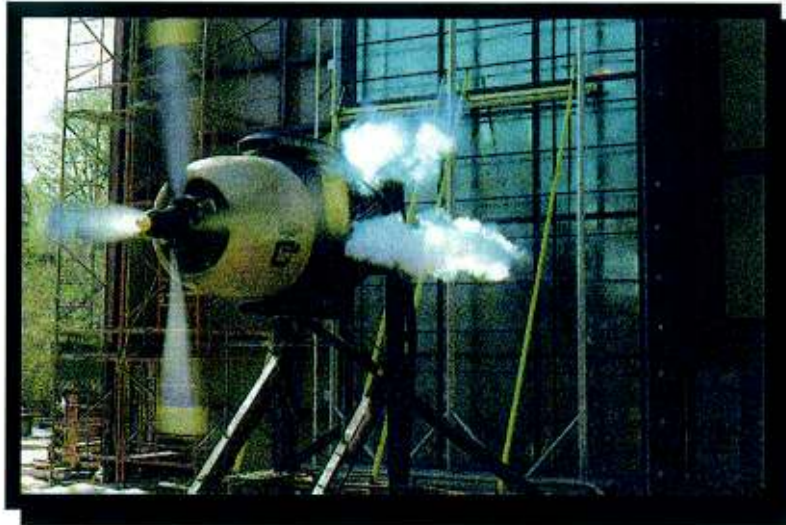




CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*



TEST REPORT:

**AAMA/WDMA/CSA/101/I.S.2/A440-08 AND AAMA 920-03
U.S. ALUMINUM INC.,
DIVISION OF CR LAURENCE CO., INC.
SERIES 250 ALUMINUM DOOR
REPORT #CCLI-12-180**

October 18, 2012

Prepared for:

**UNITED STATES ALUMINUM INC.,
DIVISION OF CR LAURENCE CO., INC.
200 Singleton Drive
Waxahachie, TX 75165**



**UNITED STATES ALUMINUM INC.,
DIVISION OF CR LAURENCE CO., INC.
SERIES 250 ALUMINUM DOOR
REPORT # CCLI-12-180**

October 17, 2012
Page 1 of 5


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3. TEST SPECIMEN	1
4. PERFORMANCE RESULTS.....	4
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APPENDIXES

APPENDIX A: UNITED STATES ALUMINUM SERIES 250 ALUMINUM DOOR DRAWINGS

Refer to Mock-Up drawings in **Appendix A**. This report is not complete unless this laboratory symbol is stamped onto drawings.

DRAWING	PART #	DATE	STAMPED AS ILLUSTRATED
Series 250 Lay Out Drawings			 CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL 1601 Luna Road Carrollton, Texas 75006 Phone (972) 242-0556
Series 250 Bill of Materials			
Series 250 Threshold	TH250	12/30/92	
Series 250 Corner Block	CB250	4/16/82	
Series 250 Hinge Stile	DT550	2/8/81	
Series 250 Lock Stile	DT400	4/15/81	
Series 250 Flush Bolt Guide	ARO45	5/8/06	
Series 250 Bottom Rail	D101	4/15/88	
Series 250 Top Rail	D201	8/17/88	
Series 250 Glass Stop	M550	11/13/87	
Series 250 Door Stile Astragal	DA350	12/8/83	
Series 250 Adjustable Astragal	DN350	3/26/86	
Series 250 Frame Jamb	J402 TL	7/29/90	
Series 250 Door Stop	DS040	11/05/90	
Series 250 Cover	WC201	12/30/92	
Series 250 Door Sweep	BW201	12/30/92	
Series 250 Frame Head	JS417	3/17/95	
Series 250 Snap In Cover	PS100	7/12/89	



**UNITED STATES ALUMINUM INC.,
DIVISION OF CR LAURENCE CO., INC.
SERIES 250 ALUMINUM DOOR
REPORT # CCLI-12-180**

October 17, 2012
Page 2 of 5

1. PROJECT DATA

Project: ASTM E 283, ASTM E 331, and ASTM E 330
Series 250 Aluminum Door

Date of Testing: October 11-12, 2012

Tested For: United States Aluminum Inc.,
Division of CR Laurence Co., Inc.
200 Singleton Drive
Waxahachie, TX 75165

