Architectural Testing

AAMA 507-07 THERMAL PERFORMANCE REPORT

Rendered to:

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

SERIES/MODEL: 400T Thermal Door
TYPE: Swinging Door - Single

Report No: C3017.05-201-45
Report Date: 11/06/12

849 Western Avenue North
St. Paul, MN 55117
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Architectural Testing

AAMA 507-07 THERMAL PERFORMANCE REPORT

Rendered to:

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

Report No:	C3017.05-201-45
Report Date:	11/06/12
Simulation Date:	11/06/12

Project Summary:

Architectural Testing, Inc. was contracted by US Aluminum Inc., Division of CR Laurance Co., Inc. to provide U-Factor and Solar Heat Gain Coefficient thermal performance ratings on the 400T Thermal Door Swinging Door - Single. The thermal performance ratings were determined in accordance with AAMA 507-07, Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Building.

Reference Documents:

AAMA 507-07, *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:	400T Thermal Door
Bottom Rail:	10"
Frame:	2" Thermally Broken Aluminum
Type:	Swinging Door - Single
Frame Material:	Aluminum Thermally Broken Framing System
Material Finish:	Painted Aluminum
Specimen Size:	960mm wide by 2090mm high (37-3/4" by 82-3/8")
Configuration:	Single vision lite

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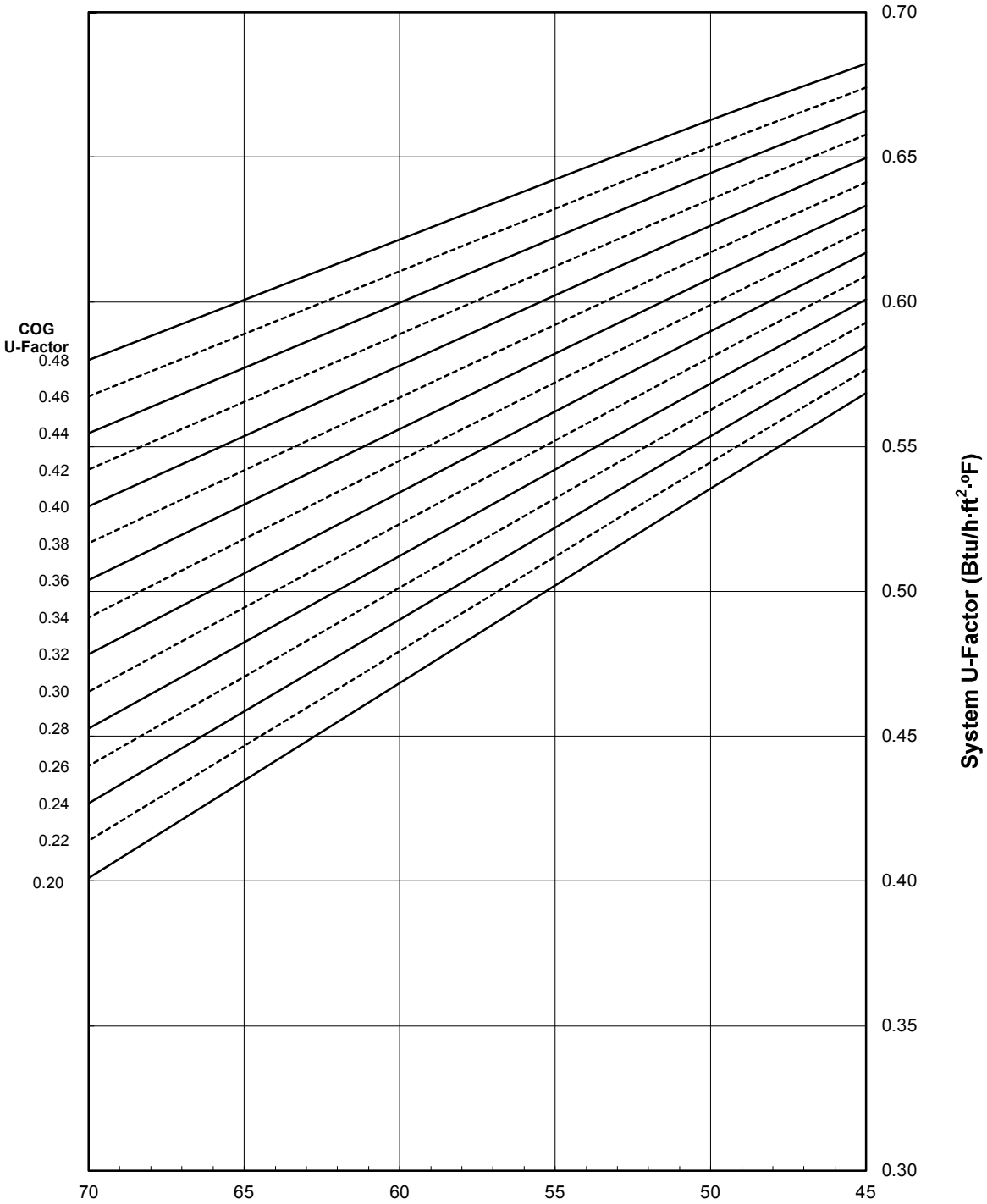
US Aluminum Inc., Division of CR Laurance Co., Inc.
400T Thermal Door - Swinging Door - Single

