

**NFRC U-FACTOR, SHGC, VT, &
CONDENSATION RESISTANCE
COMPUTER SIMULATION REPORT**

(Revised)

**Rendered to:
UNITED STATES ALUMINUM CORPORATION**

**SERIES/MODEL:
7200/7300 Project In Awning**

Report Number:	96068.03-116-45
Original Report Date:	01/18/10
Expiration Date:	12/21/13
Revised Report Date:	03/02/11

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UNITED STATES ALUMINUM CORPORATION
200 Singleton Drive
Waxahachie, Texas 75165

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Project Summary:

Architectural Testing, Inc. was contracted to perform U-Factor, Solar Heat Gain Coefficient, Visible Transmittance, and Condensation Resistance* computer simulations in accordance with the National Fenestration Rating Council (NFRC). The products were evaluated in full compliance with NFRC requirements to the standards listed below.

**NFRC's Condensation Resistance rating is NOT equivalent to a Condensation Resistance Factor (CRF) determined in accordance with AAMA 1503.*

Standards:

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 500-2010: Procedure for Determining Fenestration Product Condensation Resistance Values

Software:

Frame and Edge Modeling: THERM 5.2.14
Center-of-Glass Modeling: WINDOW 5.2.17
Total Product Calculations: WINDOW 5.2.17
Spectral Data Library: 18.0

Simulations Specimen Description:

Series/Model: 7200/7300 Project In Awning
Type: Projected , Awning
Frame Material: AT Aluminum w/ Thermal Breaks - All Members
Sash Material: AT Aluminum w/ Thermal Breaks - All Members
Standard Size: 1500mm x 600mm

Technical Interpretations:

None

Modeling Assumptions:

- 1) To prevent air infiltration, tape was applied to all interior sash crack locations.
- 2) The 7200 Series and 7300 Series were frame grouped per NFRC 100-2010 Section 4.2.4.5.B.i.

Specialty Products Table:

The specialty products method allow the manufacturer to determine the overall product SHGC and VT for any glazing option. The center of glass SHGC and/or VT must be determined using WINDOW 5.2. The method gives overall product SHGC and VT indexed on center of glass properties. All values used in the calculations are truncated to six decimal place precision.

(7200 Series)	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.019032	0.021113	0.023089
SHGC1	0.676559	0.614540	0.555641
VT0	0.000000	0.000000	0.000000
VT1	0.657527	0.593427	0.532552

$$\text{SHGC} = \text{SHGC0} + \text{SHGCc} (\text{SHGC1} - \text{SHGC0})$$

$$\text{VT} = \text{VT0} + \text{VTc} (\text{VT1} - \text{VT0})$$

(7300 Series)	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.022355	0.024346	0.026233
SHGC1	0.628814	0.569456	0.513219
VT0	0.000000	0.000000	0.000000
VT1	0.606460	0.545110	0.486986

$$\text{SHGC} = \text{SHGC0} + \text{SHGCc} (\text{SHGC1} - \text{SHGC0})$$

$$\text{VT} = \text{VT0} + \text{VTc} (\text{VT1} - \text{VT0})$$

Validation Matrix:

The following products are part of a validation matrix. Only one is required for validation testing.

Product Line	Report Number
None	-

Spacer Option Description

<i>Spacer Type</i>	<i>Sealant</i>		
	<i>Primary</i>	<i>Secondary</i>	<i>Desiccant</i>
Standard Aluminum Spacer	Butyl Rubber	Butyl Rubber	Yes
Tin-plate Intercept Spacer	Butyl Rubber	Butyl Rubber	Yes
Edgetech Standard Super Spacer	Butyl Rubber	None	No
Stainless Steel Spacer	Polyisobutylene	Silicone	Yes
Edgetech TriSeal Premium Super Spacer	Polyisobutylene	Butyl Rubber	No
Technoform TGI Wave Spacer	Polyisobutylene	Silicone	Yes

Grid Option Description

<i>Grid Size</i>	<i>Grid Type</i>	<i>Grid Pattern</i>
None	-	-

Reinforcement Option Description

<i>Location</i>	<i>Material</i>
None	-

Gas Filling Technique Description

<i>Fill Type</i>	<i>Method</i>
90% Argon	Single-probe timed

Edge-of-Glass Construction

<i>Interior Condition</i>	
	EPDM gasket between frame and glass
<i>Exterior Condition</i>	
	Glazing tape between frame and glass

Weatherstripping

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Bulb gasket	1 row	Frame perimeter
Bulb gasket	1 row	Sash perimeter

Frame/Sash Materials Finish

<i>Interior</i>	
	Painted Aluminum
<i>Exterior</i>	
	Painted Aluminum

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
1	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	A1-D	N
	U-Factor 0.60			SHGC (N) 0.48					VT (N) 0.52		CR 36	
2	clr / arg / clr											
	0.225	0.500	0.225					ARG90		CL	A1-D	N
	U-Factor 0.59			SHGC (N) 0.48					VT (N) 0.52		CR 36	
3	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.27					VT (N) 0.46		CR 37	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.31					VT (N) 0.46		CR 37	
4	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.27					VT (N) 0.46		CR 37	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.31					VT (N) 0.46		CR 37	
5	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	A1-D	N
	U-Factor 0.49			SHGC (N) 0.20					VT (N) 0.35		CR 37	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	A1-D	N
	U-Factor 0.49			SHGC (N) 0.22					VT (N) 0.35		CR 37	
6	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.20					VT (N) 0.42		CR 37	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	A1-D	N
U-Factor 0.48			SHGC (N) 0.26					VT (N) 0.42		CR 37		

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
7	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.20				VT (N) 0.42			CR 37	
	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.26				VT (N) 0.42			CR 37	
8	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.38				VT (N) 0.50			CR 37	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.40				VT (N) 0.50			CR 37	
9	VE185 / arg / clr											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.38				VT (N) 0.50			CR 37	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.40				VT (N) 0.50			CR 37	
10	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.27				VT (N) 0.46			CR 37	
	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.32				VT (N) 0.46			CR 37	
11	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.27				VT (N) 0.46			CR 37	
	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.32				VT (N) 0.46			CR 37	



NFRC 100/200/500 Summary Sheet

7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
12	TiAC36 / air / clr											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.25					VT (N) 0.43		CR 37	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.31					VT (N) 0.43		CR 37	
13	TiAC36 / arg / clr											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.25					VT (N) 0.43		CR 37	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.32					VT (N) 0.43		CR 37	
14	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.17					VT (N) 0.25		CR 37	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.32					VT (N) 0.25		CR 37	
15	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.17					VT (N) 0.25		CR 37	
	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.33					VT (N) 0.25		CR 37	
16	EADV / air / clr											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.43					VT (N) 0.48		CR 36	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.46					VT (N) 0.48		CR 36	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
17	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.43				VT (N) 0.48			CR 37	
	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.46				VT (N) 0.48			CR 37	
18	S100 / air / clr											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.38				VT (N) 0.50			CR 37	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.40				VT (N) 0.50			CR 37	
19	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.18				VT (N) 0.31			CR 37	
	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.21				VT (N) 0.31			CR 37	
20	SB80 / arg / clr											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.17				VT (N) 0.31			CR 37	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.21				VT (N) 0.31			CR 37	
21	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	A1-D	N
	U-Factor 0.49			SHGC (N) 0.22				VT (N) 0.35			CR 36	
22	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	CU-S	N
	U-Factor 0.59			SHGC (N) 0.48				VT (N) 0.52			CR 37	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
23	clr / arg / clr											
	0.225	0.500	0.225					ARG90		CL	CU-S	N
	U-Factor 0.58			SHGC (N) 0.48					VT (N) 0.52		CR 38	
24	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.27					VT (N) 0.46		CR 39	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.31					VT (N) 0.46		CR 39	
25	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.27					VT (N) 0.46		CR 39	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.31					VT (N) 0.46		CR 39	
26	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	CU-S	N
	U-Factor 0.48			SHGC (N) 0.20					VT (N) 0.35		CR 39	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	CU-S	N
	U-Factor 0.48			SHGC (N) 0.22					VT (N) 0.35		CR 39	
27	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.20					VT (N) 0.42		CR 39	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.26					VT (N) 0.42		CR 39	
28	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	CU-S	N
	U-Factor 0.44			SHGC (N) 0.20					VT (N) 0.42		CR 39	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
29	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	CU-S	N
	U-Factor 0.44			SHGC (N) 0.26					VT (N) 0.42		CR 39	
	VE185 / air / clr											
30	0.223	0.500	0.225					AIR	0.088(#2)	CL	CU-S	N
	U-Factor 0.49			SHGC (N) 0.38					VT (N) 0.50		CR 39	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	CU-S	N
31	U-Factor 0.49			SHGC (N) 0.40					VT (N) 0.50		CR 39	
	VE185 / arg / clr											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	CU-S	N
	U-Factor 0.46			SHGC (N) 0.38					VT (N) 0.50		CR 39	
32	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	CU-S	N
	U-Factor 0.46			SHGC (N) 0.40					VT (N) 0.50		CR 39	
	VE12M / air / clr											
33	0.223	0.500	0.225					AIR	0.040(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.27					VT (N) 0.46		CR 39	
	clr / air / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	CU-S	N
34	U-Factor 0.48			SHGC (N) 0.32					VT (N) 0.46		CR 39	
	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.27					VT (N) 0.46		CR 39	
35	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.32					VT (N) 0.46		CR 39	
	TiAC36 / air / clr											
36	0.222	0.500	0.225					AIR	0.034(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.43		CR 39	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.31					VT (N) 0.43		CR 39	
34	TiAC36 / arg / clr											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.25					VT (N) 0.43		CR 39	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.32					VT (N) 0.43		CR 39	
35	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.17					VT (N) 0.25		CR 39	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.32					VT (N) 0.25		CR 39	
36	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.17					VT (N) 0.25		CR 39	
	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	CU-S	N
	U-Factor 0.45			SHGC (N) 0.33					VT (N) 0.25		CR 39	
37	EADV / air / clr											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.43					VT (N) 0.48		CR 39	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.46					VT (N) 0.48		CR 39	
38	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.43					VT (N) 0.48		CR 39	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
39	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.46				VT (N) 0.48			CR 39	
	S100 / air / clr											
40	0.223	0.500	0.223					AIR	0.087(#2)	CL	CU-S	N
	U-Factor 0.49			SHGC (N) 0.38				VT (N) 0.50			CR 39	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	CU-S	N
41	U-Factor 0.49			SHGC (N) 0.40				VT (N) 0.50			CR 39	
	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.31			CR 39	
42	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.21				VT (N) 0.31			CR 39	
	SB80 / arg / clr											
43	0.223	0.500	0.223					ARG90	0.024(#2)	CL	CU-S	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.31			CR 39	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	CU-S	N
44	U-Factor 0.44			SHGC (N) 0.21				VT (N) 0.31			CR 39	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	CU-S	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.35			CR 39	
45	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	SS-D	N
	U-Factor 0.60			SHGC (N) 0.48				VT (N) 0.52			CR 36	
	clr / arg / clr											
46	0.225	0.500	0.225					ARG90		CL	SS-D	N
	U-Factor 0.58			SHGC (N) 0.48				VT (N) 0.52			CR 37	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
45	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.46			CR 37	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.31				VT (N) 0.46			CR 37	
46	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.46			CR 38	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.31				VT (N) 0.46			CR 38	
47	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	SS-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.35			CR 37	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	SS-D	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.35			CR 37	
48	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.42			CR 37	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.42			CR 37	
49	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.42			CR 38	
	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.26				VT (N) 0.42			CR 38	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
50	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.38				VT (N) 0.50			CR 37	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.40				VT (N) 0.50			CR 37	
51	VE185 / arg / clr											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.38				VT (N) 0.50			CR 38	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.40				VT (N) 0.50			CR 38	
52	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.46			CR 37	
	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.46			CR 37	
53	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.46			CR 38	
	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.32				VT (N) 0.46			CR 38	
54	TiAC36 / air / clr											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.25				VT (N) 0.43			CR 37	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.31				VT (N) 0.43			CR 37	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
55	TiAC36 / arg / clr											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.25				VT (N) 0.43			CR 38	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.32				VT (N) 0.43			CR 38	
56	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.17				VT (N) 0.25			CR 37	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.25			CR 37	
57	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.25			CR 38	
	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.33				VT (N) 0.25			CR 38	
58	EADV / air / clr											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.43				VT (N) 0.48			CR 37	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.46				VT (N) 0.48			CR 37	
59	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.43				VT (N) 0.48			CR 37	
	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.46				VT (N) 0.48			CR 37	