Test conducted at: Construction Consulting Laboratory, *International* testing
facility in Carrollton, TX

Witnessed By: (All or Partial Viewing)

U.S. Aluminum	Don Willard
Construction Consulting Laboratory, <i>International</i>	Brandon Newman
Construction Consulting Laboratory, <i>International</i>	Jeffrey Crump

2. SCOPE

Construction Consulting Laboratory, *International* (CCLI) was requested to report the testing results of U.S. Aluminum Series 250 Aluminum Door. Tests were performed in accordance with ASTM E 283, ASTM E 331 (limited water), and ASTM E 330 testing standards.

3. TEST SPECIMEN

Product Type: Aluminum Door, **Product Drawings, Appendix A**
Series Model: Series 250
Publication No.: ASTM E 283, ASTM E 331 (limited water), and ASTM E 330
Frame Size: 2528 x 2483 (8'-3 $\frac{1}{2}$ " x 8'-1 $\frac{3}{4}$ ")
Door Leaf Size: 1214 x 2418 (3'-11 $\frac{13}{16}$ " x 7'-11 $\frac{3}{16}$ ")
Door DLO: 1087 x 2257 (3'-6 $\frac{13}{16}$ " x 7'-4 $\frac{7}{8}$ ")
Configuration: X.X



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Weather-Stripping: Bulb Gasket (part #WS147) attached to door stop (part #DS040) at frame head and jambs. Door sweep fin (part #NP399) attached to door sweep (part #BW201) which is attached to each panel with three (3) #6 x 9.525mm ($\frac{3}{8}$ ") PHL FH SMS. Two rows of pile weather-strip with integral plastic located at adjustable astragal stile (part #DN350) with adjustable screw and spring.

Hardware: Door turn-key lock cylinder located 889mm (35") from bottom of active panel leaf. Aluminum flush bolts (part #DM008) located at each end of inactive lock rail, top and bottom. Bolt holes are located through threshold and frame head. Flush bolts are activated with pull handles, (part #PRO32) and push bar (part #PRO34), with flush shoot bolts traveling through guides (part #AR045) and guide shield (part #DH237). Bolt package is attached with two (2) #8 x 19.05mm ($\frac{3}{4}$ ") PHL MS. Door butt hinges (part #DH009) are located 206mm (8 $\frac{1}{4}$ ") from head and 286mm (11 $\frac{1}{4}$ ") from sill, 648mm (25 $\frac{1}{2}$ ") O.C., total of four (4). Hinges are attached to frame jamb and door rail, each with backer plates which are attached with and four (4) #12-24U x 12.7mm ($\frac{1}{2}$ ") PHL FH machine screws and hinges attached with an additional four (4) #12-24U x 12.7mm ($\frac{1}{2}$ ") PHL FH machine screws.

Glass: Single glazed, 6.35mm ($\frac{1}{4}$ ") tempered glass,

Glazing: Glass is captured with glass stop (part #M550) with glazing gasket (part #NP270) located at interior and exterior of glass.

Weep Arrangement: None.

Sealant: Frame members are sealed at each end. Frame threshold is set in sealant and sealed at each end. Perimeter sealed with backer rod and silicone between frame members and wood buck.

Installation Features: Test specimen was installed in a #2 (2" x 10") yellow pine wood test buck attached with #12 x 88.9mm (2 $\frac{1}{2}$ ") flat head wood screws spaced 101.6mm (4") from each end and 457.2mm (18") O.C. at frame jambs, 114.3mm (4 $\frac{1}{2}$ ") from each end and 502mm (19 $\frac{3}{4}$ ") O.C. at frame threshold and 101.6mm (4") from each end and 355.6mm (14") O.C. at frame head.

