Architectural Testing

AAMA 507-07 THERMAL PERFORMANCE REPORT

(Revised)

Rendered to:

UNITED STATES ALUMINUM

SERIES/MODEL: HP3253 Curtain Wall
TYPE: Glazed Wall System

Report No: 92668.05-116-45
Report Date: 05/11/10
Revised Report Date: 09/01/10

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(Revised)

Rendered to:

UNITED STATES ALUMINUM
200 Singleton Drive
Waxahachie, Texas 75165

Report No:	92668.05-116-45
Report Date:	05/11/10
Simulation Date:	05/11/10
Revised Report Date:	09/01/10

Project Summary:

Architectural Testing, Inc. was contracted by United States Aluminum to provide U-Factor and Solar Heat Gain Coefficient thermal performance ratings on the HP3253 Curtain Wall Glazed 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 Buildings.*

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*

NFRC Technical Interpretation TI-2003-12, *Curtain Wall Simulation*

Simulation Specimen Description:

Series/Model:	HP3253 Curtain Wall
Type:	Glazed Wall System
Frame Material:	Aluminum Thermally Broken Framing System
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:	United States Aluminum Drawing HP3253

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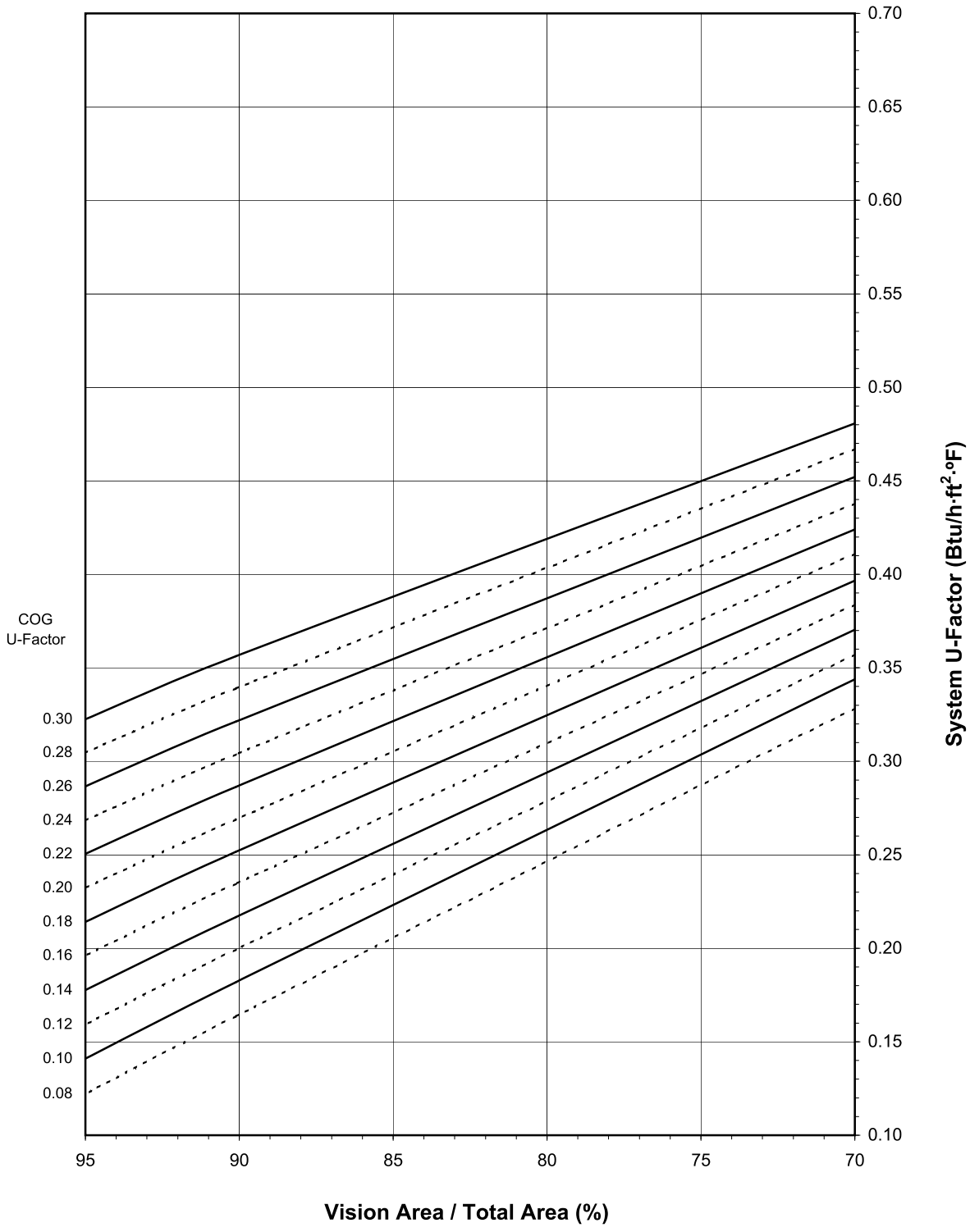
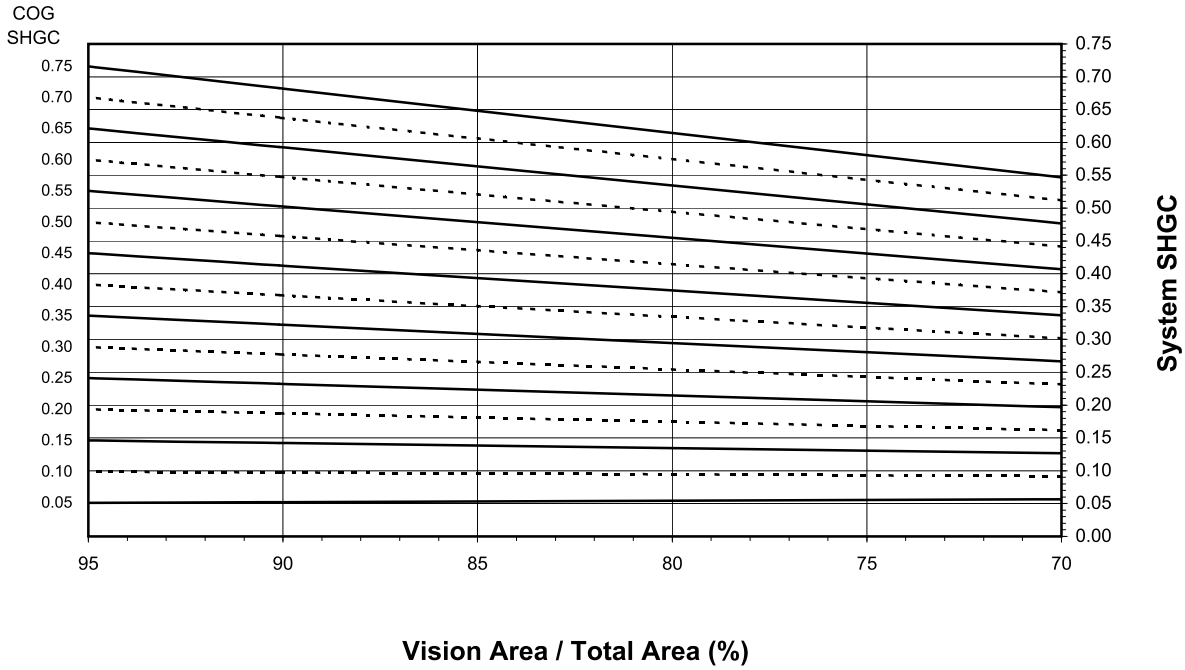
United States Aluminum
HP3253 Curtain Wall - Glazed Wall System