NFRC 100/200/500 Summary Sheet

7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
60	S100 / air / clr											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.38					VT (N) 0.50		CR 37	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.40					VT (N) 0.50		CR 37	
61	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.18					VT (N) 0.31		CR 37	
	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.21					VT (N) 0.31		CR 37	
62	SB80 / arg / clr											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.17					VT (N) 0.31		CR 38	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.21					VT (N) 0.31		CR 38	
63	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	SS-D	N
	U-Factor 0.48			SHGC (N) 0.22					VT (N) 0.35		CR 37	
64	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	ZF-S	N
	U-Factor 0.58			SHGC (N) 0.48					VT (N) 0.52		CR 38	
65	clr / arg / clr											
	0.225	0.500	0.225					ARG90		CL	ZF-S	N
	U-Factor 0.57			SHGC (N) 0.48					VT (N) 0.52		CR 38	
66	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.27					VT (N) 0.46		CR 39	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)						Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
clr / air / SB60												
	0.223	0.500	0.223					AIR	0.035(#3)	CL	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.31						VT (N) 0.46		CR 39	
67	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	ZF-S	N
	U-Factor 0.44		SHGC (N) 0.27						VT (N) 0.46		CR 40	
clr / arg / SB60												
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	ZF-S	N
	U-Factor 0.44		SHGC (N) 0.31						VT (N) 0.46		CR 40	
68	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.20						VT (N) 0.35		CR 39	
Atlantica / air / SB60												
	0.223	0.500	0.223					AIR	0.035(#3)	GR	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.22						VT (N) 0.35		CR 39	
69	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.20						VT (N) 0.42		CR 39	
clr / air / SB70XL												
	0.223	0.500	0.223					AIR	0.018(#3)	CL	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.26						VT (N) 0.42		CR 39	
70	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	ZF-S	N
	U-Factor 0.43		SHGC (N) 0.20						VT (N) 0.42		CR 40	
clr / arg / SB70XL												
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	ZF-S	N
	U-Factor 0.43		SHGC (N) 0.26						VT (N) 0.42		CR 40	
71	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	ZF-S	N
	U-Factor 0.48		SHGC (N) 0.38						VT (N) 0.50		CR 39	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	ZF-S	N
	U-Factor 0.48			SHGC (N) 0.40					VT (N) 0.50		CR 39	
	VE185 / arg / clr											
72	0.223	0.500	0.225					ARG90	0.088(#2)	CL	ZF-S	N
	U-Factor 0.45			SHGC (N) 0.38					VT (N) 0.50		CR 39	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	ZF-S	N
U-Factor 0.45			SHGC (N) 0.40					VT (N) 0.50		CR 39		
73	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	ZF-S	N
	U-Factor 0.47			SHGC (N) 0.27					VT (N) 0.46		CR 39	
	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	ZF-S	N
	U-Factor 0.47			SHGC (N) 0.32					VT (N) 0.46		CR 39	
	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	ZF-S	N
U-Factor 0.44			SHGC (N) 0.27					VT (N) 0.46		CR 40		
74	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	ZF-S	N
	U-Factor 0.44			SHGC (N) 0.32					VT (N) 0.46		CR 40	
	TiAC36 / air / clr											
75	0.222	0.500	0.225					AIR	0.034(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.25					VT (N) 0.43		CR 39	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	ZF-S	N
U-Factor 0.46			SHGC (N) 0.31					VT (N) 0.43		CR 39		
76	TiAC36 / arg / clr											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	ZF-S	N
	U-Factor 0.44			SHGC (N) 0.25					VT (N) 0.43		CR 40	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)						Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	ZF-S	N
	U-Factor 0.44		SHGC (N) 0.32						VT (N) 0.43		CR 40	
77	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	ZF-S	N
	U-Factor 0.47		SHGC (N) 0.17						VT (N) 0.25		CR 39	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	ZF-S	N
	U-Factor 0.47		SHGC (N) 0.32						VT (N) 0.25		CR 39	
78	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	ZF-S	N
	U-Factor 0.44		SHGC (N) 0.17						VT (N) 0.25		CR 40	
	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	ZF-S	N
	U-Factor 0.44		SHGC (N) 0.33						VT (N) 0.25		CR 40	
79	EADV / air / clr											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	ZF-S	N
	U-Factor 0.49		SHGC (N) 0.43						VT (N) 0.48		CR 39	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	ZF-S	N
	U-Factor 0.49		SHGC (N) 0.46						VT (N) 0.48		CR 39	
80	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.43						VT (N) 0.48		CR 39	
	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	ZF-S	N
	U-Factor 0.46		SHGC (N) 0.46						VT (N) 0.48		CR 39	
81	S100 / air / clr											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	ZF-S	N
	U-Factor 0.48		SHGC (N) 0.38						VT (N) 0.50		CR 39	

NFRC 100/200/500 Summary Sheet
7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	ZF-S	N
	U-Factor 0.48			SHGC (N) 0.40					VT (N) 0.50		CR 39	
82	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.18					VT (N) 0.31		CR 39	
	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.21					VT (N) 0.31		CR 39	
83	SB80 / arg / clr											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	ZF-S	N
	U-Factor 0.43			SHGC (N) 0.17					VT (N) 0.31		CR 40	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	ZF-S	N
	U-Factor 0.43			SHGC (N) 0.21					VT (N) 0.31		CR 40	
84	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.22					VT (N) 0.35		CR 39	
85	E272 / arg / i81											
	0.224	0.500	0.223					ARG90	0.042(#2) / 0.149(#4)	CL	ZF-D	N
	U-Factor 0.41			SHGC (N) 0.26					VT (N) 0.41		CR 39	
86	E366 / arg / i81											
	0.225	0.500	0.223					ARG90	0.022(#2) / 0.149(#4)	CL	ZF-D	N
	U-Factor 0.40			SHGC (N) 0.18					VT (N) 0.37		CR 39	
87	E366 / arg / Sungate 500											
	0.225	0.500	0.223					ARG90	0.022(#2) / 0.215(#4)	CL	ZF-D	N
	U-Factor 0.41			SHGC (N) 0.19					VT (N) 0.38		CR 39	
88	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	TS-D	N
	U-Factor 0.44			SHGC (N) 0.27					VT (N) 0.46		CR 40	