Other Features: Frame hinge jambs are coped, butted, and attached with four (4) #10 x 15.9mm ($\frac{5}{8}$ ") screws per connection. Threshold clip located at each end of threshold and attached to threshold and frame jambs with two (2) #12-24U x 12.7mm ($\frac{1}{2}$ ") PHL FH machine screws, each. Door leaf corners are coped, butted, and attached with corner block (part #CB250), #10 x 15.9mm ($\frac{5}{8}$ ") screws and corner block nut (part #CB125), 9.52mm ($\frac{3}{8}$ ")-16 x 1 $\frac{1}{4}$ " HH MS per connection. $\frac{1}{4}$ "-20 x 1 $\frac{3}{4}$ " PHL PH MS jack screw located at each panel top rail.



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REPORT # CCLI-12-180**

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4. PERFORMANCE RESULTS

<u>Title of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
Air Infiltration @ 75 Pa (1.57 psf)	ASTM E 283-04	3.85 L/s•m ² (.77 cfm/sf)	7.5 L/s•m ² (1.5 cfm/sf)
Water Resistance @ (0.0 psf) Limited Water	ASTM E 547 & 331-00	No Leakage	No Leakage
Uniform Deflection @ 960 Pa (20 psf) Astragal Rail	ASTM E 330-02		
-Positive		32mm (1.27")	Report
-Negative		33mm (1.305")	Report
Uniform Structural	ASTM E 330-02		
-Positive		2520 Pa 30 psf	2520 Pa 30 psf
-Negative		2520 Pa 30 psf	2520 Pa 30 psf
-Permanent Set		2.8mm (.11")	9.93mm (.391")

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.



**UNITED STATES ALUMINUM INC.,
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SERIES 250 ALUMINUM DOOR
REPORT # CCLI-12-180**

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Page 5 of 5

5. DISCLAIMER

The above results were obtained by using the designated test methods and indicate 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



**UNITED STATES ALUMINUM INC.,
DIVISION OF CR LAURENCE CO., INC.
SERIES 250 ALUMINUM DOOR
REPORT # CCLI-12-180**

October 17, 2012

APPENDIX



**UNITED STATES ALUMINUM INC.,
DIVISION OF CR LAURENCE CO., INC.
SERIES 250 ALUMINUM DOOR
REPORT # CCLI-12-180**

October 17, 2012

APPENDIX A

PROJECT DRAWINGS

DRAWING	PART #	DATE
Series 250 Lay Out Drawings		
Series 250 Bill of Materials		
Series 250 Threshold	TH250	12/30/92
Series 250 Corner Block	CB250	4/16/82
Series 250 Hinge Stile	DT550	2/8/81
Series 250 Lock Stile	DT400	4/15/81
Series 250 Flush Bolt Guide	ARO45	5/8/06
Series 250 Bottom Rail	D101	4/15/88
Series 250 Top Rail	D201	8/17/88
Series 250 Glass Stop	M550	11/13/87
Series 250 Door Stile Astragal	DA350	12/8/83
Series 250 Adjustable Astragal	DN350	3/26/86
Series 250 Frame Jamb	J402 TL	7/29/90
Series 250 Door Stop	DS040	11/05/90
Series 250 Cover	WC201	12/30/92
Series 250 Door Sweep	BW201	12/30/92
Series 250 Frame Head	JS417	3/17/95
Series 250 Snap In Cover	PS100	7/12/89



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REPORT # CCLI-12-180**

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- END OF REPORT -

Technical drawing of a rectangular plate with dimensions and callouts. The drawing shows a rectangular plate with a central diamond-shaped feature. The dimensions are as follows:

- Overall width: $97 \frac{3}{4}$ FS
- Overall height: $99 \frac{1}{2}$ FS
- Top edge dimensions: 96 DD, $95 \frac{3}{16}$ DD, $1 \frac{3}{4}$, $1 \frac{3}{4}$
- Right edge dimensions: $1 \frac{3}{4}$, $1 \frac{3}{4}$
- Bottom edge dimensions: $88 \frac{7}{8}$ DLD, $2 \frac{5}{8}$, $1 \frac{3}{4}$
- Left edge dimensions: $11 \frac{1}{16}$, $2 \frac{17}{32}$, $3 \frac{1}{16}$, $47 \frac{13}{16}$, $3 \frac{3}{32}$
- Internal dimensions: $42 \frac{25}{32}$ DLD, $42 \frac{25}{32}$ DLD
- Callouts: 1, 2, 3, 4, A, A
- Quantity: QTY = 1

