



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

**Rendered to:
INTERNATIONAL ARCHITECTURAL PRODUCTS, INC.**

**SERIES/MODEL:
8200 Horizontal Slider**

**Report Number: A5501.02-116-45
Report Date: 01/20/11
Expiration Date: 12/02/14**

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

Rendered to:
INTERNATIONAL ARCHITECTURAL PRODUCTS, INC.
200 Singleton Drive
Waxahachie, Texas 75165

Report Number: A5501.02-116-45
Simulation Date: 12/02/10
Report Date: 01/20/11
Expiration Date: 12/02/14

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: 8200 Horizontal Slider
Type: Horizontal Slider , Fixed/Operable
Frame Material: AT Aluminum w/ Thermal Breaks - All Members
Sash Material: AT Aluminum w/ Thermal Breaks - All Members
Standard Size: 1500mm x 1200mm

Technical Interpretations:

None

Modeling Assumptions:

- 1) To prevent air infiltration, tape was applied to all interior sash crack locations.

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.

	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.013785	0.016365	0.018789
SHGC1	0.705221	0.628421	0.556302
VT0	0.000000	0.000000	0.000000
VT1	0.691437	0.612056	0.537513

$$SHGC = SHGC0 + SHGCc (SHGC1 - SHGC0)$$

$$VT = VT0 + VTc (VT1 - VT0)$$

Validation Matrix:

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

<i>Product Line</i>	<i>Report Number</i>
None	-

Spacer Option Description

<i>Spacer Type</i>	<i>Sealant</i>		
	<i>Primary</i>	<i>Secondary</i>	<i>Desiccant</i>
Aluminum Spacer	Butyl Rubber	Butyl Rubber	Yes
Tin-Plate Intercept	Butyl Rubber	Butyl Rubber	Yes
Super Spacer	Butyl Rubber		
Stainless Steel Spacer	Polyisobutylene	Silicone	Yes
Steel 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>
Sill Sash Rail	Rigid PVC

Gas Filling Technique Description

<i>Fill Type</i>	<i>Method</i>
90% Argon	Single probe timed
90% Krypton	Two-probe with concentration sensor

Edge-of-Glass Construction

<i>Interior Condition</i>	<i>Exterior Condition</i>
EPDM glazing gasket	EPDM glazing gasket

Weatherstripping

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Polypile	1 row	Lock and Keeper Rails, Frame perimeter of
Polypropylene gasket	1 row	Frame perimeter of active sash

Frame/Sash Materials Finish

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

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	Clear / air / Clear												
	0.225	0.500	0.225					AIR		CL	A1-D	N	
	U-Factor 0.61			SHGC (N) 0.50				VT (N) 0.54			CR 41		
2	Clear / arg / Clear												
	0.225	0.500	0.225					ARG90		CL	A1-D	N	
	U-Factor 0.59			SHGC (N) 0.50				VT (N) 0.54			CR 42		
3	Solarban 60 / air / Clear												
	0.223	0.500	0.223					AIR	0.035(#2)	CL	A1-D	N	
	U-Factor 0.49			SHGC (N) 0.28				VT (N) 0.49			CR 43		
	Clear / air / Solarban 60												
	0.223	0.500	0.223					AIR	0.035(#3)	CL	A1-D	N	
	U-Factor 0.49			SHGC (N) 0.32				VT (N) 0.49			CR 43		
	Solarban 60 on Atlantica / air / Clear												
	0.223	0.500	0.223					AIR	0.035(#2)	GR	A1-D	N	
	U-Factor 0.49			SHGC (N) 0.20				VT (N) 0.37			CR 43		
	Atlantica / air / Solarban 60												
	0.223	0.500	0.223					AIR	0.035(#3)	GR	A1-D	N	
	U-Factor 0.49			SHGC (N) 0.22				VT (N) 0.37			CR 43		
	4	Solarban 60 / arg / Clear											
		0.223	0.500	0.223					ARG90	0.035(#2)	CL	A1-D	N
		U-Factor 0.46			SHGC (N) 0.27				VT (N) 0.49			CR 43	
Clear / arg / Solarban 60													
0.223		0.500	0.223					ARG90	0.035(#3)	CL	A1-D	N	
U-Factor 0.46			SHGC (N) 0.32				VT (N) 0.49			CR 43			
Solarban 60 on Atlantica / arg / Clear													
0.223		0.500	0.223					ARG90	0.035(#2)	GR	A1-D	N	
U-Factor 0.46			SHGC (N) 0.19				VT (N) 0.37			CR 43			
Atlantica / arg / Solarban 60													
0.223		0.500	0.223					ARG90	0.035(#3)	GR	A1-D	N	
U-Factor 0.46			SHGC (N) 0.22				VT (N) 0.37			CR 43			

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
5	Solarban 70XL / air / Clear											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.44			CR 43	
	Clear / air / Solarban 70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.44			CR 43	
6	Solarban 70XL / arg / Clear											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.44			CR 43	
	Clear / arg / Solarban 70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.44			CR 43	
7	VE185 / air / Clear											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.39				VT (N) 0.52			CR 42	
	Clear / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.41				VT (N) 0.52			CR 42	
8	VE185 / arg / Clear											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.52			CR 43	
	Clear / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.42				VT (N) 0.52			CR 43	
9	VE12M / air / Clear											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.28				VT (N) 0.49			CR 43	
	Clear / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.33				VT (N) 0.49			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
10	VE12M / arg / Clear											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.27				VT (N) 0.49			CR 43	
	Clear / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.33				VT (N) 0.49			CR 43	
11	Comfort TiAC36 / air / Clear											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.26				VT (N) 0.45			CR 43	
	Clear / air / Comfort TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.32				VT (N) 0.45			CR 43	
12	Comfort TiAC36 / arg / Clear											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.26				VT (N) 0.45			CR 43	
	Clear / arg / Comfort TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.33				VT (N) 0.45			CR 43	
13	Comfort TiAC23 / air / Clear											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.18				VT (N) 0.26			CR 43	
	Clear / air / Comfort TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.33				VT (N) 0.26			CR 43	
14	Comfort TiAC23 / arg / Clear											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.17				VT (N) 0.26			CR 43	
	Clear / arg / Comfort TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.34				VT (N) 0.26			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
15	Energy Advantage / air / Clear											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.44				VT (N) 0.50			CR 42	
	Clear / air / Energy Advantage											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.47				VT (N) 0.50			CR 42	
16	Energy Advantage / arg / Clear											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.44				VT (N) 0.50			CR 43	
	Clear / arg / Energy Advantage											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.48				VT (N) 0.50			CR 43	
17	Sungate 100 / air / Clear											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.39				VT (N) 0.53			CR 42	
	Clear / air / Sungate 100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.42				VT (N) 0.53			CR 42	
18	Sungate 100 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.087(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.53			CR 43	
	Clear / arg / Sungate 100											
	0.223	0.500	0.223					ARG90	0.087(#3)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.42				VT (N) 0.53			CR 43	
19	Solarban 80 / air / Clear											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.18				VT (N) 0.33			CR 43	
	Clear / air / Solarban 80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.22				VT (N) 0.33			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
20	Solarban 80 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.17				VT (N) 0.33			CR 43	
	Clear / arg / Solarban 80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.22				VT (N) 0.33			CR 43	
21	Clear / air / Clear Laminate (030pvb)											
	0.225	0.500	0.266					AIR		CL	A1-D	N
	U-Factor 0.60			SHGC (N) 0.49				VT (N) 0.54			CR 42	
22	Clear / arg / Clear Laminate (030pvb)											
	0.225	0.500	0.266					ARG90		CL	A1-D	N
	U-Factor 0.58			SHGC (N) 0.49				VT (N) 0.54			CR 42	
23	Solarban 60 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.035(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.48			CR 42	
24	Solarban 60 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.035(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.27				VT (N) 0.48			CR 43	
25	Solarban 70XL / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.018(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.44			CR 42	
26	Solarban 70XL / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.018(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.44			CR 43	
27	VE185 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.088(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.39				VT (N) 0.52			CR 42	
28	VE185 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.088(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.52			CR 42	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	VE12M / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.040(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.27				VT (N) 0.49			CR 42	
30	VE12M / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.040(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.27				VT (N) 0.49			CR 43	
31	Comfort TiAC36 / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.034(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.45			CR 42	
32	Comfort TiAC36 / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.034(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.26				VT (N) 0.45			CR 43	
33	Comfort TiAC23 / air / Clear Laminate (030pvb)											
	0.228	0.500	0.266					AIR	0.041(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.17				VT (N) 0.26			CR 42	
34	Comfort TiAC23 / arg / Clear Laminate (030pvb)											
	0.228	0.500	0.266					ARG90	0.041(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.17				VT (N) 0.26			CR 43	
35	Energy Advantage / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.157(#2)	CL	A1-D	N
	U-Factor 0.51			SHGC (N) 0.44				VT (N) 0.50			CR 42	
36	Energy Advantage / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.157(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.44				VT (N) 0.50			CR 42	
37	Sungate 100 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.087(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.39				VT (N) 0.53			CR 42	
38	Sungate 100 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.087(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.53			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	Solarban 80 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.024(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.33			CR 42	
40	Solarban 80 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.024(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.33			CR 43	
41	Clear / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR		CL	A1-D	N
	U-Factor 0.59			SHGC (N) 0.46				VT (N) 0.52			CR 42	
42	Clear / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90		CL	A1-D	N
	U-Factor 0.57			SHGC (N) 0.47				VT (N) 0.52			CR 43	
43	Solarban 60 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.035(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.46			CR 43	
44	Solarban 60 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.035(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.46			CR 44	
45	Solarban 70XL / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.018(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.20				VT (N) 0.42			CR 43	
46	Solarban 70XL / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.018(#2)	CL	A1-D	N
	U-Factor 0.44			SHGC (N) 0.20				VT (N) 0.42			CR 44	
47	VE185 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.088(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.38				VT (N) 0.50			CR 43	
48	VE185 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.088(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.38				VT (N) 0.50			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
49	VE12M / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.040(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.47			CR 43	
50	VE12M / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.040(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.47			CR 44	
51	Comfort TiAC36 / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.034(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.25				VT (N) 0.43			CR 43	
52	Comfort TiAC36 / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.034(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.25				VT (N) 0.43			CR 44	
53	Comfort TiAC23 / air / Clear Laminate (090sgp)											
	0.228	0.500	0.536					AIR	0.041(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.17				VT (N) 0.25			CR 43	
54	Comfort TiAC23 / arg / Clear Laminate (090sgp)											
	0.228	0.500	0.536					ARG90	0.041(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.25			CR 44	
55	Energy Advantage / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.157(#2)	CL	A1-D	N
	U-Factor 0.50			SHGC (N) 0.43				VT (N) 0.48			CR 43	
56	Energy Advantage / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.157(#2)	CL	A1-D	N
	U-Factor 0.48			SHGC (N) 0.43				VT (N) 0.48			CR 43	
57	Sungate 100 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.087(#2)	CL	A1-D	N
	U-Factor 0.49			SHGC (N) 0.38				VT (N) 0.50			CR 43	
58	Sungate 100 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.087(#2)	CL	A1-D	N
	U-Factor 0.46			SHGC (N) 0.38				VT (N) 0.50			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
59	Solarban 80 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.024(#2)	CL	A1-D	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.31			CR 43	
60	Solarban 80 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.024(#2)	CL	A1-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.31			CR 44	
61	Clear / air / Clear											
	0.225	0.500	0.225					AIR		CL	CU-D	N
	U-Factor 0.60			SHGC (N) 0.50				VT (N) 0.54			CR 42	
62	Clear / arg / Clear											
	0.225	0.500	0.225					ARG90		CL	CU-D	N
	U-Factor 0.59			SHGC (N) 0.50				VT (N) 0.54			CR 42	
63	Solarban 60 / air / Clear											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.49			CR 43	
	Clear / air / Solarban 60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.49			CR 43	
	Solarban 60 on Atlantica / air / Clear											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	CU-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.37			CR 43	
	Atlantica / air / Solarban 60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	CU-D	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.37			CR 43	
64	Solarban 60 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 43	
	Clear / arg / Solarban 60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.32				VT (N) 0.49			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
	Solarban 60 on Atlantica / arg / Clear											
	0.223	0.500	0.223					ARG90	0.035(#2)	GR	CU-D	N
	U-Factor 0.45			SHGC (N) 0.19				VT (N) 0.37			CR 43	
	Atlantica / arg / Solarban 60											
	0.223	0.500	0.223					ARG90	0.035(#3)	GR	CU-D	N
	U-Factor 0.45			SHGC (N) 0.22				VT (N) 0.37			CR 43	
65	Solarban 70XL / air / Clear											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.44			CR 43	
	Clear / air / Solarban 70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.44			CR 43	
66	Solarban 70XL / arg / Clear											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.44			CR 43	
	Clear / arg / Solarban 70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.44			CR 43	
67	VE185 / air / Clear											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	CU-D	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.52			CR 43	
	Clear / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	CU-D	N
	U-Factor 0.49			SHGC (N) 0.41				VT (N) 0.52			CR 43	
68	VE185 / arg / Clear											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.52			CR 43	
	Clear / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.42				VT (N) 0.52			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
69	VE12M / air / Clear											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.49			CR 43	
	Clear / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.33				VT (N) 0.49			CR 43	
70	VE12M / arg / Clear											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 43	
	Clear / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.33				VT (N) 0.49			CR 43	
71	Comfort TiAC36 / air / Clear											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.45			CR 43	
	Clear / air / Comfort TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.45			CR 43	
72	Comfort TiAC36 / arg / Clear											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.26				VT (N) 0.45			CR 43	
	Clear / arg / Comfort TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.33				VT (N) 0.45			CR 43	
73	Comfort TiAC23 / air / Clear											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.26			CR 43	
	Clear / air / Comfort TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.33				VT (N) 0.26			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
74	Comfort TiAC23 / arg / Clear											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.26			CR 43	
	Clear / arg / Comfort TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.34				VT (N) 0.26			CR 43	
75	Energy Advantage / air / Clear											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	CU-D	N
	U-Factor 0.51			SHGC (N) 0.44				VT (N) 0.50			CR 43	
	Clear / air / Energy Advantage											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	CU-D	N
	U-Factor 0.51			SHGC (N) 0.47				VT (N) 0.50			CR 43	
76	Energy Advantage / arg / Clear											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.44				VT (N) 0.50			CR 43	
	Clear/ arg / Energy Advantage											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.48				VT (N) 0.50			CR 43	
77	Sungate 100 / air / Clear											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	CU-D	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.53			CR 43	
	Clear / air / Sungate 100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	CU-D	N
	U-Factor 0.49			SHGC (N) 0.42				VT (N) 0.53			CR 43	
78	Sungate 100 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.087(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.53			CR 43	
	Clear / arg / Sungate 100											
	0.223	0.500	0.223					ARG90	0.087(#3)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.42				VT (N) 0.53			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
79	Solarban 80 / air / Clear											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.33			CR 43	
	Clear / air / Solarban 80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.33			CR 43	
80	Solarban 80 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.33			CR 43	
	Clear / arg / Solarban 80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.22				VT (N) 0.33			CR 43	
81	Clear / air / Clear Laminate (030pvb)											
	0.225	0.500	0.266					AIR		CL	CU-D	N
	U-Factor 0.60			SHGC (N) 0.49				VT (N) 0.54			CR 42	
82	Clear / arg / Clear Laminate (030pvb)											
	0.225	0.500	0.266					ARG90		CL	CU-D	N
	U-Factor 0.58			SHGC (N) 0.49				VT (N) 0.54			CR 42	
83	Solarban 60 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.035(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.48			CR 43	
84	Solarban 60 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.035(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.48			CR 43	
85	Solarban 70XL / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.018(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.44			CR 43	
86	Solarban 70XL / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.018(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.44			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
87	VE185 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.088(#2)	CL	CU-D	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.52			CR 43	
88	VE185 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.088(#2)	CL	CU-D	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.52			CR 43	
89	VE12M / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.040(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.49			CR 43	
90	VE12M / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.040(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 43	
91	Comfort TiAC36 / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.034(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.45			CR 43	
92	Comfort TiAC36 / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.034(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.26				VT (N) 0.45			CR 43	
93	Comfort TiAC23 / air / Clear Laminate (030pvb)											
	0.228	0.500	0.266					AIR	0.041(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.17				VT (N) 0.26			CR 43	
94	Comfort TiAC23 / arg / Clear Laminate (030pvb)											
	0.228	0.500	0.266					ARG90	0.041(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.26			CR 43	
95	Energy Advantage / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.157(#2)	CL	CU-D	N
	U-Factor 0.50			SHGC (N) 0.44				VT (N) 0.50			CR 43	
96	Energy Advantage / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.157(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.44				VT (N) 0.50			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	Sungate 100 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.087(#2)	CL	CU-D	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.53			CR 43	
98	Sungate 100 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.087(#2)	CL	CU-D	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.53			CR 43	
99	Solarban 80 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.024(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.33			CR 43	
100	Solarban 80 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.024(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.33			CR 43	
101	Clear / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR		CL	CU-D	N
	U-Factor 0.58			SHGC (N) 0.46				VT (N) 0.52			CR 43	
102	Clear / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90		CL	CU-D	N
	U-Factor 0.57			SHGC (N) 0.47				VT (N) 0.52			CR 43	
103	Solarban 60 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.035(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.46			CR 44	
104	Solarban 60 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.035(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.46			CR 44	
105	Solarban 70XL / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.018(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.20				VT (N) 0.42			CR 44	
106	Solarban 70XL / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.018(#2)	CL	CU-D	N
	U-Factor 0.44			SHGC (N) 0.20				VT (N) 0.42			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	VE185 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.088(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.38				VT (N) 0.50			CR 44	
108	VE185 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.088(#2)	CL	CU-D	N
	U-Factor 0.46			SHGC (N) 0.38				VT (N) 0.50			CR 44	
109	VE12M / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.040(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.47			CR 44	
110	VE12M / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.040(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.47			CR 44	
111	Comfort TiAC36 / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.034(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.25				VT (N) 0.43			CR 44	
112	Comfort TiAC36 / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.034(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.25				VT (N) 0.43			CR 44	
113	Comfort TiAC23 / air / Clear Laminate (090sgp)											
	0.228	0.500	0.536					AIR	0.041(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.17				VT (N) 0.25			CR 44	
114	Comfort TiAC23 / arg / Clear Laminate (090sgp)											
	0.228	0.500	0.536					ARG90	0.041(#2)	CL	CU-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.25			CR 44	
115	Energy Advantage / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.157(#2)	CL	CU-D	N
	U-Factor 0.50			SHGC (N) 0.43				VT (N) 0.48			CR 43	
116	Energy Advantage / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.157(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.43				VT (N) 0.48			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
117	Sungate 100 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.087(#2)	CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.38				VT (N) 0.50			CR 44	
118	Sungate 100 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.087(#2)	CL	CU-D	N
	U-Factor 0.46			SHGC (N) 0.38				VT (N) 0.50			CR 44	
119	Solarban 80 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.024(#2)	CL	CU-D	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.31			CR 44	
120	Solarban 80 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.024(#2)	CL	CU-D	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.31			CR 44	
121	Comfort TiAC36 / air / Clear / air / Clear											
	0.118	0.500	0.123	0.500	0.123			AIR	0.034(#2)	CL	CU-D	N
	U-Factor 0.42			SHGC (N) 0.25				VT (N) 0.43			CR 45	
122	Comfort TiAC36 / arg / Clear / arg / Clear											
	0.118	0.500	0.123	0.500	0.123			ARG90	0.034(#2)	CL	CU-D	N
	U-Factor 0.40			SHGC (N) 0.25				VT (N) 0.43			CR 45	
123	Comfort TiAC36 / air / Clear / air / Clear											
	0.087	0.563	0.086	0.563	0.086			AIR	0.034(#2)	CL	CU-D	N
	U-Factor 0.42			SHGC (N) 0.25				VT (N) 0.44			CR 44	
124	Comfort TiAC36 / arg / Clear / arg / Clear											
	0.087	0.563	0.086	0.563	0.086			ARG90	0.034(#2)	CL	CU-D	N
	U-Factor 0.40			SHGC (N) 0.25				VT (N) 0.44			CR 45	
125	Solarban 70XL / air / Clear / air / Clear											
	0.129	0.500	0.129	0.500	0.129			AIR	0.018(#2)	CL	CU-D	N
	U-Factor 0.42			SHGC (N) 0.19				VT (N) 0.40			CR 45	
126	Solarban 70XL / arg / Clear / arg / Clear											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.018(#2)	CL	CU-D	N
	U-Factor 0.40			SHGC (N) 0.19				VT (N) 0.40			CR 45	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
127	Comfort TiAC23 / air / Clear / air / Clear											
	0.122	0.500	0.123	0.500	0.123			AIR	0.040(#2)	CL	CU-D	N
	U-Factor 0.43			SHGC (N) 0.16				VT (N) 0.25			CR 45	
128	Comfort TiAC23 / arg / Clear / arg / Clear											
	0.122	0.500	0.123	0.500	0.123			ARG90	0.040(#2)	CL	CU-D	N
	U-Factor 0.40			SHGC (N) 0.16				VT (N) 0.25			CR 45	
129	Clear / air / Clear											
	0.225	0.500	0.225					AIR		CL	OF-S	N
	U-Factor 0.60			SHGC (N) 0.50				VT (N) 0.54			CR 42	
130	Clear / arg / Clear											
	0.225	0.500	0.225					ARG90		CL	OF-S	N
	U-Factor 0.58			SHGC (N) 0.50				VT (N) 0.54			CR 43	
131	Solarban 60 / air / Clear											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.49			CR 44	
	Clear / air / Solarban 60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.49			CR 44	
	Solarban 60 on Atlantica / air / Clear											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	OF-S	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.37			CR 44	
	Atlantica / air / Solarban 60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	OF-S	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.37			CR 44	
132	Solarban 60 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 44	
	Clear / arg / Solarban 60											
0.223	0.500	0.223					ARG90	0.035(#3)	CL	OF-S	N	
U-Factor 0.45			SHGC (N) 0.32				VT (N) 0.49			CR 44		

