



AAMA 507-12 THERMAL PERFORMANCE REPORT

Rendered to:

US ALUMINUM INC., DIVISION OF CR LAURENCE CO., INC.

SERIES/MODEL: 3000 Sliding Glass Door (1-1/4" Triple Glazed)

TYPE: Sliding Glass Door

Report No: C3896.03-116-45
Report Date: 08/20/13



AAMA 507-12 THERMAL PERFORMANCE REPORT

Rendered to:

US ALUMINUM INC., DIVISION OF CR LAURENCE CO., INC.
200 Singleton Drive
Waxahachie, Texas 75165

Report No: C3896.03-116-45
Report Date: 08/20/13
Simulation Date: 02/19/13

Project Summary:

Architectural Testing, Inc. was contracted by US Aluminum Inc., Division of CR Laurence Co., Inc. to provide U-Factor and Solar Heat Gain Coefficient thermal performance ratings on the 3000 Sliding Glass Door (1-1/4" Triple Glazed) Sliding Glass Door. The thermal performance ratings were determined in accordance with AAMA 507-12, Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial

Reference Documents:

AAMA 507-12, Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings

NFRC 100-2010, *Procedure for Determining Fenestration Product U-Factors*

NFRC 200-2010, *Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence*

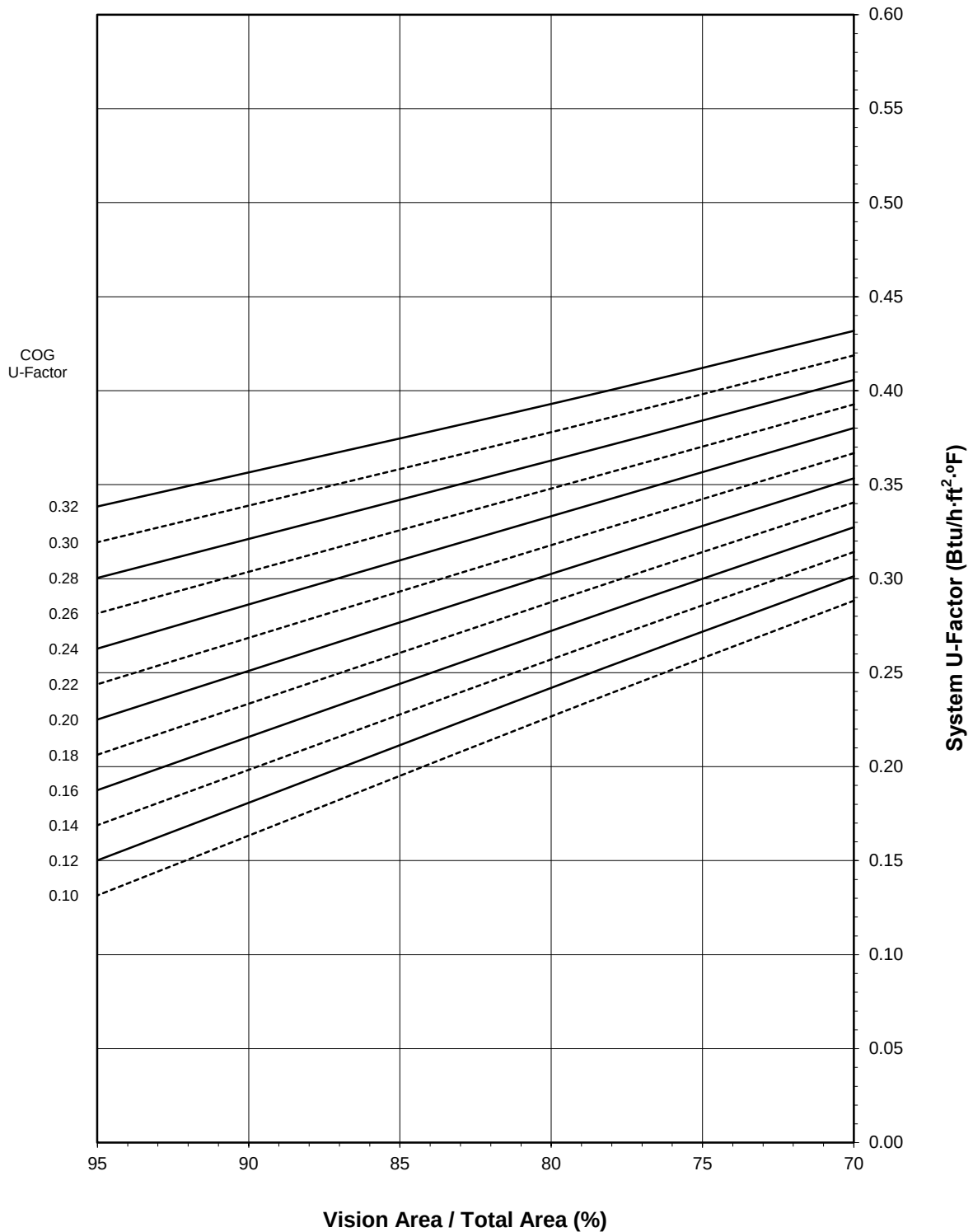
Simulation Specimen Description:

Series/Model: 3000 Sliding Glass Door (1-1/4" Triple Glazed)
Type: Sliding Glass Door
Frame Material: Aluminum Thermally Broken Framing System
Material Finish: Painted Aluminum
Specimen Size: 2000mm wide by 2000mm high (78-3/4" by 78-3/4")
Configuration: Two vision lites separated by one intermediate vertical
Drawing Reference: US Aluminum Drawings mu2012-018-01, mu2012-018-02, mu2012-018-03, & mu2012-018-04, dated 11/07/12

1200A Scotsville Road
Suite 390 B
Rochester, NY 14624
phone: 585.270.8023
fax: 717.764.4129
www.archtest.com

US Aluminum Inc., Division of CR Laurence Co., Inc.
3000 Sliding Glass Door (1-1/4" Triple Glazed) - Sliding Glass Door