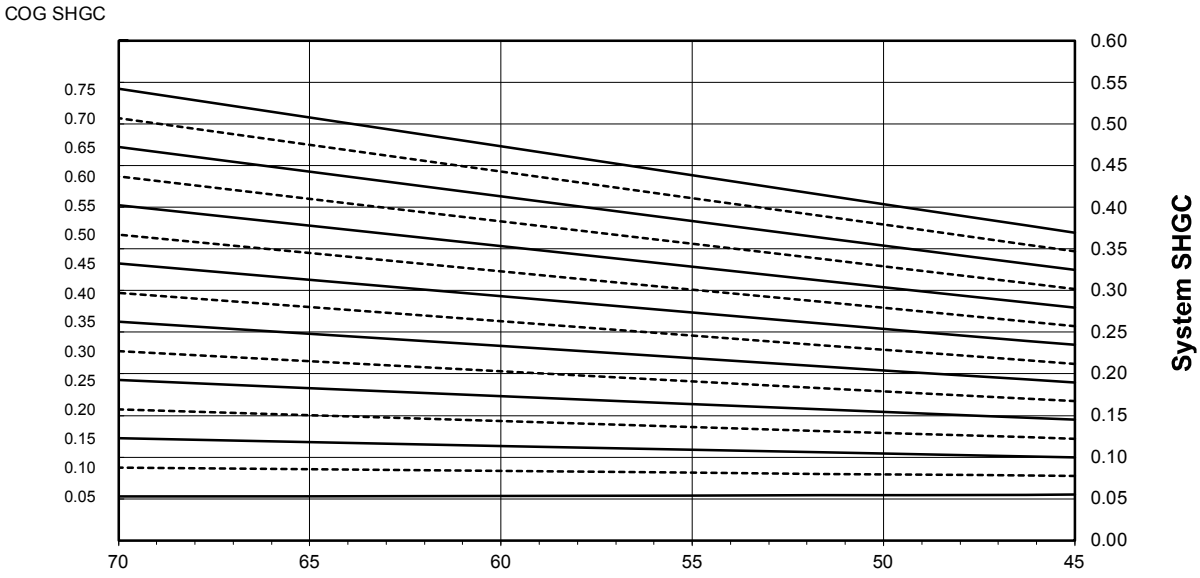
System U-Factor vs. Percentage of Vision Area