NFRC 100/200/500 Summary Sheet

7200 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	TS-D	N
	U-Factor 0.44			SHGC (N) 0.31				VT (N) 0.46			CR 40	
	89 Sungate 500 / arg / clr											
	0.223	0.500	0.223					ARG90	0.215(#2)	CL	TS-D	N
	U-Factor 0.48			SHGC (N) 0.42				VT (N) 0.48			CR 40	
	clr / arg /Sungate 500											
	0.223	0.500	0.223					ARG90	0.215(#3)	CL	TS-D	N
	U-Factor 0.48			SHGC (N) 0.45				VT (N) 0.48			CR 40	
	90 Sungate 400 / arg / clr											
	0.223	0.500	0.223					ARG90	0.115(#2)	CL	TS-D	N
	U-Factor 0.46			SHGC (N) 0.41				VT (N) 0.50			CR 40	
	clr / arg /Sungate 400											
	0.223	0.500	0.223					ARG90	0.115(#3)	CL	TS-D	N
	U-Factor 0.46			SHGC (N) 0.44				VT (N) 0.50			CR 40	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
91	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	A1-D	N
	U-Factor 0.62			SHGC (N) 0.45					VT (N) 0.48		CR 35	
92	clr / arg / clr											
	0.225	0.500	0.225					ARG90		CL	A1-D	N
	U-Factor 0.60			SHGC (N) 0.45					VT (N) 0.48		CR 35	
93	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.29					VT (N) 0.43		CR 36	
94	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.30					VT (N) 0.43		CR 36	
95	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	A1-D	N
	U-Factor 0.51			SHGC (N) 0.19					VT (N) 0.32		CR 36	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	A1-D	N
	U-Factor 0.51			SHGC (N) 0.21					VT (N) 0.32		CR 36	
96	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.19					VT (N) 0.39		CR 36	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.25					VT (N) 0.39		CR 36	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
97	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.19					VT (N) 0.39		CR 36	
	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.39		CR 36	
98	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	A1-D	N
	U-Factor 0.52			SHGC (N) 0.35					VT (N) 0.46		CR 36	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	A1-D	N
	U-Factor 0.52			SHGC (N) 0.37					VT (N) 0.46		CR 36	
99	VE185 / arg / clr											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.35					VT (N) 0.46		CR 36	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.38					VT (N) 0.46		CR 36	
100	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.30					VT (N) 0.43		CR 36	
101	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.30					VT (N) 0.43		CR 36	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
102	TiAC36 / air / clr											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.24				VT (N) 0.39			CR 36	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.29				VT (N) 0.39			CR 36	
103	TiAC36 / arg / clr											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.24				VT (N) 0.39			CR 36	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.30				VT (N) 0.39			CR 36	
104	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.16				VT (N) 0.23			CR 36	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.30				VT (N) 0.23			CR 36	
105	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.16				VT (N) 0.23			CR 36	
	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.31				VT (N) 0.23			CR 36	
106	EADV / air / clr											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	A1-D	N
	U-Factor 0.54			SHGC (N) 0.40				VT (N) 0.44			CR 36	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	A1-D	N
	U-Factor 0.54			SHGC (N) 0.43				VT (N) 0.44			CR 36	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
107	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.40				VT (N) 0.44			CR 36	
	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.43				VT (N) 0.44			CR 36	
108	S100 / air / clr											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	A1-D	N
	U-Factor 0.52			SHGC (N) 0.35				VT (N) 0.46			CR 36	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	A1-D	N
	U-Factor 0.52			SHGC (N) 0.38				VT (N) 0.46			CR 36	
109	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.17				VT (N) 0.29			CR 36	
	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.20				VT (N) 0.29			CR 36	
110	SB80 / arg / clr											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.16				VT (N) 0.29			CR 36	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.20				VT (N) 0.29			CR 36	
111	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	A1-D	N
	U-Factor 0.51			SHGC (N) 0.21				VT (N) 0.32			CR 36	
	clr / air / clr											
112	0.225	0.500	0.225					AIR		CL	CU-S	N
	U-Factor 0.61			SHGC (N) 0.45				VT (N) 0.48			CR 36	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
113	clr / arg / clr											
	0.225	0.500	0.225					ARG90		CL	CU-S	N
	U-Factor 0.59			SHGC (N) 0.45					VT (N) 0.48		CR 36	
114	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.25					VT (N) 0.43		CR 38	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.29					VT (N) 0.43		CR 38	
115	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.43		CR 38	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.30					VT (N) 0.43		CR 38	
116	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	CU-S	N
	U-Factor 0.50			SHGC (N) 0.19					VT (N) 0.32		CR 38	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	CU-S	N
	U-Factor 0.50			SHGC (N) 0.21					VT (N) 0.32		CR 38	
117	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.19					VT (N) 0.39		CR 38	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.25					VT (N) 0.39		CR 38	
118	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.19					VT (N) 0.39		CR 38	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.25					VT (N) 0.39		CR 38	
119	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	CU-S	N
	U-Factor 0.51			SHGC (N) 0.35					VT (N) 0.46		CR 37	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	CU-S	N
	U-Factor 0.51			SHGC (N) 0.37					VT (N) 0.46		CR 37	
120	VE185 / arg / clr											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	CU-S	N
	U-Factor 0.49			SHGC (N) 0.35					VT (N) 0.46		CR 38	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	CU-S	N
	U-Factor 0.49			SHGC (N) 0.38					VT (N) 0.46		CR 38	
121	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.25					VT (N) 0.43		CR 38	
	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.30					VT (N) 0.43		CR 38	
122	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.43		CR 38	
	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.30					VT (N) 0.43		CR 38	
123	TiAC36 / air / clr											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.24					VT (N) 0.39		CR 38	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.29					VT (N) 0.39		CR 38	
	TiAC36 / arg / clr											
124	0.222	0.500	0.225					ARG90	0.034(#2)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.24					VT (N) 0.39		CR 38	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	CU-S	N
U-Factor 0.48			SHGC (N) 0.30					VT (N) 0.39		CR 38		
125	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.16					VT (N) 0.23		CR 38	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.30					VT (N) 0.23		CR 38	
	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	CU-S	N
U-Factor 0.48			SHGC (N) 0.16					VT (N) 0.23		CR 38		
126	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	CU-S	N
	U-Factor 0.48			SHGC (N) 0.31					VT (N) 0.23		CR 38	
	EADV / air / clr											
127	0.222	0.500	0.223					AIR	0.157(#2)	CL	CU-S	N
	U-Factor 0.52			SHGC (N) 0.40					VT (N) 0.44		CR 37	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	CU-S	N
U-Factor 0.52			SHGC (N) 0.43					VT (N) 0.44		CR 37		
128	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.40					VT (N) 0.44		CR 37	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
129	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.43					VT (N) 0.44		CR 37	
	S100 / air / clr											
130	0.223	0.500	0.223					AIR	0.087(#2)	CL	CU-S	N
	U-Factor 0.51			SHGC (N) 0.35					VT (N) 0.46		CR 37	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	CU-S	N
131	U-Factor 0.51			SHGC (N) 0.38					VT (N) 0.46		CR 37	
	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.17					VT (N) 0.29		CR 38	
132	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	CU-S	N
	U-Factor 0.50			SHGC (N) 0.20					VT (N) 0.29		CR 38	
	SB80 / arg / clr											
133	0.223	0.500	0.223					ARG90	0.024(#2)	CL	CU-S	N
	U-Factor 0.47			SHGC (N) 0.16					VT (N) 0.29		CR 38	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	CU-S	N
134	U-Factor 0.47			SHGC (N) 0.20					VT (N) 0.29		CR 38	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	CU-S	N
	U-Factor 0.50			SHGC (N) 0.21					VT (N) 0.32		CR 37	
135	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	SS-D	N
	U-Factor 0.61			SHGC (N) 0.45					VT (N) 0.48		CR 35	
	clr / arg / clr											
136	0.225	0.500	0.225					ARG90		CL	SS-D	N
	U-Factor 0.60			SHGC (N) 0.45					VT (N) 0.48		CR 35	



NFRC 100/200/500 Summary Sheet

7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
135	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.29					VT (N) 0.43		CR 36	
136	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.30					VT (N) 0.43		CR 36	
137	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	SS-D	N
	U-Factor 0.51			SHGC (N) 0.19					VT (N) 0.32		CR 36	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	SS-D	N
	U-Factor 0.51			SHGC (N) 0.21					VT (N) 0.32		CR 36	
138	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.19					VT (N) 0.39		CR 36	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.25					VT (N) 0.39		CR 36	
139	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.19					VT (N) 0.39		CR 36	
	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.39		CR 36	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
140	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	SS-D	N
	U-Factor 0.52			SHGC (N) 0.35					VT (N) 0.46		CR 36	
	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	SS-D	N
	U-Factor 0.52			SHGC (N) 0.37					VT (N) 0.46		CR 36	
141	VE185 / arg / clr											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.35					VT (N) 0.46		CR 36	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.38					VT (N) 0.46		CR 36	
142	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.30					VT (N) 0.43		CR 36	
143	VE12M / arg / clr											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.25					VT (N) 0.43		CR 36	
	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.30					VT (N) 0.43		CR 36	
144	TiAC36 / air / clr											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.24					VT (N) 0.39		CR 36	
	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.29					VT (N) 0.39		CR 36	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
145	TiAC36 / arg / clr											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.24				VT (N) 0.39			CR 36	
	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	SS-D	N
146	TiAC23 / air / clr											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.16				VT (N) 0.23			CR 36	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	SS-D	N
147	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.16				VT (N) 0.23			CR 36	
	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	SS-D	N
148	EADV / air / clr											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	SS-D	N
	U-Factor 0.53			SHGC (N) 0.40				VT (N) 0.44			CR 36	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	SS-D	N
149	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.40				VT (N) 0.44			CR 36	
	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	SS-D	N
150	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.43				VT (N) 0.44			CR 36	
	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	SS-D	N



