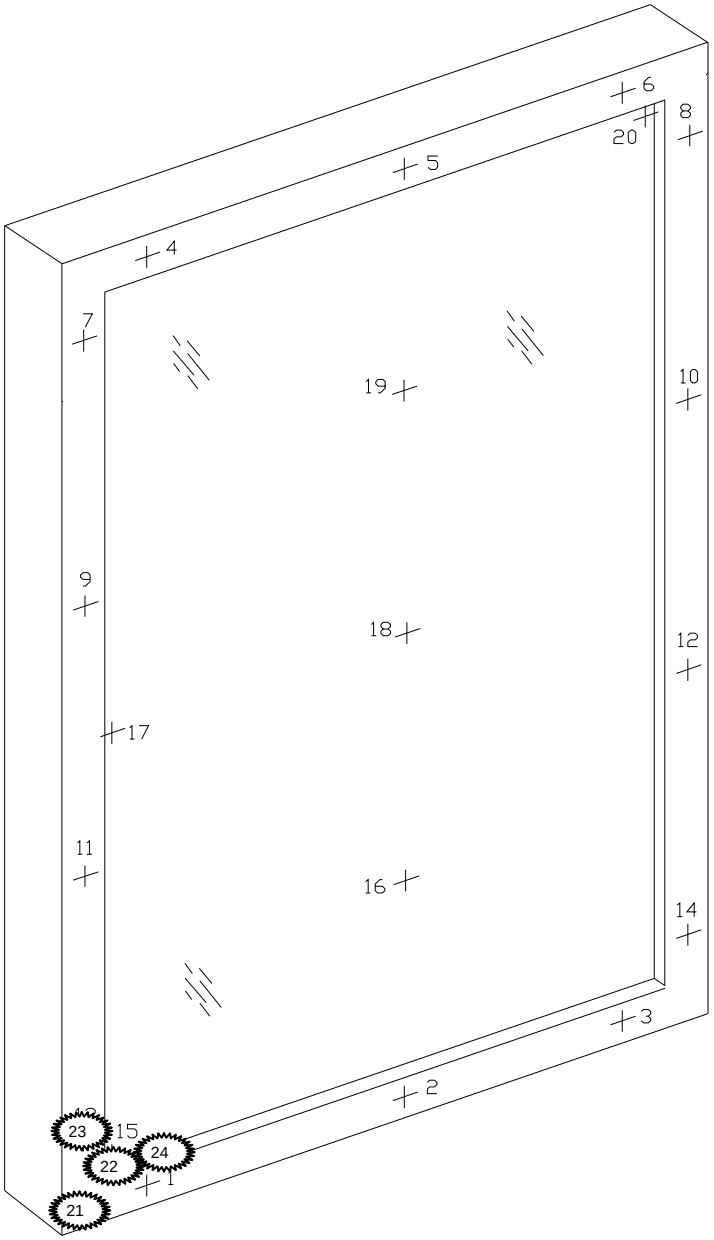
A full calibration of the Architectural Testing Inc. 'thermal test chamber' (ICN 004287) in Fresno, California was conducted in April 2010 in accordance with Architectural Testing Inc. calibration procedure. A calibration check was performed September 2010.

Prior to testing the specimen was sealed with silicone on the interior side and checked for air infiltration per Section 9.3.4.

CRF Report

Time:	05:57	06:27	06:57	07:28	07:58	AVERAGE
Pre-specified Thermocouples - Frame						
1	41.54	41.51	41.50	41.55	41.63	41.55
2	44.90	44.89	44.86	44.91	45.02	44.92
3	44.34	44.29	44.32	44.36	44.40	44.34
4	53.50	53.47	53.45	53.53	53.51	53.49
5	53.82	53.81	53.78	53.86	53.86	53.83
6	53.10	53.08	53.11	53.15	53.13	53.12
7	51.68	51.70	51.71	51.77	51.76	51.72
8	52.22	52.25	52.23	52.27	52.29	52.25
9	49.95	49.94	49.95	50.00	50.00	49.97
10	50.50	50.47	50.46	50.57	50.55	50.51
11	47.94	47.95	47.97	48.05	48.03	47.99
12	48.00	47.95	47.97	48.05	48.02	48.00
13	39.43	39.38	39.38	39.45	39.39	39.41
14	43.89	43.89	43.90	43.95	43.91	43.91
FT_P	48.20	48.18	48.19	48.25	48.25	48.21
Pre-specified Thermocouples - Glass						
15	38.79	38.79	38.79	38.79	38.79	38.79
16	59.67	59.63	59.63	59.68	59.65	59.65
17	45.56	45.54	45.53	45.59	45.57	45.56
18	61.91	61.88	61.85	61.92	61.87	61.89
19	62.06	62.02	62.03	61.98	62.08	62.03
20	41.72	41.68	41.52	41.67	41.68	41.65
GT	51.62	51.59	51.56	51.60	51.61	51.60
Cold Point (Roving) Thermocouples						
21	40.27	40.35	40.38	40.33	40.37	40.34
22	39.21	39.14	39.22	39.18	39.11	39.17
23	39.74	39.72	39.77	39.72	39.70	39.73
24	39.43	39.38	39.38	39.45	39.39	39.41
FT_R	39.66	39.65	39.69	39.67	39.64	39.66
W	0.09	0.09	0.09	0.09	0.09	0.09
FT	47.45	47.43	47.44	47.49	47.49	47.46
Warm Side - Room Ambient Air Temperature						
	69.78	69.76	69.77	69.80	69.81	69.78
Cold Side - Room Ambient Air Temperature						
	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66
CRF_f	68	68	68	68	68	68
CRF_g	74	74	74	74	74	74

Thermocouple Location Diagram



Cold Point Locations

21. 40.34
22. 39.17
23. 39.73
24. 39.41

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 by Architectural Testing will expire. Results obtained are tested values and were secured by using the designated test methods. 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: William Smeds

