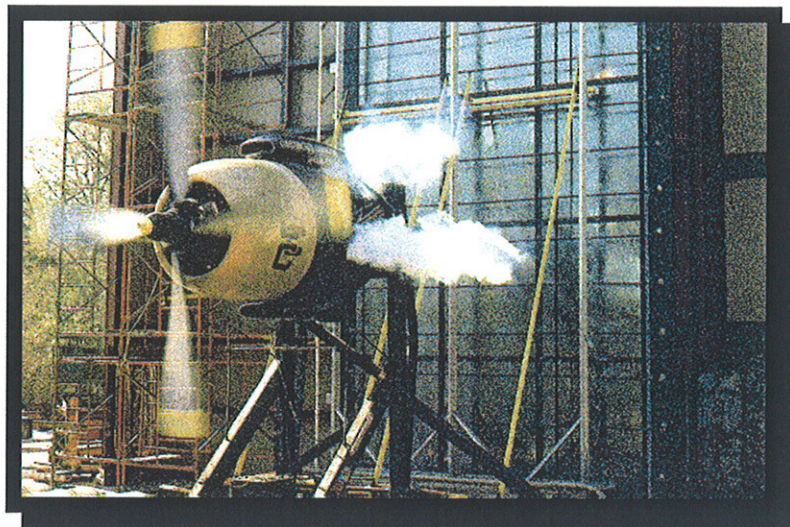




CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*



TEST REPORT:

**AAMA/WDMA/CSA 101/I.S.2/A440-08
United States Aluminum
Series 7200 Casement Out-Swing Window
REPORT #CCLI-10-168**

August 17, 2010

Prepared for:

United States Aluminum
200 Singleton Drive
Waxahachie, TX 75165



AAMA/WDMA/CSA 101/I.S.2/A440-08
UNITED STATES ALUMINUM
SERIES 7200 CASEMENT OUT-SWING WINDOW
REPORT CCLI #10-168

August 17, 2010

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APPENDIX:

APPENDIX A: UNITED STATES ALUMINUM SERIES 7200 CASEMENT OUT-SWING WINDOW DRAWINGS

Refer to mock-up drawing in **Appendix A**. This report is not complete unless this drawing is stamped and initialed by **CCLI** as illustrated below.

Drawing	Part #	Date	Stamped as Illustrated
SERIES 7200 CASEMENT BILL OF MATERIALS AND ELEV.		11/6/09	 CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL 1601 Luna Road Carrollton, Texas 75006 Phone (972) 242-0556 Report# 10-168, Date 8-17-10 Reviewed BY <u>GW</u>
FRAME HEAD AND SILL	31029	2/9/03	
FRAME JAMB	31031	2/9/03	
PO VENT	31034	2/9/03	
GLAZING BEAD	31043	3/25/93	
CORNER ANGLE	30958	7/20/90	



AAMA/WDMA/CSA 101/I.S.2/A440-08
UNITED STATES ALUMINUM
SERIES 7200 CASEMENT OUT-SWING WINDOW
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August 17, 2010
Page 1 of 4

1. PROJECT DATA

Project: Series 7200 Casement Out-Swing Window

Date of Testing: AAMA/WDMA/CSA 101/I.S.2/A440-08
July 28, 2010

Tested For: United States Aluminum
200 Singleton Drive
Waxahachie, TX 75165

Witnessed By: (All or Partial Viewing)
Terry Hopgood International Aluminum

Chevis Wilson Construction Consulting Laboratory, *International*

2. SUMMARY

Series	Product Type	Test Size	Positive DP	Negative DP
7200	Aluminum Casement	2'-6" x 5'-0"	3600 Pa (75.0 psf)	3600 Pa (75.0 psf)

3. TEST SPECIMEN

PRODUCT TYPE: Aluminum Casement Out-Swing Window, **Product Drawings, Appendix A**

SERIES/MODEL: Series 7200 Casement Out-Swing Window

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-08
R-PG75-C 762 x 1524 (30 x 60)

FRAME SIZE: 762 x 1524 (2'-6"x 5'-0")

VENT SIZE: 724 x 1486 (2'-4½" x 4'-10½")

DAY LIGHT OPENING: 668 x 1430 (2'-2⁵/₁₆" x 4'-8⁵/₁₆")

CONFIGURATION: X



AAMA/WDMA/CSA 101/I.S.2/A440-08
UNITED STATES ALUMINUM
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WEATHER-STRIP: 4.76mm ($\frac{3}{16}$ ") dual durometer located full perimeter at frame interior leg exterior face. 4.76mm ($\frac{3}{16}$ ") dual durometer at interior face of exterior leg vent top rail and stiles with stiles notched 6" from top and vent bottom rail notched 10" from each end.

