



AAMA 507-07 THERMAL PERFORMANCE REPORT

Rendered to:

CMI ARCHITECTURAL PRODUCTS

SERIES/MODEL: 450TB Storefront - Center Set

TYPE: Glazed Wall System

Report No: C5084.01-201-45
Report Date: 01/25/13



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Rendered to:

CMI ARCHITECTURAL PRODUCTS
2800 Freeway Blvd Ste 205
Minneapolis, Minnesota 55430

Report No: C5084.01-201-45
Report Date: 01/25/13
Simulation Date: 01/25/13

Project Summary:

Architectural Testing, Inc. was contracted by CMI Architectural Products to provide U-Factor and Solar Heat Gain Coefficient thermal performance ratings on the 450TB Storefront - Center Set Wall System. 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

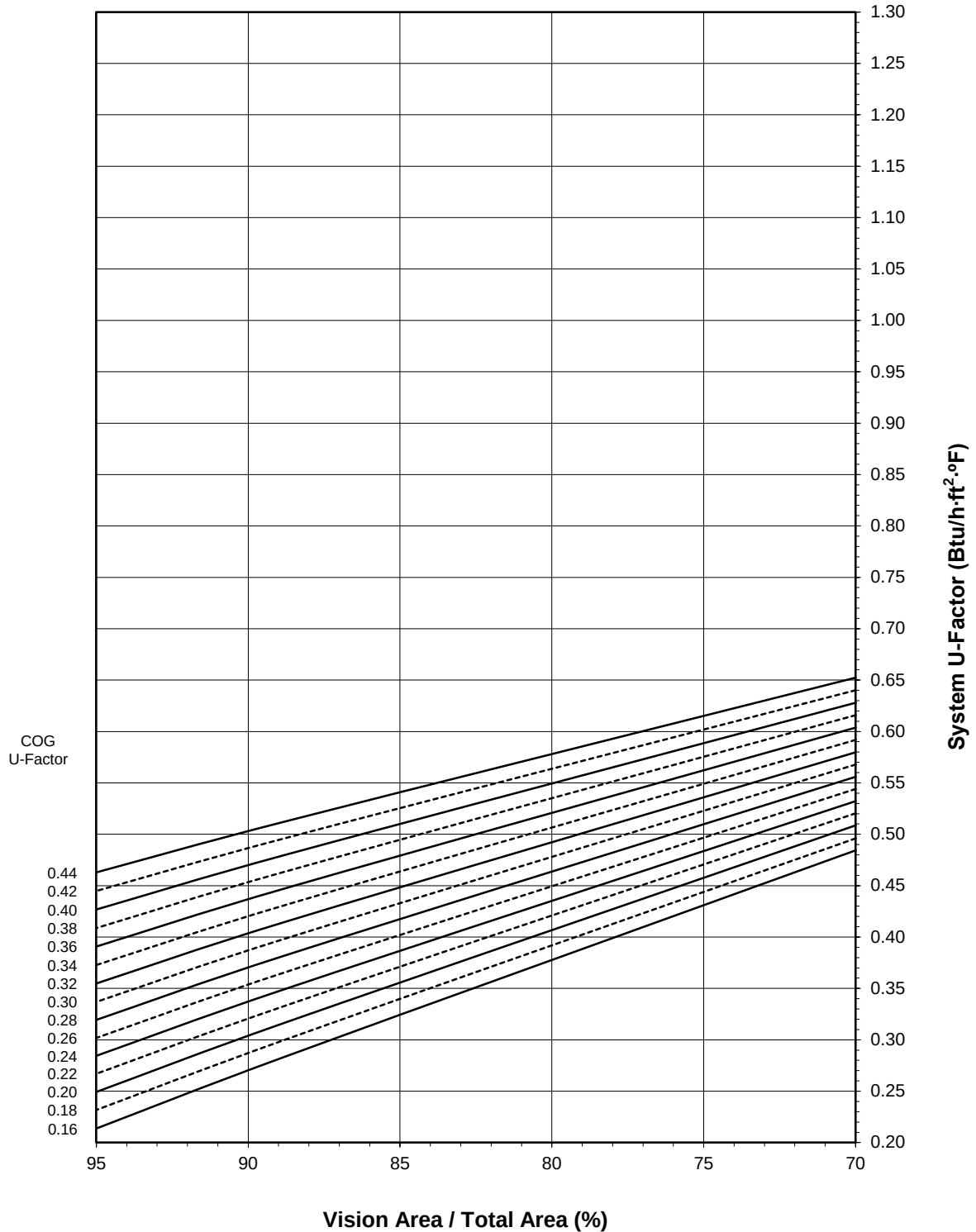
NFRC 200-2010, Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