Simon Smeds
Technician

Digitally Signed by:Kenny C. White

Kenny C. White
Laboratory Manager
Individual-In-Responsible-Charge

WSS:ss
A1443.02-301-46

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Description Table Abbreviations (1)
Appendix-B: Drawings (10)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	01/27/11	All	Original Report Issue. Work requested by Mr. Terry Hopgood of United States Aluminum

Appendix A: Description Table Abbreviations

CODE	Frame / Sash Types
AI	Aluminum w/ Vinyl Inserts (Caps)
AL	Aluminum
AP	Aluminum w/ Thermal Breaks - Partial
AS	Aluminum w/ Steel Reinforcement
AT	Aluminum w/ Thermal Breaks - All Members (≥ 0.21")
AU	Aluminum Thermally Improved - All Members (0.062" - 0.209")
AV	Aluminum / Vinyl Composite
AW	Aluminum-clad Wood
FG	Fiberglass
PA	ABS Plastic w/ All Members Reinforced
PC	ABS Plastic-clad Aluminum
PF	ABS Plastic w/ Foam-filled Insulation
PH	ABS Plastic w/ Horizontal Members Reinforced
PI	ABS Plastic w/ Reinforcement - Interlock
PL	ABS Plastic
PP	ABS Plastic w/ Reinforcement - Partial
PV	ABS Plastic w/ Vertical Members Reinforced
PW	ABS Plastic-clad Wood
ST	Steel
VA	Vinyl w/ All Members Reinforced
VC	Vinyl-clad Aluminum
VF	Vinyl w/ Foam-filled Insulation
VH	Vinyl w/ Horizontal Members Reinforced
VI	Vinyl w/ Reinforcement - Interlock
VP	Vinyl w/ Reinforcement - Partial
VV	Vinyl w/ Vertical Members Reinforced
VW	Vinyl-clad Wood
VY	Vinyl
WA	Aluminum / Wood composite
WD	Wood
WV	Vinyl / Wood composite
WF	Fiberglass/Wood Combination
WC	Composite/Wood Composite (Shaped vinyl/wood composite members)
CW	Copper Clad Wood
CO	Vinyl/Wood Composite Material

CODE	Spacer Types (See sealant)
A1	Aluminum
A2	Aluminum (Thermally-broken)
A3	Aluminum-reinforced Polymer
A4	Aluminum / Wood
A5	Aluminum-reinforced Butyl (Swiggle)
A6	Aluminum / Foam / Aluminum
A7	Aluminum U-shaped
A8	Aluminum-Butyl (Corrugated) (Duraseal)
ER	EPDM Reinforced Butyl
FG	Fiberglass
GL	Glass
OF	Organic Foam
P1	Duralite
PU	Polyurethane Foam
SU	Stainless Steel, U-shaped
CU	Coated Steel, U-shaped (Intercept)
S2	Steel (Thermally-broken)
S3	Steel / Foam / Steel
S5	Steel-reinforced Butyl
S6	Steel U-channel w/ Thermal Cap
SS	Stainless Steel
CS	Coated Steel
TP	Thermo-plastic
WD	Wood
ZE	Elastomeric Silicone Foam
ZF	Silicone Foam
ZS	Silicone / Steel
N	Not Applicable
TS	Thermo-plastic w/ stainless steel substrate

CODE	Tint Codes
AZ	Azurlite
BL	Blue
BZ	Bronze
CL	Clear
EV	Evergreen
GD	Gold
GR	Green
GY	Gray
LE	Low 'e' Coating
OT	Other (use comment field)
RC	Solar or Reflective Coating
RG	Roller Shades between glazing
RS	Silver (reflective coating)
SF	Suspended Polyester Film
SR	Silver
BG	Blinds between the Glazing
DV	Dynamic Glazing-Variable
DY	Dynamic Glazing-NonVariable

CODE	Gap Fill Codes
AIR	Air
AR2	Argon/Krypton Mixture
AR3	Argon / Krypton / Air
ARG	Argon/Air
CO2	Carbon Dioxide
KRY	Krypton/Air
SF6	Sulfur Hexaflouride
XE2	Xenon/Krypton/Air
XE3	Xenon/Argon/Air
XEN	Xenon/Air
N	Not Applicable

DOOR DETAILS	
N	Not Applicable
CODE	Door Type
EM	Embossed
FL	Flush
LF	Full Lite
LH	1/2 - Lite
LQ	1/4 - Lite
LT	3/4 - Lite
RP	Raised Panel
CODE	Skin
AL	Aluminum
FG	Fiberglass
GS	Galvanized Steel
ST	Steel
WD	Wood
VY	Vinyl
CODE	Panel
FG	Fiberglass
PL	Plastic
WP	Wood - Plywood
WS	Wood - Solid
CODE	Sub-Structure
GS	Galvanized Steel
ST	Steel
WD	Wood
VY	Vinyl
CODE	Core Fill
CH	Cellular - Honeycomb
EP	Expanded Polystyrene
PI	Polyisocyanurate
PU	Polyurethane
WP	Wood - Plywood
WS	Wood - Solid
XP	Extruded Polystyrene

CODE	Spacer Sealant
D	Dual Seal Spacer System
S	Single Seal Spacer System

CODE	Grid Description
N	No Muntins
G	Grids between glass
S	Simulated Divided Lites
T	True Muntins

CODE	Grid Size Codes
	Blank for no grids
0.75	Grids < 1"
1.5	Grids >= 1"

CODE	Thermal Breaks
F	Foam
U	Urethane
V	Vinyl
FB	Fiberglass
O	Other
AB	ABS
NE	Neoprene
AI	Air
N	Not Applicable
P	Polyamide