NFRC 100/200/500 Summary Sheet

7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
150	S100 / air / clr											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	SS-D	N
	U-Factor 0.52			SHGC (N) 0.35				VT (N) 0.46			CR 36	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	SS-D	N
	U-Factor 0.52			SHGC (N) 0.38				VT (N) 0.46			CR 36	
151	SB80 / air / clr											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.17				VT (N) 0.29			CR 36	
	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.20				VT (N) 0.29			CR 36	
152	SB80 / arg / clr											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.16				VT (N) 0.29			CR 36	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.29			CR 36	
153	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	SS-D	N
	U-Factor 0.51			SHGC (N) 0.21				VT (N) 0.32			CR 36	
154	clr / air / clr											
	0.225	0.500	0.225					AIR		CL	ZF-S	N
	U-Factor 0.60			SHGC (N) 0.45				VT (N) 0.48			CR 37	
155	clr / arg / clr											
	0.225	0.500	0.225					ARG90		CL	ZF-S	N
	U-Factor 0.58			SHGC (N) 0.45				VT (N) 0.48			CR 37	
156	SB60 / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.25				VT (N) 0.43			CR 38	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.29					VT (N) 0.43		CR 38	
157	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.25					VT (N) 0.43		CR 38	
	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.30					VT (N) 0.43		CR 38	
158	SB60 on Atlantica / air / clr											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.19					VT (N) 0.32		CR 38	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.21					VT (N) 0.32		CR 38	
159	SB70XL / air / clr											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.19					VT (N) 0.39		CR 38	
	clr / air / SB70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.25					VT (N) 0.39		CR 38	
160	SB70XL / arg / clr											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.19					VT (N) 0.39		CR 38	
	clr / arg / SB70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.25					VT (N) 0.39		CR 38	
161	VE185 / air / clr											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	ZF-S	N
	U-Factor 0.50			SHGC (N) 0.35					VT (N) 0.46		CR 38	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
162	clr / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	ZF-S	N
	U-Factor 0.50			SHGC (N) 0.37					VT (N) 0.46		CR 38	
	VE185 / arg / clr											
163	0.223	0.500	0.225					ARG90	0.088(#2)	CL	ZF-S	N
	U-Factor 0.48			SHGC (N) 0.35					VT (N) 0.46		CR 38	
	clr / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	ZF-S	N
164	U-Factor 0.48			SHGC (N) 0.38					VT (N) 0.46		CR 38	
	VE12M / air / clr											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.25					VT (N) 0.43		CR 38	
165	clr / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.30					VT (N) 0.43		CR 38	
	VE12M / arg / clr											
166	0.223	0.500	0.225					ARG90	0.040(#2)	CL	ZF-S	N
	U-Factor 0.47			SHGC (N) 0.25					VT (N) 0.43		CR 38	
	clr / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	ZF-S	N
167	U-Factor 0.47			SHGC (N) 0.30					VT (N) 0.43		CR 38	
	TiAC36 / air / clr											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.24					VT (N) 0.39		CR 38	
168	clr / air / TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.29					VT (N) 0.39		CR 38	
	TiAC36 / arg / clr											
169	0.222	0.500	0.225					ARG90	0.034(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.24					VT (N) 0.39		CR 38	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
167	clr / arg / TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.30					VT (N) 0.39		CR 38	
	TiAC23 / air / clr											
168	0.228	0.500	0.225					AIR	0.041(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.16					VT (N) 0.23		CR 38	
	clr / air / TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	ZF-S	N
169	U-Factor 0.49			SHGC (N) 0.30					VT (N) 0.23		CR 38	
	TiAC23 / arg / clr											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	ZF-S	N
	U-Factor 0.47			SHGC (N) 0.16					VT (N) 0.23		CR 38	
170	clr / arg / TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	ZF-S	N
	U-Factor 0.47			SHGC (N) 0.31					VT (N) 0.23		CR 38	
	EADV / air / clr											
171	0.222	0.500	0.223					AIR	0.157(#2)	CL	ZF-S	N
	U-Factor 0.51			SHGC (N) 0.40					VT (N) 0.44		CR 38	
	clr / air / EADV											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	ZF-S	N
172	U-Factor 0.51			SHGC (N) 0.43					VT (N) 0.44		CR 38	
	EADV / arg / clr											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.40					VT (N) 0.44		CR 38	
173	clr / arg / EADV											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.43					VT (N) 0.44		CR 38	
	S100 / air / clr											
174	0.223	0.500	0.223					AIR	0.087(#2)	CL	ZF-S	N
	U-Factor 0.50			SHGC (N) 0.35					VT (N) 0.46		CR 38	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	clr / air / S100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	ZF-S	N
	U-Factor 0.50			SHGC (N) 0.38					VT (N) 0.46		CR 38	
	SB80 / air / clr											
172	0.223	0.500	0.223					AIR	0.024(#2)	CL	ZF-S	N
	U-Factor 0.49			SHGC (N) 0.17					VT (N) 0.29		CR 38	
	clr / air / SB80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	ZF-S	N
U-Factor 0.49			SHGC (N) 0.20					VT (N) 0.29		CR 38		
173	SB80 / arg / clr											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.16					VT (N) 0.29		CR 38	
	clr / arg / SB80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	ZF-S	N
	U-Factor 0.46			SHGC (N) 0.20					VT (N) 0.29		CR 38	
	Atlantica / air / SB60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	ZF-S	N
U-Factor 0.49			SHGC (N) 0.21					VT (N) 0.32		CR 38		
175	E272 / arg / i81											
	0.224	0.500	0.223					ARG90	0.042(#2) / 0.149(#4)	CL	ZF-D	N
	U-Factor 0.44			SHGC (N) 0.24					VT (N) 0.38		CR 37	
	E366 / arg / i81											
176	0.225	0.500	0.223					ARG90	0.022(#2) / 0.149(#4)	CL	ZF-D	N
	U-Factor 0.44			SHGC (N) 0.17					VT (N) 0.34		CR 37	
	E366 / arg / Sungate 500											
	0.225	0.500	0.223					ARG90	0.022(#2) / 0.215(#4)	CL	ZF-D	N
U-Factor 0.44			SHGC (N) 0.18					VT (N) 0.35		CR 37		
178	SB60 / arg / clr											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	TS-D	N
	U-Factor 0.47			SHGC (N) 0.25					VT (N) 0.43		CR 39	

NFRC 100/200/500 Summary Sheet
7300 Project In Awning

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
179	clr / arg / SB60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	TS-D	N
	U-Factor 0.47			SHGC (N) 0.30					VT (N) 0.43		CR 39	
	Sungate 500 / arg / clr											
180	0.223	0.500	0.223					ARG90	0.215(#2)	CL	TS-D	N
	U-Factor 0.51			SHGC (N) 0.40					VT (N) 0.45		CR 38	
	clr / arg /Sungate 500											
	0.223	0.500	0.223					ARG90	0.215(#3)	CL	TS-D	N
	U-Factor 0.51			SHGC (N) 0.42					VT (N) 0.45		CR 38	
	Sungate 400 / arg / clr											
	0.223	0.500	0.223					ARG90	0.115(#2)	CL	TS-D	N
	U-Factor 0.49			SHGC (N) 0.38					VT (N) 0.46		CR 38	
	clr / arg /Sungate 400											
	0.223	0.500	0.223					ARG90	0.115(#3)	CL	TS-D	N
	U-Factor 0.49			SHGC (N) 0.41					VT (N) 0.46		CR 38	

The Condensation Resistance results obtained from this procedure are for controlled laboratory conditions and do not include the effects of air movement through the specimen, solar radiation, and the thermal bridging that may occur due to the specific design and construction of the fenestration system opening.

Ratings values included in this report are for submittals to an NFRC-licensed IA and are not meant to be used directly for labeling purposes. Only those values identified on a valid Certification Authorization Report (CAR) by an NFRC accredited Inspection Agency (IA) are to be used for labeling purposes. The ratings values were rounded in accordance to NFRC 601, NFRC Unit and Measurement Policy.

Architectural Testing, Inc. is an NFRC accredited simulation laboratory and all simulations were conducted in full compliance with NFRC approved procedures and specifications. The NFRC procedure requires that the computational results be verified through actual test results.

Detailed drawings, simulation data files, 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 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 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:

Kevin S. Louder
Project Engineer

Kristen L. Livelsberger
Senior Simulation Technician
Simulator-In-Responsible-Charge

KSL:ksl
96068.03-116-45

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: Drawings and Bills of Material (15)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.01 R0	1/18/2010	All	Original Report Issue
.01 R1	5/26/2010	Page 2	Added grouping notation
.02 R0	9/30/2010	All	Simulated product as Fully Debridged Revised SHGC Table
.03 R0	3/2/2011	19, 20, 36, 37	Added options #85 - #90 and #175 - #180

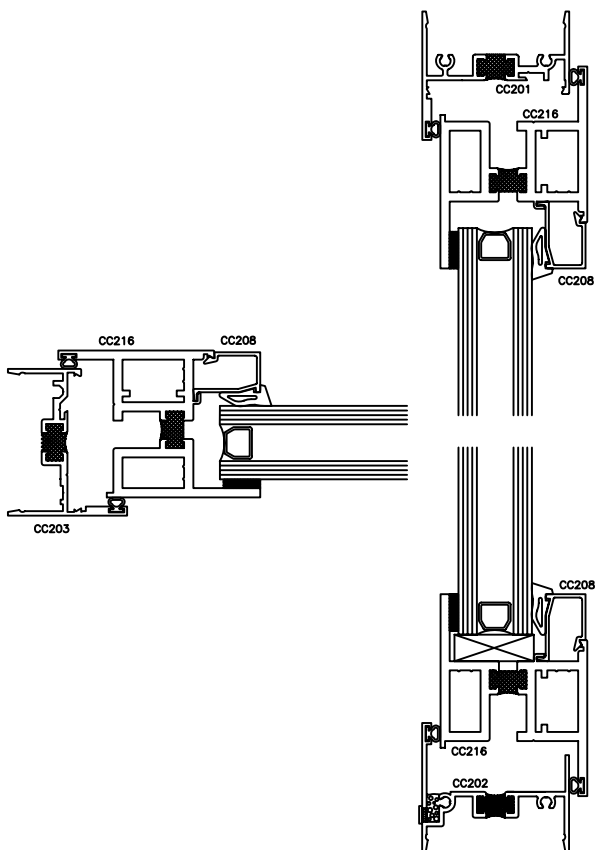


All drawings and Bills of Material used to simulate this product are enclosed in this Appendix