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
	Solarban 60 on Atlantica / arg / Clear											
	0.223	0.500	0.223					ARG90	0.035(#2)	GR	OF-S	N
	U-Factor 0.45			SHGC (N) 0.19				VT (N) 0.37			CR 44	
	Atlantica / arg / Solarban 60											
	0.223	0.500	0.223					ARG90	0.035(#3)	GR	OF-S	N
	U-Factor 0.45			SHGC (N) 0.22				VT (N) 0.37			CR 44	
133	Solarban 70XL / air / Clear											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.20				VT (N) 0.44			CR 44	
	Clear / air / Solarban 70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.44			CR 44	
134	Solarban 70XL / arg / Clear											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.20				VT (N) 0.44			CR 44	
	Clear / arg / Solarban 70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.27				VT (N) 0.44			CR 44	
135	VE185 / air / Clear											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.52			CR 43	
	Clear / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.41				VT (N) 0.52			CR 43	
136	VE185 / arg / Clear											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.52			CR 44	
	Clear / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.42				VT (N) 0.52			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
137	VE12M / air / Clear											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.49			CR 44	
	Clear / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.33				VT (N) 0.49			CR 44	
138	VE12M / arg / Clear											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 44	
	Clear / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.33				VT (N) 0.49			CR 44	
139	Comfort TiAC36 / air / Clear											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.45			CR 44	
	Clear / air / Comfort TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.45			CR 44	
140	Comfort TiAC36 / arg / Clear											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.26				VT (N) 0.45			CR 44	
	Clear / arg / Comfort TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.33				VT (N) 0.45			CR 44	
141	Comfort TiAC23 / air / Clear											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.26			CR 44	
	Clear / air / Comfort TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.33				VT (N) 0.26			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
142	Comfort TiAC23 / arg / Clear											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.26			CR 44	
	Clear / arg / Comfort TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.34				VT (N) 0.26			CR 44	
143	Energy Advantage / air / Clear											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	OF-S	N
	U-Factor 0.50			SHGC (N) 0.44				VT (N) 0.50			CR 43	
	Clear / air / Energy Advantage											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	OF-S	N
	U-Factor 0.50			SHGC (N) 0.47				VT (N) 0.50			CR 43	
144	Energy Advantage / arg / Clear											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.44				VT (N) 0.50			CR 44	
	Clear/ arg / Energy Advantage											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.48				VT (N) 0.50			CR 44	
145	Sungate 100 / air / Clear											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.53			CR 43	
	Clear / air / Sungate 100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.42				VT (N) 0.53			CR 43	
146	Sungate 100 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.087(#2)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.53			CR 44	
	Clear / arg / Sungate 100											
	0.223	0.500	0.223					ARG90	0.087(#3)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.42				VT (N) 0.53			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
147	Solarban 80 / air / Clear											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.33			CR 44	
	Clear / air / Solarban 80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.22				VT (N) 0.33			CR 44	
148	Solarban 80 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.33			CR 44	
	Clear / arg / Solarban 80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.22				VT (N) 0.33			CR 44	
149	Clear / air / Clear Laminate (030pvb)											
	0.225	0.500	0.266					AIR		CL	OF-S	N
	U-Factor 0.59			SHGC (N) 0.49				VT (N) 0.54			CR 42	
150	Clear / arg / Clear Laminate (030pvb)											
	0.225	0.500	0.266					ARG90		CL	OF-S	N
	U-Factor 0.58			SHGC (N) 0.49				VT (N) 0.54			CR 43	
151	Solarban 60 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.035(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.28				VT (N) 0.48			CR 43	
152	Solarban 60 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.035(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.27				VT (N) 0.48			CR 44	
153	Solarban 70XL / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.018(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.20				VT (N) 0.44			CR 43	
154	Solarban 70XL / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.018(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.20				VT (N) 0.44			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
155	VE185 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.088(#2)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.52			CR 43	
156	VE185 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.088(#2)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.52			CR 44	
157	VE12M / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.040(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.49			CR 43	
158	VE12M / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.040(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 44	
159	Comfort TiAC36 / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.034(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.26				VT (N) 0.45			CR 43	
160	Comfort TiAC36 / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.034(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.26				VT (N) 0.45			CR 44	
161	Comfort TiAC23 / air / Clear Laminate (030pvb)											
	0.228	0.500	0.266					AIR	0.041(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.17				VT (N) 0.26			CR 43	
162	Comfort TiAC23 / arg / Clear Laminate (030pvb)											
	0.228	0.500	0.266					ARG90	0.041(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.26			CR 44	
163	Energy Advantage / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.157(#2)	CL	OF-S	N
	U-Factor 0.50			SHGC (N) 0.44				VT (N) 0.50			CR 43	
164	Energy Advantage / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.157(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.44				VT (N) 0.50			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
165	Sungate 100 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.087(#2)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.53			CR 43	
166	Sungate 100 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.087(#2)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.53			CR 44	
167	Solarban 80 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.024(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.33			CR 43	
168	Solarban 80 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.024(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.33			CR 44	
169	Clear / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR		CL	OF-S	N
	U-Factor 0.58			SHGC (N) 0.46				VT (N) 0.52			CR 43	
170	Clear / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90		CL	OF-S	N
	U-Factor 0.56			SHGC (N) 0.47				VT (N) 0.52			CR 43	
171	Solarban 60 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.035(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.46			CR 44	
172	Solarban 60 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.035(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.27				VT (N) 0.46			CR 45	
173	Solarban 70XL / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.018(#2)	CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.20				VT (N) 0.42			CR 44	
174	Solarban 70XL / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.018(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.20				VT (N) 0.42			CR 45	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
175	VE185 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.088(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.38				VT (N) 0.50			CR 44	
176	VE185 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.088(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.38				VT (N) 0.50			CR 44	
177	VE12M / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.040(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.47			CR 44	
178	VE12M / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.040(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.27				VT (N) 0.47			CR 45	
179	Comfort TiAC36 / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.034(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.25				VT (N) 0.43			CR 44	
180	Comfort TiAC36 / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.034(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.25				VT (N) 0.43			CR 45	
181	Comfort TiAC23 / air / Clear Laminate (090sgp)											
	0.228	0.500	0.536					AIR	0.041(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.17				VT (N) 0.25			CR 44	
182	Comfort TiAC23 / arg / Clear Laminate (090sgp)											
	0.228	0.500	0.536					ARG90	0.041(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.25			CR 45	
183	Energy Advantage / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.157(#2)	CL	OF-S	N
	U-Factor 0.49			SHGC (N) 0.43				VT (N) 0.48			CR 44	
184	Energy Advantage / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.157(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.43				VT (N) 0.48			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
185	Sungate 100 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.087(#2)	CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.38				VT (N) 0.50			CR 44	
186	Sungate 100 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.087(#2)	CL	OF-S	N
	U-Factor 0.45			SHGC (N) 0.38				VT (N) 0.50			CR 44	
187	Solarban 80 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.024(#2)	CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.31			CR 44	
188	Solarban 80 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.024(#2)	CL	OF-S	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.31			CR 45	
189	Clear / air / Clear / air / Clear											
	0.123	0.500	0.123	0.500	0.123			AIR		CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.51				VT (N) 0.52			CR 44	
190	Clear / arg / Clear / arg / Clear											
	0.123	0.500	0.123	0.500	0.123			ARG90		CL	OF-S	N
	U-Factor 0.47			SHGC (N) 0.51				VT (N) 0.52			CR 44	
191	Clear / air / Clear / air / Clear											
	0.086	0.563	0.086	0.563	0.086			AIR		CL	OF-S	N
	U-Factor 0.48			SHGC (N) 0.52				VT (N) 0.53			CR 44	
192	Clear / arg / Clear / arg / Clear											
	0.086	0.563	0.086	0.563	0.086			ARG90		CL	OF-S	N
	U-Factor 0.46			SHGC (N) 0.52				VT (N) 0.53			CR 44	
193	Clear / air / Clear											
	0.225	0.500	0.225					AIR		CL	SS-D	N
	U-Factor 0.60			SHGC (N) 0.50				VT (N) 0.54			CR 42	
194	Clear / arg / Clear											
	0.225	0.500	0.225					ARG90		CL	SS-D	N
	U-Factor 0.59			SHGC (N) 0.50				VT (N) 0.54			CR 42	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
195	Solarban 60 / air / Clear											
	0.223	0.500	0.223					AIR	0.035(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.49			CR 43	
	Clear / air / Solarban 60											
	0.223	0.500	0.223					AIR	0.035(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.49			CR 43	
	Solarban 60 on Atlantica / air / Clear											
	0.223	0.500	0.223					AIR	0.035(#2)	GR	SS-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.37			CR 43	
	Atlantica / air / Solarban 60											
	0.223	0.500	0.223					AIR	0.035(#3)	GR	SS-D	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.37			CR 43	
196	Solarban 60 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.035(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 43	
	Clear / arg / Solarban 60											
	0.223	0.500	0.223					ARG90	0.035(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.32				VT (N) 0.49			CR 43	
	Solarban 60 on Atlantica / arg / Clear											
	0.223	0.500	0.223					ARG90	0.035(#2)	GR	SS-D	N
	U-Factor 0.45			SHGC (N) 0.19				VT (N) 0.37			CR 43	
	Atlantica / arg / Solarban 60											
	0.223	0.500	0.223					ARG90	0.035(#3)	GR	SS-D	N
	U-Factor 0.45			SHGC (N) 0.22				VT (N) 0.37			CR 43	
197	Solarban 70XL / air / Clear											
	0.223	0.500	0.223					AIR	0.018(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.44			CR 43	
	Clear / air / Solarban 70XL											
	0.223	0.500	0.223					AIR	0.018(#3)	CL	SS-D	N
U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.44			CR 43		