GLASS: Sealed insulating glass. 2 pcs. 6.35mm ($\frac{1}{4}$ ") annealed glass, 12.7mm ($\frac{1}{2}$ ") air space with a 25.4mm (1") overall thickness. Air spacer consists of molded aluminum and desiccant.

GLAZING: Interior glazed with 4.76mm ($\frac{3}{16}$ ") polysim tape at exterior of glass with aluminum snap in glazing bead and drive in wedge gasket (part #WH344) at interior of glass.

WEEP ARRANGEMENT: One (1), weep slot with weep hood (part #WH275), 25.4mm (1") x 4.76mm ($\frac{3}{16}$ "), located 127mm (5") from each end of frame sill exterior face.

SEALANT: Narrow joint seam sealer at all frame corners, vent corners and ends of aluminum snap in glazing bead. Attachment screws sealed at head.

HARDWARE: One (1) cam lock located 171.45mm ($6\frac{3}{4}$ ") from each end of vent stile total of two (2). Lock keepers located 196.85mm ($7\frac{3}{4}$ ") from each end of frame jamb. Locks attached with two (2) #10-24 x 19.05mm ($\frac{3}{4}$ ") screws. Keepers attached with two (2) #10-24 x 9.52mm ($\frac{3}{8}$ ") screws. Four bar friction hinge (part #WH657) attached to frame head and sill with three (3) #10 x 12.7mm ($\frac{1}{2}$ ") screws and attached to vent top and bottom rail with four (4) #10 x 12.7mm ($\frac{1}{2}$ ") screws. One (1) snubber located center of frame jamb and attached with three (3) #10 x 12.7mm ($\frac{1}{2}$ ") screws. One (1) snubber located center of vent rail and attached with two (2) #10 x 12.7mm ($\frac{1}{2}$ ") screws. Lift block located at frame sill.

OTHER FEATURES: Vent members are thermally broken with polyurethane. Vent corners are mitered and crimped with one aluminum corner key (part #CB304) per connection. Frame members are coped, butted, and attached with two (2) #8 x 19.05mm ($\frac{3}{4}$ ") PHSMS per connection.

INSTALLATION FEATURES: Test specimen was installed in a nominal 50.4mm x 203.2mm (2" x 8") yellow pine wood test buck attached with #12 x 63.5mm ($2\frac{1}{2}$ ") screws spaced 76.2mm (3") from each and 304.8mm (12") on center, interior of thermal break through frame head, sill, and jambs.



AAMA/WDMA/CSA 101/I.S.2/A440-08
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SERIES 7200 CASEMENT OUT-SWING WINDOW
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4. PERFORMANCE RESULTS

<u>Specification Paragraph No.</u>	<u>Title of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
5.3.1	Project Out Operating Force	ASTM E 2068	Initiated 17.8N (4 lbs) 13.35N (3 lbs)	Maintained 100N (22 lbs) 135N (30 lbs)
5.3.2	Air Infiltration @ 300 Pa (6.24 psf)	ASTM E 283-04	.15 l/s·m ² (0.03 cfm/sf)	.5 l/s·m ² (0.10 cfm/sf)
5.3.3	Water Resistance @ 580 Pa (12.00 psf)	ASTM E 547 & 331-00	No Leakage	No Leakage
5.3.4.1	Uniform Deflection @ 3600 Pa (75 psf) P.O. Stile -Positive -Negative	ASTM E 330-02	.508mm (.02") .127mm (.005")	6.52mm (0.257") 6.52mm (0.257")
5.3.4.2	Uniform Structural -Positive -5400 Pa (112.5 psf) -Negative -5400 Pa (112.5 psf) -Permanent Set	ASTM E 330-02	No Damage No Damage None	No Damage No Damage 4.57mm (.180")
5.3.5	Forced Entry Resistance	ASTM F 588-07 Grade 10	No Entry	No Entry
5.3.6.4.3	Sash Vertical Deflection Test	200N (45 lbs)	4.76mm (0.1875")	14.47mm (0.570")
5.3.6.6.2	Distributed Load Test	333N (75 lbs)	No Damage	No Damage



AAMA/WDMA/CSA 101/I.S.2/A440-08
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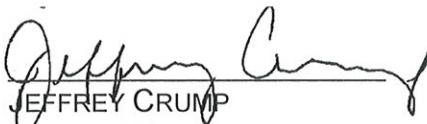
Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and were compared to the test sample submitted. These records will be retained at **CCLI** for a period of four years.