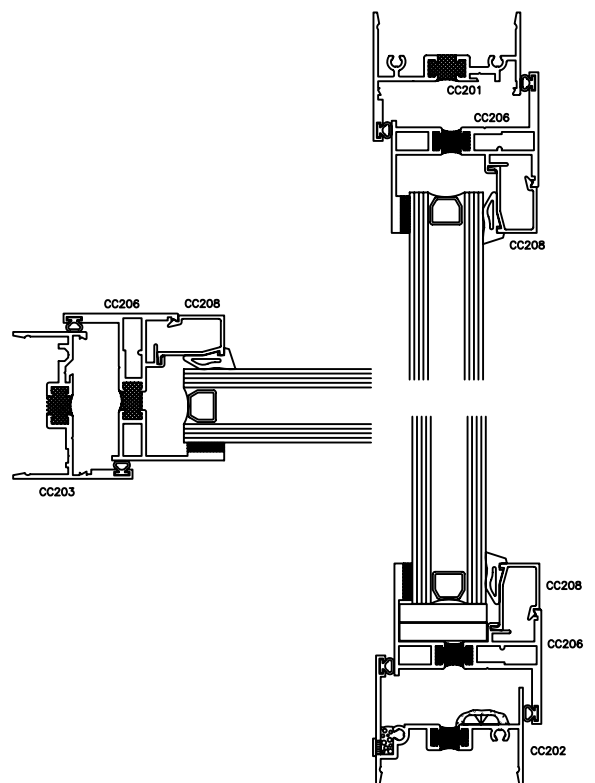
Appendix A

96068.03-116-45

7300 PI



7200 PI



ATI

Report # 96068

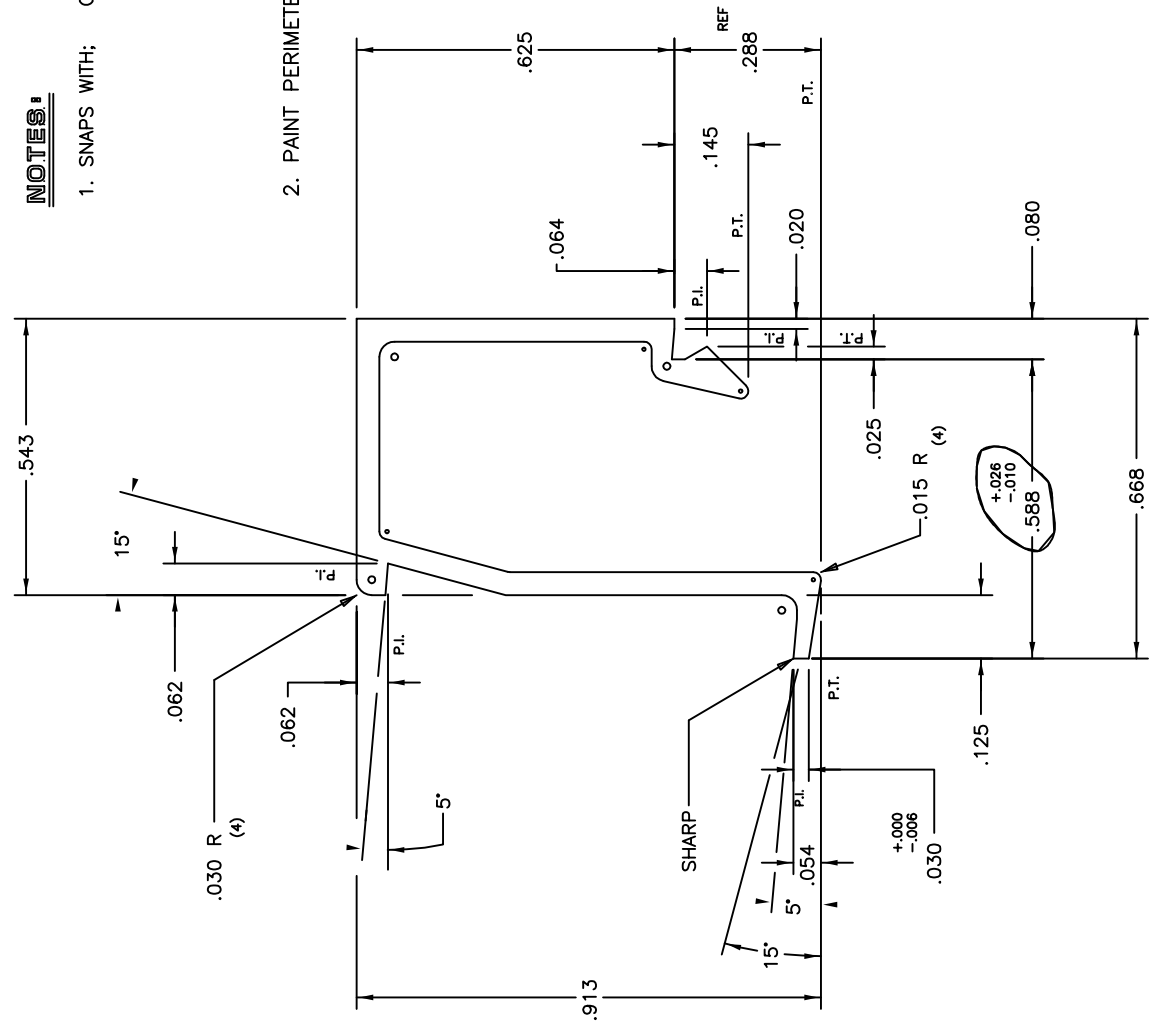
Date 1/18/10

Simulator *Kan Lark*

A1 PART # CC208 WAS C7208		RT/2/05	U. S. ALUMINUM CORP.		T-31043	A2
A2 REVISED W/FT		ECN99118	1" GLAZING BEAD		3/25/93	
			CC208 (A1)			
			4X SIZE			

NOTES:

- SNAPS WITH;
C7206, DIE #31033; C7225, DIE #31038
C7207, DIE #31034; C7226, DIE #
C7204, DIE #31032; C7227, DIE #
C7205, DIE #31039; C7228, DIE #
C7202, DIE #31030; C7229, DIE #
C7203, DIE #31031; C7217, DIE #
C7213, DIE #31036; C7201, DIE #31029
- PAINT PERIMETER: 1.138"



Report # 96068
Date 1/18/10
Simulator *Ran Lark*

.045	5	WELDING	P-21364	77	T-31043	A2
.107	9	X 31043	1:100	77		
.128	4.712	SOLID				
37						

SECTION PROPERTIES:

Ixx = 0.216 in⁴
Sxx = 0.194 in³
Iyy = 0.042 in⁴
Syy = 0.046 in³

U. S. ALUMINUM CORP.

T-31031

A2

02/09/93

MAMO

CC203 (A1)

2 X SIZE

PART # CC203 WAS C7203
ADDED F&DB PART #, REVISED
PAINT PERIMETER
REVISED W/FT

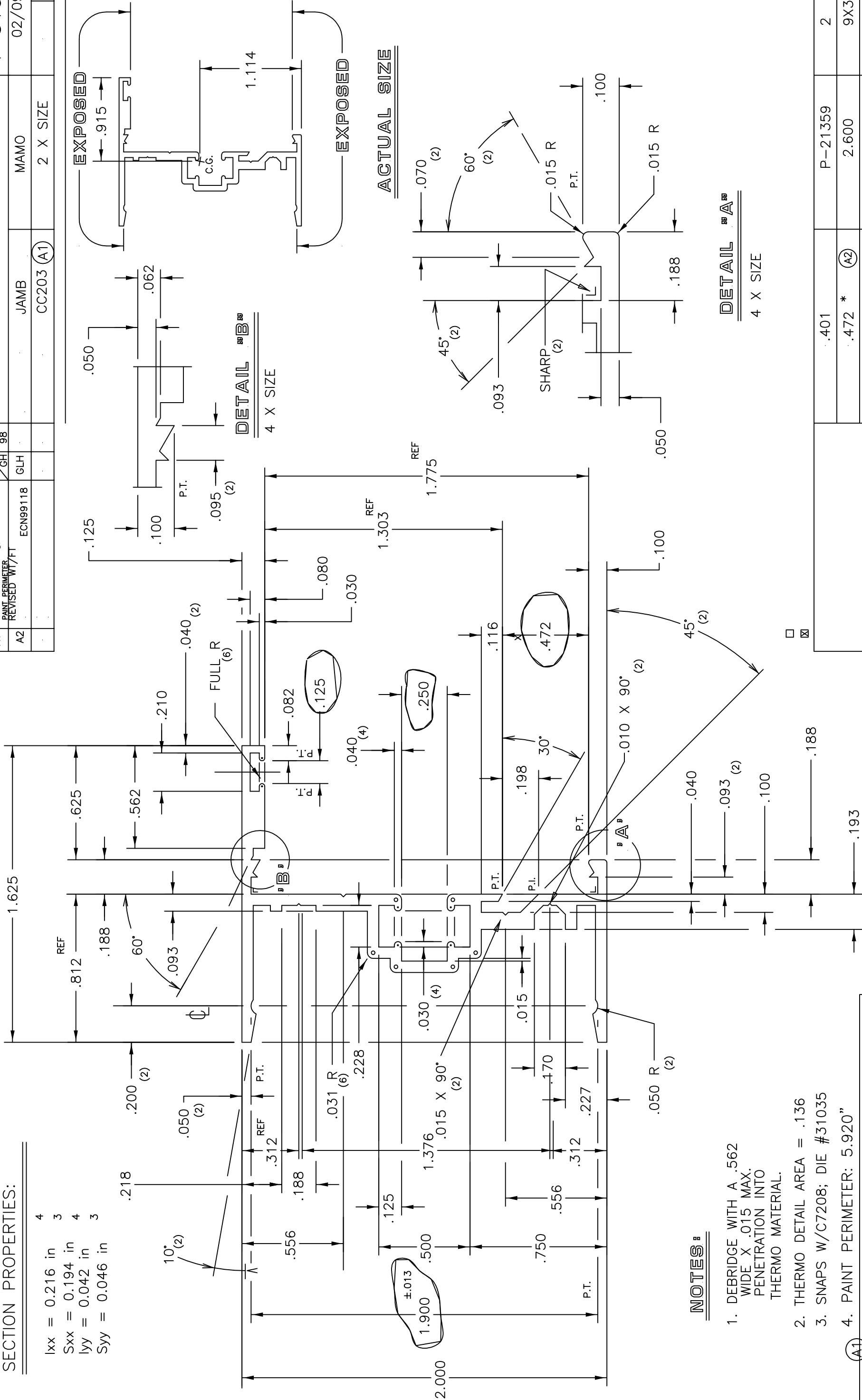
A1

RT 2/03
GH 98

GLH

ECN99118

A2



NOTES:

1. DEBRIDGE WITH A .562 WIDE X .015 MAX. PENETRATION INTO THERMO MATERIAL.
2. THERMO DETAIL AREA = .136
3. SNAPS W/C7208; DIE #31035
4. PAINT PERIMETER: 5.920"
5. F&DB PART CT203