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
198	Solarban 70XL / arg / Clear											
	0.223	0.500	0.223					ARG90	0.018(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.44			CR 43	
	Clear / arg / Solarban 70XL											
	0.223	0.500	0.223					ARG90	0.018(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.44			CR 43	
199	VE185 / air / Clear											
	0.223	0.500	0.225					AIR	0.088(#2)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.39				VT (N) 0.52			CR 43	
	Clear / air / VE185											
	0.225	0.500	0.223					AIR	0.088(#3)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.41				VT (N) 0.52			CR 43	
200	VE185 / arg / Clear											
	0.223	0.500	0.225					ARG90	0.088(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.52			CR 43	
	Clear / arg / VE185											
	0.225	0.500	0.223					ARG90	0.088(#3)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.42				VT (N) 0.52			CR 43	
201	VE12M / air / Clear											
	0.223	0.500	0.225					AIR	0.040(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.28				VT (N) 0.49			CR 43	
	Clear / air / VE12M											
	0.225	0.500	0.223					AIR	0.040(#3)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.33				VT (N) 0.49			CR 43	
202	VE12M / arg / Clear											
	0.223	0.500	0.225					ARG90	0.040(#2)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.27				VT (N) 0.49			CR 43	
	Clear / arg / VE12M											
	0.225	0.500	0.223					ARG90	0.040(#3)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.33				VT (N) 0.49			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
203	Comfort TiAC36 / air / Clear											
	0.222	0.500	0.225					AIR	0.034(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.45			CR 43	
	Clear / air / Comfort TiAC36											
	0.225	0.500	0.222					AIR	0.034(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.32				VT (N) 0.45			CR 43	
204	Comfort TiAC36 / arg / Clear											
	0.222	0.500	0.225					ARG90	0.034(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.26				VT (N) 0.45			CR 43	
	Clear / arg / Comfort TiAC36											
	0.225	0.500	0.222					ARG90	0.034(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.33				VT (N) 0.45			CR 43	
205	Comfort TiAC23 / air / Clear											
	0.228	0.500	0.225					AIR	0.041(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.18				VT (N) 0.26			CR 43	
	Clear / air / Comfort TiAC23											
	0.225	0.500	0.228					AIR	0.041(#3)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.33				VT (N) 0.26			CR 43	
206	Comfort TiAC23 / arg / Clear											
	0.228	0.500	0.225					ARG90	0.041(#2)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.17				VT (N) 0.26			CR 43	
	Clear / arg / Comfort TiAC23											
	0.225	0.500	0.228					ARG90	0.041(#3)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.34				VT (N) 0.26			CR 43	
207	Energy Advantage / air / Clear											
	0.222	0.500	0.223					AIR	0.157(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.44				VT (N) 0.50			CR 43	
	Clear / air / Energy Advantage											
	0.223	0.500	0.222					AIR	0.157(#3)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.47				VT (N) 0.50			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
208	Energy Advantage / arg / Clear											
	0.222	0.500	0.223					ARG90	0.157(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.44				VT (N) 0.50			CR 43	
	Clear/ arg / Energy Advantage											
	0.223	0.500	0.222					ARG90	0.157(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.48				VT (N) 0.50			CR 43	
209	Sungate 100 / air / Clear											
	0.223	0.500	0.223					AIR	0.087(#2)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.39				VT (N) 0.53			CR 43	
	Clear / air / Sungate 100											
	0.223	0.500	0.223					AIR	0.087(#3)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.42				VT (N) 0.53			CR 43	
210	Sungate 100 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.087(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.39				VT (N) 0.53			CR 43	
	Clear / arg / Sungate 100											
	0.223	0.500	0.223					ARG90	0.087(#3)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.42				VT (N) 0.53			CR 43	
211	Solarban 80 / air / Clear											
	0.223	0.500	0.223					AIR	0.024(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.33			CR 43	
	Clear / air / Solarban 80											
	0.223	0.500	0.223					AIR	0.024(#3)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.22				VT (N) 0.33			CR 43	
212	Solarban 80 / arg / Clear											
	0.223	0.500	0.223					ARG90	0.024(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.33			CR 43	
	Clear / arg / Solarban 80											
	0.223	0.500	0.223					ARG90	0.024(#3)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.22				VT (N) 0.33			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
213	Clear / air / Clear Laminate (030pvb)											
	0.225	0.500	0.266					AIR		CL	SS-D	N
	U-Factor 0.60			SHGC (N) 0.49				VT (N) 0.54			CR 42	
214	Clear / arg / Clear Laminate (030pvb)											
	0.225	0.500	0.266					ARG90		CL	SS-D	N
	U-Factor 0.58			SHGC (N) 0.49				VT (N) 0.54			CR 42	
215	Solarban 60 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.035(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.28				VT (N) 0.48			CR 43	
216	Solarban 60 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.035(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.48			CR 43	
217	Solarban 70XL / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.018(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.20				VT (N) 0.44			CR 43	
218	Solarban 70XL / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.018(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.20				VT (N) 0.44			CR 43	
219	VE185 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.088(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.52			CR 43	
220	VE185 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.088(#2)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.52			CR 43	
221	VE12M / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.040(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.27				VT (N) 0.49			CR 43	
222	VE12M / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.040(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.49			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
223	Comfort TiAC36 / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.034(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.26				VT (N) 0.45			CR 43	
224	Comfort TiAC36 / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.034(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.26				VT (N) 0.45			CR 43	
225	Comfort TiAC23 / air / Clear Laminate (030pvb)											
	0.228	0.500	0.266					AIR	0.041(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.17				VT (N) 0.26			CR 43	
226	Comfort TiAC23 / arg / Clear Laminate (030pvb)											
	0.228	0.500	0.266					ARG90	0.041(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.26			CR 43	
227	Energy Advantage / air / Clear Laminate (030pvb)											
	0.222	0.500	0.266					AIR	0.157(#2)	CL	SS-D	N
	U-Factor 0.51			SHGC (N) 0.44				VT (N) 0.50			CR 43	
228	Energy Advantage / arg / Clear Laminate (030pvb)											
	0.222	0.500	0.266					ARG90	0.157(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.44				VT (N) 0.50			CR 43	
229	Sungate 100 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.087(#2)	CL	SS-D	N
	U-Factor 0.49			SHGC (N) 0.39				VT (N) 0.53			CR 43	
230	Sungate 100 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.087(#2)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.39				VT (N) 0.53			CR 43	
231	Solarban 80 / air / Clear Laminate (030pvb)											
	0.223	0.500	0.266					AIR	0.024(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.18				VT (N) 0.33			CR 43	
232	Solarban 80 / arg / Clear Laminate (030pvb)											
	0.223	0.500	0.266					ARG90	0.024(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.33			CR 43	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
233	Clear / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR		CL	SS-D	N
	U-Factor 0.58			SHGC (N) 0.46				VT (N) 0.52			CR 43	
234	Clear / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90		CL	SS-D	N
	U-Factor 0.57			SHGC (N) 0.47				VT (N) 0.52			CR 43	
235	Solarban 60 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.035(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.46			CR 44	
236	Solarban 60 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.035(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.46			CR 44	
237	Solarban 70XL / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.018(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.20				VT (N) 0.42			CR 44	
238	Solarban 70XL / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.018(#2)	CL	SS-D	N
	U-Factor 0.44			SHGC (N) 0.20				VT (N) 0.42			CR 44	
239	VE185 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.088(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.38				VT (N) 0.50			CR 44	
240	VE185 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.088(#2)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.38				VT (N) 0.50			CR 44	
241	VE12M / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.040(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.27				VT (N) 0.47			CR 44	
242	VE12M / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.040(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.27				VT (N) 0.47			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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	
243	Comfort TiAC36 / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.034(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.25				VT (N) 0.43			CR 44	
244	Comfort TiAC36 / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.034(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.25				VT (N) 0.43			CR 44	
245	Comfort TiAC23 / air / Clear Laminate (090sgp)											
	0.228	0.500	0.536					AIR	0.041(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.17				VT (N) 0.25			CR 44	
246	Comfort TiAC23 / arg / Clear Laminate (090sgp)											
	0.228	0.500	0.536					ARG90	0.041(#2)	CL	SS-D	N
	U-Factor 0.45			SHGC (N) 0.17				VT (N) 0.25			CR 44	
247	Energy Advantage / air / Clear Laminate (090sgp)											
	0.222	0.500	0.536					AIR	0.157(#2)	CL	SS-D	N
	U-Factor 0.50			SHGC (N) 0.43				VT (N) 0.48			CR 43	
248	Energy Advantage / arg / Clear Laminate (090sgp)											
	0.222	0.500	0.536					ARG90	0.157(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.43				VT (N) 0.48			CR 44	
249	Sungate 100 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.087(#2)	CL	SS-D	N
	U-Factor 0.48			SHGC (N) 0.38				VT (N) 0.50			CR 43	
250	Sungate 100 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.087(#2)	CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.38				VT (N) 0.50			CR 44	
251	Solarban 80 / air / Clear Laminate (090sgp)											
	0.223	0.500	0.536					AIR	0.024(#2)	CL	SS-D	N
	U-Factor 0.47			SHGC (N) 0.18				VT (N) 0.31			CR 44	
252	Solarban 80 / arg / Clear Laminate (090sgp)											
	0.223	0.500	0.536					ARG90	0.024(#2)	CL	SS-D	N
	U-Factor 0.44			SHGC (N) 0.17				VT (N) 0.31			CR 44	

**NFRC 100/200/500 Summary Sheet
8200 Horizontal Slider**

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			
253	RLE 7138 / kry / HMTC88 / kry HMTC88 / kry / Clear												
	0.117	0.313	0.003	0.313	0.003	0.313	0.117	KRY90	0.027(#2) / 0.11(#3) / 0.105(#4) / 0.11(#5) / 0.105(#6)	CL	CS-D	N	
	U-Factor		0.34	SHGC (N)			0.21	VT (N)		0.32	CR		45

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:

Jason A. Mitzel
Simulation Technician

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

JAM:jam
A5501.02-116-45

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: Drawings and Bills of Material (33)

Revision Log

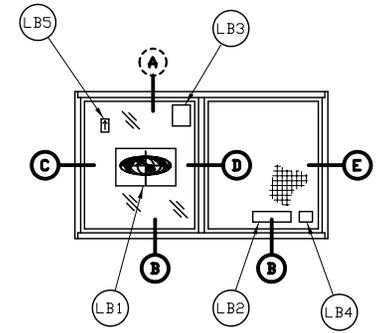
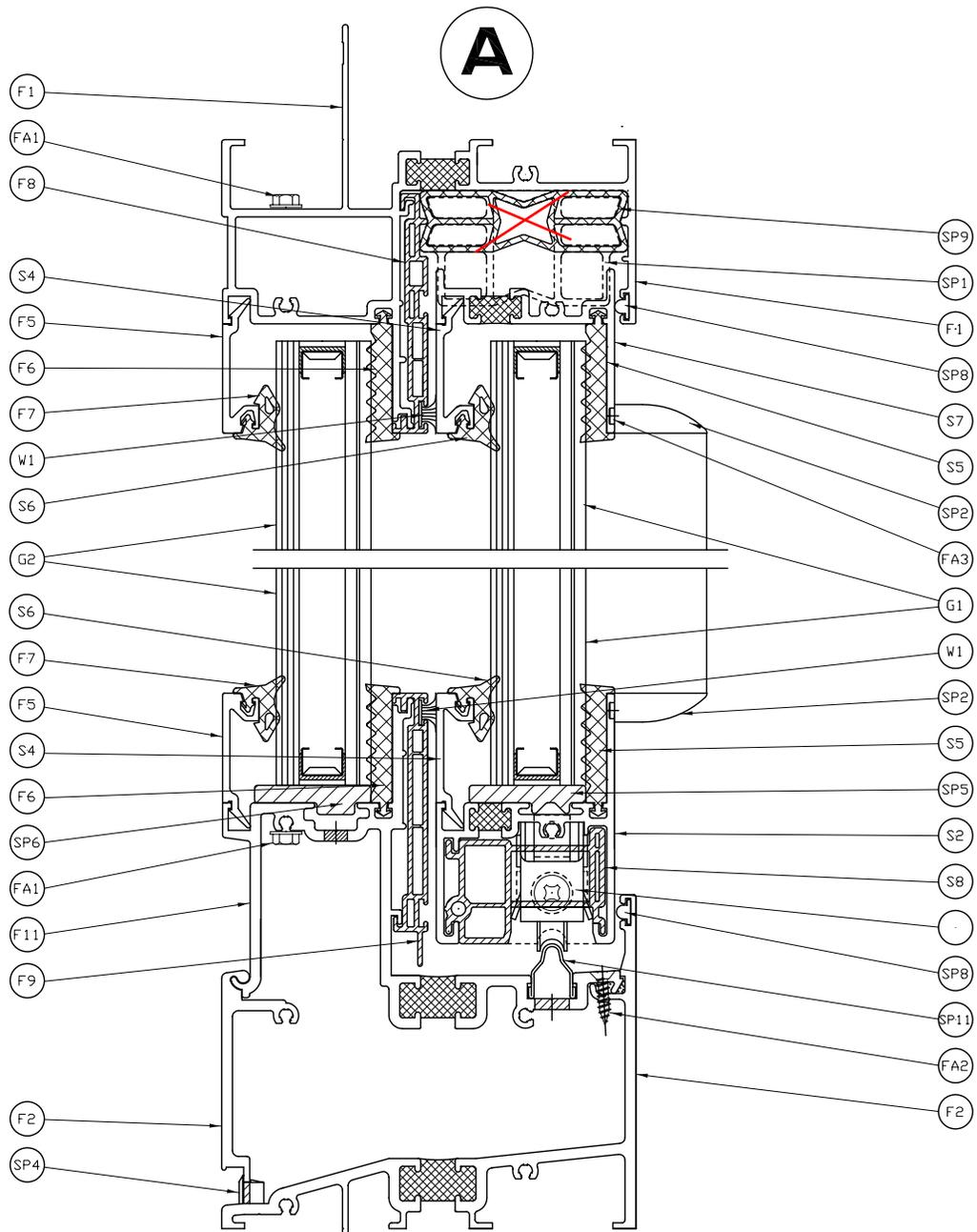
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.02 R0	1/20/2011	All	Original Report Issue



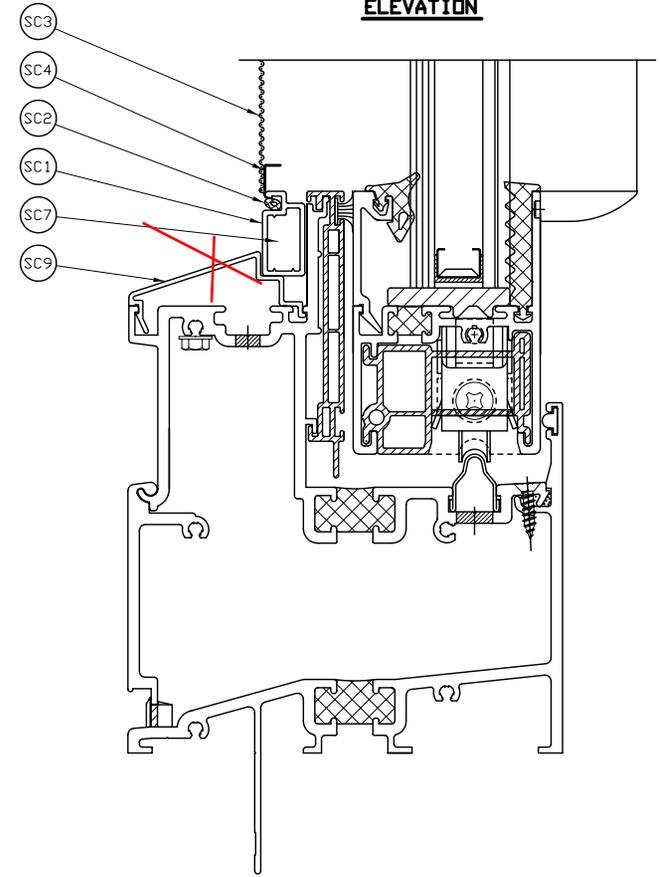
All drawings and Bills of Material used to simulate this product are enclosed in this Appendix

Appendix A

A5501.02-116-45



ELEVATION



B

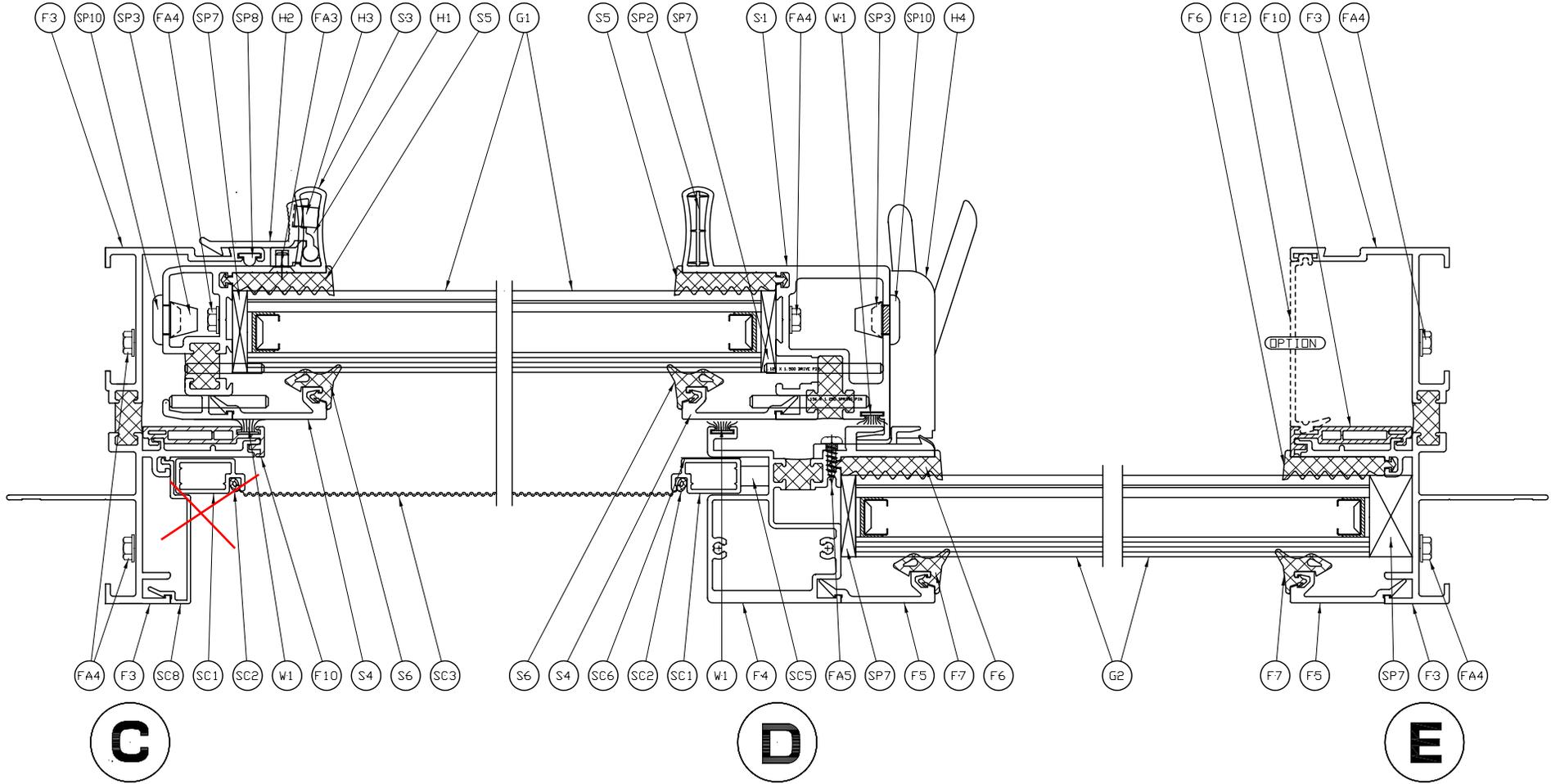
ATI

Report # A5501

Date 12/6/10

Simulator Jason R. Migel

		U.S. ALUMINUM CORPORATION	
		Willie C.	HORIZONTAL WINDOW
		08/15/10	LAYOUT (XO)
		FULL SIZE	(SERIES 8200)
		(SERIES 8200, HS, OPER. DWGS.)	8200HS-001
			3 of 4



ATI

Report # A5501

Date 12/6/10

Simulator Jason A. Miguel

		U.S. ALUMINUM CORPORATION	
		Willie C.	HORIZONTAL WINDOW LAYOUT
		08/15/10	(SERIES 8200, HS, OPER. DWGS.)
		FULL SIZE	8200HS-001 4 of 4