Appendix B: Drawings

BILL OF MATERIALS FOR 8000 SERIES SINGLE HUNG WINDOW

ITEM #		EXTRUSION #	PART NO	DESCRIPTION	COMMENTS	VENDOR	VENDOR PART NUMBER	QTY.	FINISHES: CLASS 1 CLEAR	FINISHES: BRONZE
F1	FRAME	61607	PW802	4-1/2" FRAME HEAD	COLOR TO MATCH P.O.	INTEX		1		
F2		61606	PW801	4-1/2" FRAME SILL	COLOR TO MATCH P.O.	INTEX		1		
F3		61607	PW802	4-1/2" FRAME JAMB	COLOR TO MATCH P.O.	INTEX		2		
F4		61595	SH865	GLAZING BEAD (BLAST)	COLOR TO MATCH P.O.	INTEX	61595	4		
F5		61609	PW804	SILL INSERT	COLOR TO MATCH P.O.	INTEX		4		
F6		61608	PW803	PICTURE WINDOW COVER	COLOR TO MATCH P.O.	INTEX		4		
F7			NP881	INTERIOR GLAZING GASKET	BLACK	TREMCO	TX18058E	4	BLACK	
F8			NP825	EXTERIOR GLAZING GASKET	BLACK	TREMCO	TR-14677E	4	BLACK	
F9			WH809	HEAD PVC ISOLATOR	GRAY H-81414 4% "C" (SEE NOTE# 3)	TEK PARTS/BANDLOCK		1	GRAY H-81414 4% "C" (SEE NOTE# 3)	BLACK #C10385(
F10			WH809	SILL PVC ISOLATOR	GRAY H-81414 4% "C" (SEE NOTE# 3)	TEK PARTS/BANDLOCK		1	GRAY H-81414 4% "C" (SEE NOTE# 3)	BLACK #C10385(
F11			WH809	JAMB PVC ISOLATOR	GRAY H-81414 4% "C" (SEE NOTE# 3)	TEK PARTS/BANDLOCK		2	GRAY H-81414 4% "C" (SEE NOTE# 3)	BLACK #C10385(
SP1	SMALL PARTS		WH276	WEEP HOLE COVER	MEDIUM GRAY (NOTE 2)	ASTRO EJECTION MOLDING		2		
SP2			SB881	FIXED SETTING BLOCK	BLACK	TREMCO	TX18060E	2		
SP3			WB507	EDGE BLOCK	FIXED PANEL	TREMCO	TR-1870E	8		
G1	GLASS			1.032 INSULATED BLAST GLASS (.090 + 1/2" + 1/8" + .030 PVB + 1/8")	FIXED GLASS			1		
FA1	FASTENERS		ST196(42)	#8 x 1" PHIL HEX WASHER HD SMS TYPE AB SS	FRAME (10)			10		
LB1	LABEL		LU801	USAC LOGO WITH INSTRUCTIONS		USAC PRINTER		1		
LB2			LU901	AAMA LABEL	AAMA CERT. + SECURITY TAB + NFRC TAP	ALI		1		
LB3			LU911	NFRC TEMPORARY LABEL		USAC/SC		1		
LB4			LU921	NFRC PERMIT LABEL		USAC PRINTER		1		
LB5			LB006	THIS SIDE UP LABEL		USAC PRINTER		1		

NOTE:

1. ALL PARTS MUST BE U.S. MADE.
2. ALL NYLON MOLDED PARTS TO MATCH WITH CLEAR ANODIZING TO BE GR21 (PRESSOUT CHIP IS C58K756N) FROM:

   COLOR SCIENCE
   1230 E GLENWOOD PLACE
   SANTA ANA, CA 92707-3000
   714/434-1033

3. COLOR: L = +71.60

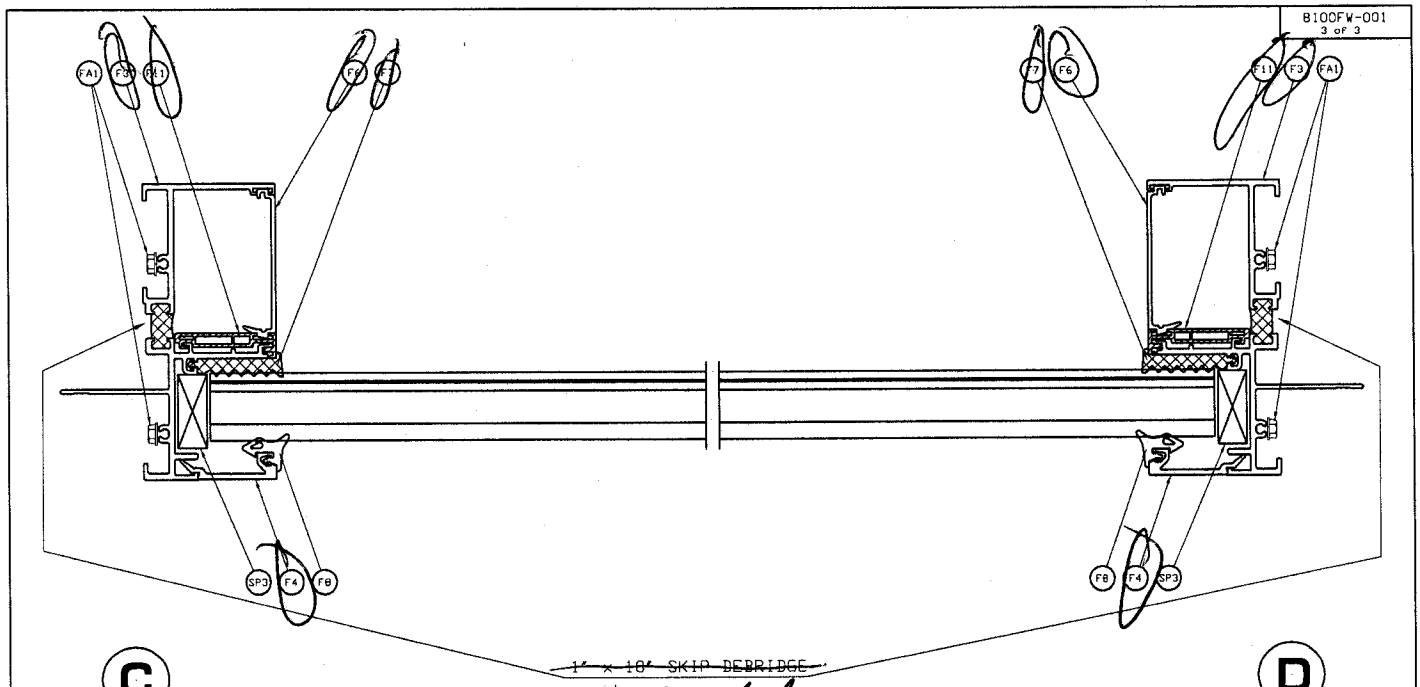
UNITED STATES ALUMINUM C

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

A 1 4 4 3 DEC 29 2010

Report # Date

Tech



				U.S. ALUMINUM CORPORATION	
			Willie C.	FIXED WINDOW LAYOUT	
			05/03/10		B100FW-001
			FULL SIZE	(SERIES B100FW) (SERIES W100, FV, OPER. INGS.)	3 of 3

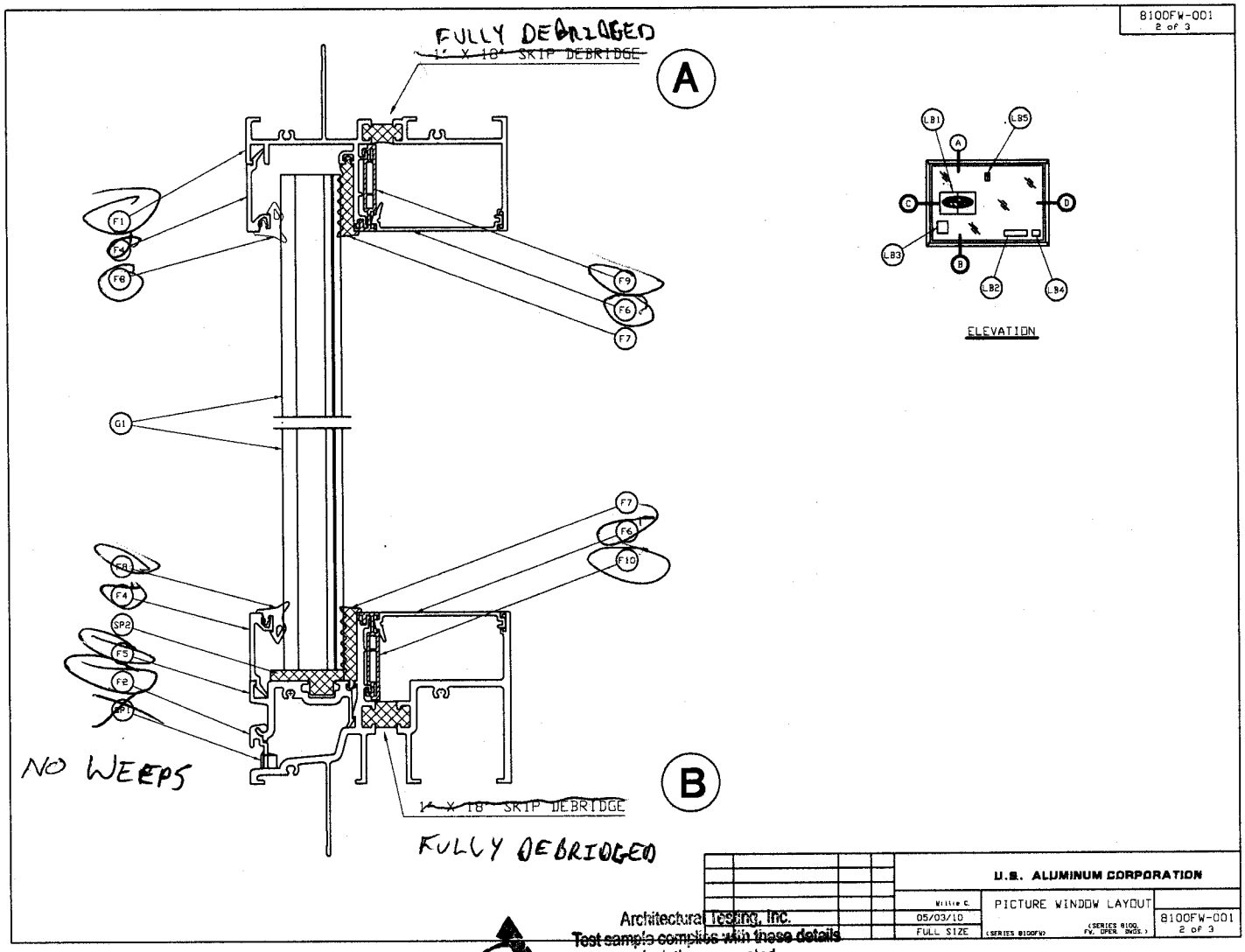
Architectural Testing, Inc.
Test sample complies with these details
deviations are noted

A 1 4 4 3 DEC 29 2010

Report # Date

Tech

8100FW-001
2 of 3



				U.S. ALUMINUM CORPORATION	
			Millie C.	PICTURE WINDOW LAYOUT	8100FW-001 2 of 3
			05/03/10		
			FULL SIZE	(SERIES 8100FW) (SERIES 8100, FX, OPER. INCLS.)	