Report # 96068
Date 1/18/10
Simulator *Kan Lau*

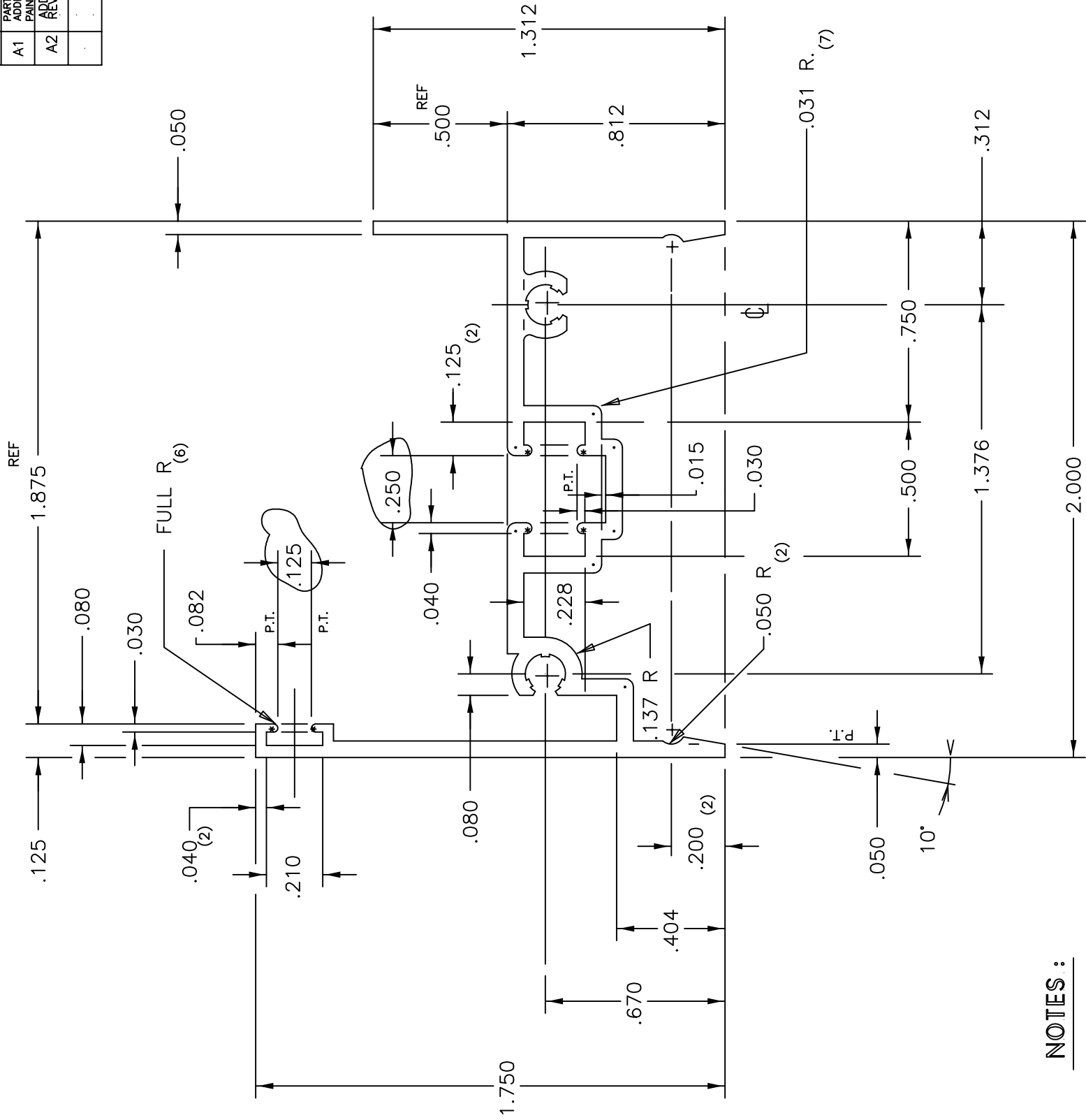
ATI

DETAIL A
4 X SIZE

.062

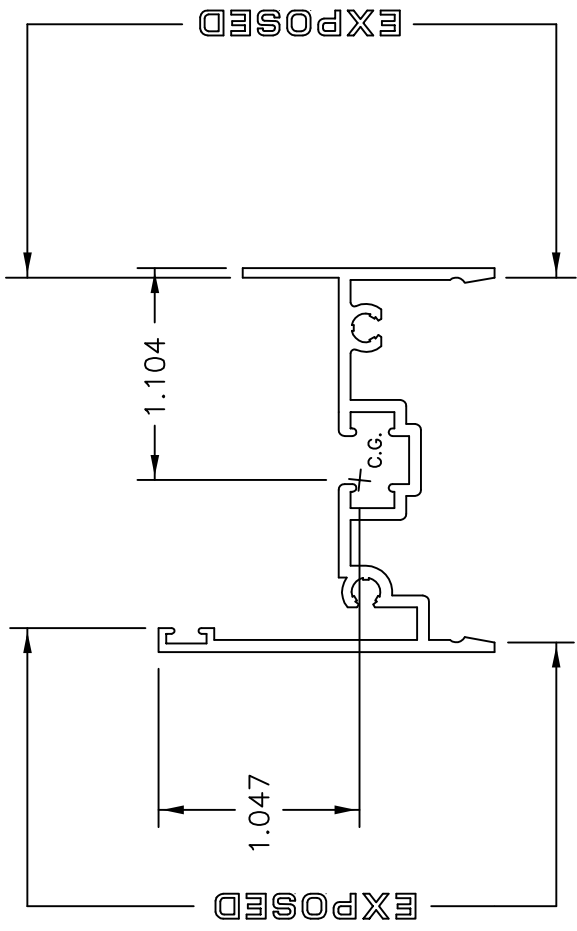
1. DEBRIDGE WITH A .562 WIDE X .015 MAX. PENETRATION INTO THERMO MATERIAL.
2. THERMO DETAIL AREA = .136
3. SNAPS W/C7208; DIE #31035
4. PAINT PERIMETER: 5.920"
5. F&DB PART CT203

.401	P-21359	2
.472 * (A2)	2.600	9X30983
12.510	SOLID	B02-35
.26	7" = 51	T-31031 A2

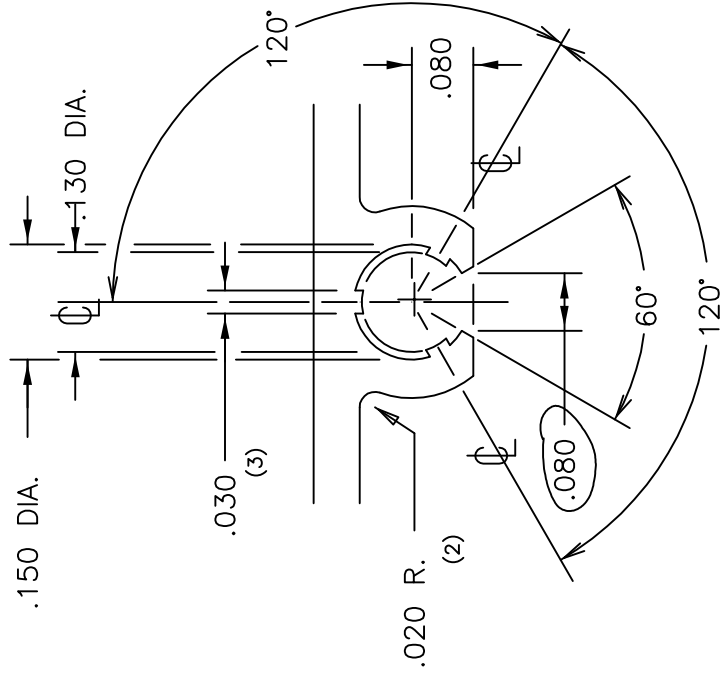
[illegible]

NOTES:

1. DEBRIDGE WITH A .562
WIDE X .015 MAX.
PENETRATION INTO
THERMO MATERIAL.
2. THERMO DETAIL AREA = .136
3. PAINT PERIMETER: 3.337"
4. F&DB PART CT202



ACTUAL SIZE



SCREW RACE DETAIL

SCALE: 4X SIZE (2 PLACES)

☐			
☒	.062		
	.421	P-21358	2 WELDING
	.495 *	(A2)	9X30982
	14.333	SOLID	B02-35
	28	8" = 63	T-31030 A2

ATI

Report # 96068

Date 1/18/10

Simulator *Ken Lamb*

PROPERTIES:

$\mathbb{A}2$

$\begin{aligned} |^{xx} &= 0.234 \\ S^{xx} &= 0.212 \\ |^{xy} &= 0.051 \\ S^{xy} &= 0.049 \end{aligned}$

USA-1820

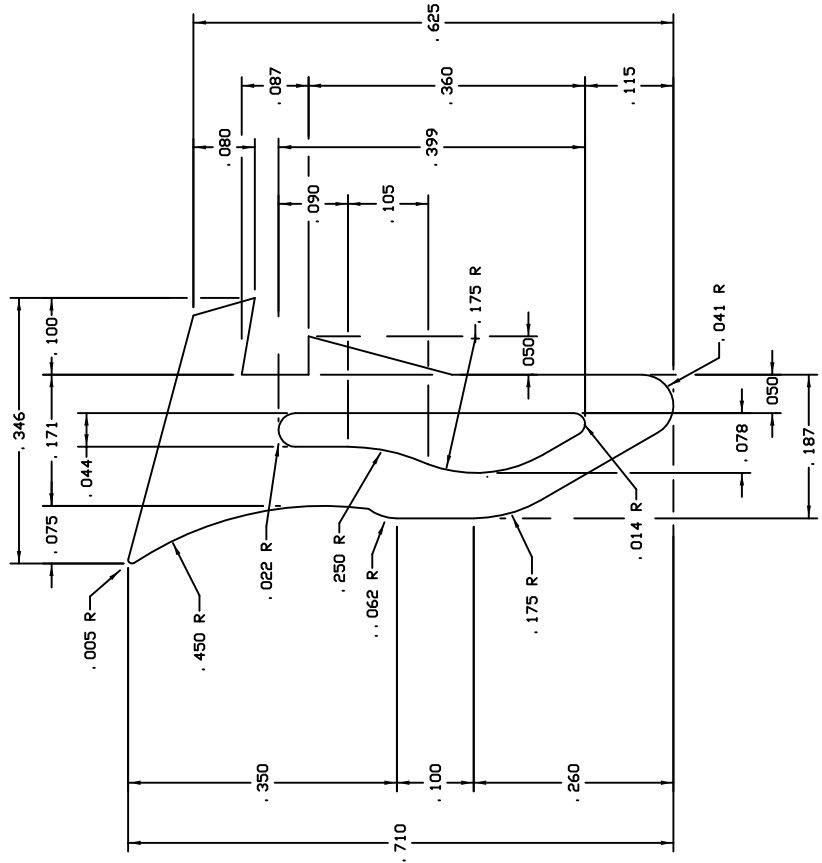
USA-1819 B



ACTUAL SIZE

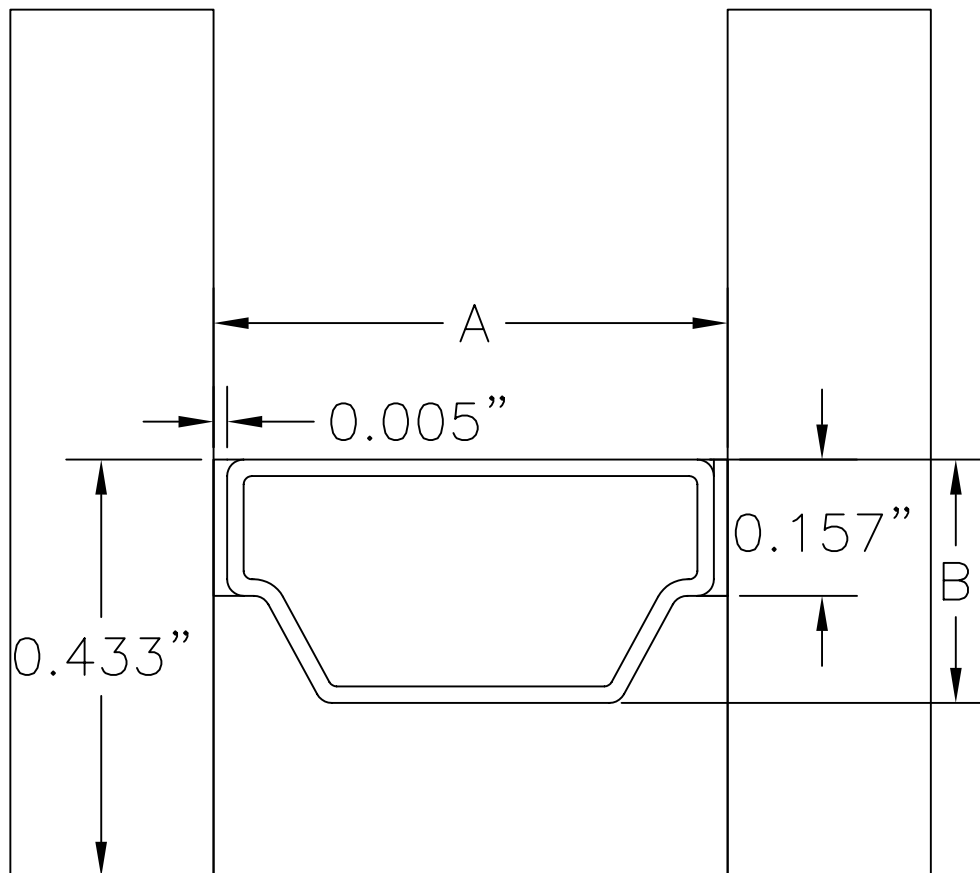
ATI
Report # 96068
Date 1/18/10
Simulator *Ken Lantz*