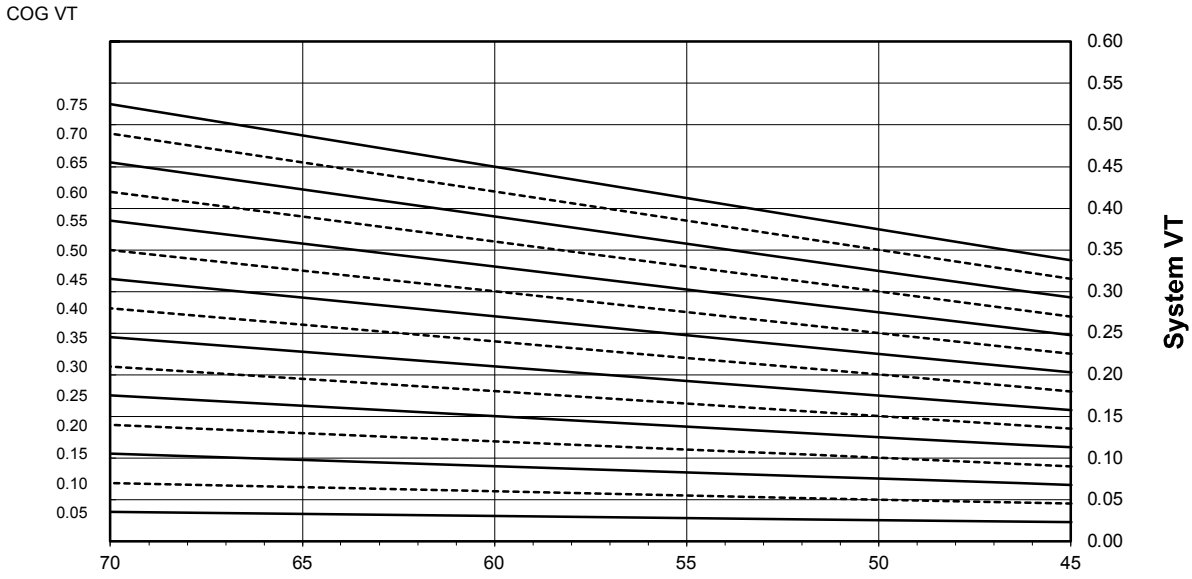
Note: 1 inch Overall - Dual Glazed Glass (0.48-0.20 COG) with Aluminum Spacer

US Aluminum Inc., Division of CR Laurance Co., Inc.
400T Thermal Door - Swinging Door - Single

System SHGC vs. Percentage of Vision Area



System VT vs. Percentage of Vision Area



US Aluminum Inc., Division of CR Laurance Co., Inc.
400T Thermal Door - Swinging Door - Single

Size Specific U-Factor Matrix*

Glazing Option	Center of Glass U-Factor	Overall U-Factor
1	0.48	0.66
2	0.46	0.65
3	0.44	0.64
4	0.42	0.63
5	0.40	0.62
6	0.38	0.61
7	0.36	0.60
8	0.34	0.59
9	0.32	0.58
10	0.30	0.57
11	0.28	0.56
12	0.26	0.55
13	0.24	0.54
14	0.22	0.53
15	0.20	0.53

Note: 1 inch Overall - Dual Glazed Glass (0.48-0.20 COG) with Aluminum Spacer

Size Specific SHGC Matrix*

Center of Glass SHGC	Overall SHGC
0.75	0.42
0.70	0.39
0.65	0.36
0.60	0.34
0.55	0.31
0.50	0.29
0.45	0.26
0.40	0.23
0.35	0.21
0.30	0.18
0.25	0.16
0.20	0.13
0.15	0.11
0.10	0.08
0.05	0.05

Size Specific VT Matrix*

Center of Glass VT	Overall VT
0.75	0.39
0.70	0.36
0.65	0.34
0.60	0.31
0.55	0.28
0.50	0.26
0.45	0.23
0.40	0.21
0.35	0.18
0.30	0.15
0.25	0.13
0.20	0.10
0.15	0.08
0.10	0.05
0.05	0.03