DIVISION UNITED STATES ALUMINUM

DWG NO.
MU2012-015-00

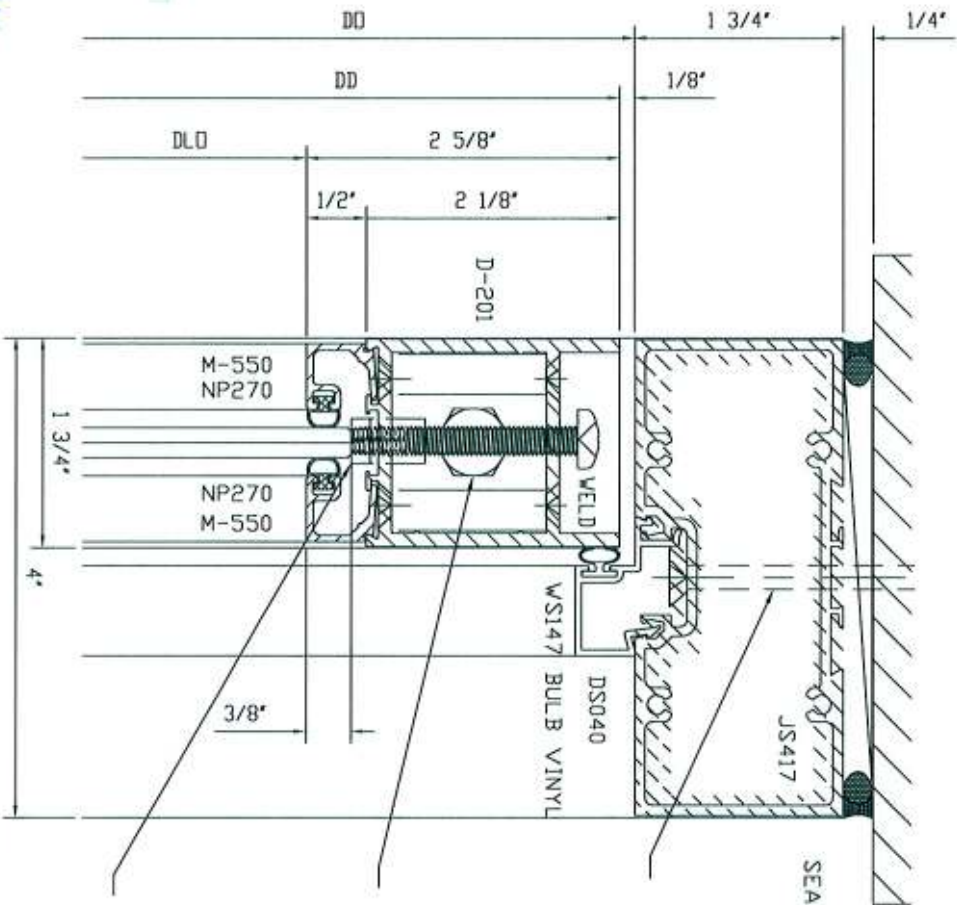
SYMBOL KEY			
SYMBOL	DESCRIPTION	QTY	COMMENTS
(A)	43.500 X 89.688	2	1/4" IDP OLDR

REV	REV_DESCRIPTION	DATE	XX
\$7M	REVISION	DATE	37

DIVISION		UNITED STATES ALUMINUM	
2100 E. 38TH STREET PHON: (320) 588-1888 FAX: (320) 232-2352		VERSION: CA 9/25/98	
DCW		TEST MOCK UP	
part	09.24.12	SERIES: 250 NS DDDR PAIR	
size	3/8"=1"	DWG NO.	
X		MU2012-015-001	