- NOTE:
1. FACE CLEARANCE = .188
 2. DUREMETER = 70 $\pm$ 5
 3. MATERIAL: EPDM
 4. TRENCO PS-1126E OR EQUAL
 5. SILICONE BATH.



International Aluminum Corporation				DWG NO.		USA-1819 B	
DIVISION U.S. ALUMINUM CORP.				GLH		WEDGE GASKET for 7600 WINDOWS & ES350	
PART NO. WH344				DATE: 7/20/99		8 X SIZE	
ADD SILICONE BATH NOTE				BY		SCALE	
SYN				DATE		BY	

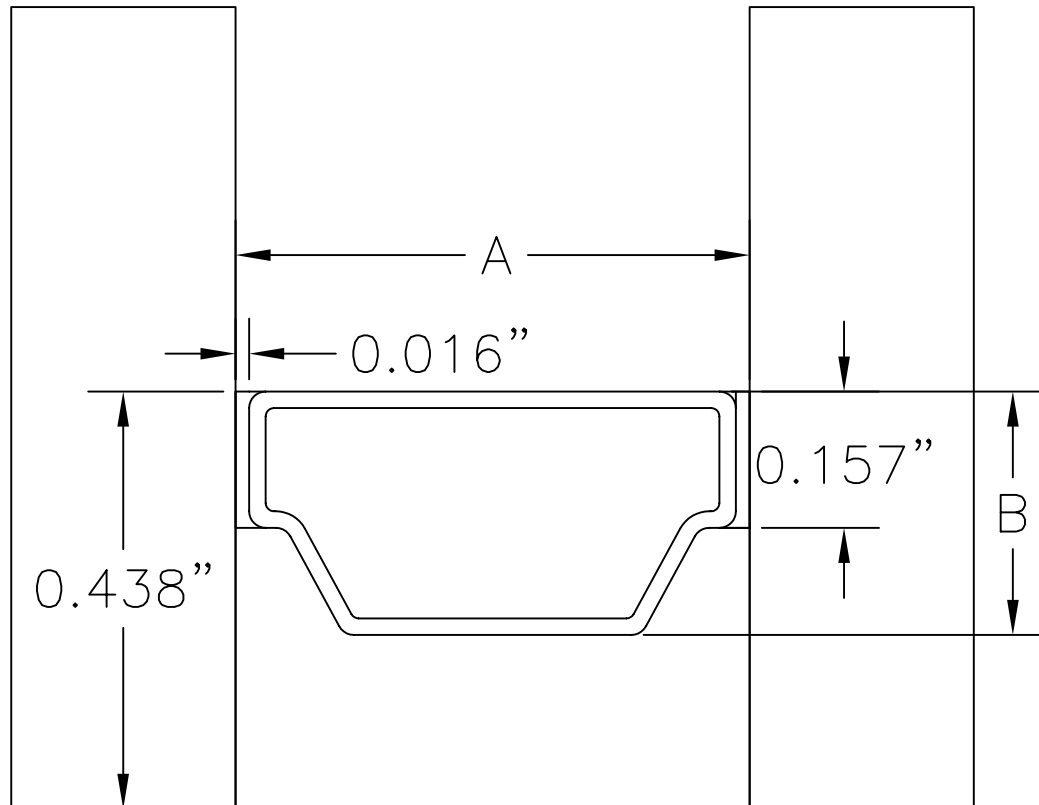
Aluminum Spacer



Offset: None
Primary Sealant: Butyl Rubber
Secondary Sealant: Butyl Rubber
Material: Aluminum
Width (A): 0.500
Height (B): 0.295
Wall Thickness: 0.016

ATI	
Report #	<u>96068</u>
Date	<u>1/18/10</u>
Simulator	<u><i>Ken Lark</i></u>

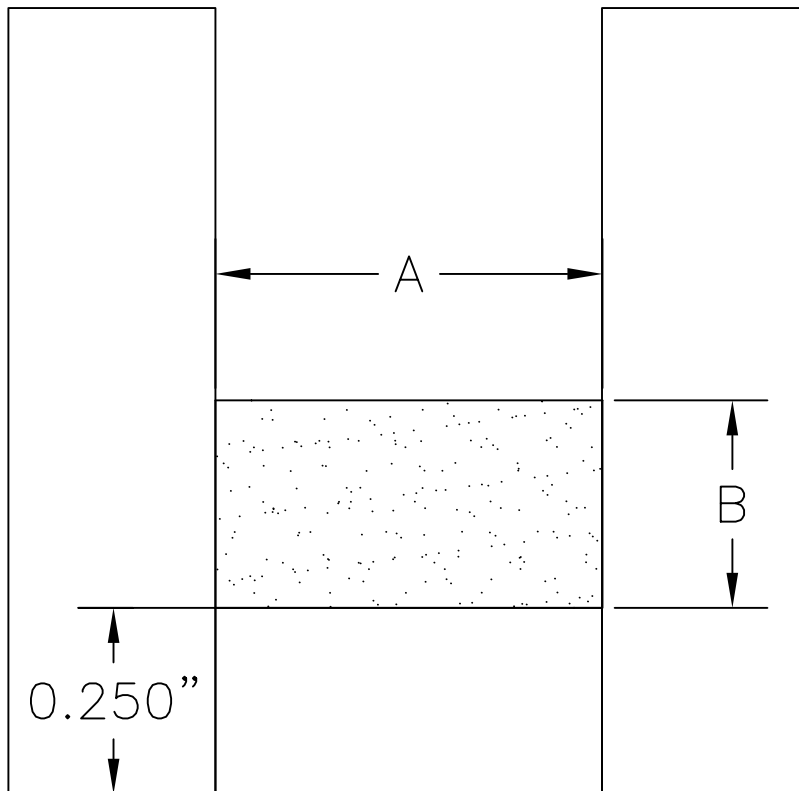
Stainless Steel Spacer



Offset: None
Primary Sealant: Polyisobutylene
Secondary Sealant: Silicone
Material: Stainless Steel
Width (A): 0.500
Height (B): 0.295
Wall Thickness: 0.016

ATI	
Report #	<u>96068</u>
Date	<u>1/18/10</u>
Simulator	<u><i>Ken Lark</i></u>

SUPER SPACER



Offset: None
Primary Sealant: Butyl Rubber
Secondary Sealant: None
Material: Silicone Foam
Width (A): 0.500"
Height (B): 0.188"

ATI

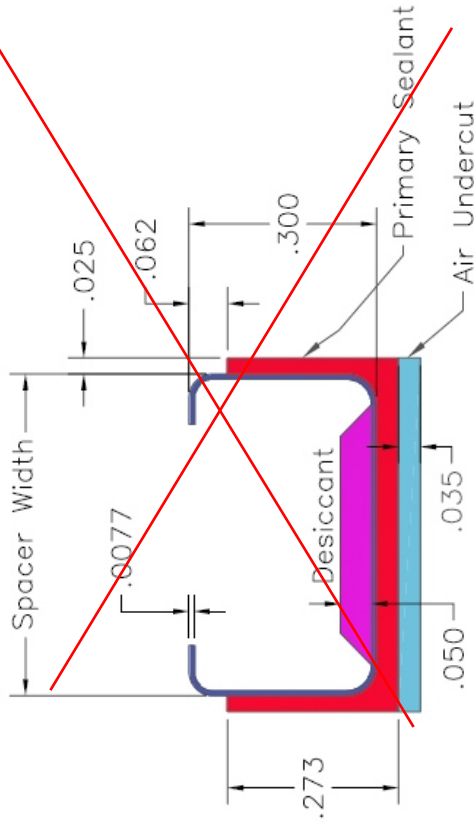
Report # 96068

Date 1/18/10

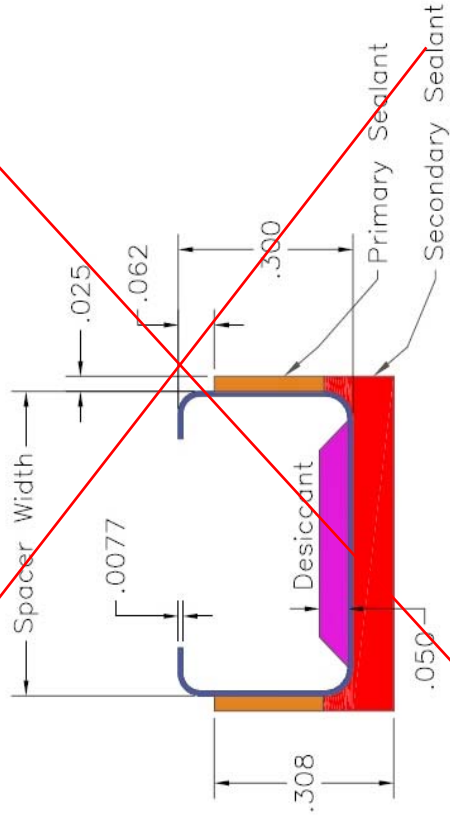
Simulator *Ken Law*

Intercept® Technologies —Correct Geometry

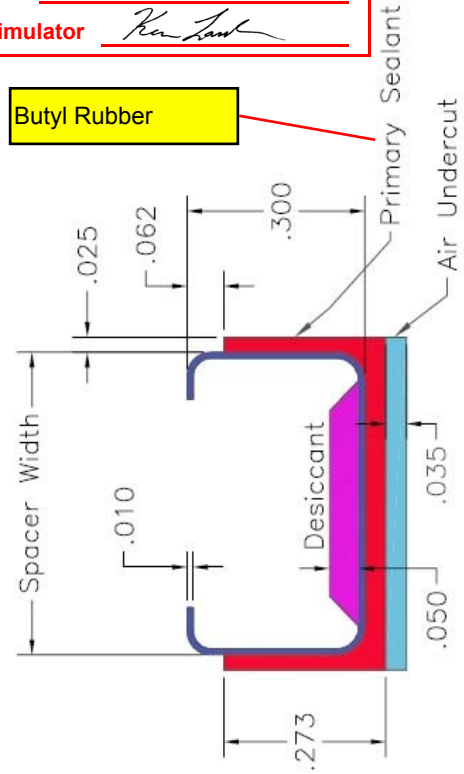
Intercept® ULTRA Stainless Steel—Standard Profile
SINGLE SEAL