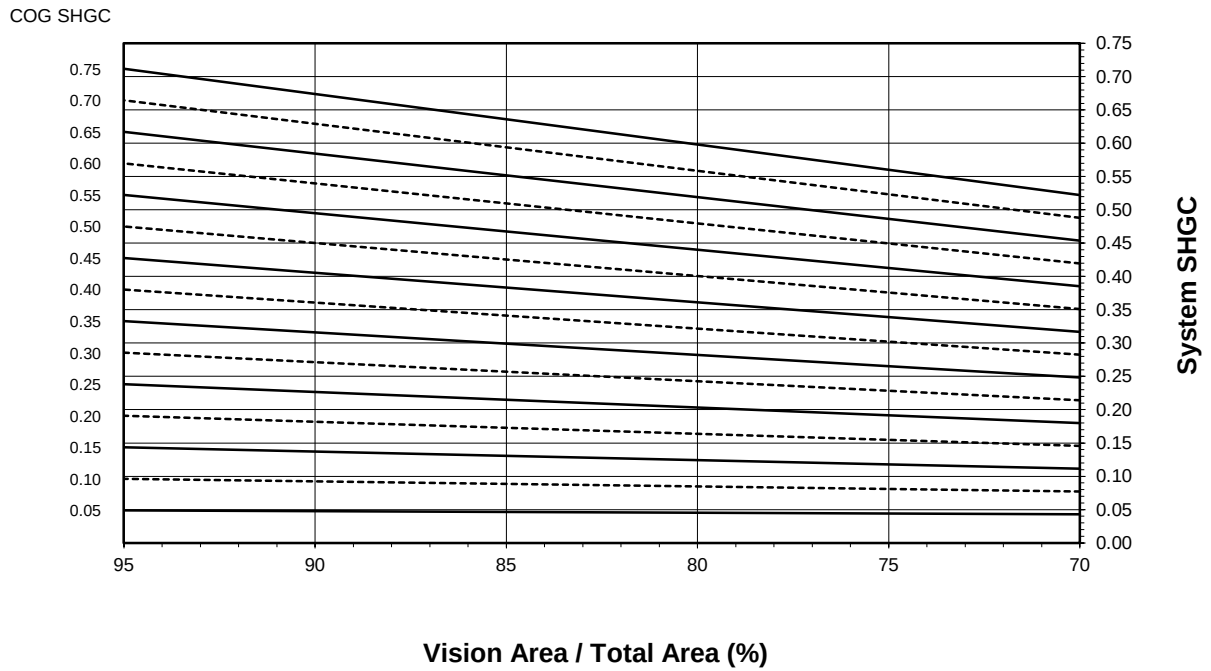
System U-Factor vs. Percentage of Vision Area



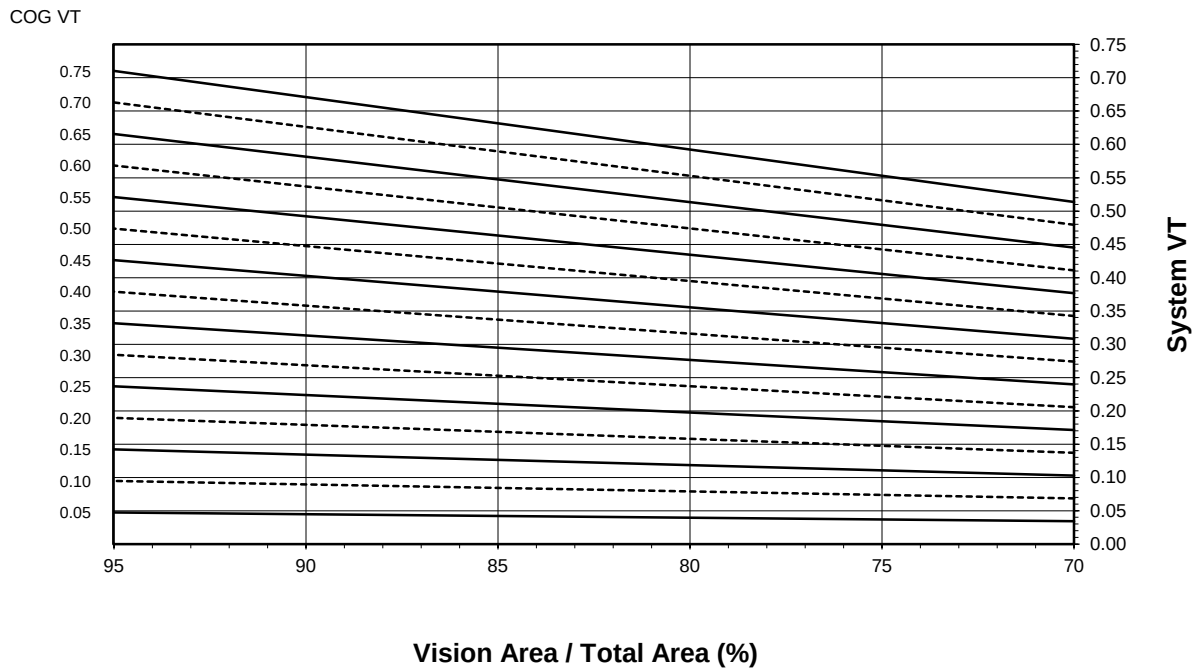
Note: 1 inch Overall - Triple Glazed Glass (0.32-0.10 COG) with Aluminum Spacer

US Aluminum Inc., Division of CR Laurence Co., Inc.
3000 Sliding Glass Door (1-1/4" Triple Glazed) - Sliding Glass Door

System SHGC vs. Percentage of Vision Area



System VT vs. Percentage of Vision Area



US Aluminum Inc., Division of CR Laurence Co., Inc.
3000 Sliding Glass Door (1-1/4" Triple Glazed) - Sliding Glass Door

Size Specific U-Factor Matrix*

Glazing Option	Center of Glass U-Factor	Overall U-Factor
1	0.32	0.39
2	0.30	0.38
3	0.28	0.36
4	0.26	0.35
5	0.24	0.33
6	0.22	0.32
7	0.20	0.30
8	0.18	0.29
9	0.16	0.27
10	0.14	0.26
11	0.12	0.24
12	0.10	0.23

Note: 1 inch Overall - Triple Glazed Glass (0.32-0.10 COG) with Aluminum Spacer

US Aluminum Inc., Division of CR Laurence Co., Inc.
3000 Sliding Glass Door (1-1/4" Triple Glazed) - Sliding Glass Door

Size Specific SHGC Matrix*

Center of Glass SHGC	Overall SHGC
0.75	0.60
0.70	0.56
0.65	0.52
0.60	0.48
0.55	0.44
0.50	0.40
0.45	0.36
0.40	0.32
0.35	0.28
0.30	0.24
0.25	0.20
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.05

Size Specific VT Matrix*

Center of Glass VT	Overall VT
0.75	0.59
0.70	0.55
0.65	0.51
0.60	0.47
0.55	0.43
0.50	0.39
0.45	0.35
0.40	0.31
0.35	0.28
0.30	0.24
0.25	0.20
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.04

*Size Specific U-Factor, SHGC, and VT Matrices are based on the standard Sliding Glass Door specimen size of 2000mm wide by 2000mm high (78-3/4" by 78-3/4"). This represents 79.7% Vision Area / Total Area.