*Size Specific U-Factor, SHGC, and VT Matrices are based on the standard Swinging Door - Single specimen size of 960mm wide by 2090mm high (37-3/4" by 82-3/8"). This represents 51.6% 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		
							45% Vision Area	*NFRC 100-2010*	*70% Vision Area*
							32.45" by 70.63"	*37.80" by 82.28"*	*64.87" by 141.19"*
1	0.48	43.7	Head	6.6161	0.8560	0.5438	0.6823	0.6564	0.5799
			L. Jamb	6.5221	0.8318	0.5438			
			R. Jamb	6.5221	0.8318	0.5438			
			Sill	10.8661	0.8406	0.5438			
2	0.46	44.8	Head	6.6161	0.8556	0.5292	0.6741	0.6470	0.5673
			L. Jamb	6.5221	0.8314	0.5292			
			R. Jamb	6.5221	0.8314	0.5292			
			Sill	10.8661	0.8403	0.5292			
3	0.44	45.8	Head	6.6161	0.8552	0.5149	0.6659	0.6376	0.5546
			L. Jamb	6.5221	0.8309	0.5149			
			R. Jamb	6.5221	0.8309	0.5149			
			Sill	10.8661	0.8399	0.5149			
4	0.42	46.8	Head	6.6161	0.8549	0.5007	0.6578	0.6282	0.5420
			L. Jamb	6.5221	0.8305	0.5007			
			R. Jamb	6.5221	0.8305	0.5007			
			Sill	10.8661	0.8395	0.5007			
5	0.40	47.9	Head	6.6161	0.8545	0.4866	0.6496	0.6188	0.5294
			L. Jamb	6.5221	0.8301	0.4866			
			R. Jamb	6.5221	0.8301	0.4866			
			Sill	10.8661	0.8392	0.4866			
6	0.38	48.9	Head	6.6161	0.8522	0.4725	0.6414	0.6094	0.5166
			L. Jamb	6.5221	0.8297	0.4725			
			R. Jamb	6.5221	0.8297	0.4725			
			Sill	10.8661	0.8389	0.4725			
7	0.36	50.0	Head	6.6161	0.8518	0.4585	0.6332	0.6000	0.5039
			L. Jamb	6.5221	0.8293	0.4585			
			R. Jamb	6.5221	0.8293	0.4585			
			Sill	10.8661	0.8385	0.4585			
8	0.34	51.0	Head	6.6161	0.8515	0.4448	0.6251	0.5906	0.4911
			L. Jamb	6.5221	0.8289	0.4448			
			R. Jamb	6.5221	0.8289	0.4448			
			Sill	10.8661	0.8382	0.4448			
9	0.32	52.0	Head	6.6161	0.8512	0.4310	0.6170	0.5813	0.4783
			L. Jamb	6.5221	0.8285	0.4310			
			R. Jamb	6.5221	0.8285	0.4310			
			Sill	10.8661	0.8379	0.4310			
10	0.30	53.1	Head	6.6161	0.8508	0.4174	0.6089	0.5719	0.4655
			L. Jamb	6.5221	0.8282	0.4174			
			R. Jamb	6.5221	0.8282	0.4174			
			Sill	10.8661	0.8376	0.4174			