FRAME	PART	EXTRUSION	DESC	DO WIDTH	DO HEIGHT	VENDER
400	250		PAIR	96.000	96.000	
2	TEMP		GLASS -ROUND DOWN TO 1/16	43.531	89.688	
			HORZ			
1	JS417	31538	HEADER	96.000		INTEX
1	DS040	30882	DOOR STOP	95.000		INTEX
1	TH250	3695	THRESHOLD	96.000		INTEX
			VERT			
2	J-402	30870	JAMB		97.750	INTEX
2	DS040	30882	DOOR STOP		96.000	INTEX
DOOR						
			HORZ			
2	D201	4521	TOP RAIL	43.781		INTEX
2	D101	4520	BOTTOM RAIL	43.781		INTEX
4	M-550	4941	GLAZING STOPS	42.781		INTEX
2	BW201	31322	DOOR SWEEP	48.000		INTEX
2	WC201	31321	DOOR SWEEP COVER	48.000		INTEX
			VERT			
2	DT550	36043	HINGE STILE		95.188	INTEX
1	DT400	36047	DOOR STILE		95.188	INTEX
1	DN350	4981	ADJUSTABLE ASTRAGAL		95.188	INTEX
1	DA350	4980	ADJUSTABLE ASTRAGAL STILE		95.188	INTEX
4	M-550	4941	GLAZING STOPS		89.813	INTEX
2	PS100	3604	FILLER		97.750	INTEX
			ACCESSORIES			
1	WS147		WEATHERSTRIP-DOOR STOP	288.000		CPI
1	NP270		WEATHERSTRIP-GLAZING STOP	532.875		TREMCO
8	MS250		3/8"-16X1-1/4"HH MS			USAL
8	CB250	36035	CORNER BLOCK			USAL/INTEX
8	CB125		CORNER BLOCK NUT PLATE			USAL
32	ST035		#10 X 5/8" PHL FH SMS			USAL
6	D-128		SETTING BLOCK			PETERSON
2	D-018		SETTING BLOCK			MICRO PLASTICS
1	NP399		DOOR SWEEP	96.000		TREMCO
8	DH009		BUTT HINGES			HAGER
3	BP459		BACKER PLATE			VARIES
3	BP450		BACKER PLATE			VARIES
116	MS172		#12-24U X 1/2 PHL FH MS			VARIES
4	MF350		SPRING			PECK
4	ST190		#8 X 3/4 PHL OH TEK			VARIES
2	TC500		THRESHOLD CLIP			VARIES
1	DH029		AR1850 HOOK BOLT			ADAMS RITE
1	DH004		CYLINDER			RYADON
1	DH044		THUMB TURN			RYADON
2	PRO34		PUSH BAR			ABC
2	PRO32		PULL HANDLES			ABC
2	DM008		FLUSH BOLTS			USAL
2	DH238		THREAD ON BOLT			USAL
2	AR045	61325	GUIDES			USAL/INTEX
2	DH237		GUIDE SHIELD			USAL
2	MF270		1/4-20 ALL THREAD			VARIES
2	DH240		ANTI ROTATION PLATES			USAL
6	ST130		#6 X 3/8 PHL FH SMS			VARIES
			NOTE: SOME QTYS MAY VARY BY USEAGE			

MU2012-015-02



WSI124
#12 X 2-1/2"
4" FROM ENDS & 12" TO 16" D.C.