System U-Factor vs. Percentage of Vision Area



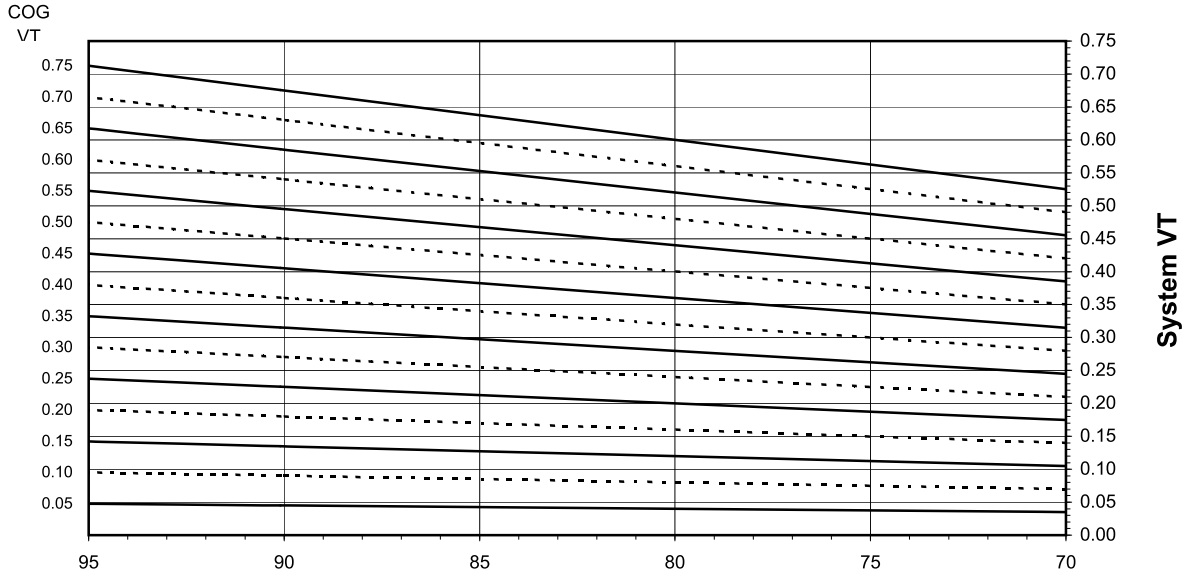
United States Aluminum
HP3253 Curtain Wall - Glazed Wall System