Vision Area Data

Option No.	COG U-Factor	COG Temperature	Cross Section	Frame Height	Frame U-Factor	Edge U-Factor	Total Product U-Factor		
							45% Vision Area	*NFRC 100-2010*	*70% Vision Area*
							32.45" by 70.63"	*37.80" by 82.28"*	*64.87" by 141.19"*
11	0.28	54.2	Head	6.6161	0.8505	0.4037	0.6008	0.5625	0.4526
			L. Jamb	6.5221	0.8278	0.4037			
			R. Jamb	6.5221	0.8278	0.4037			
			Sill	10.8661	0.8373	0.4037			
12	0.26	55.2	Head	6.6161	0.8502	0.3901	0.5927	0.5531	0.4397
			L. Jamb	6.5221	0.8275	0.3901			
			R. Jamb	6.5221	0.8275	0.3901			
			Sill	10.8661	0.8370	0.3901			
13	0.24	56.3	Head	6.6161	0.8499	0.3766	0.5847	0.5438	0.4268
			L. Jamb	6.5221	0.8271	0.3766			
			R. Jamb	6.5221	0.8271	0.3766			
			Sill	10.8661	0.8367	0.3766			
14	0.22	57.3	Head	6.6161	0.8496	0.3632	0.5766	0.5344	0.4140
			L. Jamb	6.5221	0.8268	0.3632			
			R. Jamb	6.5221	0.8268	0.3632			
			Sill	10.8661	0.8364	0.3632			
15	0.20	58.4	Head	6.6161	0.8494	0.3498	0.5685	0.5251	0.4010
			L. Jamb	6.5221	0.8265	0.3498			
			R. Jamb	6.5221	0.8265	0.3498			
			Sill	10.8661	0.8361	0.3498			

Detailed drawings, datasheets, 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 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 named herein and relates only to the specimen(s) simulated. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.:

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Heather M. Duneman
Senior Simulation Technician
Simulator-In-Responsible-Charge

REVIEWED BY:

Digitally Signed by: Michael Resech

Michael Resech
Senior Project Manager

MDT: mdt
C3017.05-201-45

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix A: Drawings and Bills of Material (14)

