



CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*



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***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-12-181**

**October 18, 2012**

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***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-12-181

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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			 <b>CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL</b> 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	



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## 1. PROJECT DATA

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

**Date of Testing:** October 10-12, 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:** 1918 x 2178 (6'-3 $\frac{1}{2}$ " x 7'-1 $\frac{3}{4}$ ")  
**Door Leaf Size:** 910 x 2113 (2'-11 $\frac{13}{16}$ " x 6'-11 $\frac{3}{16}$ ")  
**Door DLO:** 783 x 1953 (2'-6 $\frac{13}{16}$ " x 6'-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, 808mm (31 $\frac{13}{16}$ ") O.C., total of three (3). 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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#### 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	.60 L/s•m <sup>2</sup> (1.26 cfm/sf)	7.5 L/s•m <sup>2</sup> (1.5 cfm/sf)
Water Resistance @ (0.0 psf) Limited Water	ASTM E 547 & 331-00	No Leakage	No Leakage
Uniform Deflection @ 1680 Pa (35 psf) Astragal Rail	ASTM E 330-02		
-Positive		25mm (.9825")	Report
-Negative		31mm (1.225")	Report
Uniform Structural	ASTM E 330-02		
-Positive		2520 Pa 52.5 psf	2520 Pa 52.5 psf
-Negative		2520 Pa 52.5 psf	2520 Pa 52.5 psf
-Permanent Set		2.3mm (.09")	7.62mm (.33")

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.





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## 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.,  
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**APPENDIX**



**UNITED STATES ALUMINUM INC.,  
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SERIES 250 ALUMINUM DOOR  
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October 12, 2012

**APPENDIX A**

**PROJECT DRAWINGS**

<b>DRAWING</b>	<b>PART #</b>	<b>DATE</b>
Series 250 Lay Out Drawings		
Series 250 Bill of Materials		
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Series 250 Corner Block	CB250	4/16/82
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Series 250 Lock Stile	DT400	4/15/81
Series 250 Flush Bolt Guide	ARO45	5/8/06
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October 12, 2012

**- END OF REPORT -**

2100 E. 38TH STREET  
VERNON, CA 91396  
PHONE: (323) 589-1281  
FAX: (323) 232-2523

DWG NO.

DIVISION		UNITED STATES ALUMINUM	
DCW		DWG NO.	
DATE	09.24.12	TEST MOCK UP	
SCALE	3/8"=1"	SERIES: 250 NS DOOR PAIR	MUE2012-015-01

FRAME	PART	EXTRUSION	DESC	DO WIDTH	DO HEIGHT	VENDER
400	250		PAIR	72.000	84.000	
2	TEMP		GLASS -ROUND DOWN TO 1/16	31.531	77.688	
			HORZ			
1	JS417	31538	HEADER	72.000		INTEX
1	DS040	30882	DOOR STOP	71.000		INTEX
1	TH250	3695	THRESHOLD	72.000		INTEX
			VERT			
2	J-402	30870	JAMB		85.750	INTEX
2	DS040	30882	DOOR STOP		84.000	INTEX
DOOR						
			HORZ			
2	D201	4521	TOP RAIL	31.781		INTEX
2	D101	4520	BOTTOM RAIL	31.781		INTEX
4	M-550	4941	GLAZING STOPS	30.781		INTEX
2	BW201	31322	DOOR SWEEP	36.000		INTEX
2	WC201	31321	DOOR SWEEP COVER	36.000		INTEX
			VERT			
2	DT550	36043	HINGE STILE		83.188	INTEX
1	DT400	36047	DOOR STILE		83.188	INTEX
1	DN350	4981	ADJUSTABLE ASTRAGAL		83.188	INTEX
1	DA350	4980	ADJUSTABLE ASTRAGAL STILE		83.188	INTEX
4	M-550	4941	GLAZING STOPS		77.813	INTEX
2	PS100	3604	FILLER		85.750	INTEX
			ACCESSORIES			
1	WS147		WEATHERSTRIP-DOOR STOP	240.000		CPI
1	NP270		WEATHERSTRIP-GLAZING STOP	436.875		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	72.000		TREMCO
6	DH009		BUTT HINGES			HAGER
3	BP459		BACKER PLATE			VARIES
3	BP450		BACKER PLATE			VARIES
100	MS172		#12-24U X 1/2 PHL FH MS			VARIES
4	MF350		SPRING			VARIES
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						