CORNER BLOCKS

CB250
ST035
#10 X 5/8" PHL FH SMS
CB125
MS250
3/8"-16 X 1 1/4" HH MS

D-018 SETTING BLOCK

MS233
1/4"-20F X 1-3/4" PHL PH
MS JACK SCREW

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12-182 Date 12/15/12

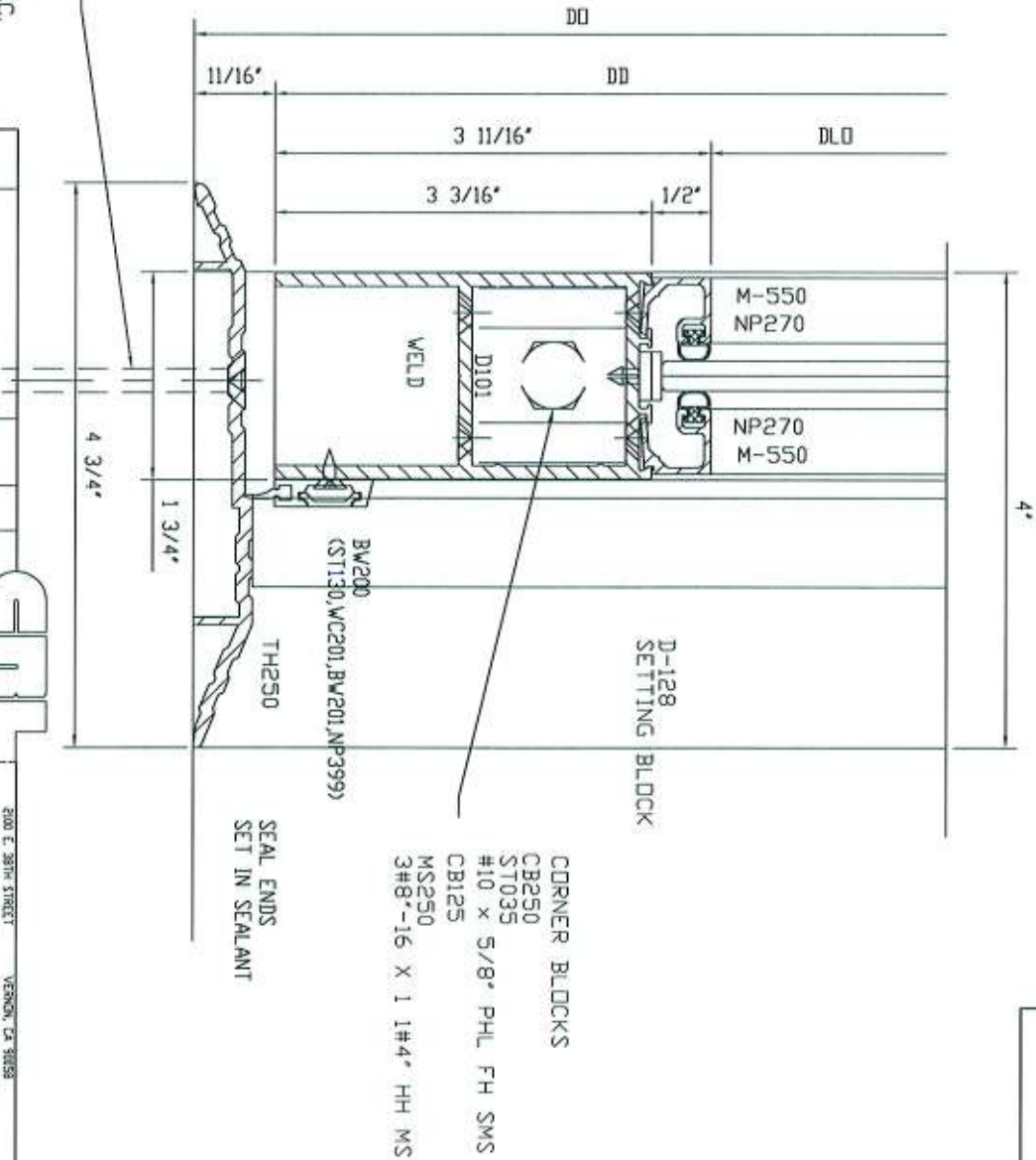
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1001 Laura Road
Canton, Texas 75006
Phone (972) 422-2526
Fax (972) 422-2526
Report 14/130 Date 10/18/15
Reviewed by *[Signature]*

2

WS124
#12 X 2-1/2"
4-1/2" FROM ENDS &
18-1/2" TO 21-1/4" D.C.