BILL OF MATERIALS FOR 8200 SERIES HORIZONTAL SLIDE WINDOW

ITEM #	EXTRUSION #	PART NO	DESCRIPTION	COMMENTS	VENDOR	VENDOR PART NUMBER	QTY..	FINISHES	
								CLASS 1 CLEAR	BRONZE
F1	61616	HS801	FRAME FIN HEAD	COLOR TO MATCH P. D.	INTEX	61616	1		
F2	61617	HS803	FRAME FIN SILL	COLOR TO MATCH P. D.	INTEX	61617	1		
F3	61619	HS805	FRAME FIN JAMB	COLOR TO MATCH P. D.	INTEX	61619	2		
F4	61596	SH866	MULLION	COLOR TO MATCH P. D.	INTEX	61596	1		
F5	61595	SH865	GLAZING BEAD (BLAST)	COLOR TO MATCH P. D.	INTEX	61595	4		
F6	NP881	NP881	INTERIOR GLAZING GASKET		TREMCO	TX18058E	4	BLACK	
F7	NP825	NP825	EXTERIOR GLAZING GASKET		TREMCO	TR-14677E	4	BLACK	
F8	WH838	WH838	HEAD PVC ISOLATOR		TEK PARTS/BANDLOCK	WH838	1	GRAY H-81414 4Z 'C' (SEE NOTE# 3)	BLACK #C103850
F9	WH841	WH841	SILL PVC ISOLATOR		TEK PARTS/BANDLOCK	WH841	1	GRAY H-81414 4Z 'C' (SEE NOTE# 3)	BLACK #C103850
F10	WH809	WH809	JAMB PVC ISOLATOR		TEK PARTS/BANDLOCK		2	GRAY H-81414 4Z 'C' (SEE NOTE# 3)	BLACK #C103850
F11	61618	HS804	SILL INSERT	COLOR TO MATCH P. D.	INTEX	61618	1		
F12	61608	PW803	JAMB COVER		INTEX	61618	1		
S1	61622	HS854	INTERLOCK	COLOR MATCH TO P. D.	INTEX	61622	1		
S2	61621	HS813	BOTTOM RAIL	COLOR MATCH TO P. D.	INTEX	61621	1		
S3	61632	HS815	VENT STILE	COLOR MATCH TO P. D.	INTEX	61532	2		
S4	61595	SH865	GLAZING BEAD (BLAST)	COLOR MATCH TO P. D.	INTEX	61595	4		
S5	NP881	NP881	INTERIOR GLAZING GASKET		TREMCO	TX18058E	4	BLACK	
S6	NP825	NP825	EXTERIOR GLAZING GASKET		TREMCO	TR-14677E	4	BLACK	
S7	61620	HS811	TOP RAIL	COLOR MATCH TO P. D.	INTEX	61620	1		
S8	WH843	WH843	BOTTOM RAIL ISOLATOR				1		
SC1	H-8044	CC676	EXTRUDED SCREEN FRAME		RITE SCREEN	H-8044	4	CLASS 1 CLEAR	BRONZE
SC2	WH59100	WH59100	SCREEN SPLINE		RITE SCREEN		4	BLACK	BLACK
SC3	WH43616	WH43616	18 x 16 FIBERGLASS SCREEN MESH		RITE SCREEN		1	DARK CHARCOAL DR BLACK	DARK CHARCOAL DR BLACK
SC4	WH451	WH451	SCREEN TAB		RITE SCREEN		2	ANDDIZED	BLACK
SC5	WH452	WH452	SCREEN TENSION SPRING		RITE SCREEN		2		
SC6	LU802	LU802	SCREEN LABEL		RITE SCREEN		1		
SC7	WH581	WH581	SCREEN CORNER ANGLE		RITE SCREEN		4		
SC8	61635	HS836	SCREEN FRAME JAMB		INTEX	61635	1		
SC9	61634	HS835	SCREEN FRAME SILL		INTEX	61634	1		

61601 Impact Glazing Bead
WH344 Impact Exterior Glazing Gasket

NOTE:

- ALL PARTS MUST BE U. S. MADE.
- ALL NYLON MOLDED PARTS TO MATCH WITH CLEAR ANDDIZING TO BE GR21 (PRESSOUT CHIP IS C58K756N) FROM:

COLOR SCIENCE
1230 E GLENWOOD PLACE
SANTA ANA, CA 92707-3000
714/434-1033

- COLOR: L = +71.60
a = -0.50
b = -0.66

ATI	
Report #	A5501
Date	12/6/10
Simulator	<i>John A. [Signature]</i>

UNITED STATES ALUMINUM CORP.	
Willie C.	8200HS-001
08/18/10	1 of 4
BILL OF MATERIALS FOR 8200 SERIES HS (SERIES 8200HS)	

BILL OF MATERIALS FOR 8200 SERIES HORIZONTAL SLIDE WINDOW

ITEM #	EXTRUSION #	PART NO	DESCRIPTION	COMMENTS	VENDOR	VENDOR PART NUMBER	QTY..	FINISHES	
								CLASS 1 CLEAR	BRONZE
SP1			VENT STOP		PETERSON MOLD		2	MEDIUM GRAY (NOTE 2)	BLACK
SP2		WH803	SASH PULL END CAP		PETERSON MOLD		4	MEDIUM GRAY (NOTE 2)	BLACK
SP3		SP083	TOP BUTTON PLUG				A/R	BLACK	BLACK
SP4		WH276	WEEP HOLE COVER		ASTRO EJECTION MOLDING		2	MEDIUM GRAY (NOTE 2)	BLACK
SP5			SASH SETTING BLOCK		TREMCO	TX18060E	2	BLACK	
SP6			FIXED SETTING BLOCK		TREMCO	TX18059E	2	BLACK	
SP7			EDGE BLOCK	FIXED AND VENT PANEL	TREMCO		4	MEDIUM GRAY (NOTE 2)	BLACK
SP8		R1125	PVC GUIDE						
SP9		WH852	ANT-LIFT						
SP10		SP084	BOTTOM BUTTON PLUG						
SP11			STEEL TRACK		NOR STAR	NS589	1		
W1		W-027	.270 x .250 TRI-FIN	USED AT JAMBS (2), SILL (1), MULLION (1) AND INTERLOCK (1)	ULTRA FAB		A/R	GRAY	BLACK
G1		GL103115129	1.032 INSULATED BLAST GLASS (.250 x 1/2" + 1/8" + .030 PVB + 1/8")	VENT GLASS			1		
G2		GL103115429	1.032 INSULATED BLAST GLASS (.250 x 1/2" + 1/8" + .030 PVB + 1/8")	FIXED GLASS			1		
FA1		ST212	#8 x 1-1/4" PHIL HEX WASHER HD SMS A SS	MULLION (4)			4		
FA2			#6 x 1/2" PHIL FLAT HD SMS SS	SILL INSERT			2		
FA3		MS121	#8-32 x 1/4" PHIL FLAT HD UNDERCUT SMS SS	LATCH HOUSING (2)			2		
FA4		ST196(42)	#8 x 1" PHIL HEX WASHER HD SMS TYPE AB SS	FRAME (8) TOP RAIL (4) BOTTOM RAIL (8)			20		
FA5			#6 x 1/2" PHIL PAN HD SMS SS "A"						
H1		61590	SH857	LATCH HOUSING	KENMAR/FABCO		2	SATIN NICKEL	SATIN NICKEL
H2		61591	SH858	SASH RELEASE LEVER	KENMAR/FABCO		2	SATIN NICKEL WITH CLEAR COAT	SATIN NICKEL WITH CLEAR COAT
H3			WH829	SS LATCH SPRING	KELLY TOOL & DIE		2		
H4			WH354	LOCK ASSEMBLY	ULTRA		1		
LB1			LU801	USAC LOGO WITH INSTRUCTIONS	USAC PRINTER		1		
LB2			LU901	AAMA LABEL	AAMA CERT. + SECURITY TAB + NFRC TAP	ALI	1		
LB3			LU911	NFRC TEMPORARY LABEL	USAC/SC		1		
LB4			LU921	NFRC PERMIT LABEL	USAC PRINTER		1		
LB5			LB006	THIS SIDE UP LABEL	USAC PRINTER		1		

NOTE:

- ALL PARTS MUST BE U. S. MADE.
- ALL NYLON MOLDED PARTS TO MATCH WITH CLEAR ANNDIZING TO BE GR21 (PRESSDUT CHIP IS C58K756N) FROM:

COLOR SCIENCE
1230 E GLENWOOD PLACE
SANTA ANA, CA 92707-3000
714/434-1033

ATI

Report # A5501

Date 12/6/10

Simulator John A. [Signature]

				UNITED STATES ALUMINUM CORP.	
				Willie C.	BILL OF MATERIALS FOR 8200 SERIES HS
				08/18/10	8200HS-001
					(SERIES 8200HS)
					2 of 4

U.S. ALUMINUM CORP.

H-61622

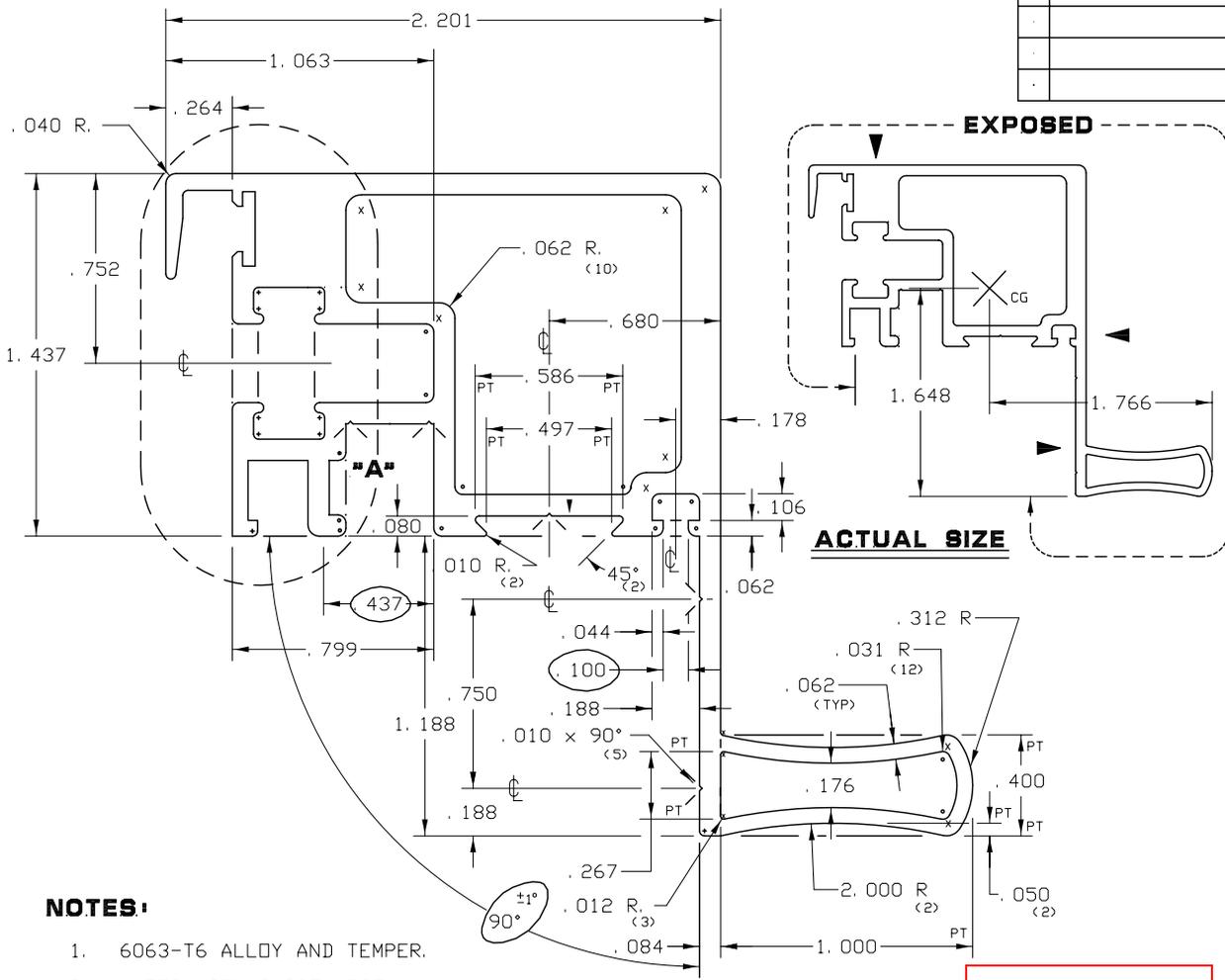
8200HS SERIES
INTERLOCKER

TER MEER

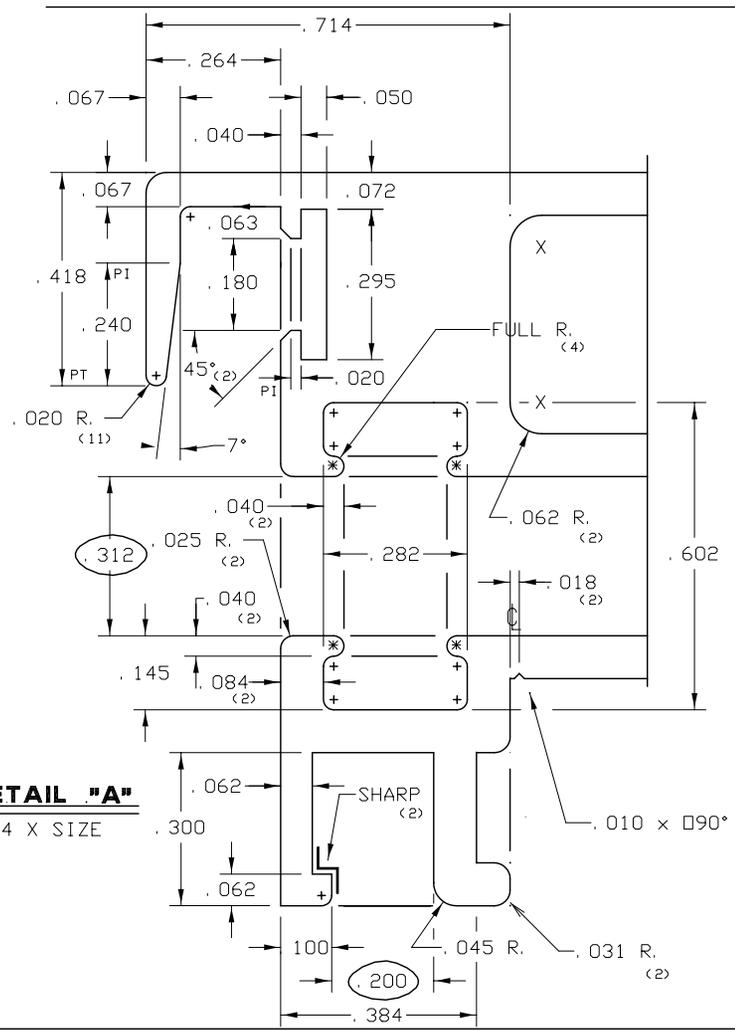
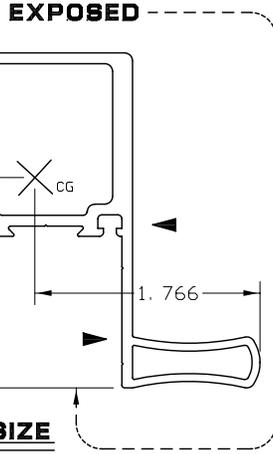
07/22/10

HS854

2 X SIZE



ACTUAL SIZE



DETAIL "A"
4 X SIZE

- NOTES:**
- 6063-T6 ALLOY AND TEMPER.
 - MATES WITH SH865; DIE #
 - DEBRIDGE WITH A .312 x .015 MAX PENETRATION INTO THERMAL AREA.
 - THERMAL DETAIL AREA: .305; (MODIFIED "DD")
 - PAINT PERIMETER: 11.933"
 - OUTSIDE PERIMETER: 17.222
 - ▶ INDICATES POSSIBLE STREAKS

ATI
Report # A5501
Date 12/6/10
Simulator John A. Regal

SECTION PROPERTIES

$I_{xx} = 0.813 \text{ in}^4$
 $S_{xx} = 0.460 \text{ in}^3$
 $I_{yy} = 0.728 \text{ in}^4$
 $S_{yy} = 0.442 \text{ in}^3$

			.084
	1.167	C-1836	1
	1.400	4.066	PORTHOLE 10X5.5
	24.429	HOLLOW III	61588
	18	8" 46/PRESS 4	H-61622

U.S. ALUMINUM CORP.