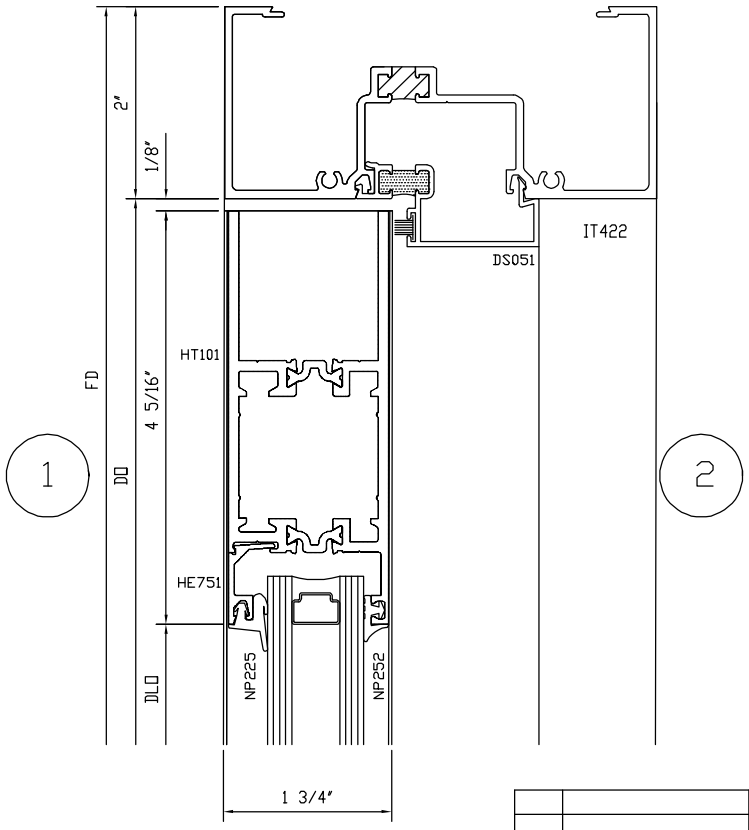
Revision Log

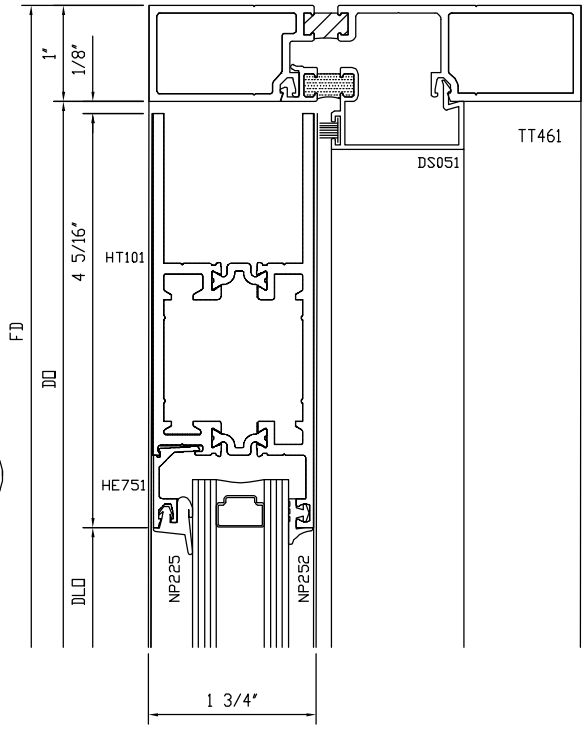
Rev. #	Date	Page(s)	Revision(s)
05-R0	11/6/2012	All	Original Report Issue

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

Appendix A

MU2012-012-02





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SYM	REVISION	DATE	BY

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DIVISION UNITED STATES ALUMINUM

DRWN BY: DCW

DATE: 08.31.12

SCALE: FULL

THERMAL_TEST_NFRC_AAMA_1503

SERIES: 400T THERMAL DOOR

DWG NO.

MU2012-012-02

MU2012-012-04

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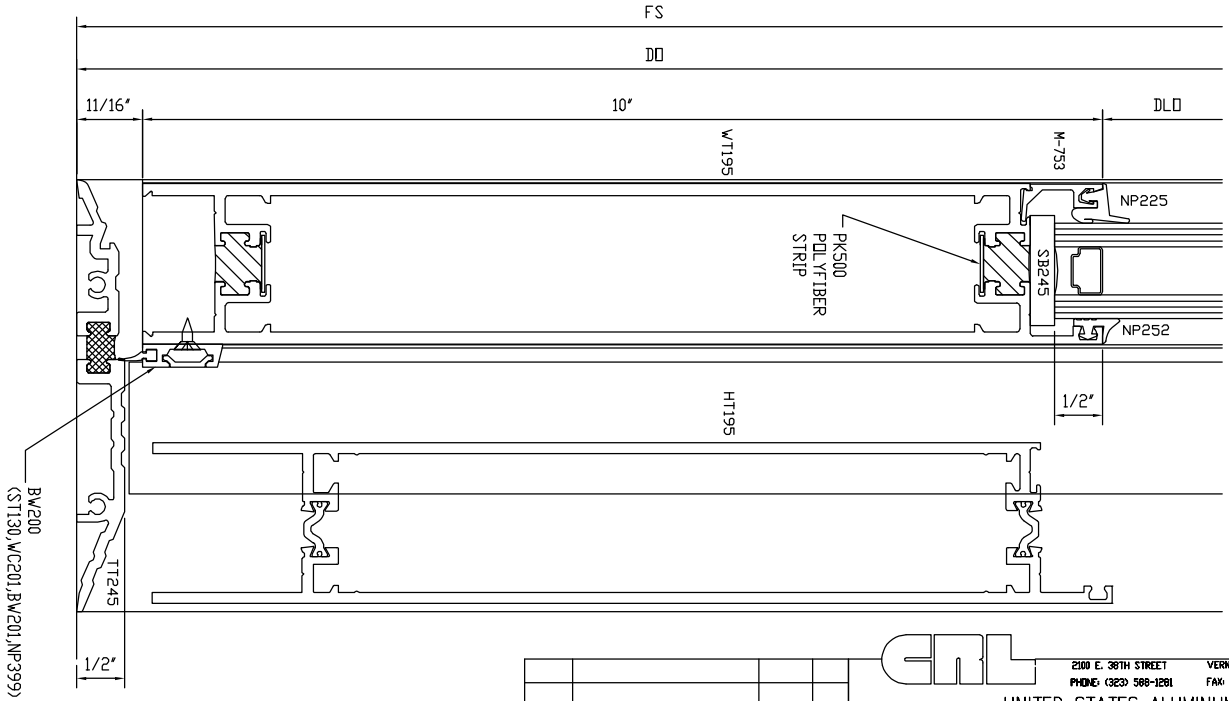