REV	REV. DESCRIPTION	DATE	BY	CHK	DATE	TEST, MOCK, UP	DWG NO.
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2	REV. DESCRIPTION	DATE	BY	CHK	DATE		
3	REV. DESCRIPTION	DATE	BY	CHK	DATE		
4	REV. DESCRIPTION	DATE	BY	CHK	DATE		
5	REV. DESCRIPTION	DATE	BY	CHK	DATE		
6	REV. DESCRIPTION	DATE	BY	CHK	DATE		
7	REV. DESCRIPTION	DATE	BY	CHK	DATE		
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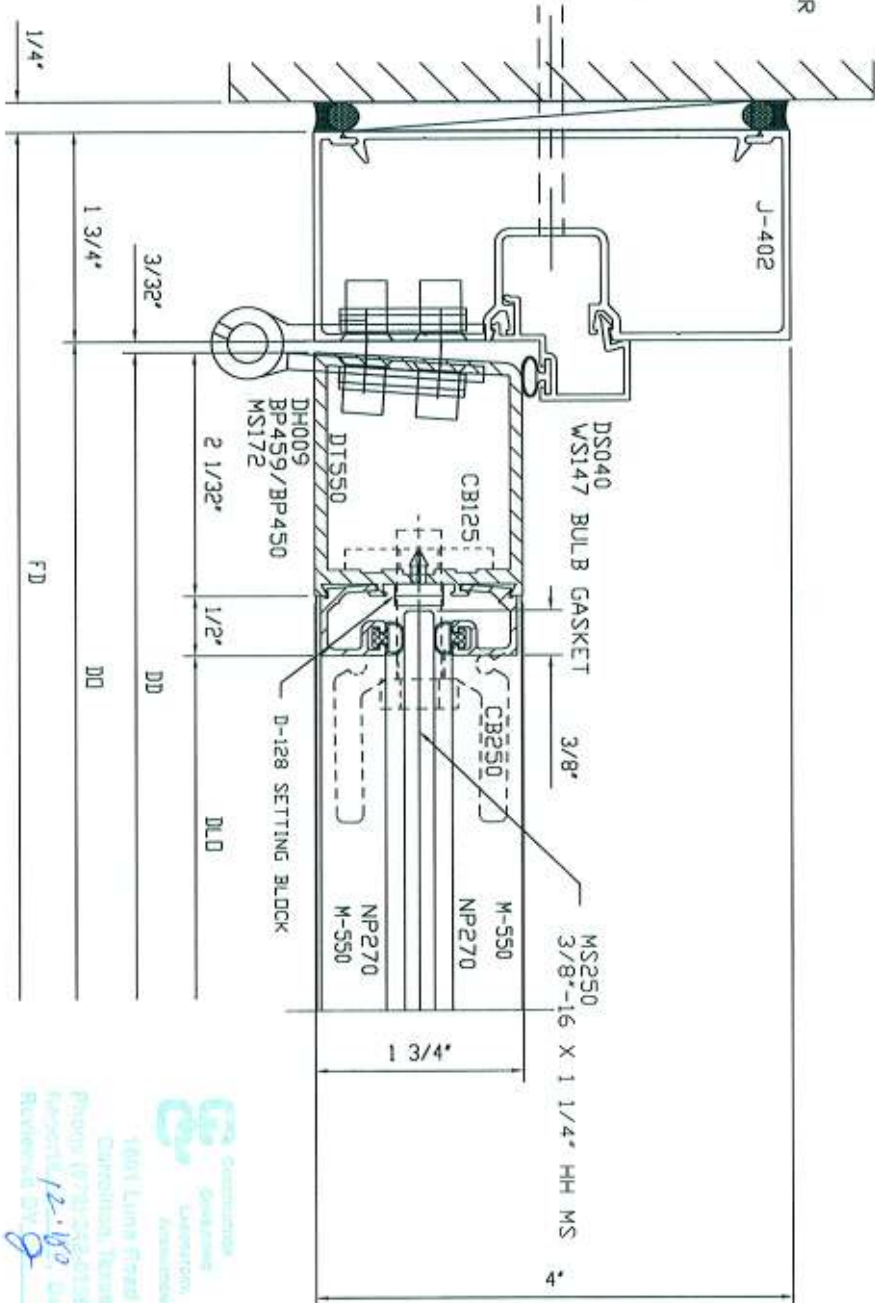
UNITED STATES ALUMINUM

2100 E. 38TH STREET
PHOENIX, AZ 85018
PHONE (602) 586-1281 FAX (602) 232-2233

MU2012-015-03

PS100 FILLER (CDNT)

WS124
#12 X 2-1/2"
4" FROM ENDS &
18" O.C.