Simulation Specimen Description:

Series/Model:	450TB Storefront - Center Set
Product Groupings:	None
Type:	Glazed Wall System
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

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450TB Storefront - Center Set - Glazed Wall System

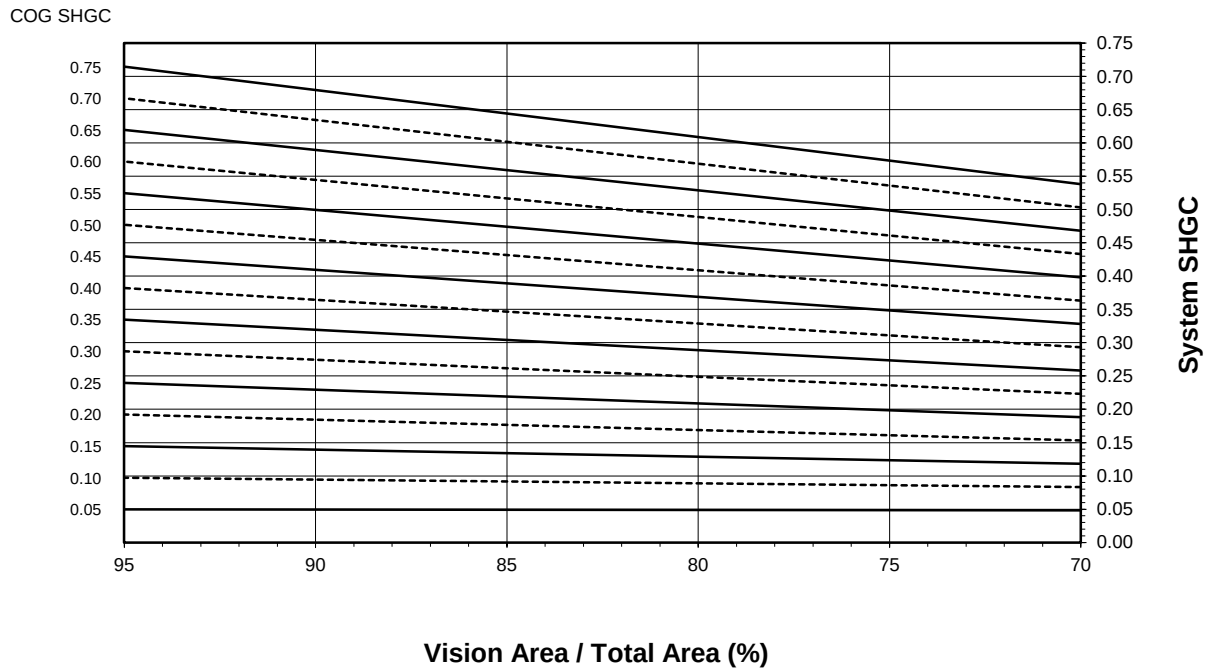
System U-Factor vs. Percentage of Vision Area