5. DISCLAIMER

The above results were obtained by using the designated test methods indicating compliance with the above specification. This report does not constitute certification of this product, which may only be granted by the program administrator.

Respectfully submitted,

CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*


JEFFREY CRUMP
TESTING MANAGER


WESLEY WILSON
LABORATORY MANAGER



AAMA/WDMA/CSA 101/I.S.2/A440-08
UNITED STATES ALUMINUM
SERIES 7200 CASEMENT OUT-SWING WINDOW
REPORT CCLI #10-168

August 17, 2010

APPENDIX



AAMA/WDMA/CSA 101/I.S.2/A440-08
UNITED STATES ALUMINUM
SERIES 7200 CASEMENT OUT-SWING WINDOW
REPORT CCLI #10-168

August 17, 2010

APPENDIX A

PROJECT DRAWINGS

Drawing	Part #	Date
SERIES 7200 CASEMENT BILL OF MATERIALS AND ELEV.		11/6/09
FRAME HEAD AND SILL	31029	2/9/03
FRAME JAMB	31031	2/9/03
PO VENT	31034	2/9/03
GLAZING BEAD	31043	3/25/93
CORNER ANGLE	30958	7/20/90

	A	B	C	D	E
1		7200 CO BOM			
2					
3	PART	DESCRIPTION	MATERIAL	SUPPLIER	
4	CT201	FRAME HZ	ALUM	INTEX	
5	CT207	VENT	ALUM	INTEX	
6	CC208	GLAZING STOP	ALUM	INTEX	
7	CT203	FRAME VT	ALUM	INTEX	
8					
9	WH657	CASEMENT ARM	SS	AMC	
10	ST242	#10 AB X 1/2" PHL PH SMS ZP		VARIES	
11	MS153	#10-24 UC X 3/8" PHL FH MS SS		VARIES	
12	ST241	#10 AB X 3/4" PHL PH SMS ZP		VARIES	
13	WH204	STRIKE		TRUTH	
14	WH204	STRIKE INSERT	ABS	AMESBURY	
15	WH240-L/R	CAM HANDLE		TRUTH	
16	WH327	CAM HANDLE SHIM	ABS	AMESBURY	
17	WH765	SNUBBER		AMC	
18	WH766	SNUBBER		AMC	
19	CB304	CORNER KEY	ALUM	INTEX	
20	SB507	SETTING BLOCK	EPDM	TREMCO	
21	ST193	#8 AB X 3/4" PHL PH SMS ZP		VARIES	
22	ST205	#8 AB X 1" PHL PH SMS SS		VARIES	
23	WH342	BULB GASKET	SANTO	AMESBURY	
24	SB509	SETTING BLOCK	EPDM	TREMCO	
25	WH275	WEEP VOVER	ABS	AMESBURY	
26	GT187	GLAZING TAPE	BUYTL	TREMCO	
27	WH314	RISER BLOCK	NYLON	ASHLAND	
28					
29		THERMAL FILL	POLYURETHANE		
30					
31					
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43					
44					
45					
46					

 CONSTRUCTION
CONSULTING
LABORATORY
INTERNATIONAL
1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0556
Report# 12-167 Date 8/13/12
Reviewed BY 

TEST REQUIREMENTS

AAMA PERFORMANCE TEST:

<AAMA/WDMA/CSA 101/1S.2/440-08>
SERIES 7200 PROJECTED WINDOW

OPERATING FORCE

<ASTM E 2068>

AIR INFILTRATION:

<ASTM E 283>

WATER PERFORMANCE:

<ASTM E 547 & 331-00>

STRUCTURAL PERFORMANCE:

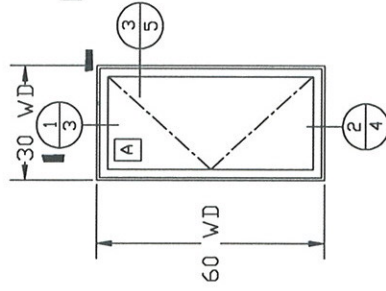
<ASTM E 330-02>

DESIGN PRESSURE 75 PSF

FORCED ENTRY:

<ASTM F 588-07>

GRADE



1601 Luna Road
Carrollton, Texas 75006

Phone (972) 242-0556

Report# D-131, Date 1/13/11

Reviewed BY [Signature]

TEST UNIT 1

QTY = 1

THIS SPACE RESERVED FOR STRUCTURAL ENGINEER

THIS SPACE RESERVED FOR METRO-DADE USE ONLY

SYM	REVISION	DATE	BY

SYMBOL KEY		
SYMBOL	DESCRIPTION	QTY
A	25-1/4" X 55"	1
COMMENTS		
1" INS 1/4" TCLEAR, 1/2" ALUM AIR, 1/4" TCLEAR		
GENERAL NOTES:		
1. HORIZONTAL GLAZING TAPE RUNS THROUGH SEAL JOINT PRIOR TO GLAZING		
2. SEAL ALL CONTACT SURFACES WITH SMALL JOINT SEALER		
3. SEAL HARDWARE FASTENERS		
4. SEAL CORNERS OF INTERIOR BULB GASKET		

United States Aluminum
• 720 Cel-River Road
Rock Hill, SC 29730
• 200 Singleton Drive
Waxahatchie, TX 75165

DCW

DATE
11.16.09

DESCRIPTION
PD CASEMENT

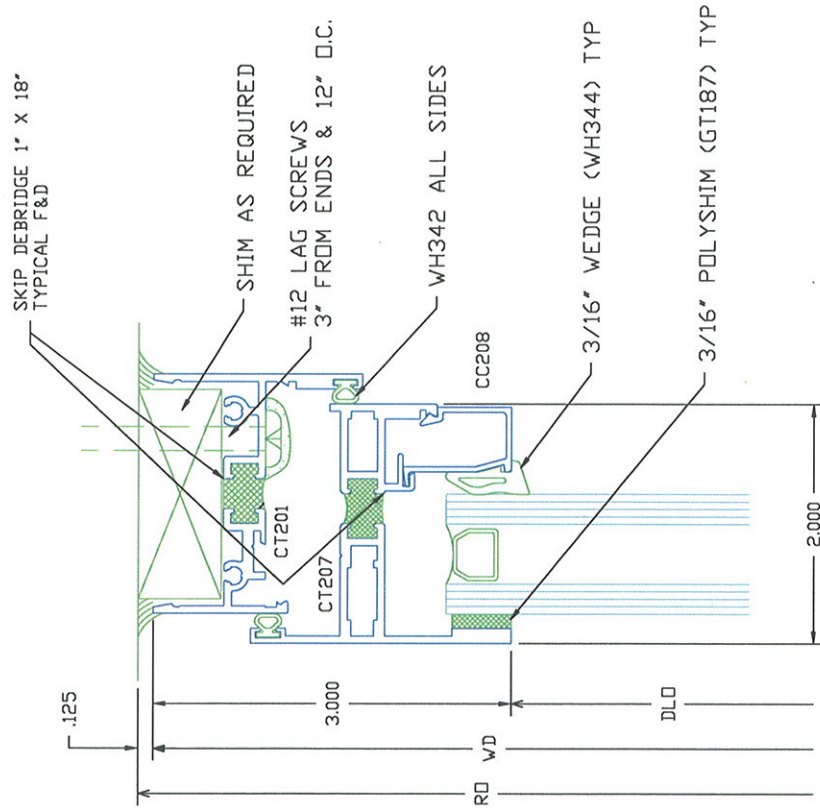
ELEVATIONS

SCALE
3/8" = 1'

SUBSIDIARY OF INTERNATIONAL ALUMINUM CORPORATION

MU2010-06 1 OF 4

SYM	REVISION	DATE	BY



1

THIS SPACE RESERVED FOR STRUCTURAL ENGINEER

THIS SPACE RESERVED FOR METRO-DADE USE ONLY

United States Aluminum	
720 Cel-River Road Rock Hill, SC 29730 P.O. Box 1000 Wesley Chapel, FL 32090	
DRAWN BY	SYSTEM
DCW	SERIES 7200
DATE	PD CASEMENT
11.16.09	
APPROVED BY	DESCRIPTION
	DETAILS
SCALE	DRAWING NO.
FULL	MU2010-06
SHEET	2 OF 4