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Test sample complies with these details
deviations are noted

A 1443 DEC 29 2010

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

A 1 4 4 3

DEC 22 2010

Report # Date

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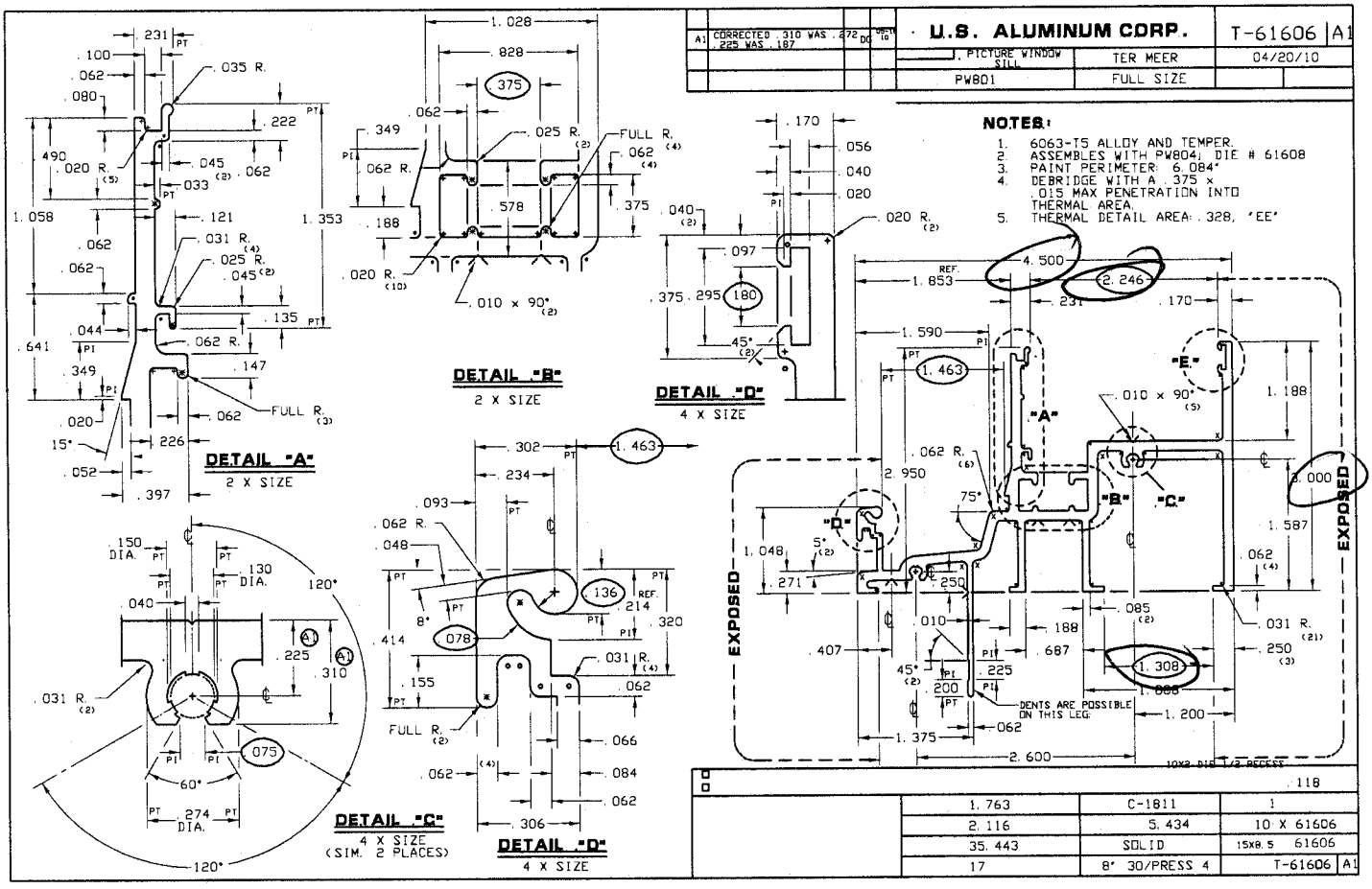

Architectural Testing, Inc.
Test sample complies with these details
deviations are noted

A 1 4 4 3 DEC 22 2010

Report # Date

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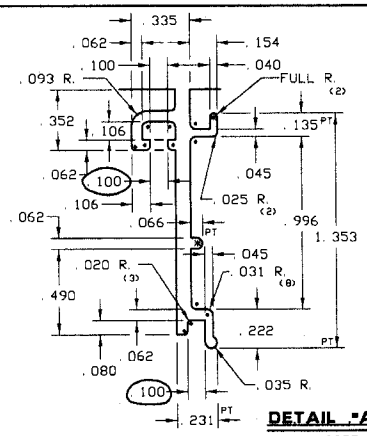
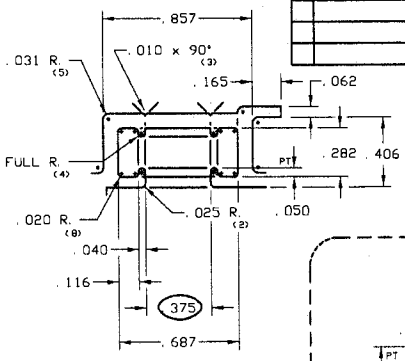
U.S. ALUMINUM CORP.			T-61607
PICTURE WINDOW HEAD/JAMB	TER MEER		04/20/10
PW802	FULL SIZE		

NOTES:

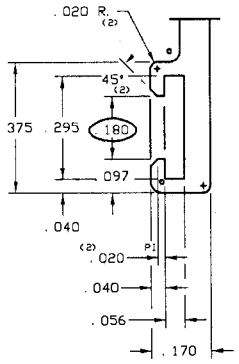
1. 6063-T5 ALLOY AND TEMPER.
2. ASSEMBLES WITH SH865, DIE #
3. PAINT PERIMETER: 3.610"
4. DEBRIDGE WITH A .375 x .015 MAX PENETRATION INTO THERMAL AREA.
5. THERMAL DETAIL AREA: .209, "EE"