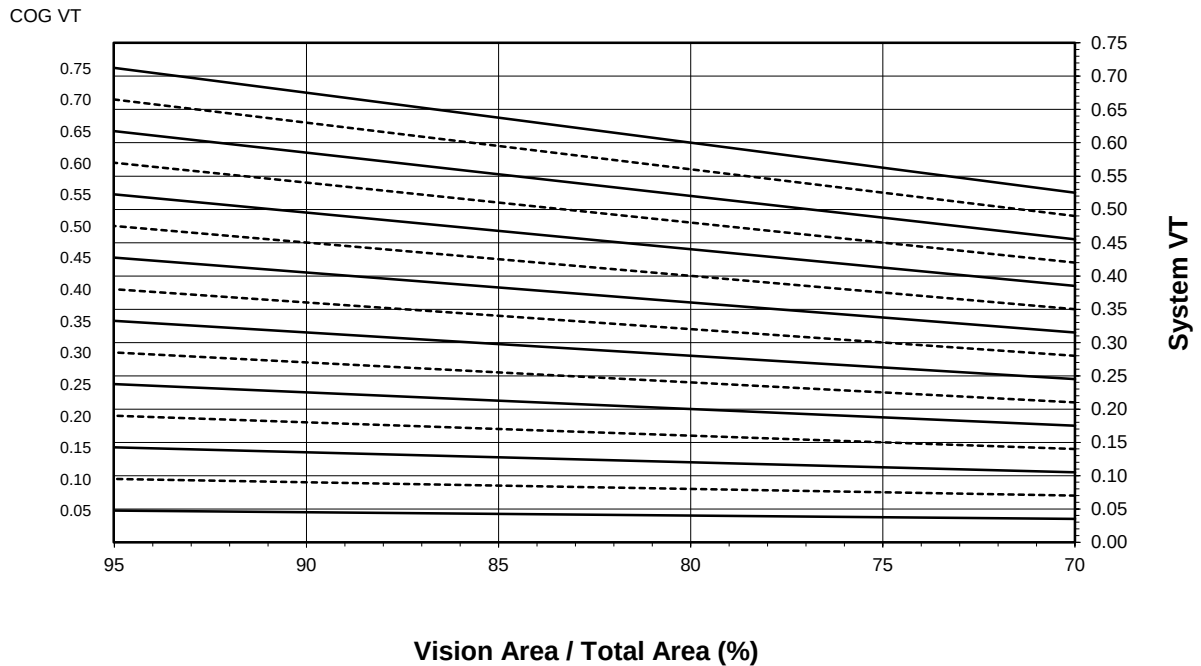
Note: 1 inch Overall - Dual Glazed Glass (0.48-0.20 COG) with Aluminum Spacer

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450TB Storefront - Center Set - Glazed Wall System

System SHGC vs. Percentage of Vision Area



System VT vs. Percentage of Vision Area



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450TB Storefront - Center Set - Glazed Wall System**

Size Specific U-Factor Matrix*

Glazing Option	Center of Glass U-Factor	Overall U-Factor
1	0.44	0.51
2	0.42	0.50
3	0.40	0.48
4	0.38	0.46
5	0.36	0.45
6	0.34	0.43
7	0.32	0.42
8	0.30	0.40
9	0.28	0.38
10	0.26	0.37
11	0.24	0.35
12	0.22	0.33
13	0.20	0.32
14	0.18	0.30
15	0.16	0.29

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	0.67
0.70	0.63
0.65	0.58
0.60	0.54
0.55	0.49
0.50	0.45
0.45	0.40
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.18
0.15	0.14
0.10	0.09
0.05	0.05

Size Specific VT Matrix*

Center of Glass VT	Overall VT
0.75	0.66
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
0.50	0.44
0.45	0.40
0.40	0.35
0.35	0.31
0.30	0.27
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.04