CONSTRUCTION
CONSULTING
LABORATORY,
INTERNATIONAL

1601 Luna Road
Carrollton, Texas 75006

Phone (972) 842-0556
Fax (972) 842-0556
E-Mail: info@cll.com

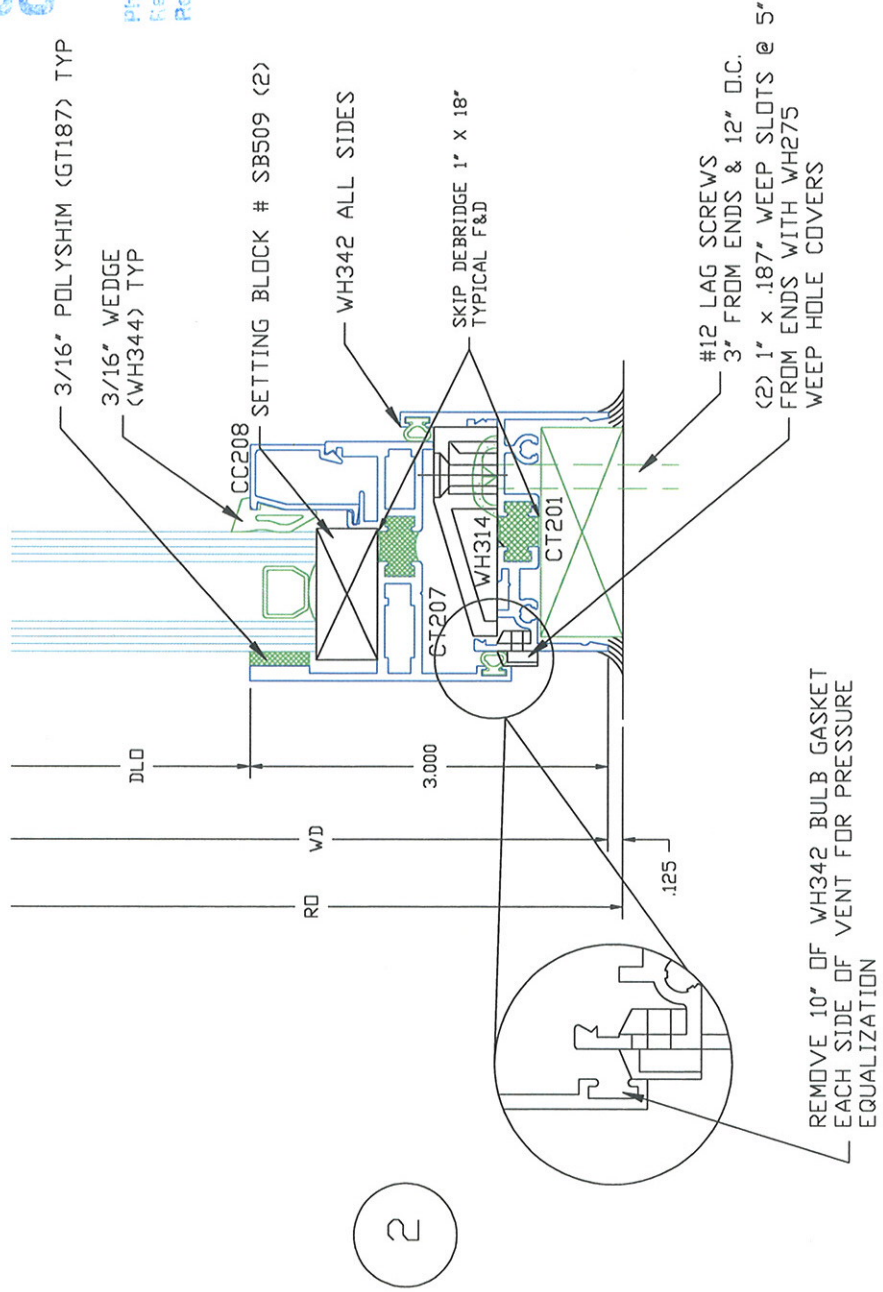
Reviewed BY: [Signature]
Date: 10/13/09

SUBSIDIARY OF INTERNATIONAL ALUMINUM CORPORATION

SYM	REVISION	DATE	BY



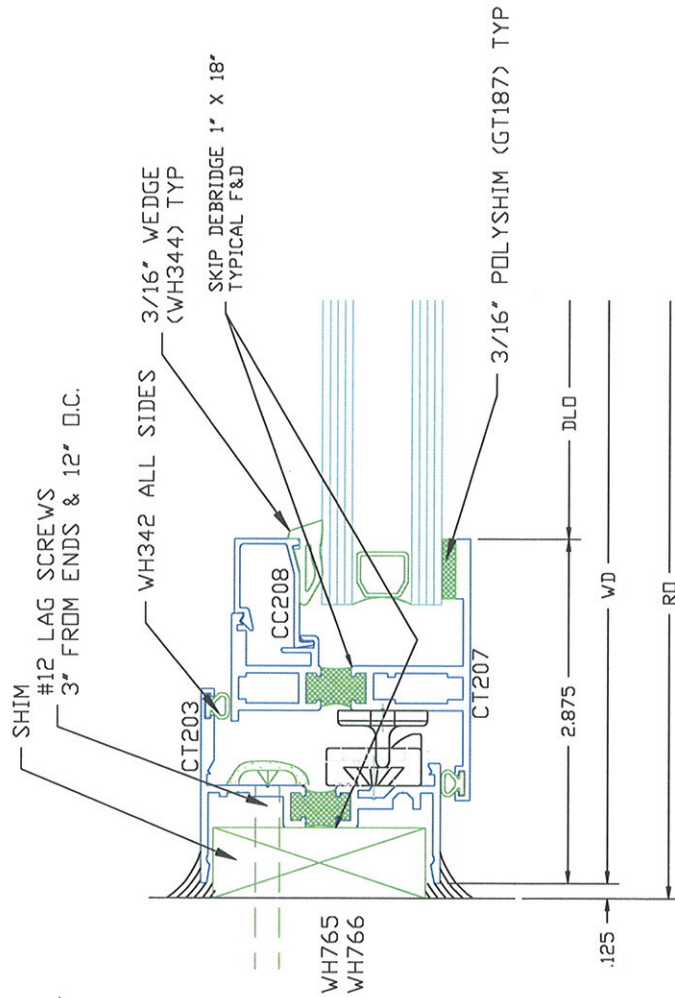
1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0556
Report # 12-167, Date 1/31/10
Reviewed BY *[Signature]*



2

THIS SPACE RESERVED FOR STRUCTURAL ENGINEER	
THIS SPACE RESERVED FOR METRO-DATA USE ONLY	
United States Aluminum 7200 Cedar-River Road 200 West 10th Street Mesquite, TX 75165	
DRAWN BY	SYSTEM
DCW	SERIES 7200
DATE	PD CASEMENT
11.16.09	DESCRIPTION
APPROVED BY	DETAILS
SCALE	DRAWING NO.
FULL	MU2010-06
SHEET	3 OF 4