Vision Area Data

Option No.	COG U-Factor	COG Temperature	Cross Section	Frame Height	Frame U-Factor	Edge U-Factor	Total Product U-Factor		
							70% Vision Area	NFRC 100-2010	95% Vision Area
							51.63" by 51.63"	78.74" by 78.74"	332.68" by 332.68"
1	0.32	52.0	Ext. Head	3.2324	0.6150	0.3915	0.4318	0.3939	0.3384
			Int. Head	3.2331	0.6540	0.3915			
			Ext. Jamb	2.3769	0.5745	0.3915			
			Int. Jamb	4.1756	0.6232	0.3915			
			Mtg. Rail	3.1026	0.8266	0.3915			
			Ext. Sill	4.9140	0.5620	0.3915			
			Int. Sill	4.9142	0.5991	0.3915			
2	0.3	53.1	Ext. Head	3.2324	0.6141	0.3756	0.4188	0.3790	0.3194
			Int. Head	3.2331	0.6526	0.3756			
			Ext. Jamb	2.3769	0.5737	0.3756			
			Int. Jamb	4.1756	0.6220	0.3756			
			Mtg. Rail	3.1026	0.8246	0.3756			
			Ext. Sill	4.9140	0.5612	0.3756			
			Int. Sill	4.9142	0.5979	0.3756			
3	0.28	54.2	Ext. Head	3.2324	0.6135	0.3594	0.4057	0.3640	0.3004
			Int. Head	3.2331	0.6513	0.3594			
			Ext. Jamb	2.3769	0.5730	0.3594			
			Int. Jamb	4.1756	0.6210	0.3594			
			Mtg. Rail	3.1026	0.8232	0.3594			
			Ext. Sill	4.9140	0.5605	0.3594			
			Int. Sill	4.9142	0.5970	0.3594			
4	0.26	55.2	Ext. Head	3.2324	0.6111	0.3491	0.3927	0.3491	0.2816
			Int. Head	3.2331	0.6469	0.3491			
			Ext. Jamb	2.3769	0.5700	0.3491			
			Int. Jamb	4.1756	0.6172	0.3491			
			Mtg. Rail	3.1026	0.8133	0.3491			
			Ext. Sill	4.9140	0.5585	0.3491			
			Int. Sill	4.9142	0.5937	0.3491			
5	0.24	56.3	Ext. Head	3.2324	0.6092	0.3386	0.3801	0.3345	0.2628
			Int. Head	3.2331	0.6434	0.3386			
			Ext. Jamb	2.3769	0.5677	0.3386			
			Int. Jamb	4.1756	0.6143	0.3386			
			Mtg. Rail	3.1026	0.8076	0.3386			
			Ext. Sill	4.9140	0.5569	0.3386			
			Int. Sill	4.9142	0.5911	0.3386			
6	0.22	57.3	Ext. Head	3.2324	0.6089	0.3209	0.3668	0.3192	0.2438
			Int. Head	3.2331	0.6428	0.3209			
			Ext. Jamb	2.3769	0.5676	0.3209			
			Int. Jamb	4.1756	0.6118	0.3209			
			Mtg. Rail	3.1026	0.8074	0.3209			
			Ext. Sill	4.9140	0.5564	0.3209			
			Int. Sill	4.9142	0.5906	0.3209			

Vision Area Data

Option No.	COG U-Factor	COG Temperature	Cross Section	Frame Height	Frame U-Factor	Edge U-Factor	Total Product U-Factor		
							70% Vision Area	NFRC 100-2010	95% Vision Area
							51.63" by 51.63"	78.74" by 78.74"	332.68" by 332.68"
7	0.2	58.4	Ext. Head	3.2324	0.6100	0.2979	0.3534	0.3039	0.2251
			Int. Head	3.2331	0.6449	0.2979			
			Ext. Jamb	2.3769	0.5694	0.2979			
			Int. Jamb	4.1756	0.6135	0.2979			
			Mtg. Rail	3.1026	0.8121	0.2979			
			Ext. Sill	4.9140	0.5571	0.2979			
			Int. Sill	4.9142	0.5920	0.2979			
8	0.18	59.5	Ext. Head	3.2324	0.6100	0.2800	0.3405	0.2890	0.2064
			Int. Head	3.2331	0.6449	0.2800			
			Ext. Jamb	2.3769	0.5696	0.2800			
			Int. Jamb	4.1756	0.6135	0.2800			
			Mtg. Rail	3.1026	0.8153	0.2800			
			Ext. Sill	4.9140	0.5569	0.2800			
			Int. Sill	4.9142	0.5920	0.2800			
9	0.16	60.6	Ext. Head	3.2324	0.6096	0.2637	0.3273	0.2738	0.1875
			Int. Head	3.2331	0.6441	0.2637			
			Ext. Jamb	2.3769	0.5660	0.2637			
			Int. Jamb	4.1756	0.6128	0.2637			
			Mtg. Rail	3.1026	0.8145	0.2637			
			Ext. Sill	4.9140	0.5565	0.2637			
			Int. Sill	4.9142	0.5913	0.2637			
10	0.14	61.7	Ext. Head	3.2324	0.6076	0.2524	0.3142	0.2586	0.1689
			Int. Head	3.2331	0.6402	0.2524			
			Ext. Jamb	2.3769	0.5634	0.2524			
			Int. Jamb	4.1756	0.6096	0.2524			
			Mtg. Rail	3.1026	0.8056	0.2524			
			Ext. Sill	4.9140	0.5525	0.2524			
			Int. Sill	4.9142	0.5884	0.2524			
11	0.12	62.8	Ext. Head	3.2324	0.6088	0.2313	0.3013	0.2436	0.1502
			Int. Head	3.2331	0.6422	0.2313			
			Ext. Jamb	2.3769	0.5652	0.2313			
			Int. Jamb	4.1756	0.6112	0.2313			
			Mtg. Rail	3.1026	0.8127	0.2313			
			Ext. Sill	4.9140	0.5532	0.2313			
			Int. Sill	4.9142	0.5898	0.2313			
12	0.10	63.9	Ext. Head	3.2324	0.6083	0.2154	0.2883	0.2285	0.1315
			Int. Head	3.2331	0.6411	0.2154			
			Ext. Jamb	2.3769	0.5648	0.2154			
			Int. Jamb	4.1756	0.6103	0.2154			
			Mtg. Rail	3.1026	0.8114	0.2154			
			Ext. Sill	4.9140	0.5526	0.2154			
			Int. Sill	4.9142	0.5880	0.2154			