System SHGC vs. Percentage of Vision Area



Vision Area / Total Area (%)

System VT vs. Percentage of Vision Area



Vision Area / Total Area (%)

United States Aluminum
HP3253 Curtain Wall - Glazed Wall System

Size Specific U-Factor Matrix*

Glazing Option	Center of Glass U-Factor	Overall U-Factor
1	0.30	0.36
2	0.28	0.34
3	0.26	0.32
4	0.24	0.30
5	0.22	0.29
6	0.20	0.27
7	0.18	0.25
8	0.16	0.23
9	0.14	0.22
10	0.12	0.20
11	0.10	0.18
12	0.08	0.16

Size Specific SHGC Matrix*

Center of Glass SHGC	Overall SHGC
0.75	0.68
0.70	0.64
0.65	0.59
0.60	0.55
0.55	0.50
0.50	0.46
0.45	0.41
0.40	0.37
0.35	0.32
0.30	0.28
0.25	0.23
0.20	0.19
0.15	0.14
0.10	0.10
0.05	0.05

Size Specific VT Matrix*

Center of Glass VT	Overall VT
0.75	0.68
0.70	0.63
0.65	0.59
0.60	0.54
0.55	0.50
0.50	0.45
0.45	0.41
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 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 90.1% 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*
							24.65" by 24.65"	*78.74" by 78.74"*	*157.48" by 157.48"*
1	0.3	53.1	Head	1.3279	0.8289	0.3077	0.4807	0.3562	0.3225
			Vertical	2.6558	0.9194	0.3073			
			Sill	1.3279	0.8293	0.3076			
2	0.28	54.2	Head	1.3279	0.8219	0.2932	0.4670	0.3389	0.3047
			Vertical	2.6558	0.9124	0.2929			
			Sill	1.3279	0.8224	0.2931			
3	0.26	55.2	Head	1.3279	0.8092	0.2804	0.4521	0.3212	0.2865
			Vertical	2.6558	0.8985	0.2803			
			Sill	1.3279	0.8097	0.2803			
4	0.24	56.3	Head	1.3279	0.7973	0.2683	0.4377	0.3037	0.2685
			Vertical	2.6558	0.8856	0.2685			
			Sill	1.3279	0.7978	0.2683			
5	0.22	57.3	Head	1.3279	0.7881	0.2554	0.4240	0.2863	0.2504
			Vertical	2.6558	0.8760	0.2557			
			Sill	1.3279	0.7885	0.2554			
6	0.2	58.4	Head	1.3279	0.7914	0.2337	0.4109	0.2689	0.2324
			Vertical	2.6558	0.8832	0.2341			
			Sill	1.3279	0.7918	0.2336			
7	0.18	59.5	Head	1.3279	0.7645	0.2312	0.3966	0.2516	0.2142
			Vertical	2.6558	0.8566	0.2320			
			Sill	1.3279	0.7649	0.2311			
8	0.16	60.6	Head	1.3279	0.7563	0.2192	0.3837	0.2345	0.1962
			Vertical	2.6558	0.8483	0.2202			
			Sill	1.3279	0.7566	0.2192			
9	0.14	61.7	Head	1.3279	0.7744	0.1895	0.3704	0.2167	0.1777
			Vertical	2.6558	0.8649	0.1903			
			Sill	1.3279	0.7748	0.1895			
10	0.12	62.8	Head	1.3279	0.7694	0.1747	0.3570	0.1992	0.1593
			Vertical	2.6558	0.8593	0.1756			
			Sill	1.3279	0.7697	0.1747			
11	0.1	63.9	Head	1.3279	0.7640	0.1602	0.3439	0.1818	0.1410
			Vertical	2.6558	0.8541	0.1612			
			Sill	1.3279	0.7644	0.1602			
12	0.08	65.0	Head	1.3279	0.7537	0.1460	0.3283	0.1636	0.1222
			Vertical	2.6558	0.8387	0.1470			
			Sill	1.3279	0.7540	0.1460			

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.

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92668.05-116-45

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

Appendix A: Drawings and Bills of Material (3)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
.04 R0	5/11/2010	All	Original Report Issue
.05 R0	7/20/2010	All	-Simulated Product as Fully Debridged -Corrected Horizontal Meeting Rail Frame Member
.05 R1	9/1/2010	Appendix A	Revised Drawings