SYM	REVISION	DATE	BY

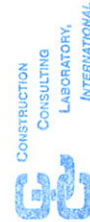


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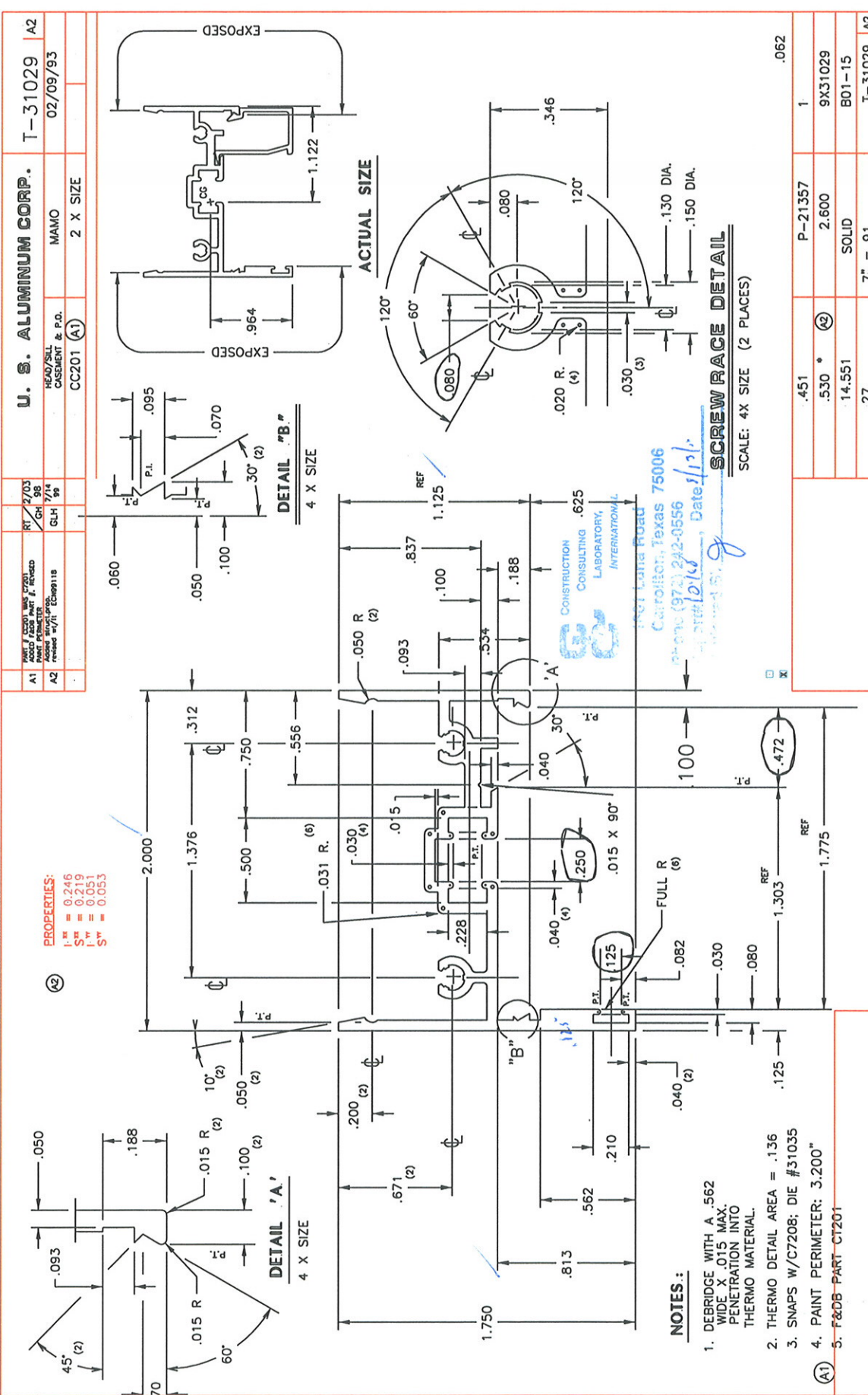
THIS SPACE RESERVED FOR STRUCTURAL ENGINEER

THIS SPACE RESERVED FOR METRO-DATE USE ONLY

United States Aluminum	
7200 Cel-River Road Rock Hill, SC 29728 Tel: 803/961-1111 Fax: 803/961-1112 Voorhees, TX 75165	
DRAWN BY DCW	SYSTEM SERIES 7200 PD CASEMENT
DATE 11.16.09	DESCRIPTION DETAILS
APPROVED BY	SCALE FULL
DRAWING NO. MU2010-06	SHEET 4 OF 4



1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0556
Report #12-118, Date 3/13/11
Reviewed BY [Signature]