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				2301 E. 38TH STREET VAN HORN, CA 90258 PHONE (323) 586-1281 FAX (323) 828-2543	
		DIVISION		UNITED STATES ALUMINUM	
		SPEC TO		DWG NO.	
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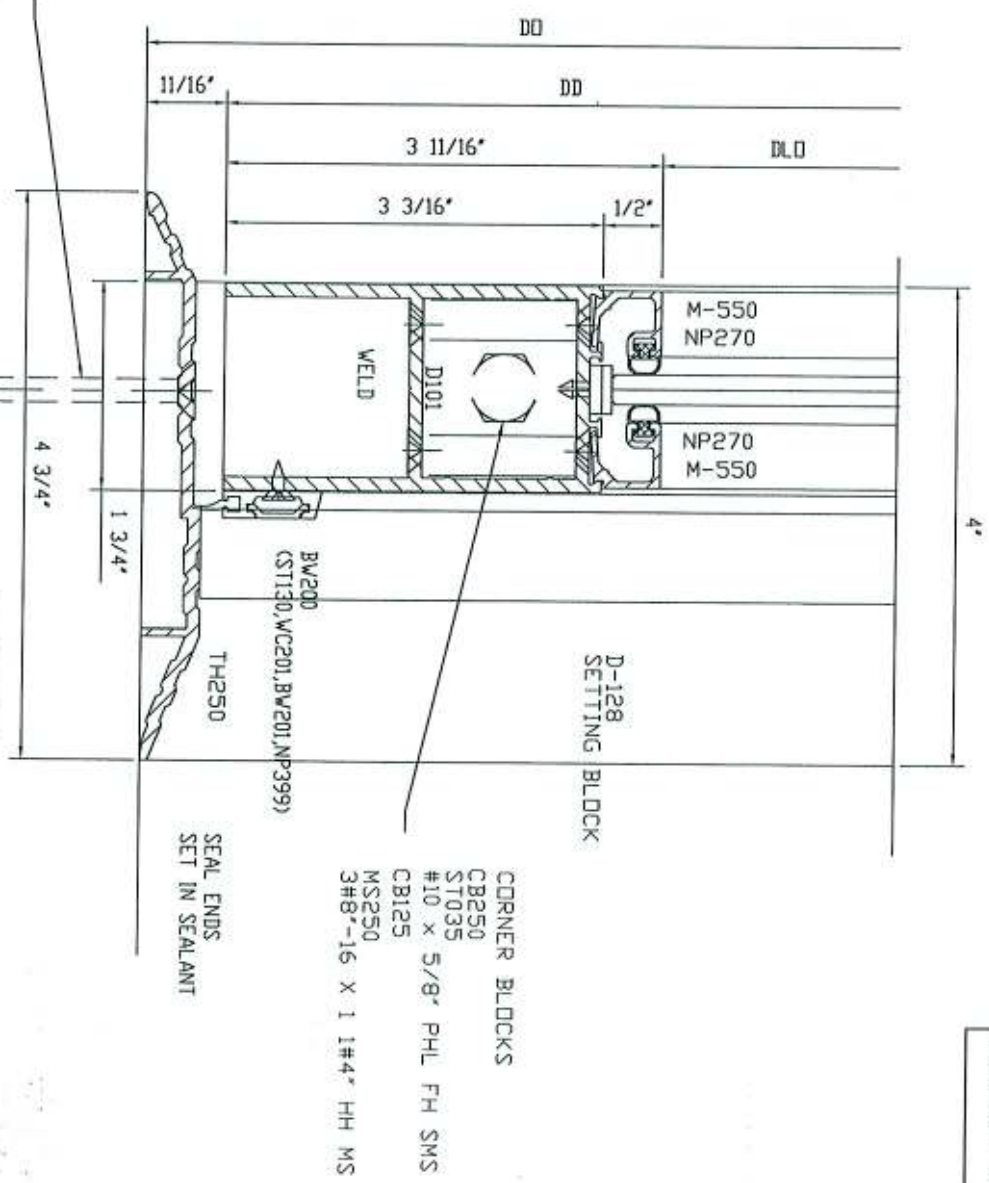