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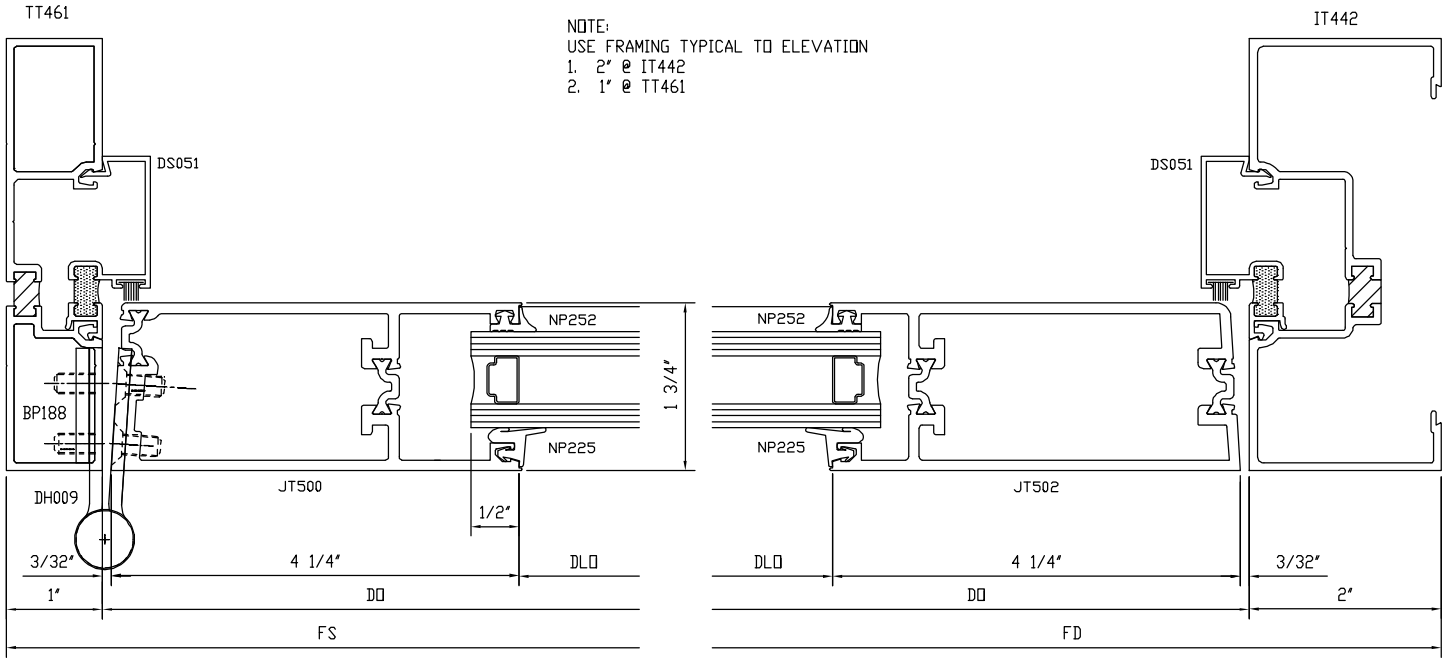

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SERIES: 400T THERMAL DOOR

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MU2012-012-05

THERMAL DOOR EXTRUSIONS