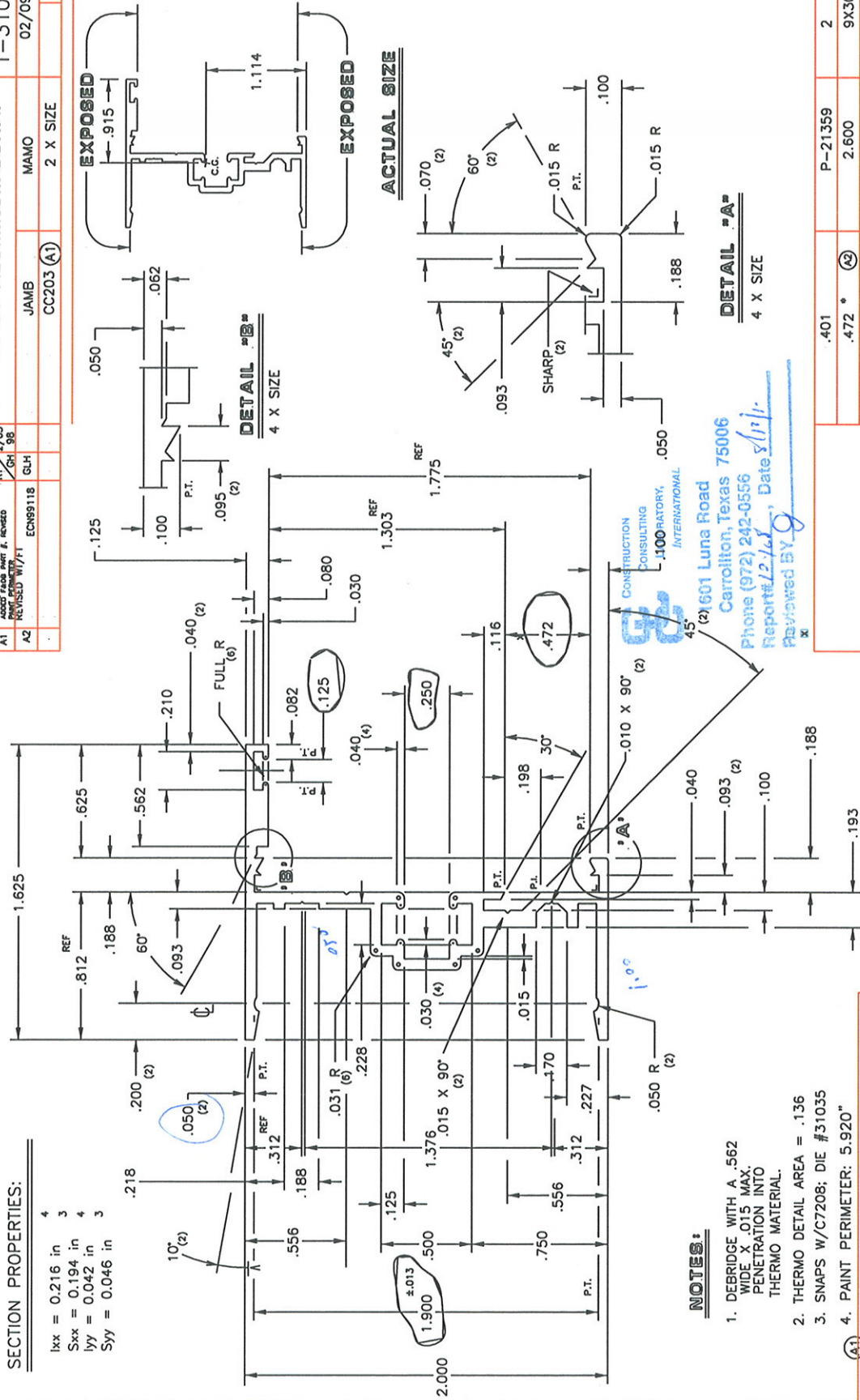


A1	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A2	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A1	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A2	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A1	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A2	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A1	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A2	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A1	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2
A2	HEAD/SHILL CASEMENT & P.O.	CC201 (A1)	2 X SIZE	T-31029 A2

U. S. ALUMINUM CORP.		T-31031	A2
JAMB		MAMO	02/09/93
CC203 (A1)		2 X SIZE	
A1	REVISED W/FT	ECN99118	GLH
A2	REVISED W/FT	ECN99118	GLH

SECTION PROPERTIES:

$I_{xx} = 0.216 \text{ in}^4$
 $S_{xx} = 0.194 \text{ in}^3$
 $I_{yy} = 0.042 \text{ in}^4$
 $S_{yy} = 0.046 \text{ in}^3$



NOTES:

1. DEBRIDGE WITH A .562 WIDE X .015 MAX. PENETRATION INTO THERMO MATERIAL.
2. THERMO DETAIL AREA = .136
3. SNAPS W/C7208; DIE #31035
4. PAINT PERIMETER: 5.920"
5. F&DB PART CT203

CONSTRUCTION CONSULTING INTERNATIONAL
 601 Luna Road
 Carrollton, Texas 75006
 Phone (972) 242-0556
 Reports 12-145, Date 5/1/91
 Reviewed BY: g

.401	P-21359	2	.062
.472 *	2.600	9X30983	
12.510	SOLID	B02-35	
26	7" = 51	T-31031	A2



AAMA/WDMA/CSA 101/I.S.2/A440-08
UNITED STATES ALUMINUM
SERIES 7200 CASEMENT OUT-SWING WINDOW
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- END OF REPORT -