T-61621

8000HS BOTTOM RAIL

TER MEER

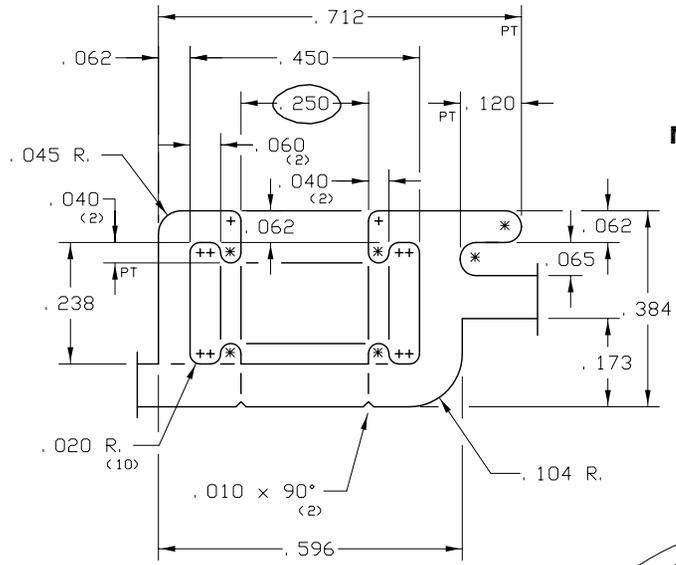
04/18/10

HS813

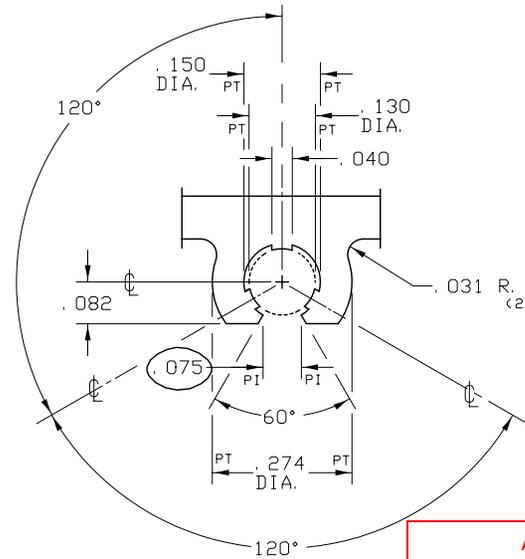
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NOTES:

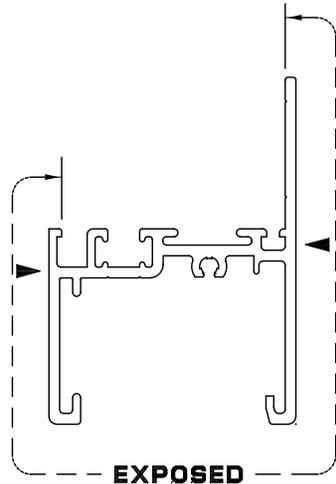
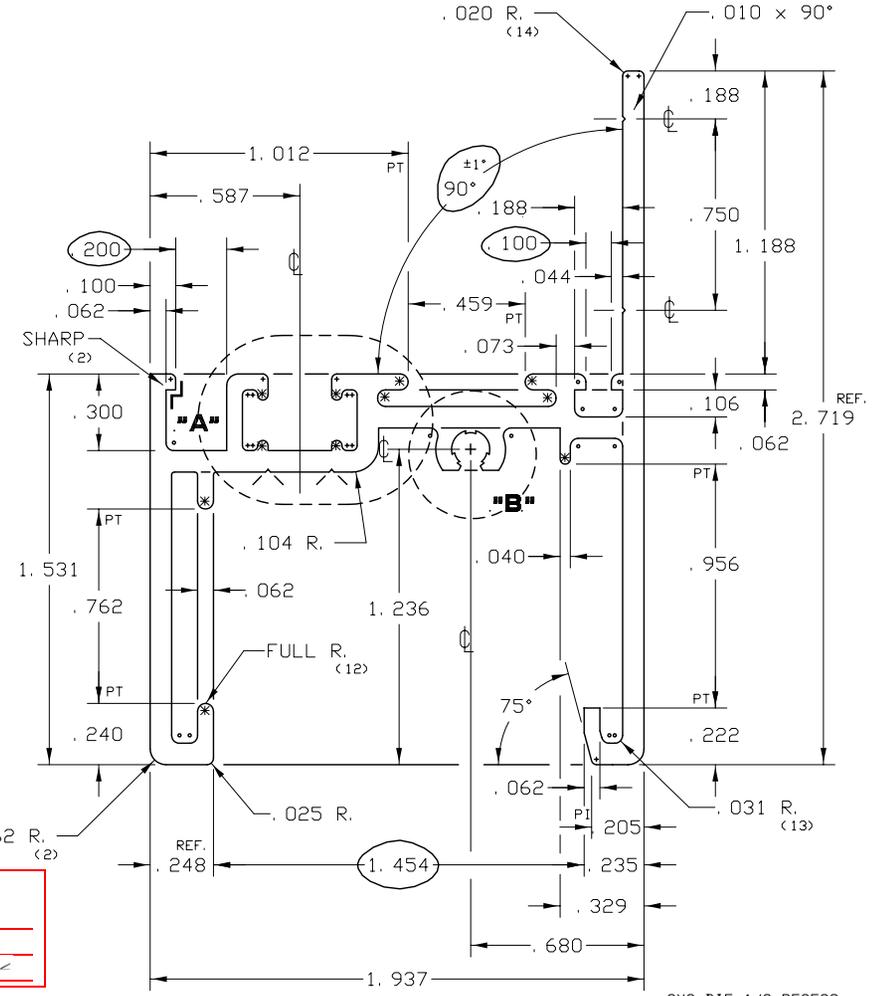
1. 6063-T5 ALLOY AND TEMPER.
2. MATES WITH SH865; DIE# 61595
3. DEBRIDGE WITH A .250 X .015 MAX PENETRATION INTO THERMAL AREA.
4. THERMAL DETAIL AREA: .116; (MODIFIED "CC")
5. PAINT PERIMETER: 11.270"
6. ► INDICATES POSSIBLE STREAKS



DETAIL "A"
4 X SIZE



DETAIL "B"
4 X SIZE



ACTUAL SIZE

ATI
Report # A5501
Date 12/6/10
Simulator John R. Meier

<input type="checkbox"/>			
<input type="checkbox"/>			
	.673	C-1821	1
	.808	3.306	9 X 61621
	16.937	SOLID	32121
	21	7" 61/PRESS 3	T-61621

U.S. ALUMINUM CORP.

T-61620

8000HS TOP RAIL

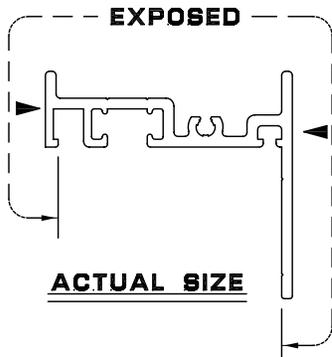
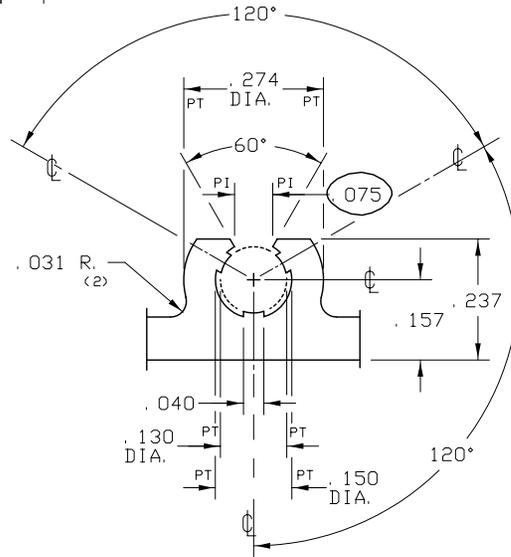
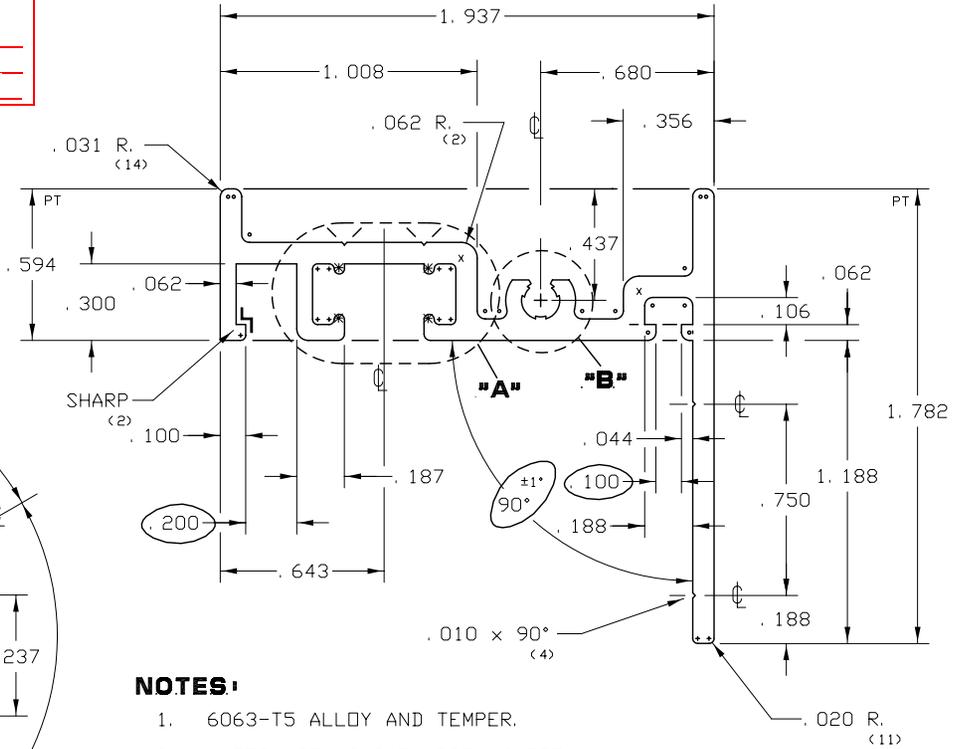
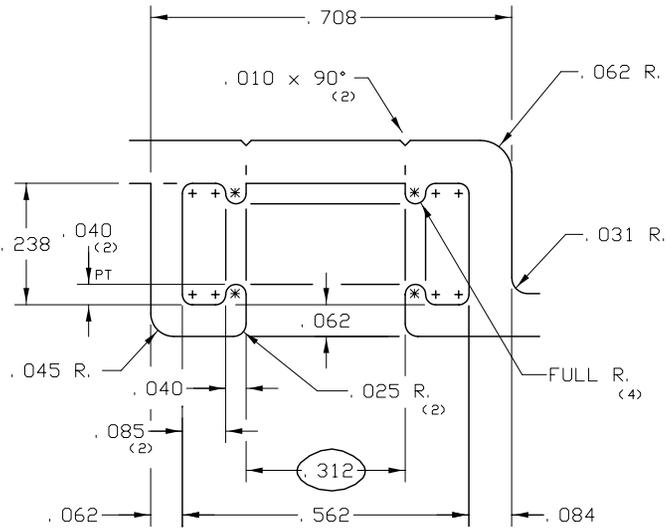
TER MEER

04/18/10

HS811

2 X SIZE

ATI
 Report # A5501
 Date 12/6/10
 Simulator John A. Nagel



NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. MATES WITH SH865; DIE# 61595
3. DEBRIDGE WITH A .312 x .015 MAX PENETRATION INTO THERMAL AREA.
4. THERMAL DETAIL AREA: .147; (MODIFIED "DD")
5. PAINT PERIMETER: 5.240"
6. ► INDICATES POSSIBLE STREAKS

9X2 DIE 1/2 RECESS

			.084
	.450	C-1820	2
	.540	2.611	9 X 61620
	11.331	SOLID	2-1
	21	7" 45/PRESS 3	T-61620

U.S. ALUMINUM CORP.

T-61618

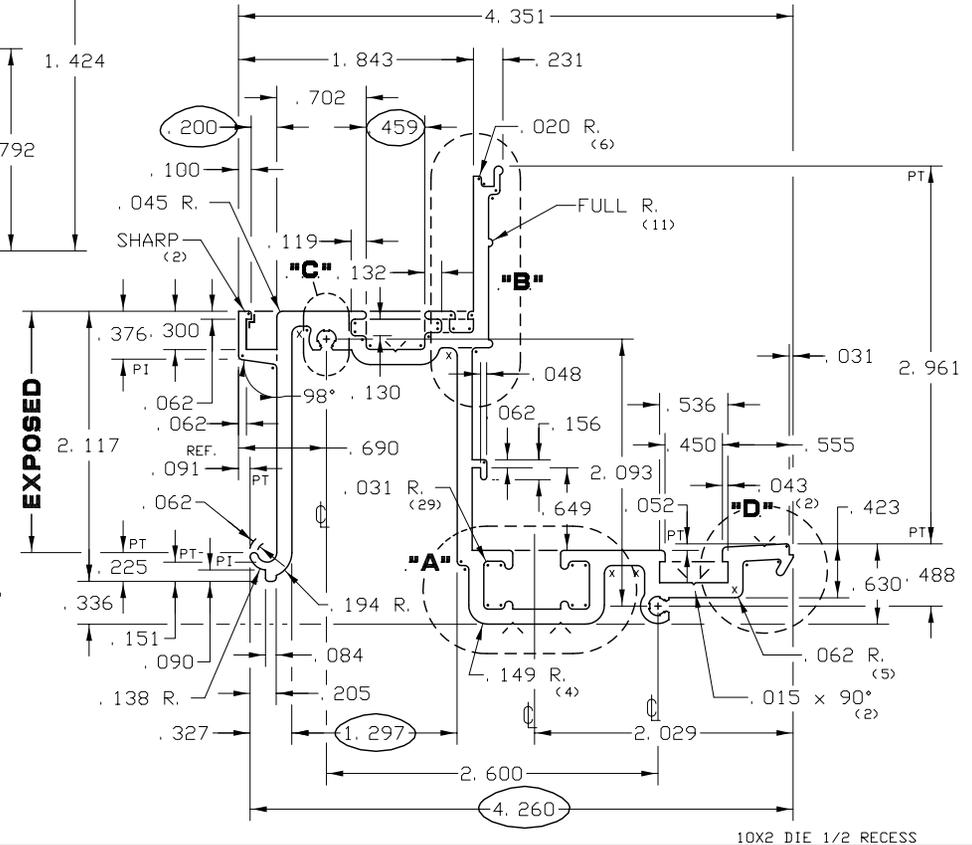
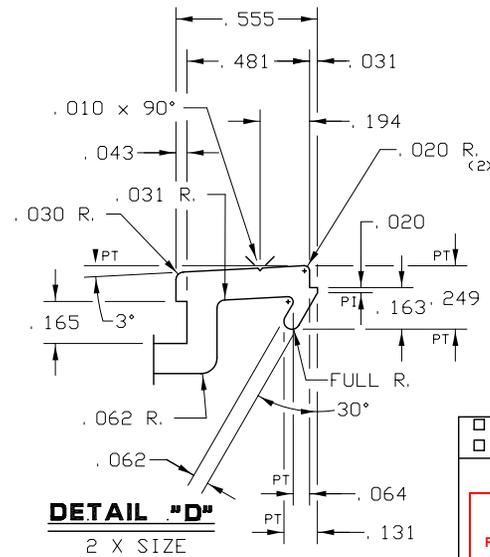
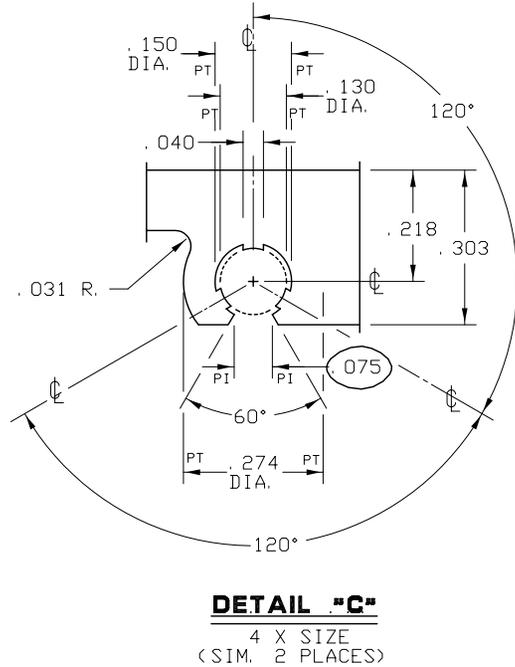
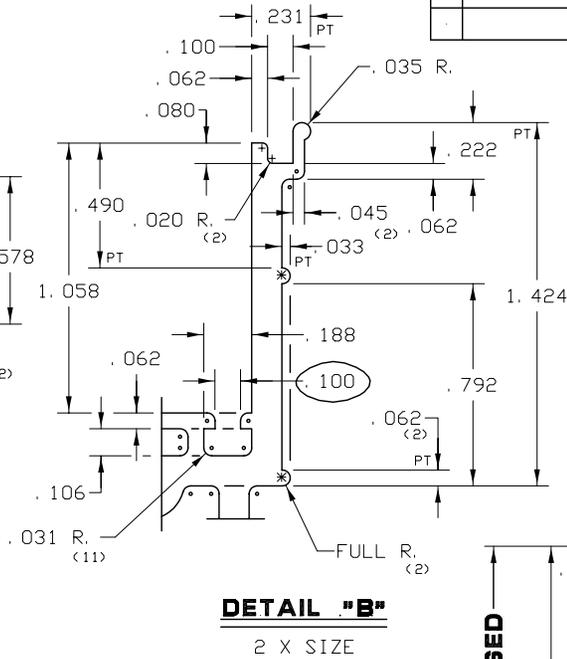
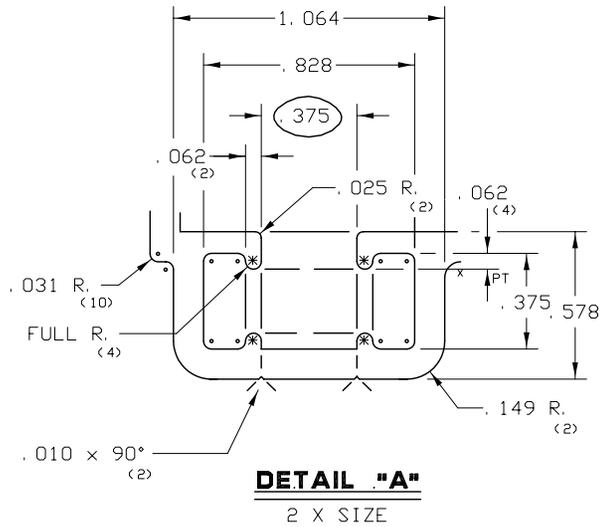
8200HS SILL INSERT
HS804

TER MEER
FULL SIZE

05/26/10

NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. ASSEMBLES WITH HS803; DIE# 61617
3. PAINT PERIMETER: 2.444"
4. DEBRIDGE WITH A .375 x .015 MAX PENETRATION INTO THERMAL AREA.
5. THERMAL DETAIL AREA: .328, "EE"



ATI	1.507	C-1819	1
Report # A5601	1.808	4.804	10 X 61618
Date 12/6/10	27.761	SOLID	15X8.5 61618
Simulator <i>John R. Meyer</i>	15	8" 35/PRESS 4	T-61618

U.S. ALUMINUM CORP.