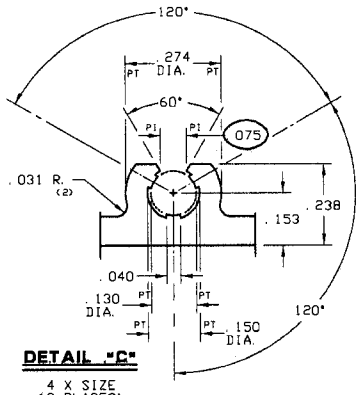
DETAIL "A"
2 X SIZE



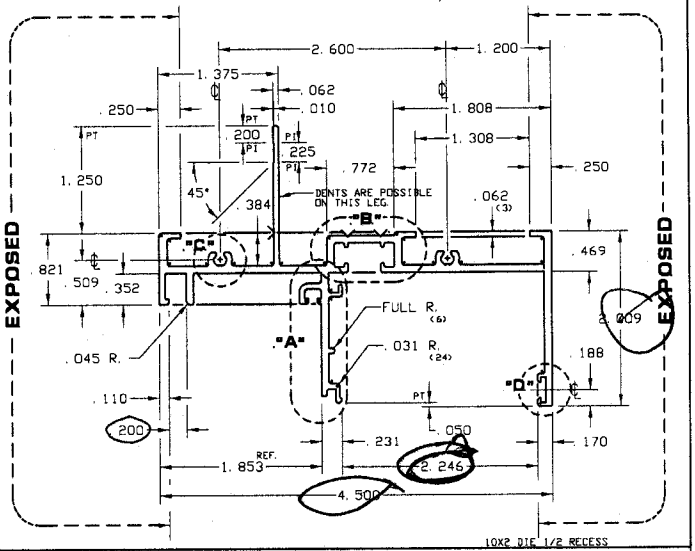
DETAIL "B"
2 X SIZE



DETAIL "D"
4 X SIZE



DETAIL "C"
4 X SIZE
(2 PLACES)



.085

1.091	C-1812	1
1.309	4.900	10 X 61607
28.261	SOLID	12X7.5 61607
22	8" 49/PRESS 4	T-61607

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

A 1 4 4 3

DEC 2 2 2010

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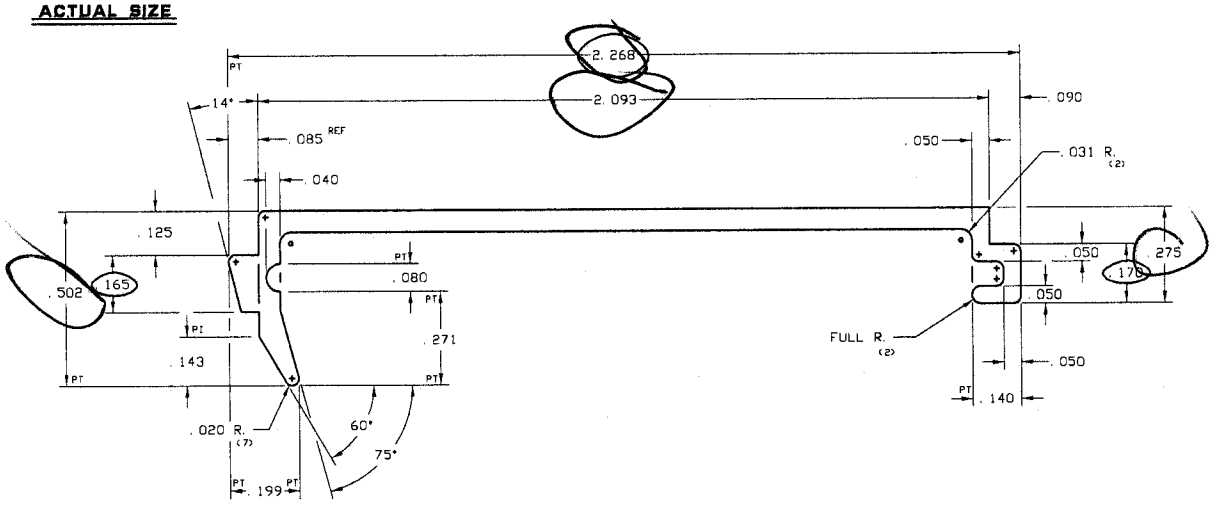
U.S. ALUMINUM CORP.		T-61608
PICTURE WINDOW COVER	TER MEER	4/20/10
PW803	4 X SIZE	

ACTUAL SIZE



NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. PAINT PERIMETER: 2.093"
3. ASSEMBLES WITH PW801; DIE # 61606
   WH809; DIE #