*Size Specific U-Factor, SHGC, and VT Matrices are based on the standard Glazed Wall System specimen size of 2000mm wide by 2000mm high (78-3/4" by 78-3/4"). This represents 88.6% 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		
							70% Vision Area	NFRC 100-2010	95% Vision Area
							28.21" by 28.21"	78.74" by 78.74"	182.09" by 182.09"
1	0.44	45.8	Head	2.1841	1.0187	0.4737	0.6524	0.5135	0.4629
			L. Jamb	2.1841	1.0187	0.4737			
			R. Jamb	2.4229	1.1887	0.4737			
			Mullion	1.2117	1.1889	0.4737			
			Sill	2.1857	1.0215	0.4737			
2	0.42	46.8	Head	2.1841	1.0181	0.4598	0.6401	0.4973	0.4448
			L. Jamb	2.1841	1.0181	0.4598			
			R. Jamb	2.4229	1.1869	0.4598			
			Mullion	1.2117	1.1871	0.4598			
			Sill	2.1857	1.0209	0.4598			
3	0.4	47.9	Head	2.1841	1.0176	0.4460	0.6280	0.4811	0.4268
			L. Jamb	2.1841	1.0176	0.4460			
			R. Jamb	2.4229	1.1851	0.4460			
			Mullion	1.2117	1.1853	0.4460			
			Sill	2.1857	1.0204	0.4460			
4	0.38	48.9	Head	2.1841	1.0171	0.4324	0.6159	0.4649	0.4087
			L. Jamb	2.1841	1.0171	0.4324			
			R. Jamb	2.4229	1.1834	0.4324			
			Mullion	1.2117	1.1836	0.4324			
			Sill	2.1857	1.0199	0.4324			
5	0.36	47.9	Head	2.1841	1.0166	0.4187	0.6038	0.4486	0.3907
			L. Jamb	2.1841	1.0166	0.4187			
			R. Jamb	2.4229	1.1818	0.4187			
			Mullion	1.2117	1.1820	0.4187			
			Sill	2.1857	1.0194	0.4187			
6	0.34	48.9	Head	2.1841	1.0162	0.4053	0.5918	0.4324	0.3728
			L. Jamb	2.1841	1.0162	0.4053			
			R. Jamb	2.4229	1.1802	0.4053			
			Mullion	1.2117	1.1804	0.4053			
			Sill	2.1857	1.0190	0.4053			
7	0.32	52.0	Head	2.1841	1.0157	0.3917	0.5797	0.4161	0.3548
			L. Jamb	2.1841	1.0157	0.3917			
			R. Jamb	2.4229	1.1787	0.3917			
			Mullion	1.2117	1.1789	0.3917			
			Sill	2.1857	1.0186	0.3917			
8	0.3	53.1	Head	2.1841	1.0154	0.3783	0.5678	0.3998	0.3369
			L. Jamb	2.1841	1.0154	0.3783			
			R. Jamb	2.4229	1.1772	0.3783			
			Mullion	1.2117	1.1774	0.3783			
			Sill	2.1857	1.0182	0.3783			
9	0.28	54.2	Head	2.1841	1.0150	0.3649	0.5559	0.3835	0.3194
			L. Jamb	2.1841	1.0150	0.3649			
			R. Jamb	2.4229	1.1758	0.3649			
			Mullion	1.2117	1.1760	0.3649			
			Sill	2.1857	1.0178	0.3649			

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
							28.21" by 28.21"	78.74" by 78.74"	182.09" by 182.09"
10	0.26	55.2	Head	2.1841	1.0146	0.3516	0.5441	0.3672	0.3018
			L. Jamb	2.1841	1.0146	0.3516			
			R. Jamb	2.4229	1.1744	0.3516			
			Mullion	1.2117	1.1746	0.3516			
			Sill	2.1857	1.0174	0.3516			
11	0.24	56.3	Head	2.1841	1.0143	0.3383	0.5322	0.3509	0.2844
			L. Jamb	2.1841	1.0143	0.3383			
			R. Jamb	2.4229	1.1731	0.3383			
			Mullion	1.2117	1.1733	0.3383			
			Sill	2.1857	1.0171	0.3383			
12	0.22	57.3	Head	2.1841	1.0140	0.3251	0.5204	0.3346	0.2670
			L. Jamb	2.1841	1.0140	0.3251			
			R. Jamb	2.4229	1.1718	0.3251			
			Mullion	1.2117	1.1720	0.3251			
			Sill	2.1857	1.0168	0.3251			
13	0.2	58.4	Head	2.1841	1.0137	0.3119	0.5087	0.3183	0.2493
			L. Jamb	2.1841	1.0137	0.3119			
			R. Jamb	2.4229	1.1706	0.3119			
			Mullion	1.2117	1.1708	0.3119			
			Sill	2.1857	1.0165	0.3119			
14	0.18	41.3	Head	2.1841	1.0119	0.2986	0.4960	0.3017	0.2317
			L. Jamb	2.1841	1.0119	0.2986			
			R. Jamb	2.4229	1.1657	0.2986			
			Mullion	1.2117	1.1654	0.2986			
			Sill	2.1857	1.0145	0.2986			
15	0.16	44.3	Head	2.1841	1.0115	0.2857	0.4843	0.2852	0.2137
			L. Jamb	2.1841	1.0115	0.2857			
			R. Jamb	2.4229	1.1644	0.2857			
			Mullion	1.2117	1.1641	0.2857			
			Sill	2.1857	1.0142	0.2857			