H-61616

8200HS HEAD

TER MEER

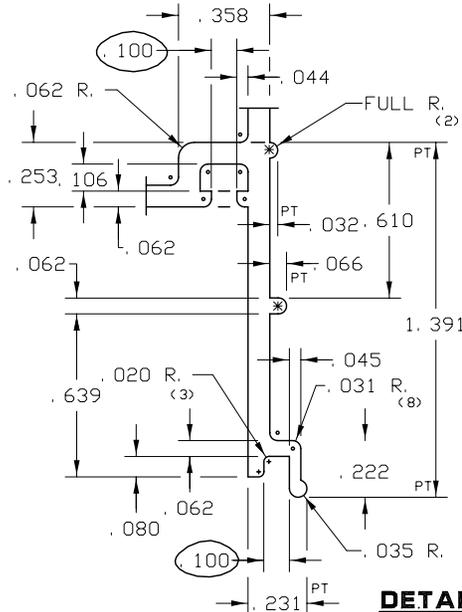
05/19/10

HS801

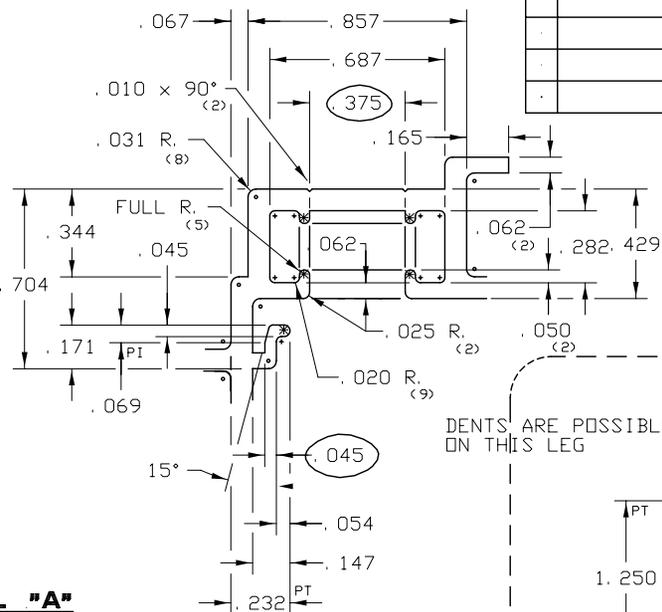
FULL SIZE

NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. ASSEMBLES WITH SH865; DIE# 61595
3. PAINT PERIMETER: 3.610"
4. DEBRIDGE WITH A .375 x .015 MAX PENETRATION INTO THERMAL AREA.
5. THERMAL DETAIL AREA: .209, "EE"
6. OUTSIDE PERIMETER: 30.488"
7. ▲ INDICATES POSSIBLE STREAKS

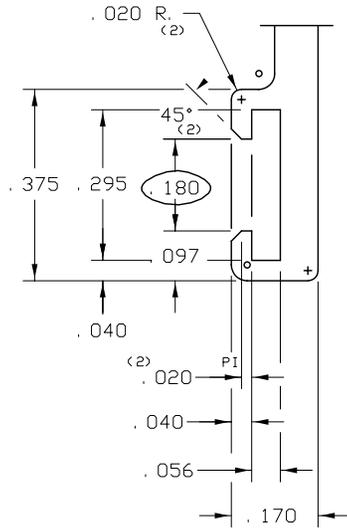


DETAIL "A"
2 X SIZE

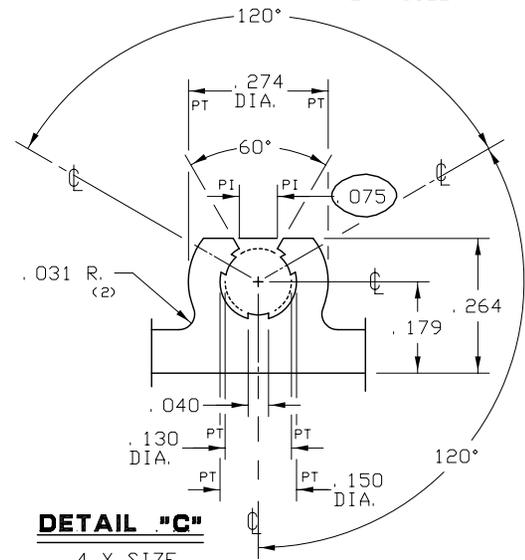


DETAIL "B"
2 X SIZE

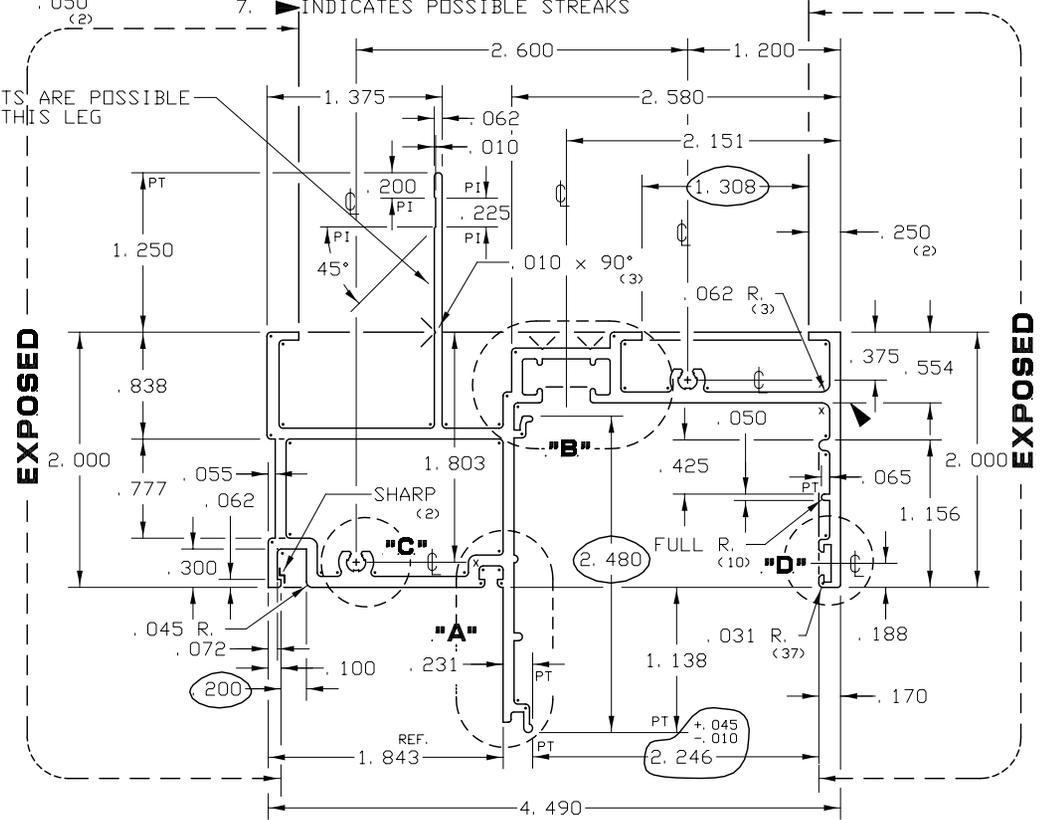
DENTS ARE POSSIBLE ON THIS LEG



DETAIL "D"
4 X SIZE



DETAIL "C"
4 X SIZE
(SIM 2 PLACES)



EXPOSED

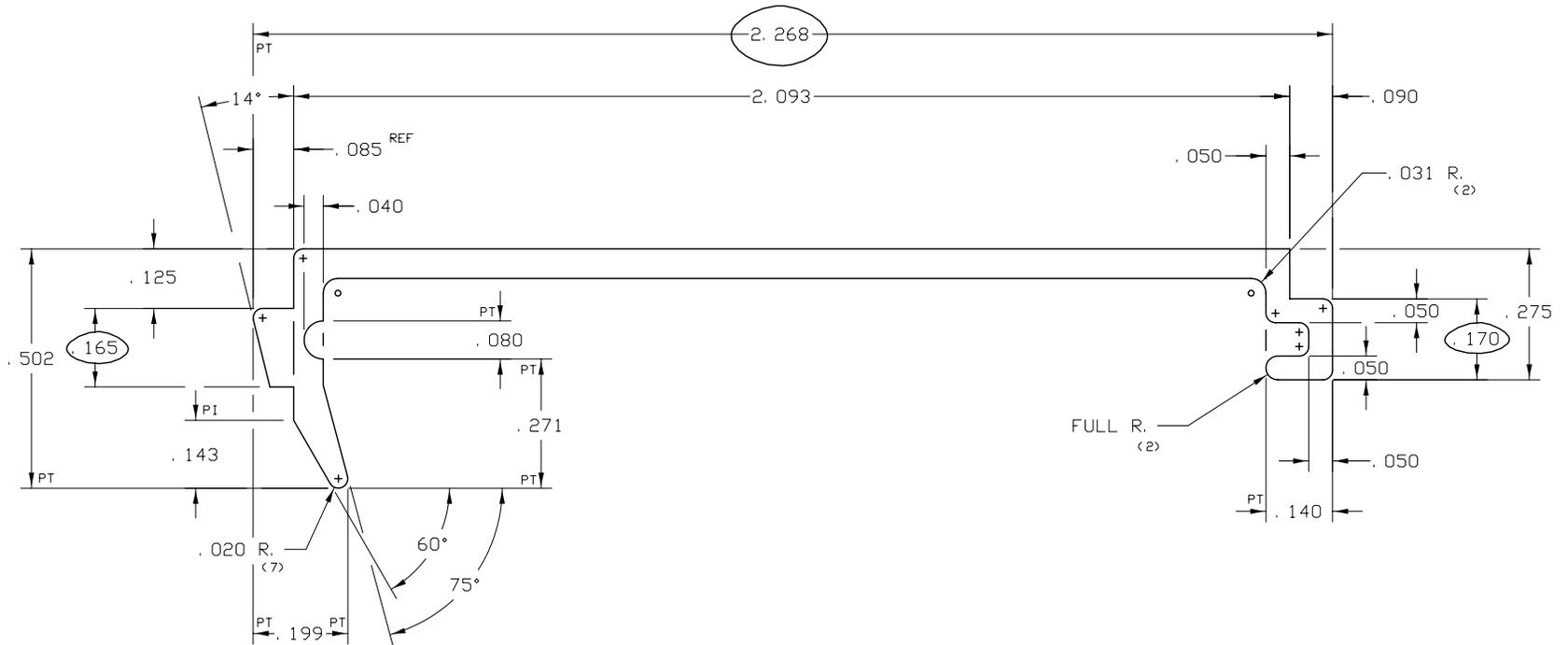
EXPOSED

ATI
Report # A5501
Date 12/6/10
Simulator *Jan A. Miel*

	1.479	C-1817	1
	1.775	4.958	PORTHOLE 12X6.5
	36.690	HOLLOW II	15X8.5 61616
	21	8" 36/PRESS 4	H-61616



ACTUAL SIZE



NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. PAINT PERIMETER: 2.093"
3. ASSEMBLES WITH PW801; DIE # 61606
WH809; DIE #

ATI	
Report #	A5501
Date	12/6/10
Simulator	<i>John R. Meyer</i>

10X2 DIE 1/2 RECESS

<input type="checkbox"/>			.062
<input type="checkbox"/>	.186	C-1810	3
	.223	2.271	10 X 41415
	6.042	SOLID	STD-3
	27	7" 73/PRESS 3	T-61608

U.S. ALUMINUM CORP.

T-61608

PICTURE WINDOW COVER

TER MEER

4/20/10

PW803

4 X SIZE

U.S. ALUMINUM CORP.

T-61601

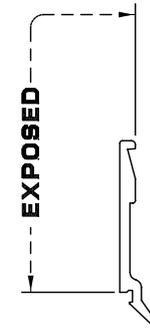
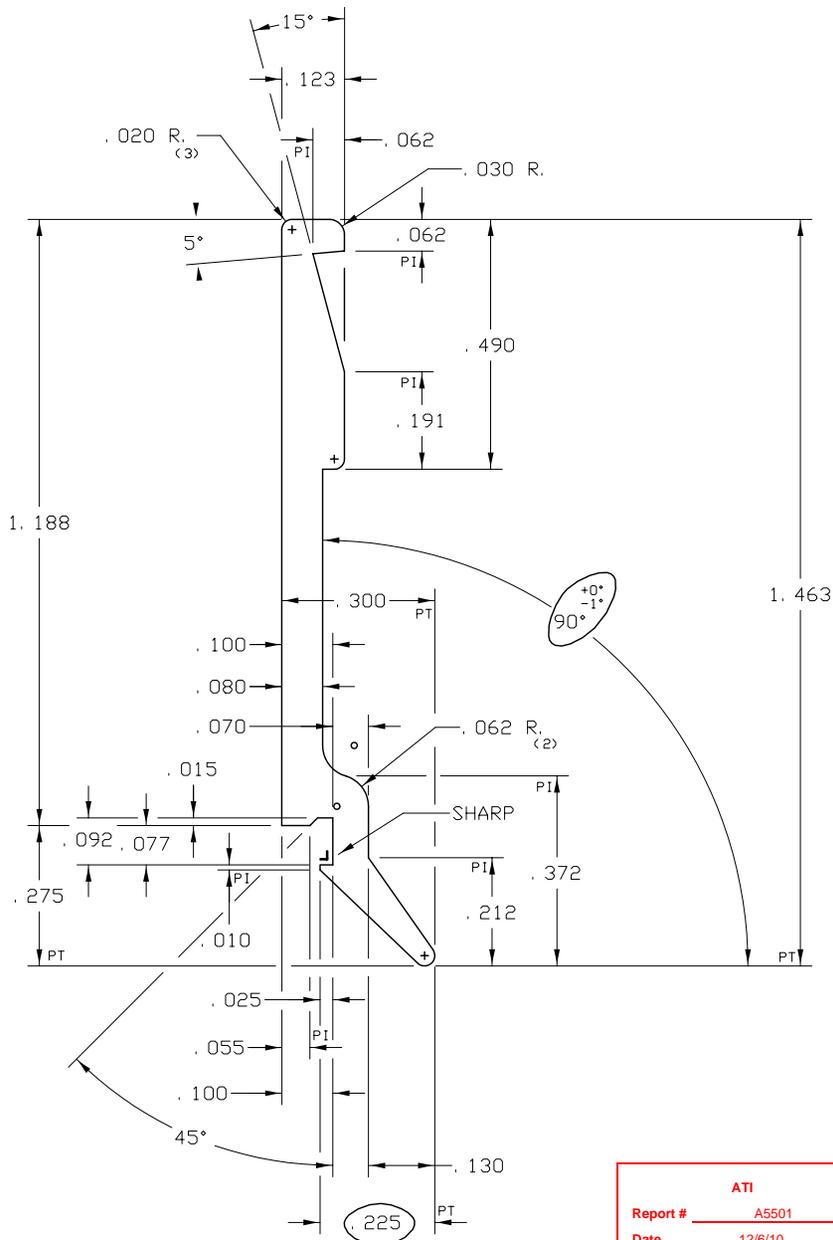
IMPACT GLAZING
BEAD

TER MEER

03/26/10

SH880

4 X SIZE



ACTUAL SIZE

NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. ASSEMBLES WITH SH881; DIE #
3. PAINT PERIMETER: 1.319"

9X2 DIE 1/2 RECESS

ATI
 Report # A5501
 Date 12/6/10
 Simulator John R. Mize

.138	C-1807	5	
.166	SOLID	9 X 14357	
3.458	1.499	5-7	
21	7" 59/PRESS 3	T-61601	

U.S. ALUMINUM CORP.