MU2012-015-04

 ω

				2300 E. 38TH STREET WENONAH, CA 90058 PHONE (820) 980-1281 FAX (820) 232-2063	
				DIVISION <u>UNITED STATES ALUMINUM</u>	
				SPEC BY <u>DCW</u>	
REV	REV_DESCRIPTION	DATE	XXX	TEST MOCK UP	
SYN	REVISION	DATE	BY	SERIES: 250 DDDR DWG NO: MUE2012-015-04	
			DATE	FULL	



DIVISION

UNITED STATES ALUMINUM

2709 E 38TH STREET
VERBON, CA 90058
PHONE (323) 590-1280 FAX (323) 232-2523

TEST_MOCK_UP

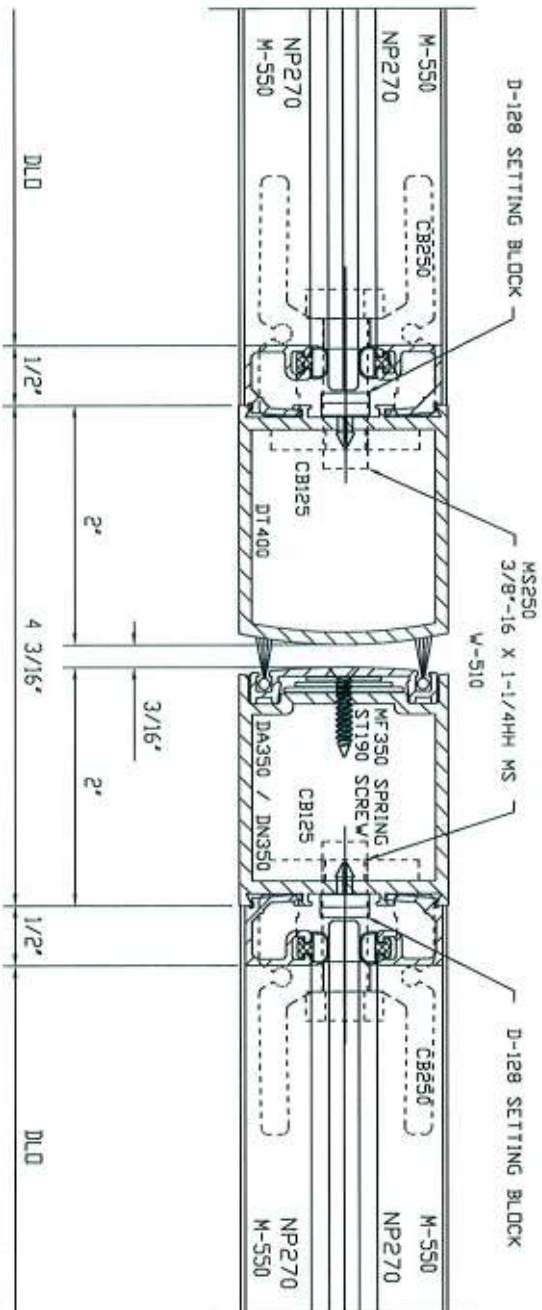
SERIES: 250 DOOR

DWG NO.

MU2012-015-04

12.150

Reviewed by 8



4

REV	REV. DESCRIPTION	DATE	XXX	DCW	TEST, MOCK, UP	DWG NO.
SYN	REVISION	DATE	BY	SCALE	SERIES: 250 DDDR	MU2012-015-05

UNITED STATES ALUMINUM

2101 E. 38TH STREET
VERBENA, CA 94088
PHONE (415) 588-1281 FAX (415) 232-0823

1501 Luma Road
Corroption, Texas 75006
Phone (972) 300-0530
Fax (972) 300-0530
12-180
1-118/11
Reviewed by