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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REVIEWED BY:

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Simulation Technician

Michael Resech
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CEJ:cej
C5084.01-201-45

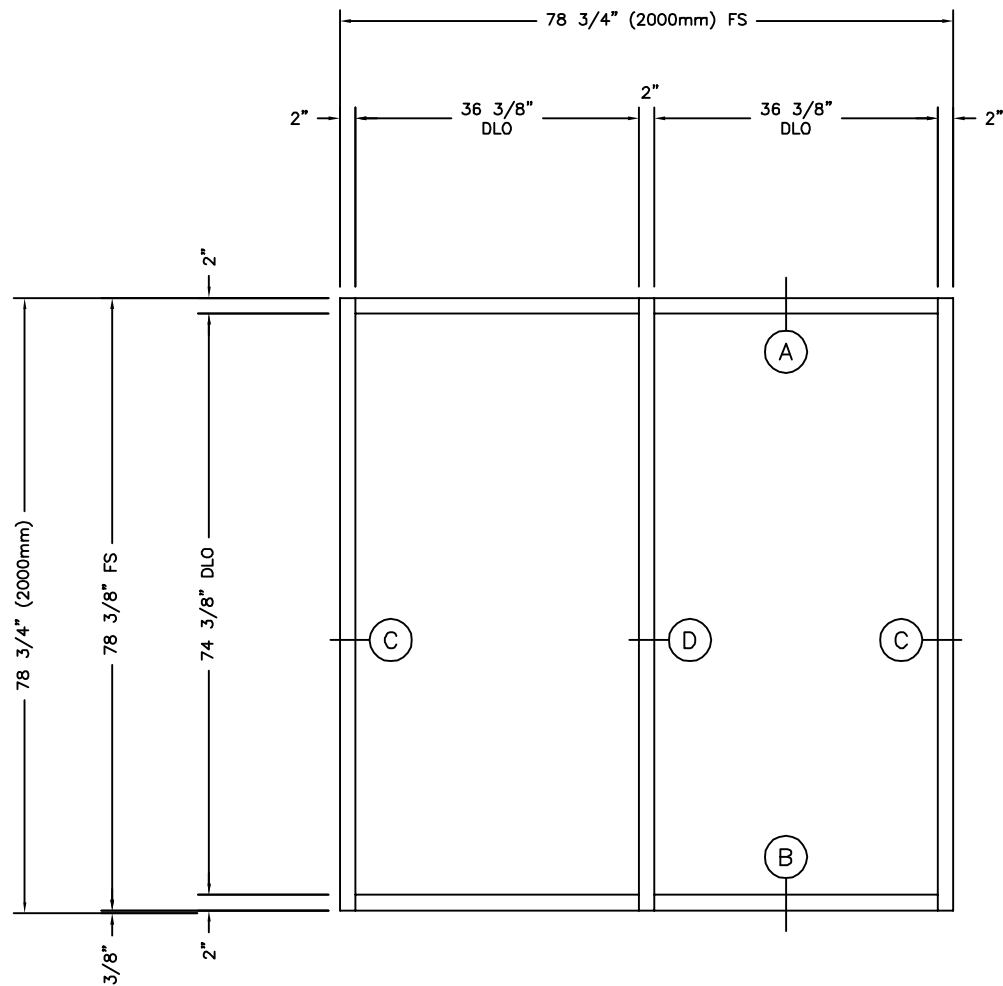
Attachments (pages): This report is complete only when all attachments listed are included.