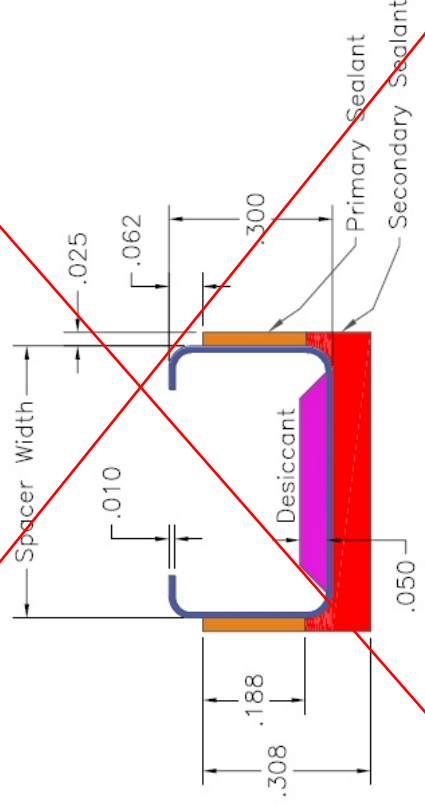
Intercept® ULTRA Stainless Steel—Standard Profile
DUAL SEAL



Intercept® Blackline or Electrolytic Tin Plated Steel—Standard Profile
SINGLE SEAL



Intercept® Blackline or Electrolytic Tin Plated Steel—Standard Profile
DUAL SEAL

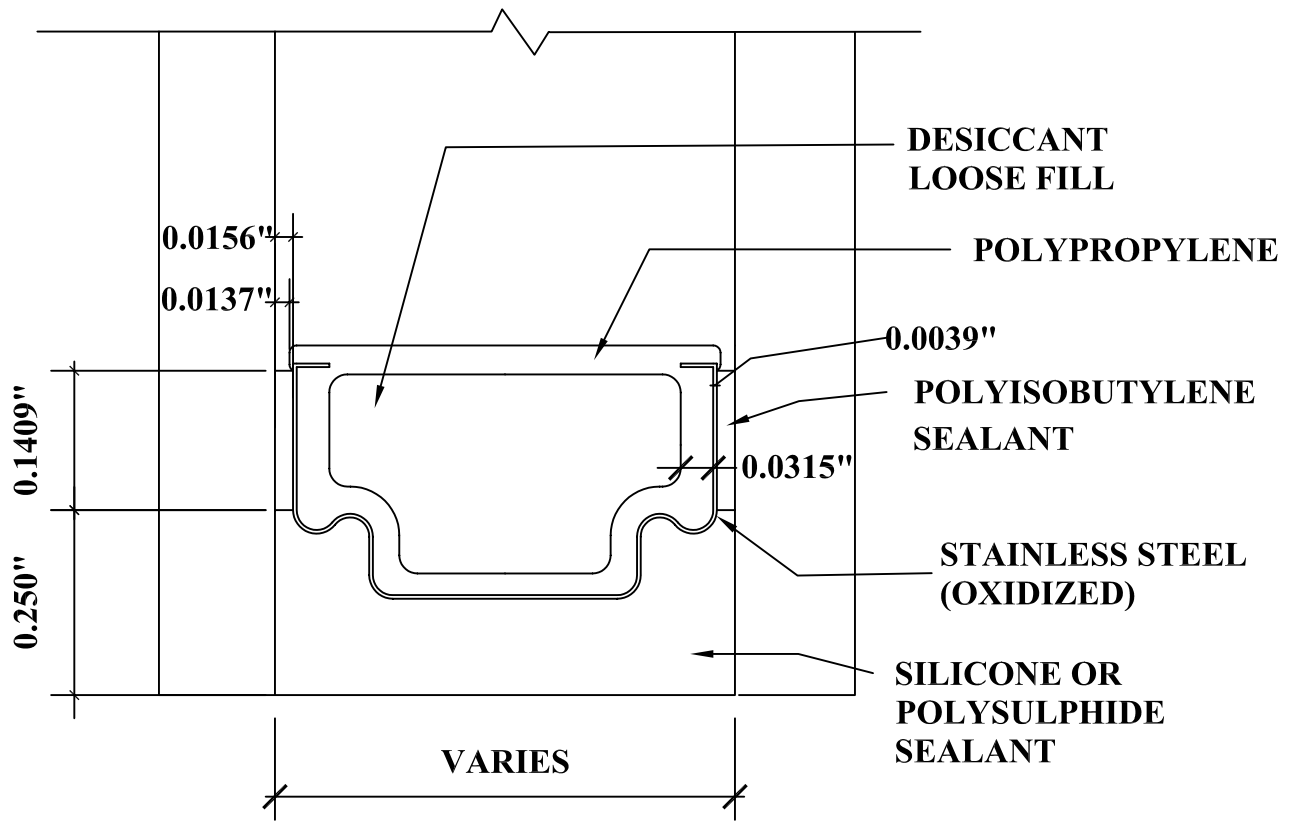


ATI

Report # 96068

Date 1/18/10

Simulator *Ken Lank*



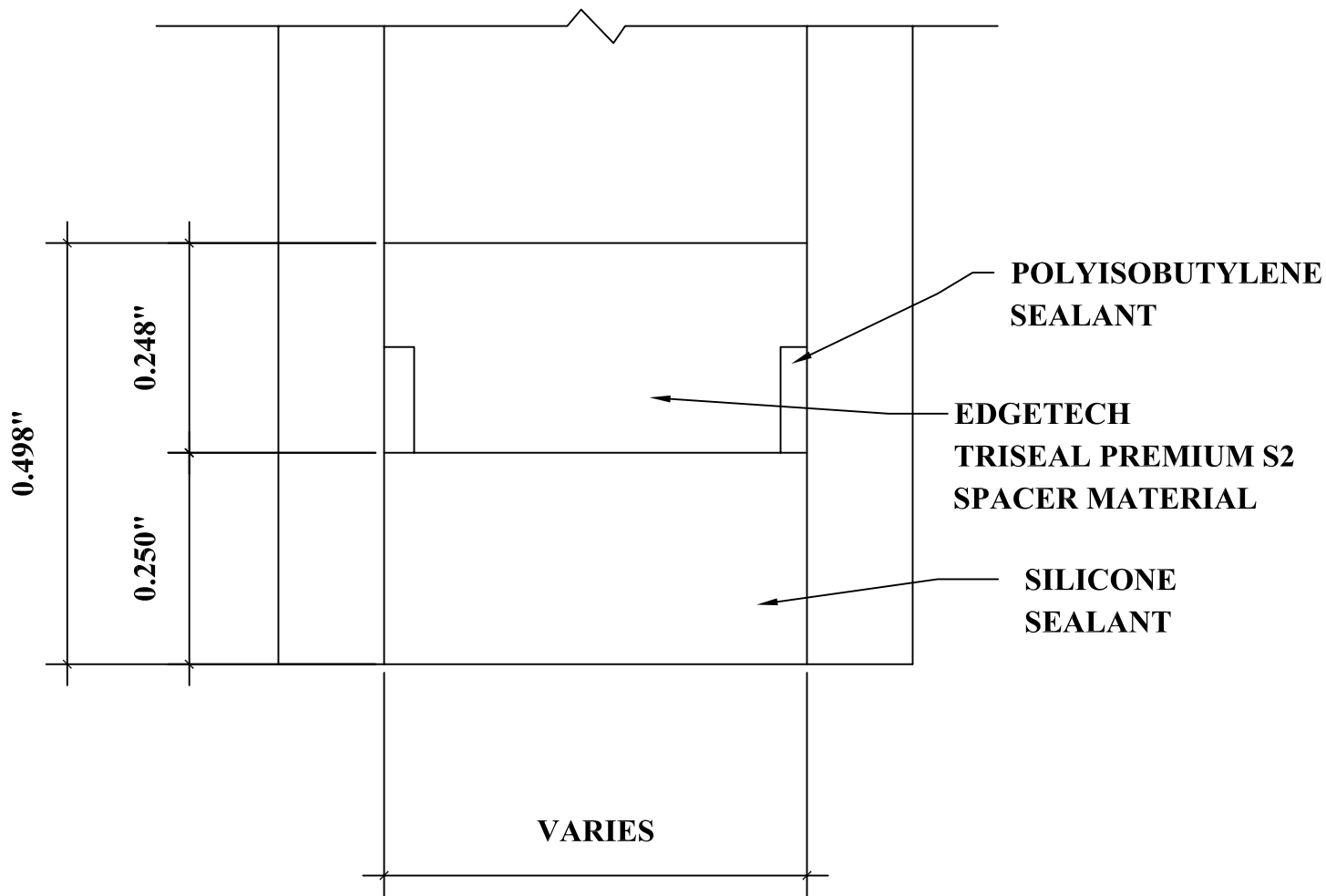
DETAIL FOR THERMAL MODELING OF
TECHNOFORM I SPACER - WAVE (TS-D)

ATI

Report # 96068

Date 1/18/10

Simulator *Ran Lank*



DETAIL FOR THERMAL MODELING OF
EDGETECH SUPER SPACER TRISEAL / T-SPACER PREMIUM (ZF-D)

ATI	
Report #	96068
Date	1/18/10
Simulator	<i>Ron Lamb</i>