1001 Luma Road  
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Fax: 972-443-0506  
cham@chamconsulting.com  
12-14-12 CHW/12/1/12

2

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



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210 E 38TH STREET  
PHOENIX, AZ 85018  
PHONE: (602) 998-1281 FAX: (602) 998-1282

UNITED STATES ALUMINUM

TEST MOCK-UP  
SERIES: 250 DDDR

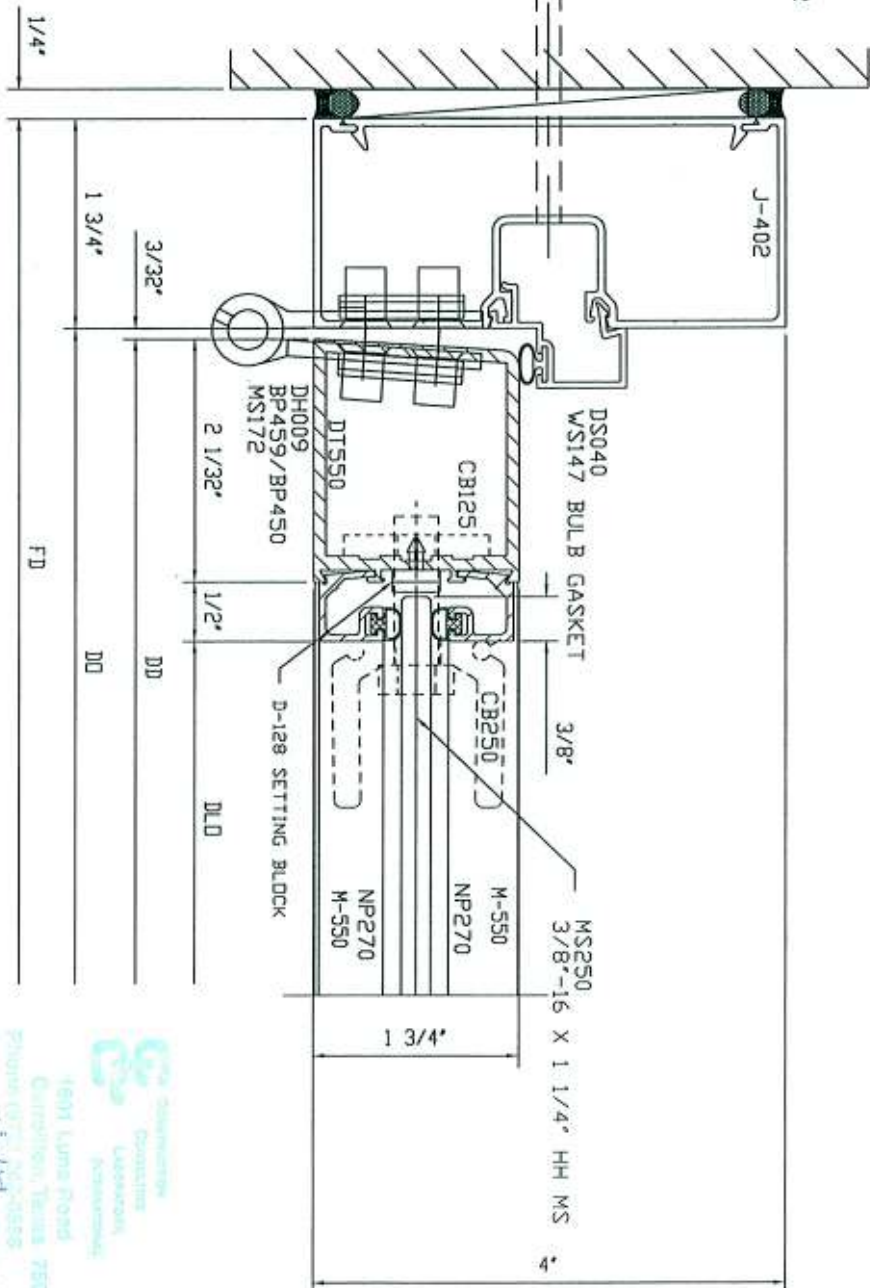
MU2012-015-03

MU2012-015-04

PERIMETER SEALANT  
CONTINUOUS @ INTERIOR

PS100 FILLER (CONT.)

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



3