10X2 DIE 1/2 RECESS

		.062
.186	C-1810	3
.223	2.271	10 X 41415
6.042	SOLID	STD-3
27	7° 73/PRESS 3	T-61608

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

A 1 4 4 3 DEC 2 2 2010

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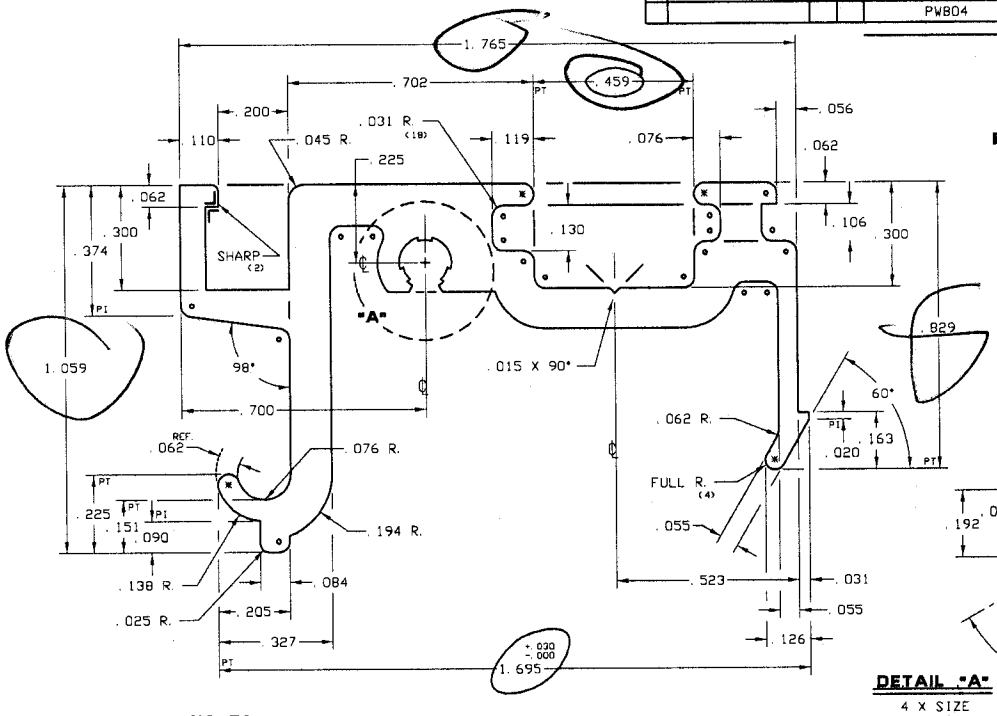
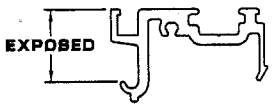
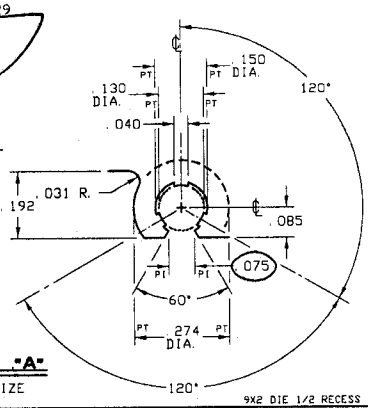
U.S. ALUMINUM CORP.		T-61609
PICTURE WINDOW SILL INSERT	TER MEER	05/07/10
PW804	4 X SIZE	





ACTUAL SIZE



DETAIL "A"
4 X SIZE

9X2 DIE 1/2 RECESS

NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. ASSEMBLELS WITH PW801; DIE # 61606
3. PAINT PERIMETER: 1.329'

.118

.477	C-1813	2
.572	1.942	9 X 61609
9.411	SOLID	STD-2
16	8' 56/PRESS 4	T-61609

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

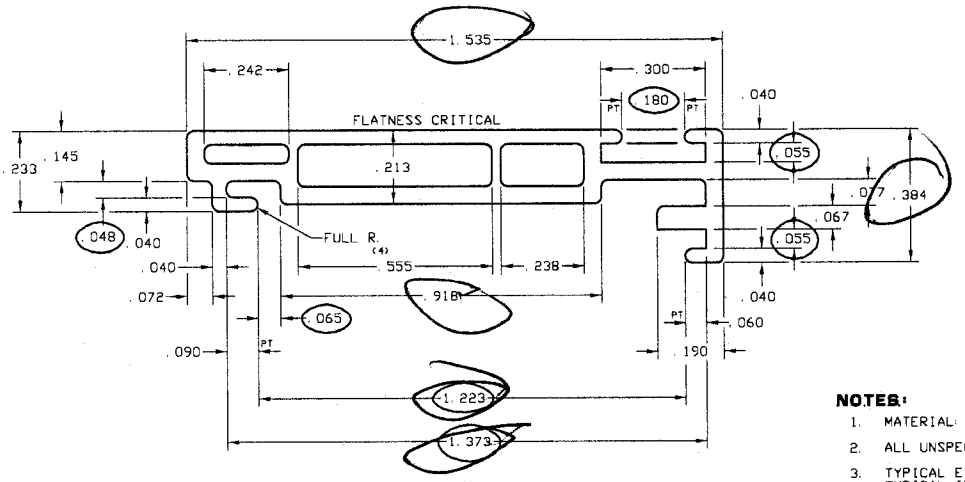
A 1 4 4 3 DEC 22 2010

Report # Date

Tech

8000SH-038B

REF. DRAWING: IW1841



ACTUAL SIZE

RADIUS SCHEDULE

s - SHARP
a - .006 R.
b - .012 R.
c - .015 R.
d - .020 R.
e - .030 R.
f - .045 R.
g - .060 R.