Appendix A: Drawings and Bills of Material (1)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.01 R0	1/25/2013	All	Original Report Issue

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

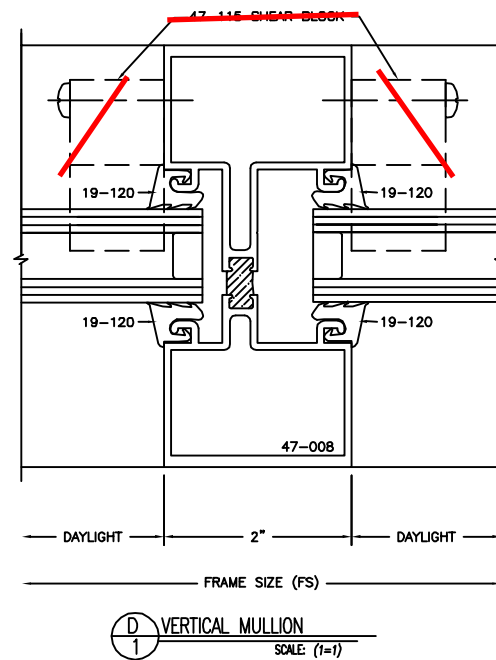
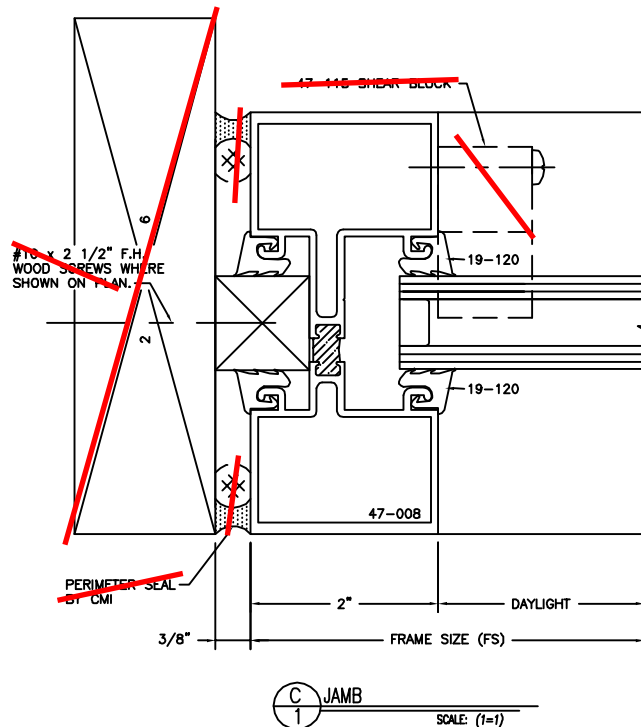
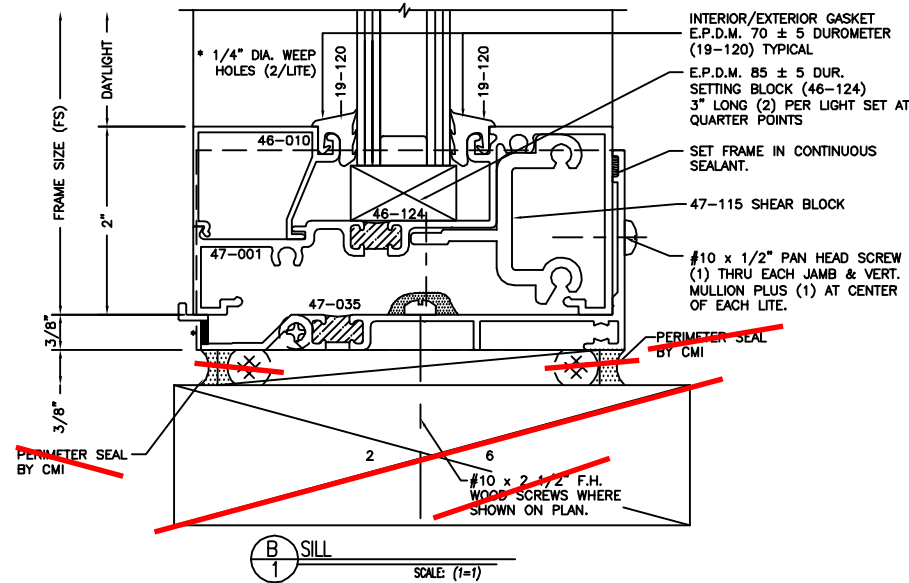
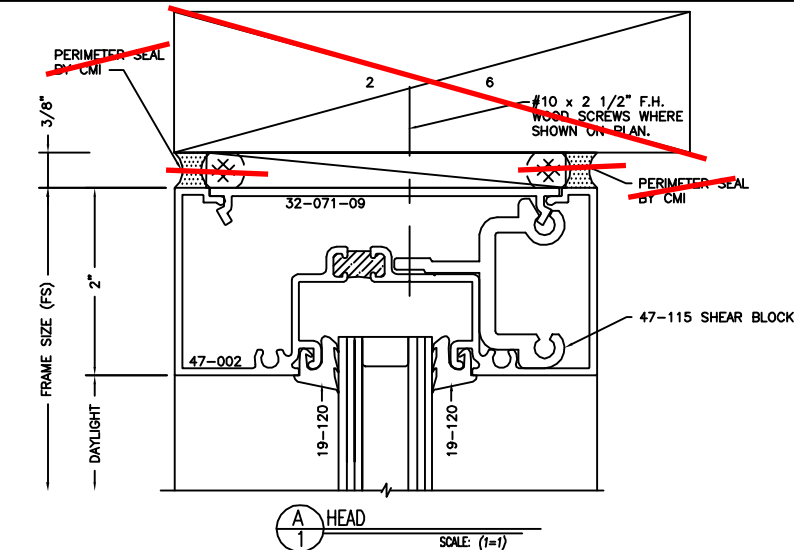