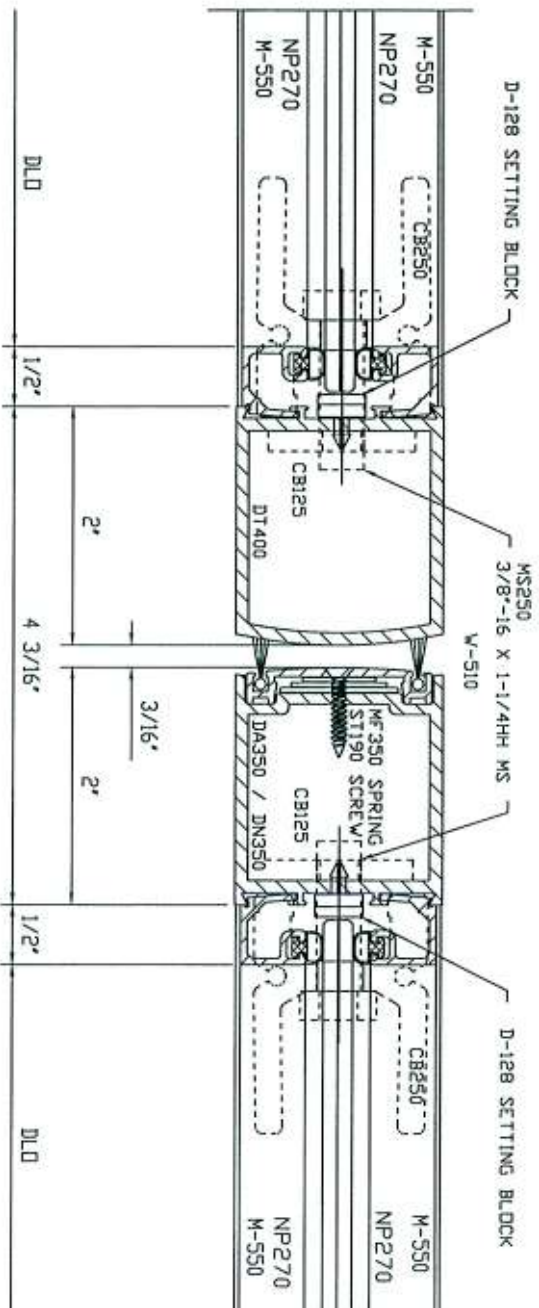
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SYM	REVISION	DATE	BY	FULL	SERIES: 250 DDDR	MU2012-015-04

  
 1601 Luma Road  
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 UNITED STATES ALUMINUM

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4

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Fax (831) 923-0750  
12-181-0000  
12/15/12

				2101 E. 38TH STREET MILWAUKEE, WI 53209 Phone: (414) 381-1201 Fax: (414) 381-1201			
				VILKINS, CA 90258			
				DIVISION UNITED STATES ALUMINUM			
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