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. The test record retention end date for this report is February 19, 2017.

Results obtained are simulated 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 product simulated. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.:

SIMULATED BY:

REVIEWED BY:

Gurminder Virk
Simulation Engineer

Kevin S. Louder
Project Engineer

GV:GV
C3896.03-116-45

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: Drawings and Bills of Material ()

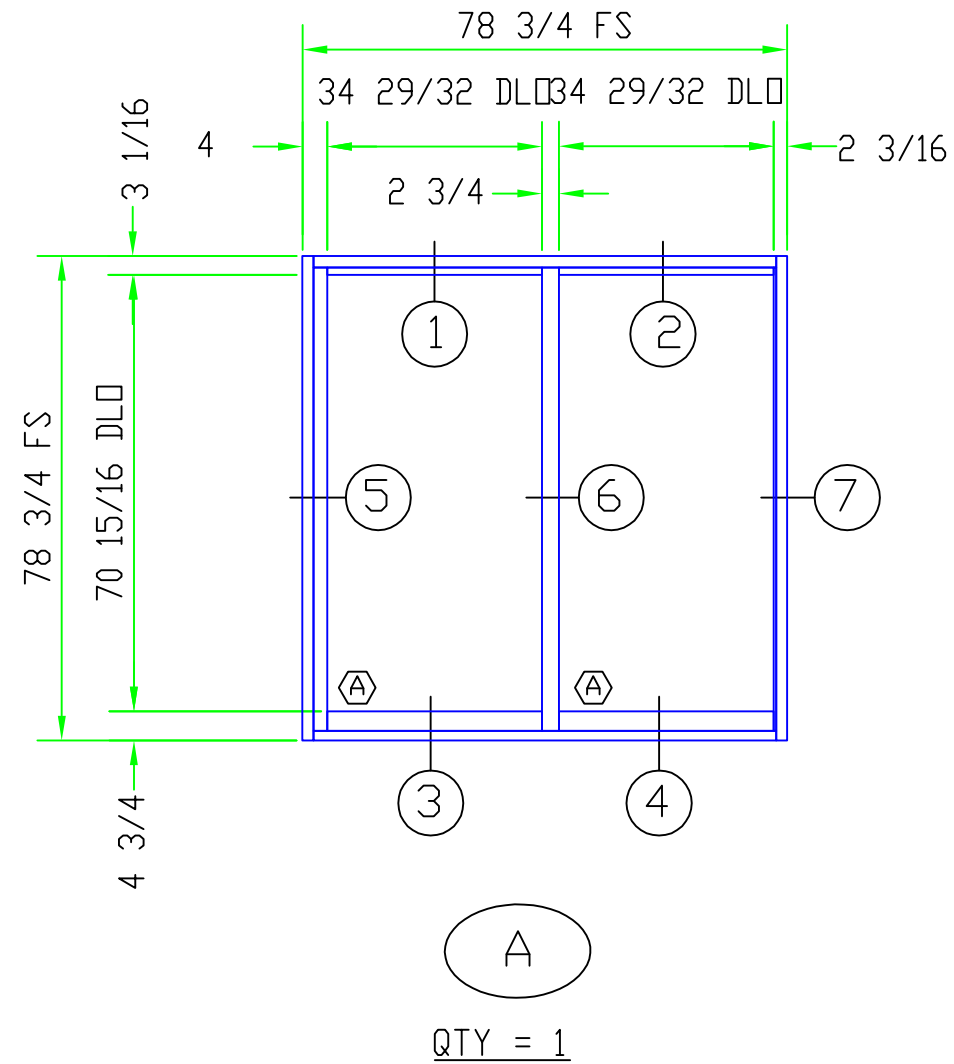
Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.03R0	08/20/13	All	Original Report Issued to US Aluminum Inc., Division of CR Laurence Co., Inc.

All drawings and Bills of Material used in simulating this product are enclosed in this Appendix.

Appendix A

C3896.03-116-45



SYMBOL KEY			
SYMBOL	DESCRIPTION	QTY	COMMENTS
⬡	36.125 X 72.188	2	1 INS = INSULATED GLASS

				 2100 E. 38TH STREET PHONE: (323) 588-1281 VERNON, CA 90058 FAX: (323) 232-2523		
				DIVISION UNITED STATES ALUMINUM		
				DRWN BY: DCW	THERMAL_TEST_NFRC_AAMA_1503 SERIES_3000	DWG NO.
REV	REV_DESCRIPTION	DATE	XXX	DATE: 11.07.12		MU2012-018-01
SYM	REVISION	DATE	BY	SCALE: 3/8"=1"		



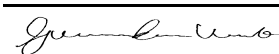
Report #:

C3896-116-45

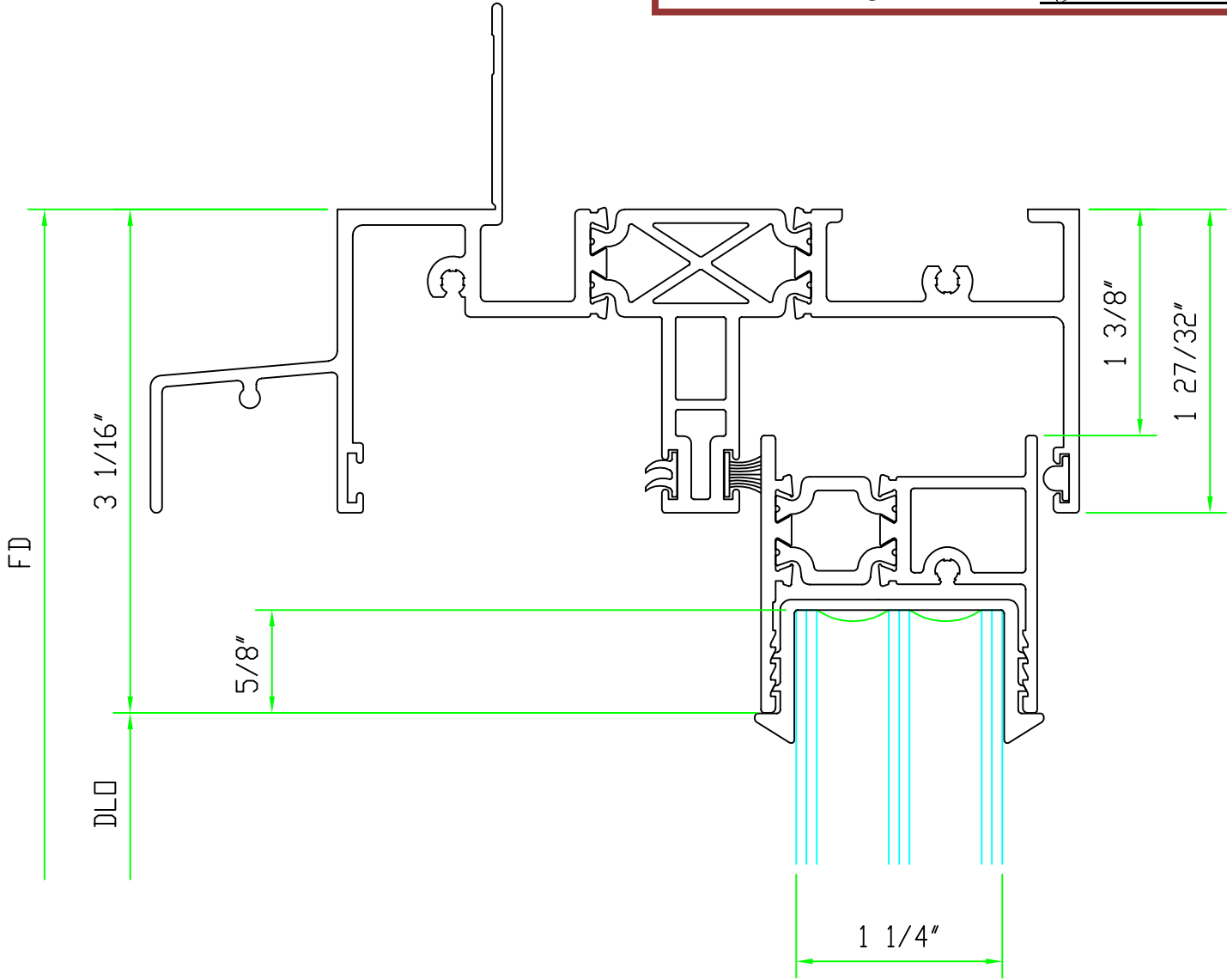
Date:

08/20/13

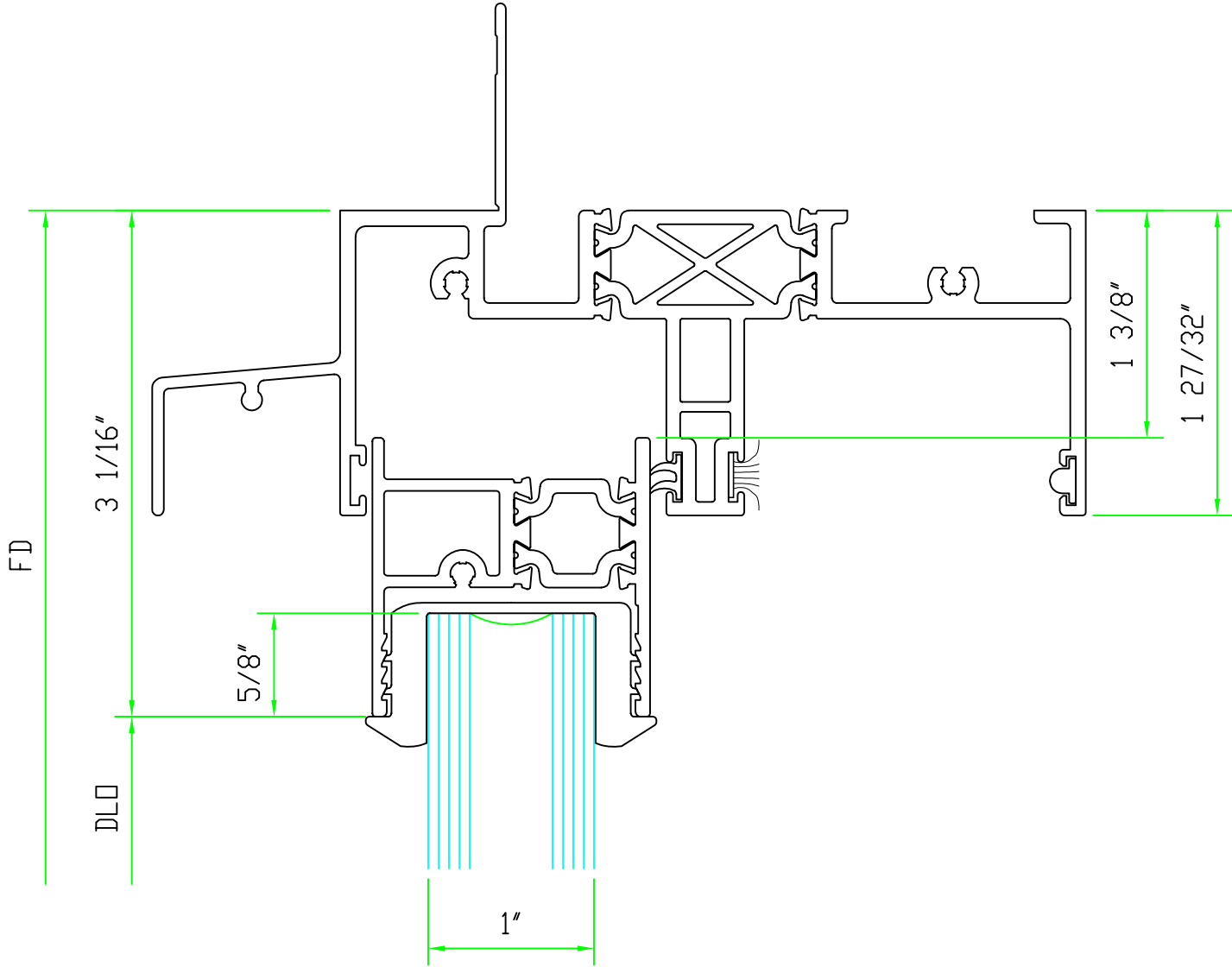
Verified by:



Architectural Testing



1



2



2100 E. 38TH STREET

VERNON, CA 90058

PHONE: (323) 588-1281

FAX: (323) 232-2523

DIVISION

UNITED STATES ALUMINUM

REV	REV_DESCRIPTION	DATE	XXX	DRWN BY: DCW	THERMAL_TEST_NFRC_AAMA_1503	DWG NO.
SYM	REVISION	DATE	BY	DATE: 11.07.12	SERIES_3000	MU2012-018-02
				SCALE: FULL		



Report #:

C3896-116-45

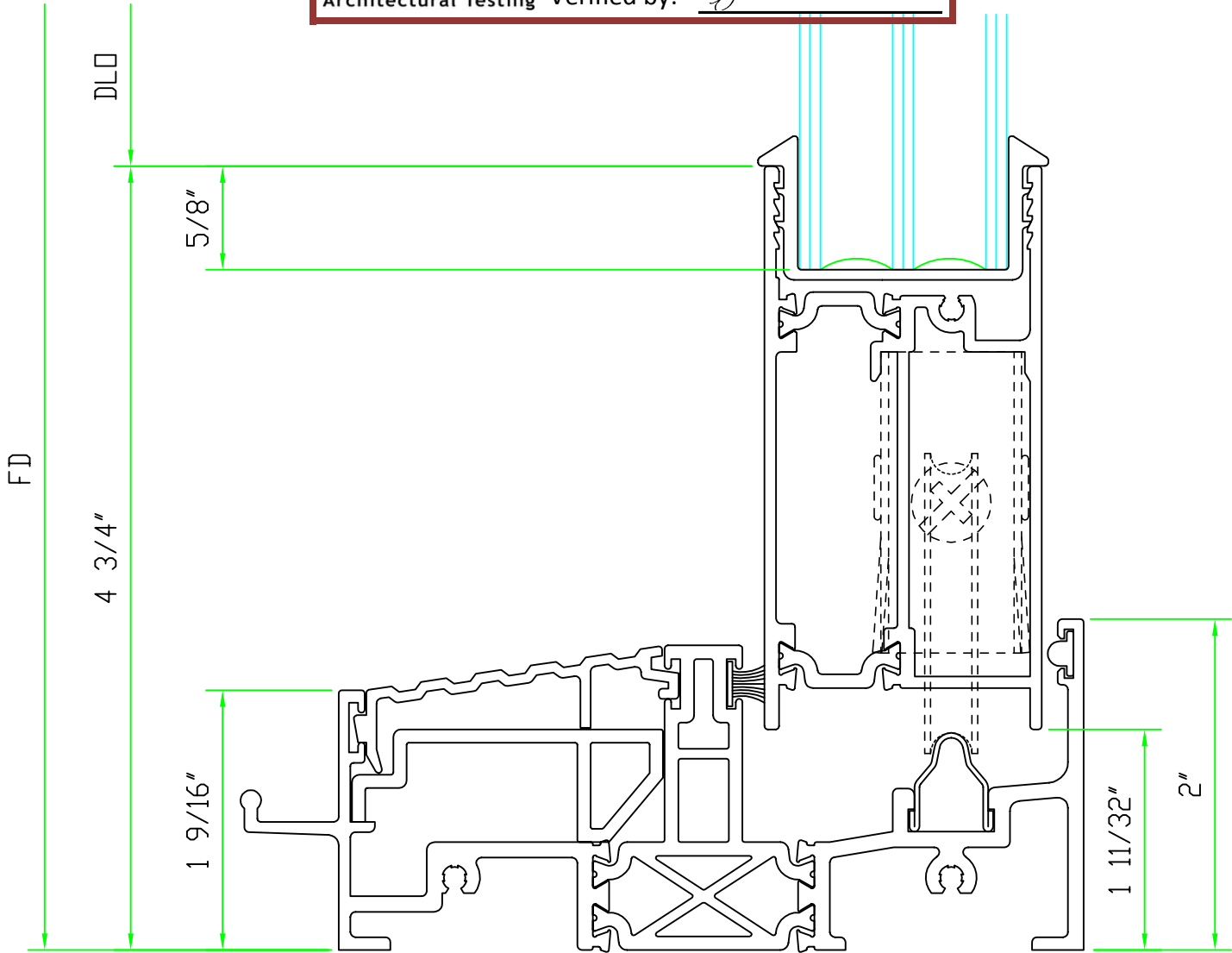
Date:

08/20/13

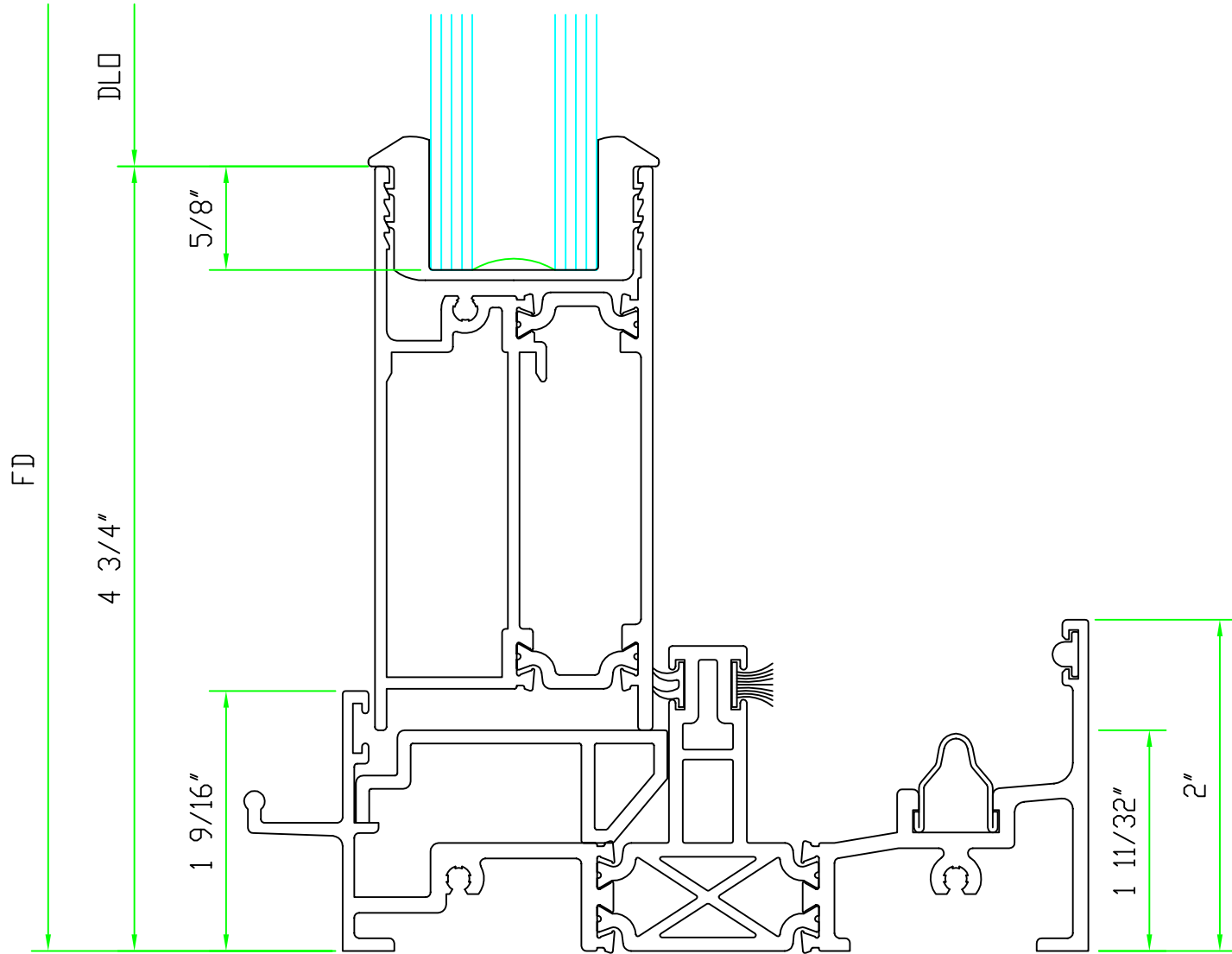
Verified by:



Architectural Testing



3



4

				 2100 E. 38TH STREET PHONE: (323) 588-1281 VERNON, CA 90058 FAX: (323) 232-2523		
				DIVISION UNITED STATES ALUMINUM		
				DRWN BY: DCW	THERMAL_TEST_NFRC_AAMA_1503 SERIES_3000	DWG NO. MU2012-018-03
REV	REV_DESCRIPTION	DATE	XXX	DATE: 11.07.12		
SYM	REVISION	DATE	BY	SCALE: FULL		



Report #:

C3896-116-45

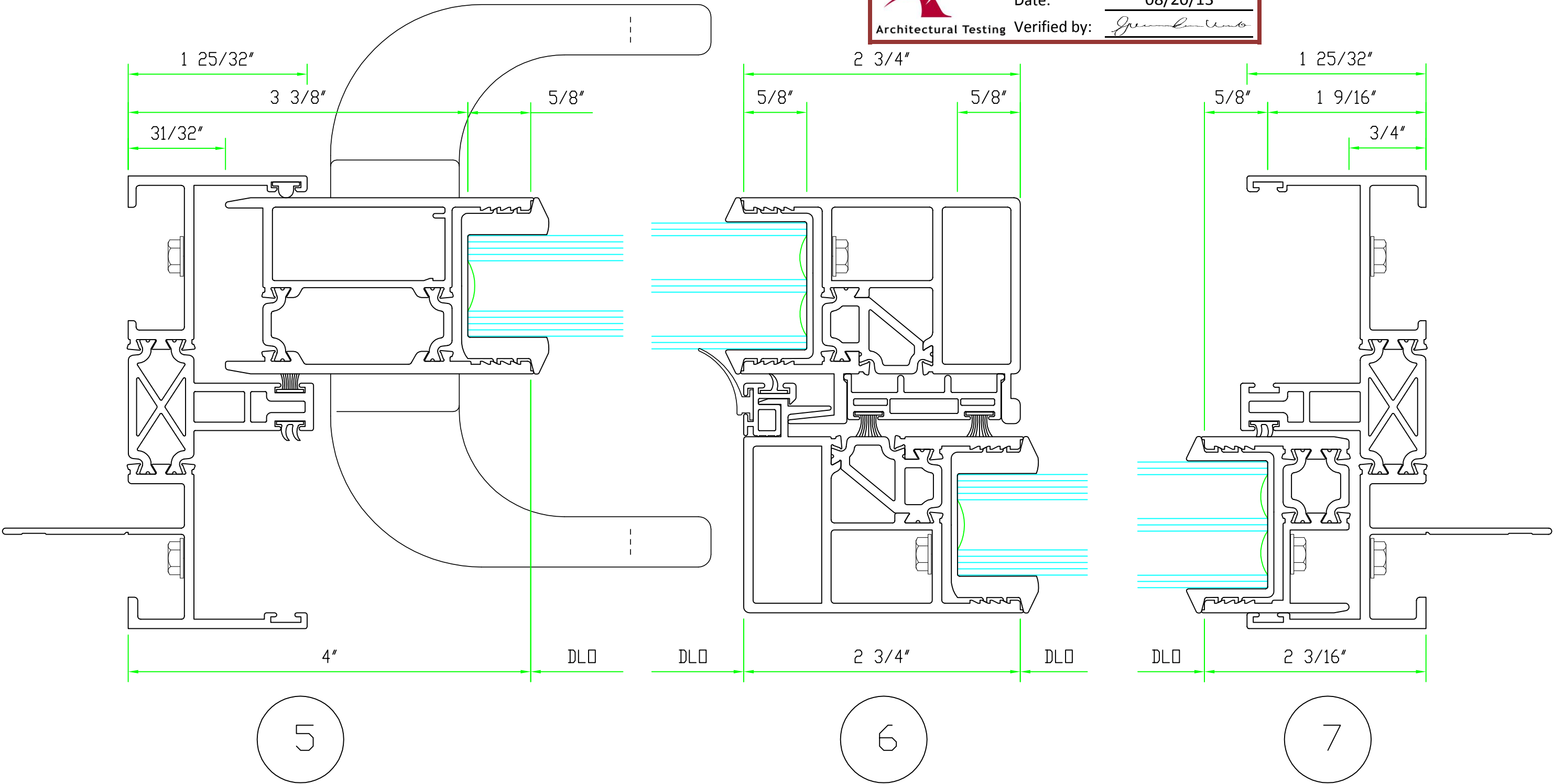
Date:

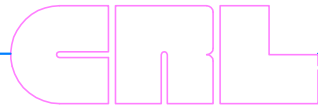
08/20/13

Verified by:



Architectural Testing



				 2100 E. 38TH STREET PHONE: (323) 588-1281 VERNON, CA 90058 FAX: (323) 232-2523			
				DIVISION UNITED STATES ALUMINUM			
				DRWN BY: DCW		THERMAL_TEST_NFRC_AAMA_1503	
REV				DATE: 11.07.12		SERIES_3000	
SYM				SCALE: FULL		DWG NO. MU2012-018-04	
REV_DESCRIPTION				DATE		BY	
REVISION				DATE		BY	

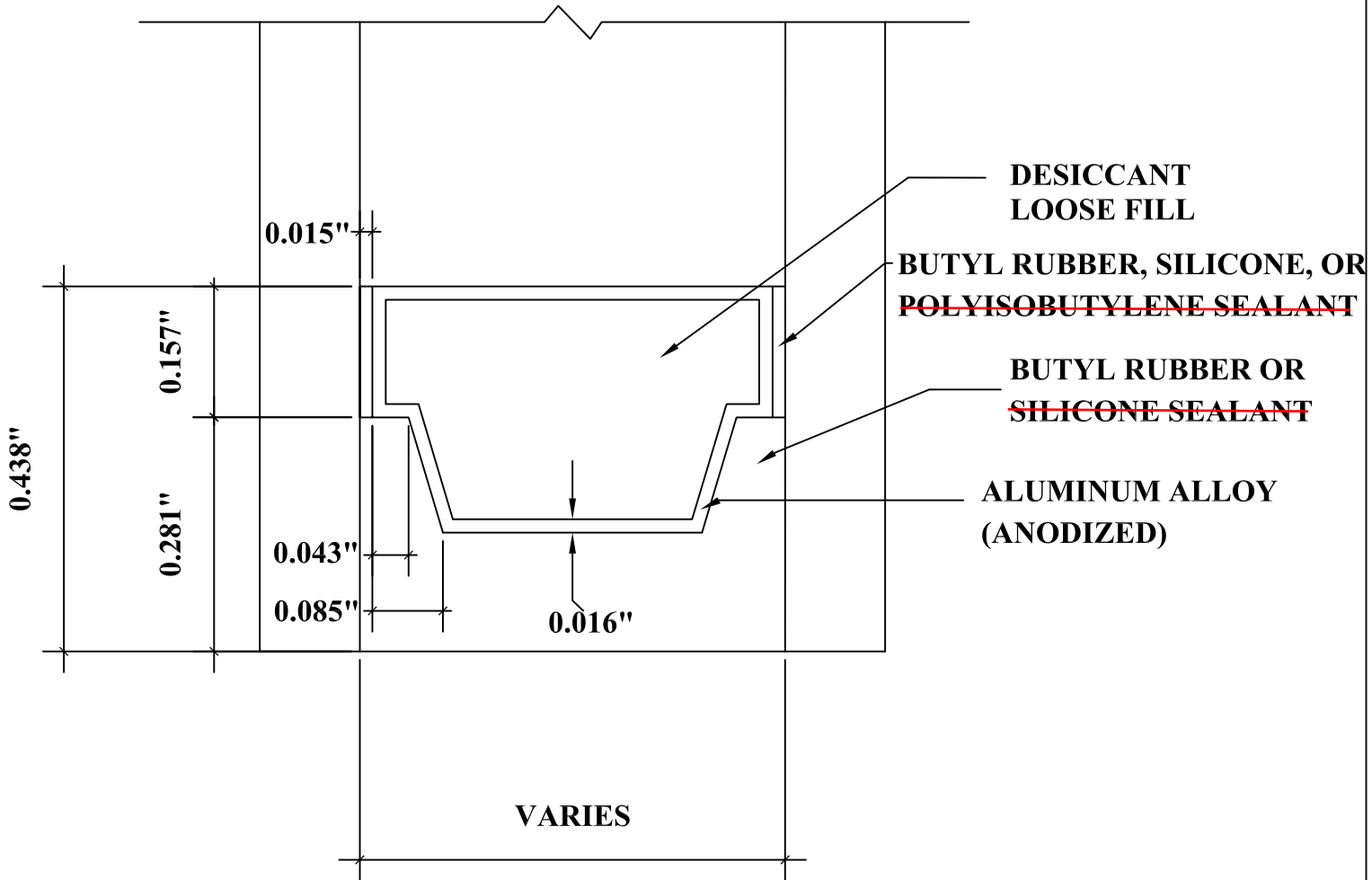


Architectural Testing

Report #: C3896-116-45

Date: 08/20/13

Verified by: *[Signature]*



DETAIL FOR THERMAL MODELING OF
ALUMINUM SPACER (A1-D)