450TB-CG THERMAL TEST 1" GLAZING
1 THUS
450TB-CG (2" x 4 1/2")
SCALE: 1/2"=1'-0"

GLASS TYPE:
CLEAR 1" INSULATED GLASS UNITS
1/4" CLEAR WITH PPG SOLARBAN 60 SOLAR CONTROL LOW-E #2 ANNEALED
1/2" AIRSPACE - ALUMINUM SPACER / 90% ARGON FILLED
1/4" CLEAR ANNEALED
GLASS SIZE = 2 PIECES 37 1/8" x 75 1/8"

TESTING PARAMETERS:
AAMA 1503-09 VOLUNTARY TEST METHOD FOR THERMAL TRANSMITTANCE AND CONDENSATION RESISTANCE OF WINDOWS, DOORS AND GLAZED CURTAIN WALL SECTIONS.
NFRC 102-2010 PROCEDURE FOR MEASURING THE STEADY STATE THERMAL TRANSMITTANCE OF FENESTRATION SYSTEMS.
AAMA 507-03 STANDARD PRACTICE FOR DETERMINING THE THERMAL PERFORMANCE CHARACTERISTICS OF FENESTRATION SYSTEMS INSTALLED IN COMMERCIAL BUILDING.
- STANDARD AAMA 507 INSULATED GLASS
UNIT COMPOSITION WITH ALUMINUM SPACER

NOTES:
FACTORY INSTALL FRAME IN WOOD BUCK PERIMETER
FACTORY INSTALL GLAZING
FACTORY INSTALL EXTERIOR AND INTERIOR PERIMETER CAULK SEAL TO WOOD BUCK PERIMETER
FACTORY INSTALL TEMPORARY DIAGONAL WOOD BRACING FOR SHIPPING PROTECTION.



THIS DRAWING IS PREPARED FOR THE SOLE USE OF OBTAINING APPROVAL FOR MATERIAL SHOWN. CMI-ARCHITECTURAL ASSUMES NO RESPONSIBILITY FOR GLASS SIZES, DETAILS OR MATERIALS. THE USER OF THESE DRAWINGS PERIMETER AND STRUCTURAL ANCHOR CONDITIONS ARE NOT THE RESPONSIBILITY OF CMI-ARCHITECTURAL. THE RESPONSIBILITY OF THE INSTALLER THESE DRAWINGS ARE THE EXPRESS PROPERTY OF CMI-ARCHITECTURAL.

CMI THERMAL TEST
450TB CENTER GLAZED THERMAL WINDOW TEST
PROJECT:
ARCHITECT:
GLAZING CONTRACTOR:

REVISIONS		
REV	INTL	DATE
DATE DRAWN:		
DRAWN BY:		SOLD BY:
PO#:		
SCALE: AS NOTED		
PROJECT MGR.		
CMI S.O.#		
SHEET:		