T-61595

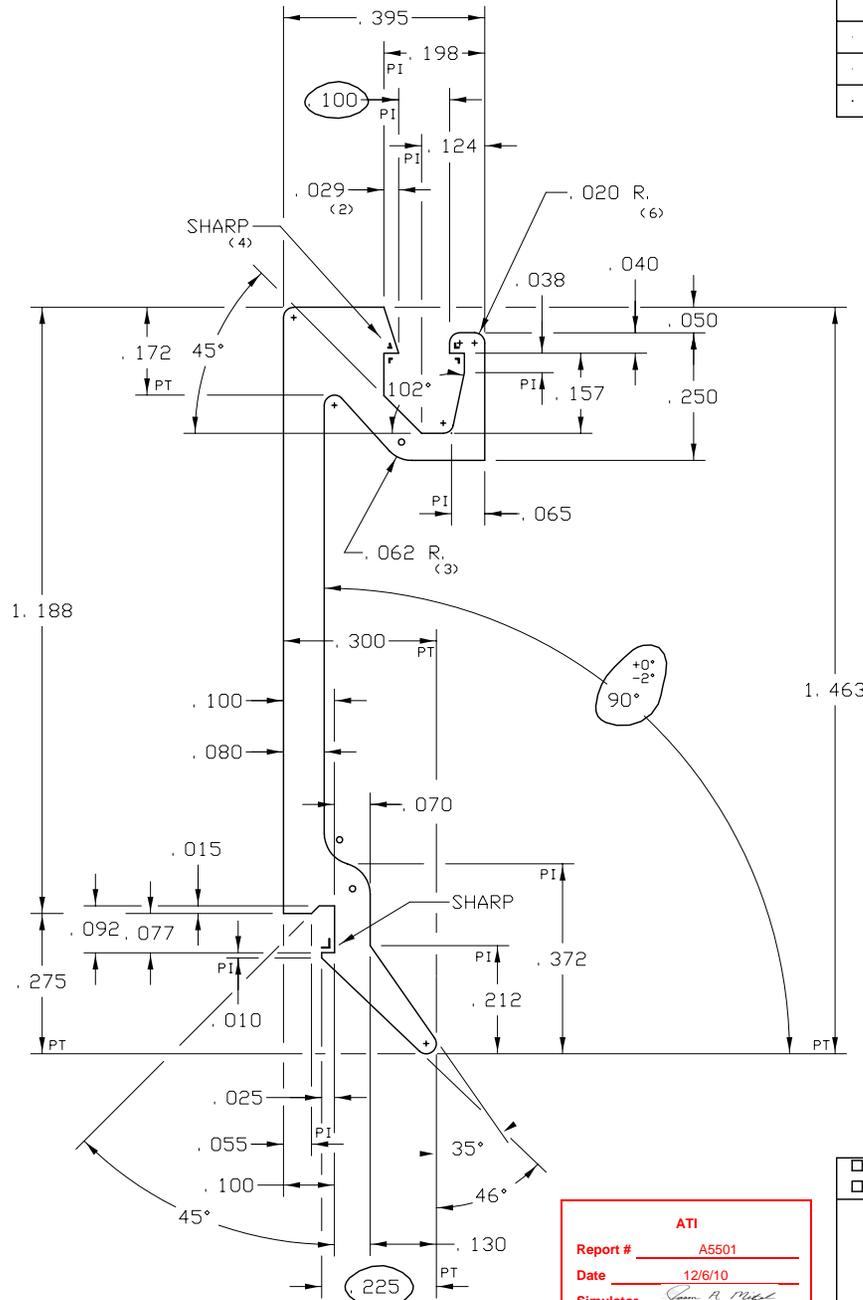
GLAZING BEAD

TER MEER

02/12/10

SH865

4 X SIZE



ACTUAL SIZE

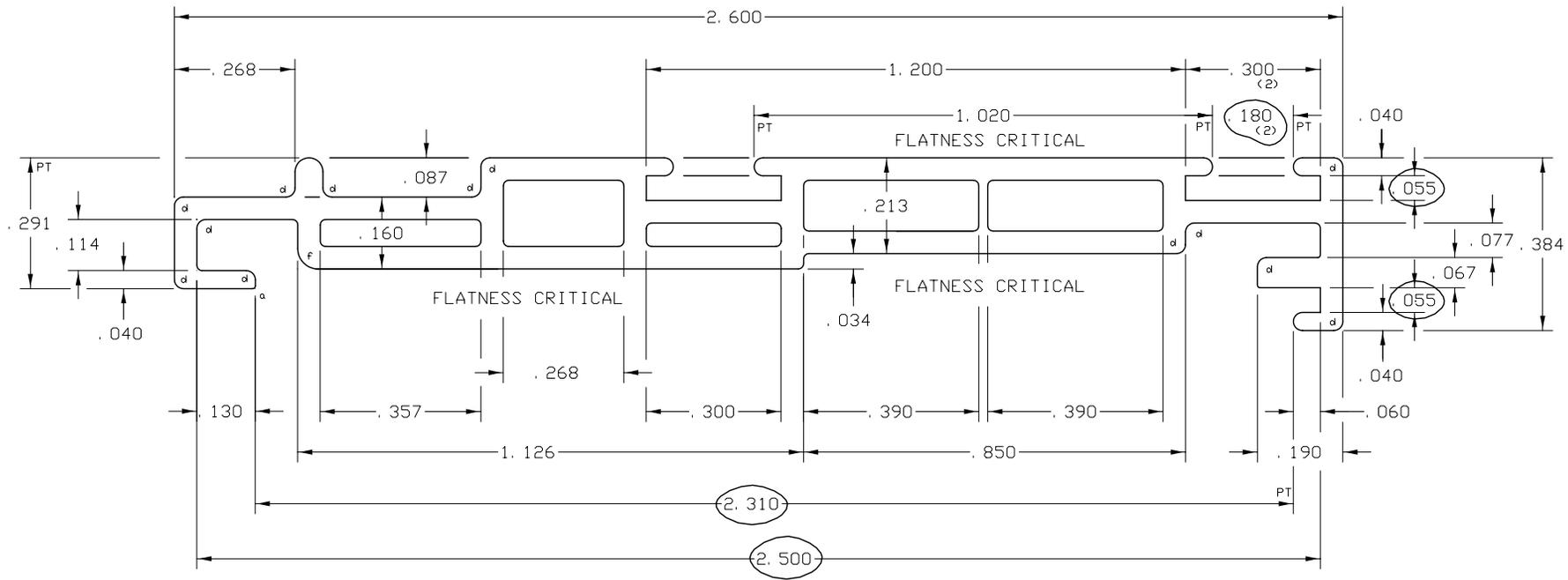
NOTES:

1. 6063-T5 ALLOY AND TEMPER.
2. MATES WITH SH862; DIE # 61592
SH866; DIE # 61596
SH852; DIE # 61587
SH864; DIE # 61594
SH855; DIE # 61589
3. PAINT PERIMETER: 2.581"

9X2 DIE 1/2 RECESS

ATI
 Report # A5501
 Date 12/6/10
 Simulator John A. Magel

<input type="checkbox"/>			
<input type="checkbox"/>			
	.173	C-1786	4
	.208	1.481	9 X 46085
	4.527	SOLID	42772
	22	7" 59/PRESS 3	T-61595



RELEASE FOR PRODUCTION
DATE: SEPTEMBER 27, 2010
APPR'D BY: JOHN FREY

NOTES:

1. MATERIAL: RIGID PVC TO MEET AAMA 303-07
2. ALL UNSPECIFIED RADII = .012
3. TYPICAL EXTERIOR WALL THICKNESS: .050
TYPICAL INTERIOR WALL THICKNESS: .020
4. AREA: .317
5. MINIMUM SHEEN ALLOWED 56.0 USING A GARDNER MICRO-GLOSS 60° GLOSS METER.
6. TOLERANCE UNLESS OTHERWISE NOTED ±.012
7. WALL THICKNESS TOLERANCE TO BE: ±.006



ACTUAL SIZE

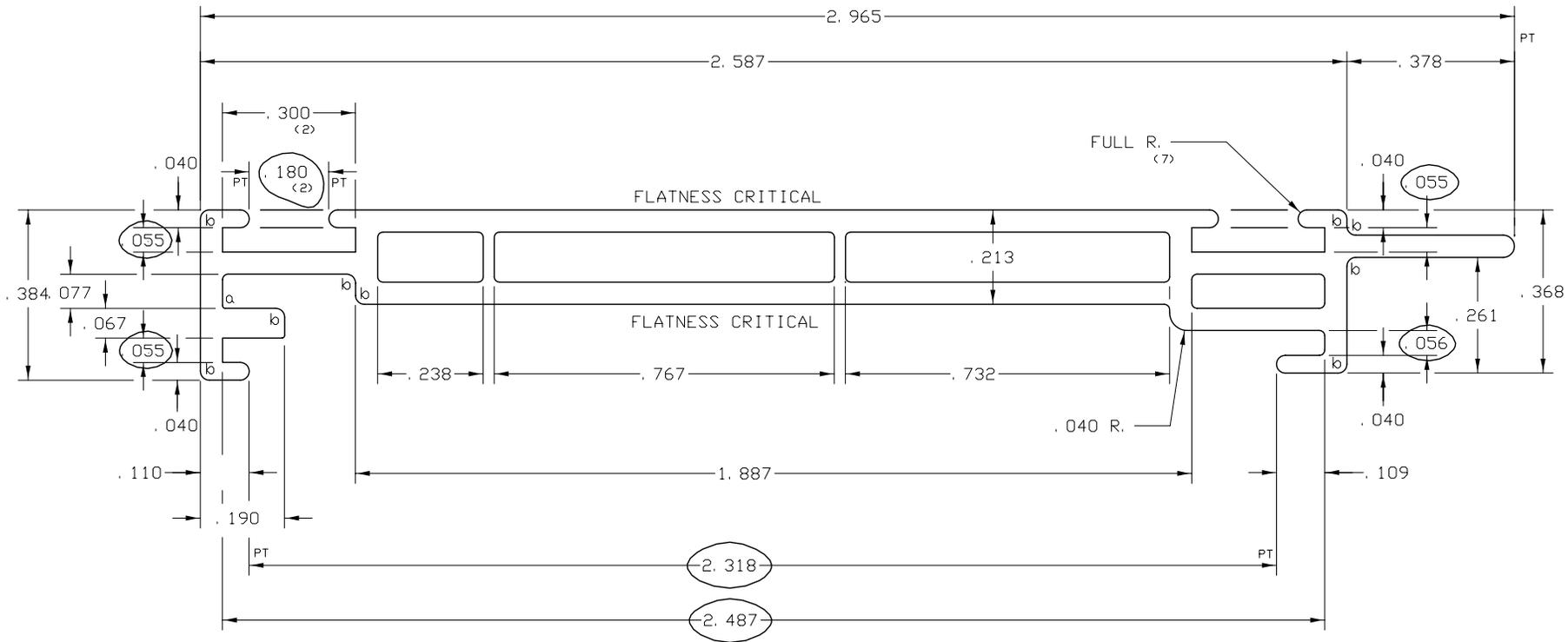
ATI	
Report #	A5501
Date	12/6/10
Simulator	<i>John R. Frey</i>

IWC TOLERANCES FOR PVC EXTRUDED SHAPES APPLY UNLESS SPECIFICALLY SHOWN OTHERWISE

RADIUS SCHEDULE

- s - SHARP
- a - .006 R.
- b - .012 R.
- c - .015 R.
- d - .020 R.
- e - .030 R.
- f - .045 R.
- g - .060 R.

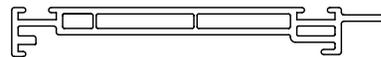
INTERNATIONAL WINDOW CORP.			
		TER MEER	HEAD ISOLATOR
		05/14/10	PART NO: WH838
		4 X SIZE	SERIES: 8200HS
			8200HS-051



RELEASE FOR PRODUCTION
DATE: SEPTEMBER 27, 2010
APPR'D BY: JOHN FREY

NOTES:

1. MATERIAL: RIGID PVC TO MEET AAMA 303-07
2. ALL UNSPECIFIED RADII = .012
3. TYPICAL EXTERIOR WALL THICKNESS: .050
TYPICAL INTERIOR WALL THICKNESS: .025
4. AREA: .335
5. MINIMUM SHEEN ALLOWED 56.0 USING A GARDNER MICRO-GLOSS 60° GLOSS METER.
6. TOLERANCE UNLESS OTHERWISE NOTED ±.012
7. WALL THICKNESS TOLERANCE TO BE: ±.006



ACTUAL SIZE

ATI	
Report #	A5501
Date	12/6/10
Simulator	<i>John A. Magel</i>

RADIUS SCHEDULE

- s - SHARP
- a - .006 R.
- b - .012 R.
- c - .015 R.
- d - .020 R.
- e - .030 R.
- f - .045 R.
- g - .060 R.

IWC TOLERANCES FOR PVC EXTRUDED SHAPES APPLY UNLESS SPECIFICALLY SHOWN OTHERWISE

				INTERNATIONAL WINDOW CORP.		
				TER MEER	SILL ISOLATOR	
				05/14/10	PART NO: WH841	
				4 X SIZE	SERIES: 8200HS	
						8200HS-050

U.S. ALUMINUM CORP.

H-61632

8200HS SERIES
VENT STILE

TER MEER

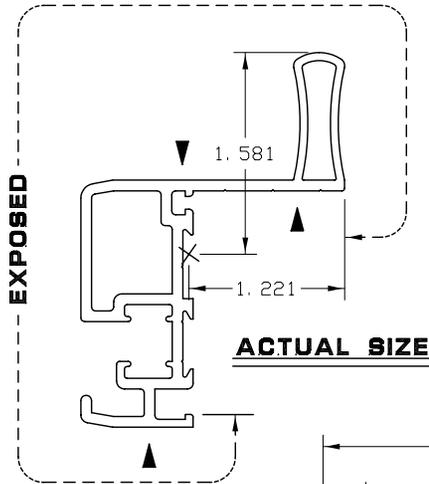
04/17/10

HS815

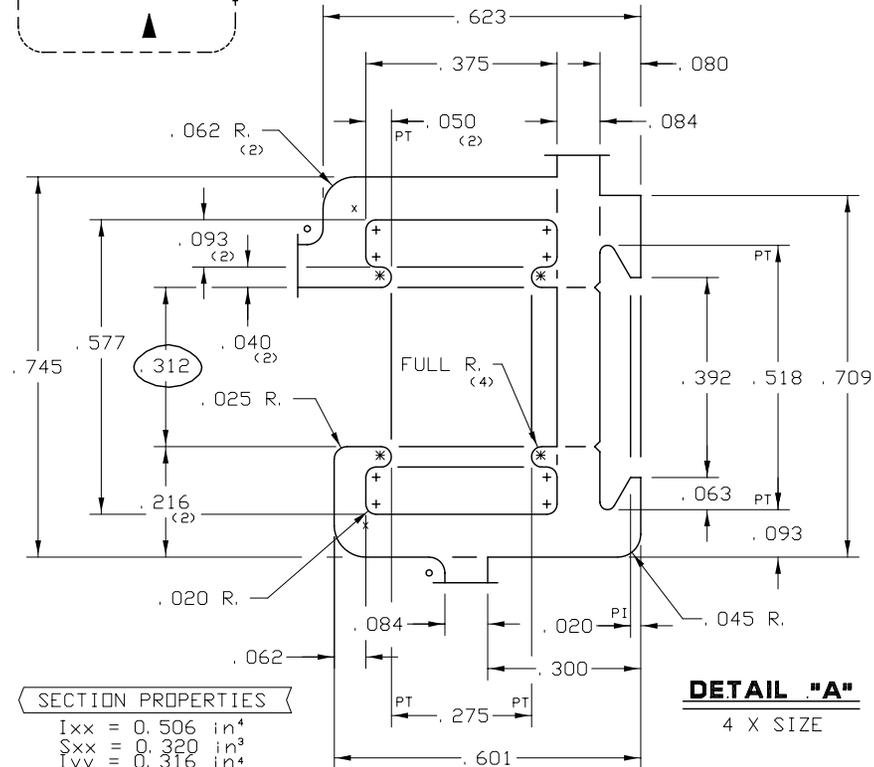
2 X SIZE

NOTES:

1. 6063-T6 ALLOY AND TEMPER.
2. MATES WITH SH865; DIE# 61595
3. DEBRIDGE WITH A .312 x .015 MAX PENETRATION INTO THERMAL AREA.
4. THERMAL DETAIL AREA: .228; (MODIFIED "DD")
5. PAINT PERIMETER: 9.732"
6. OUTSIDE PERIMETER: 14.338
7. ► INDICATES POSSIBLE STREAKS