RELEASE FOR PRODUCTION
DATE: MARCH 9, 2010
APPR'D BY JOHN FREY

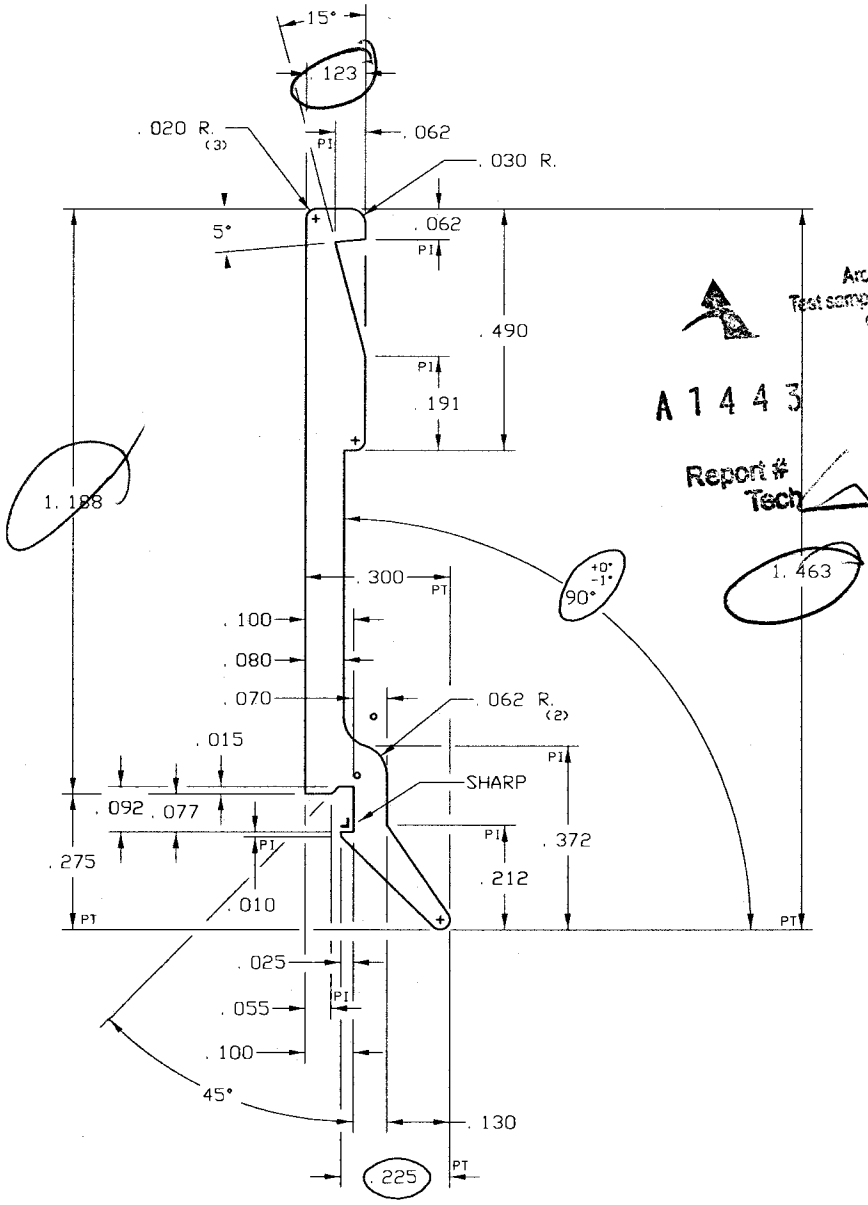
NOTES:

1. MATERIAL: RIGID PVC TO MEET AAMA 303-07
2. ALL UNSPECIFIED RADII = .020
3. TYPICAL EXTERIOR WALL THICKNESS: .050
   TYPICAL INTERIOR WALL THICKNESS: .025
4. AREA: .181
5. MINIMUM SHEEN ALLOWED 56.0 USING A GARDNER MICRO-GLOSS 60° GLOSS METER.
6. (B) TOLERANCE UNLESS OTHERWISE NOTED ±.012
7. (B) WALL THICKNESS TOLERANCE TO BE: ±.006

IWC TOLERANCES FOR PVC EXTRUDED SHAPES APPLY UNLESS SPECIFICALLY SHOWN OTHERWISE

				INTERNATIONAL WINDOW CORP.	
				Willie C.	JAMB THERMO ISOLATOR
(B)	ADDED NOTES 6 & 7	03/10/10	RT	02/05/08	8000SH-038B
				4 X SIZE	SERIES 8900 (WH809)

U.S. ALUMINUM CORP.			T-61601
IMPACT GLAZING BEAD	TER MEER		03/26/10
SH880	4 X SIZE		



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

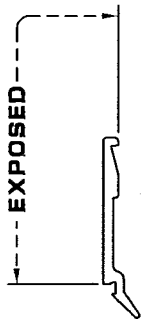
A 1 4 4 3

DEC 27 2010

Report #

Tech

Date



ACTUAL SIZE

NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. ASSEMBLES WITH SH881; DIE #
3. PAINT PERIMETER: 1.319"

9X2 DIE 1/2 RECESS

.138	C-1807	5
.166	SOLID	9 X 14357
3.458	1.499	5-7
21	7" 59/PRESS 3	T-61601

Edgetech

BETWEEN YOU AND THE ELEMENTS

Standard

Technical Specification

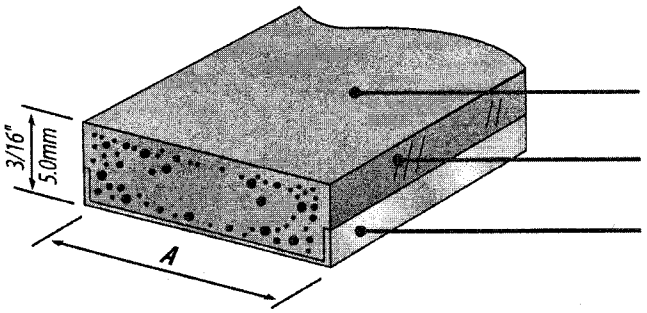
Architectural Testing, Inc.
Test sample complies with these details
deviations are noted

Super Spacer®

A 1443 DEC 22 2010

Report # Date

Tech



(A) Width mm	(A) Width inches	Meter/ Reel 3.281	Feet/ Reel	Meter/ Auto Reel	Feet/ Auto Reel
4.8	3/16	610	2000	N/A	N/A
6.4	1/4	457	1500	1372	4500
7.9	5/16	335	1100	1006	3300
9.5	3/8	305	1000	914	3000
11.1	7/16	274	900	823	2700
11.9	15/32	244	800	731	2400
12.7	1/2	244	800	731	2400
14.3	9/16	213	700	640	2100
15.9	5/8	206	675	617	2025
17.5	11/16	183	600	549	1800
19.1	3/4	175	575	526	1725
20	0.798	152	500	457	1500

Spacer Sizes

Super Spacer Standard is available in a standard 5mm (3/16") thickness and a full range of spacer widths from 4.8mm (3/16") to 20mm (.798").

Continuous Packaged Length

For regular insulating-glass production, Super Spacer Standard is supplied on reels with the continuous packaged length varying depending on the spacer width.

Protective Packaging

To provide desiccant protection, the reels are sealed in moisture-proof foil bags and then packaged in high-density polyethylene bags. These double-packaged reels are then shipped in recyclable cardboard boxes.

Desiccant Systems

Over 40% by spacer weight is desiccant material, and the low-deflection blend primarily consists of 3A molecular-sieve material.