ACTUAL SIZE

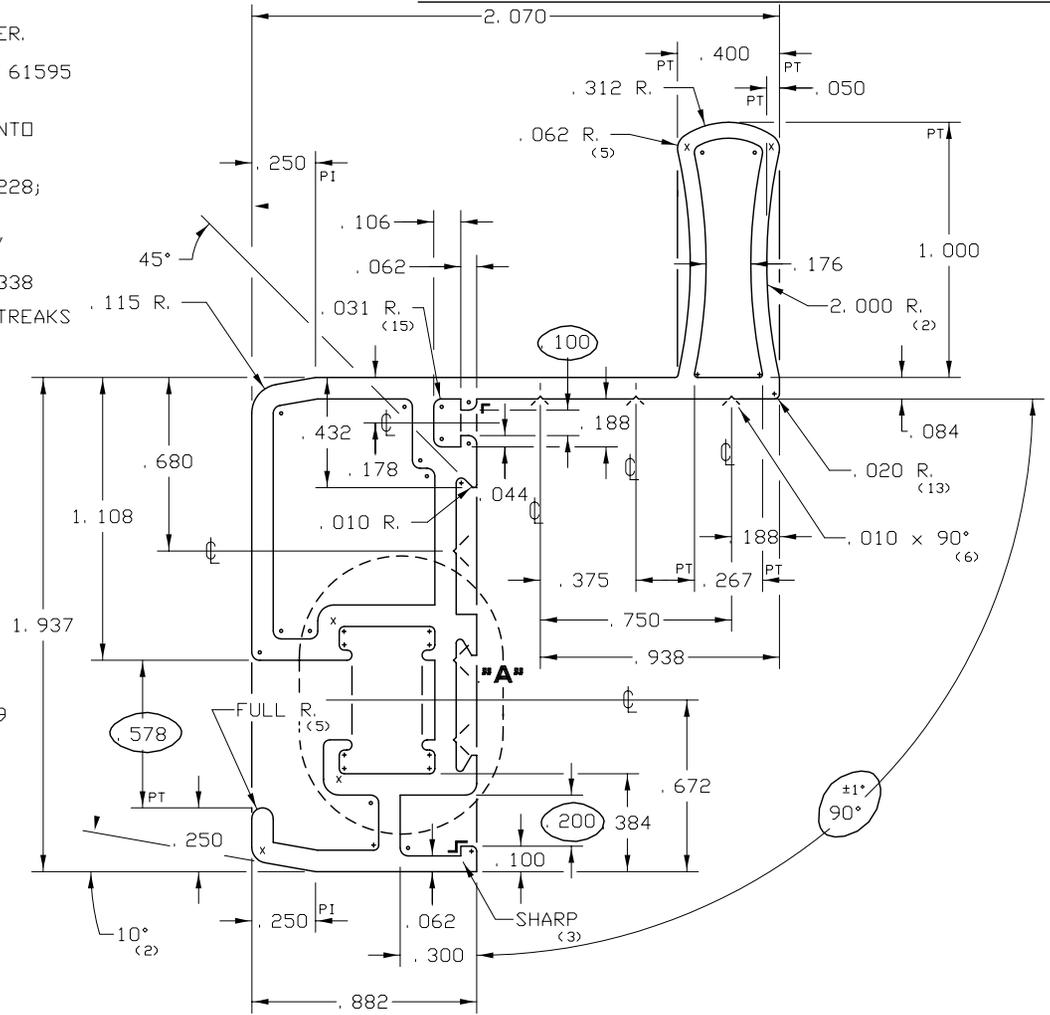


SECTION PROPERTIES

$I_{xx} = 0.506 \text{ in}^4$
 $S_{xx} = 0.320 \text{ in}^3$
 $I_{yy} = 0.316 \text{ in}^4$
 $S_{yy} = 0.259 \text{ in}^3$

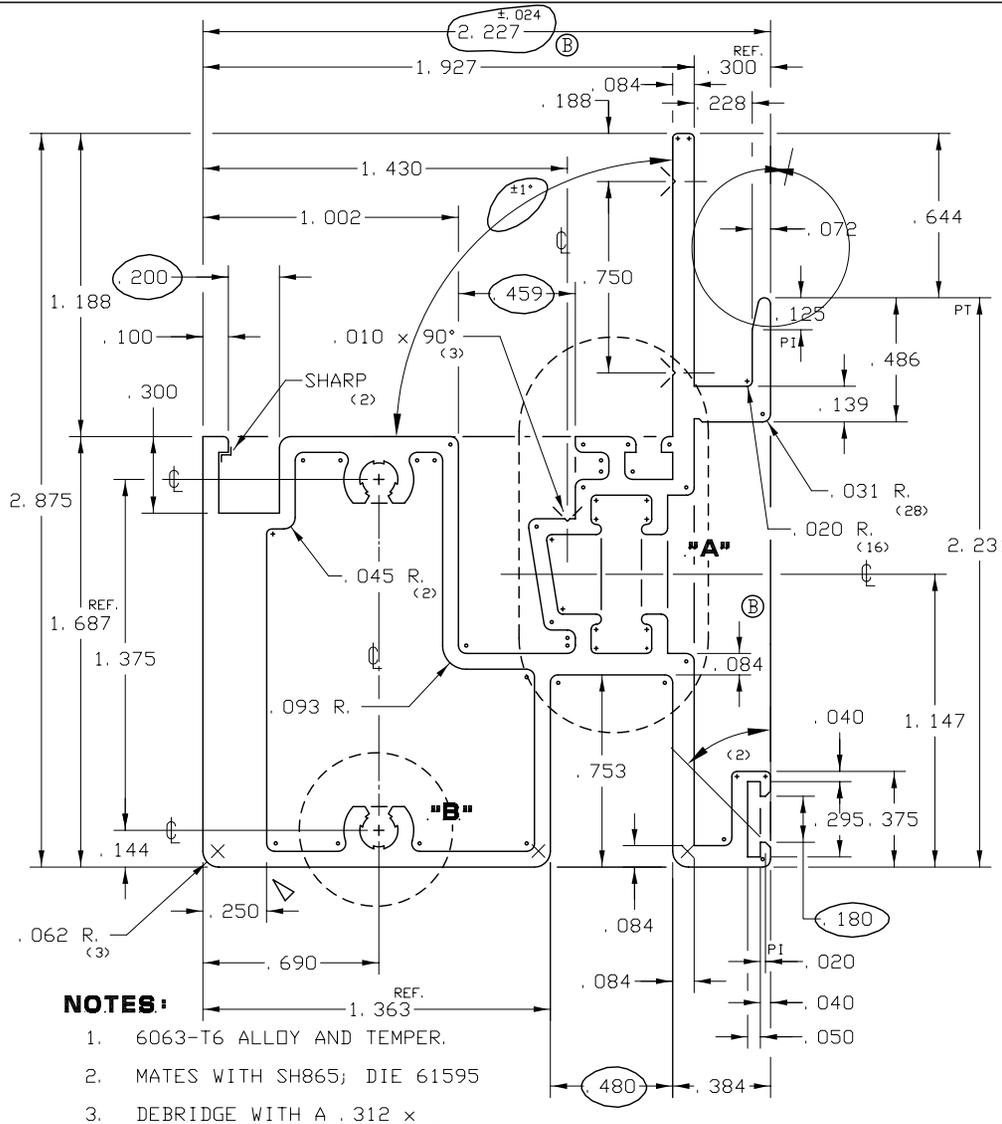
DETAIL "A"

4 X SIZE



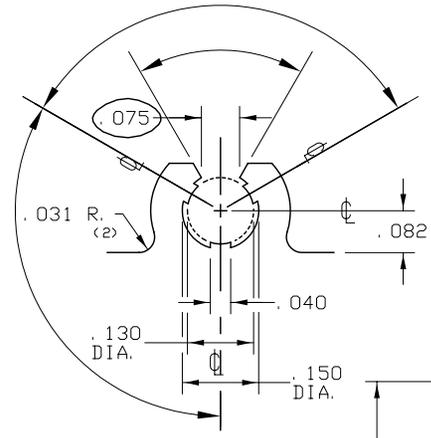
<p>ATI Report # <u>A5501</u> Date <u>12/6/10</u> Simulator <u>John R. Meier</u></p>	.780	C-1823	.084
	.936	3.482	PORTHOLE 10X5.5
	19.701	HOLLOW III	61588
	21	8" 68/PRESS 4	H-61632

B	REVISED WALL THICKNESS TO .084; ADDED PRESS, CHECK DIM. RECALC'D	RT	5/11/10	U.S. ALUMINUM CORP.		H-61596	B
				8000 SERIES MULLION	TER MEER	02/15/10	
				SH866	2 X SIZE		

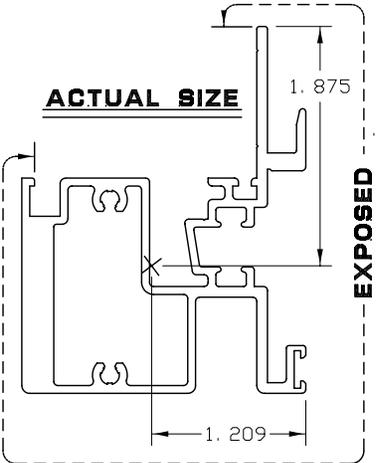


- NOTES:**
- 6063-T6 ALLOY AND TEMPER.
 - MATES WITH SH865; DIE 61595
 - DEBRIDGE WITH A .312 x .015 MAX PENETRATION INTO THERMAL AREA.
 - THERMAL DETAIL AREA: .208; (MODIFIED "DD")
 - PAINT PERIMETER: 6.418"
 - OUTSIDE PERIMETER: 18.969
 - ▷ INDICATES POSSIBLE STREAKS

SECTION PROPERTIES	
I _{xx}	= 0.552 in ⁴
S _{xx}	= 0.294 in ³
I _{yy}	= 0.669 in ⁴
S _{yy}	= 0.553 in ³

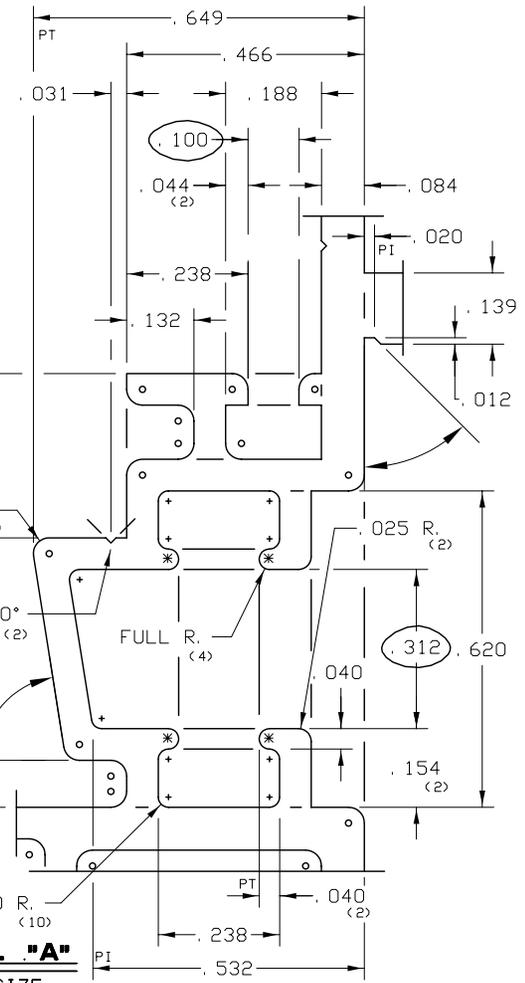


DETAIL "B"
4 X SIZE



ACTUAL SIZE

EXPOSED



DETAIL "A"
4 X SIZE

			.062
	1.148 (B)	C-1787	1
	1.378 (B)	3.447	PORTHOLE 10X5.5
	25.465 (B)	HOLLOW II	42293
	18 (B)	8" 47/PRESS 4	H-61596 B

ATI

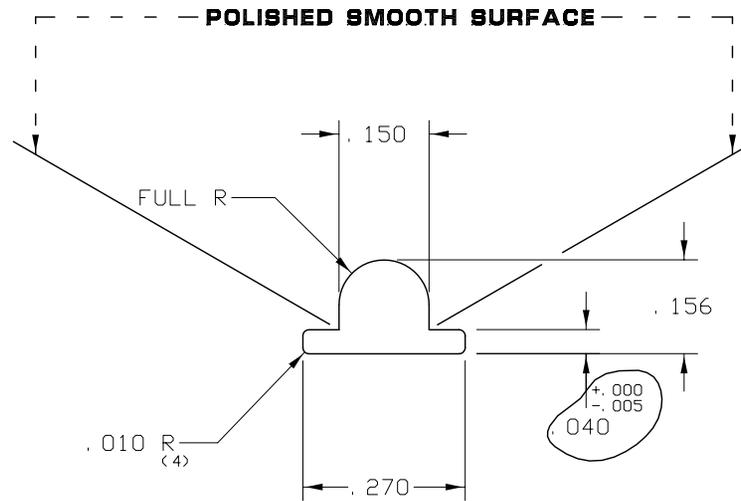
Report # A5501

Date 12/6/10

Simulator John A. Magel



ACTUAL SIZE



NOTES:

1. MATERIAL: POLYPROPYLENE
2. COLOR: BLACK
3. RYKO NO: R-11125

ATI	
Report #	A5501
Date	12/6/10
Simulator	<i>John A. Dwyer</i>

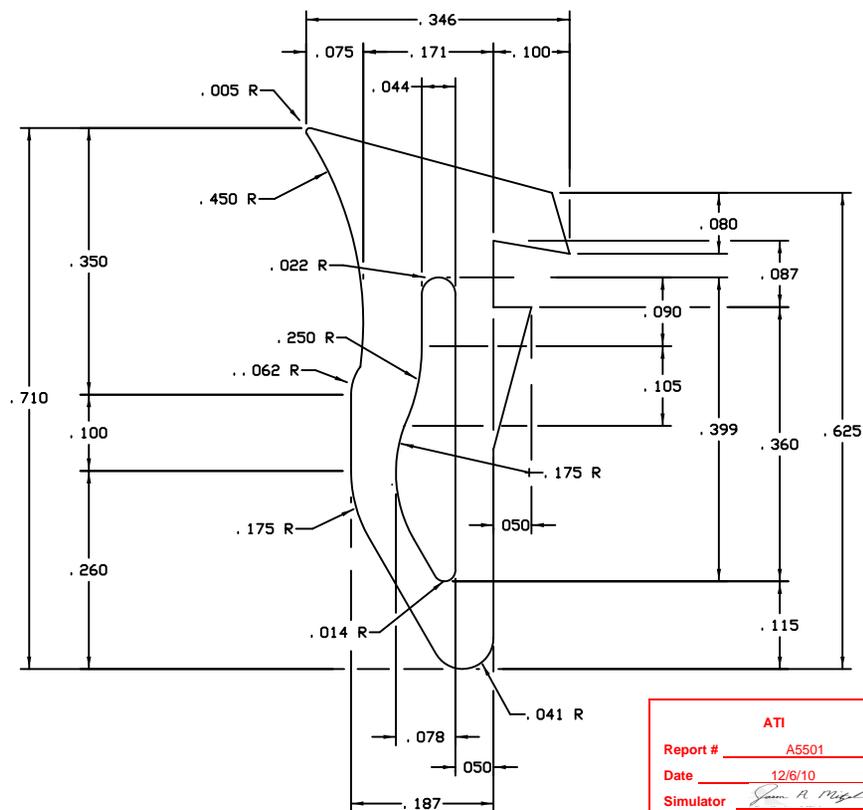
INTERNATIONAL WINDOW CORP.

PRESTON	VENT GUIDE STRIP	
02/15/06		
4 X SIZE	PART NO: VR125	8920-134

USA-1819 B



ACTUAL SIZE



NOTE:

1. FACE CLEARANCE = .188
2. DUREMETER = 70 ±5
3. MATERIAL: EPDM
4. TREMCO PS-1126E or EQUAL
- ⑤ 5. SILICONE BATH.

ATI

Report # A5501

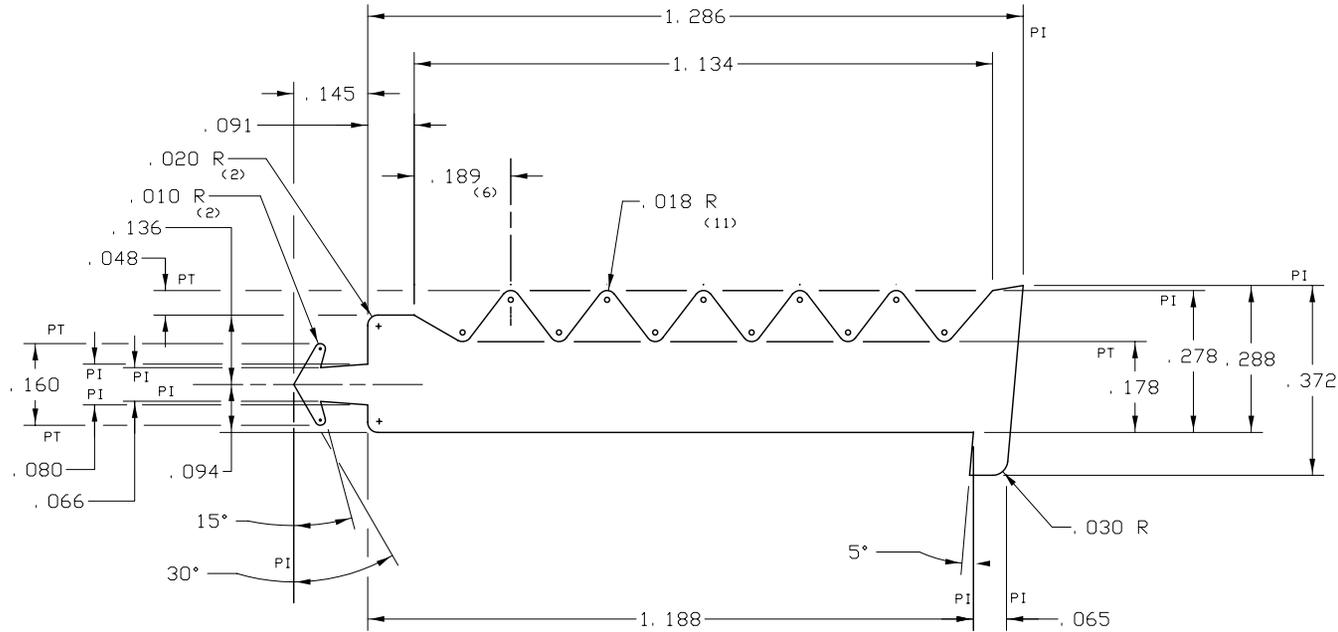
Date 12/6/10

Simulator John A. [Signature]

				International Aluminum Corporation	
				DIVISION U.S. ALUMINUM CORP.	
		PART NO. WH344		DRWN BY: GLH	DWG NO.
⑤	ADD SILICONE BATH NOTE	08/20/09	WCC	DATE: 7/20/99	WEDGE GASKET for 7200 WINDOWS & ES350
SYM.	REVISION	DATE	BY	SCALE: 8 X SIZE	



ACTUAL SIZE



NOTES:

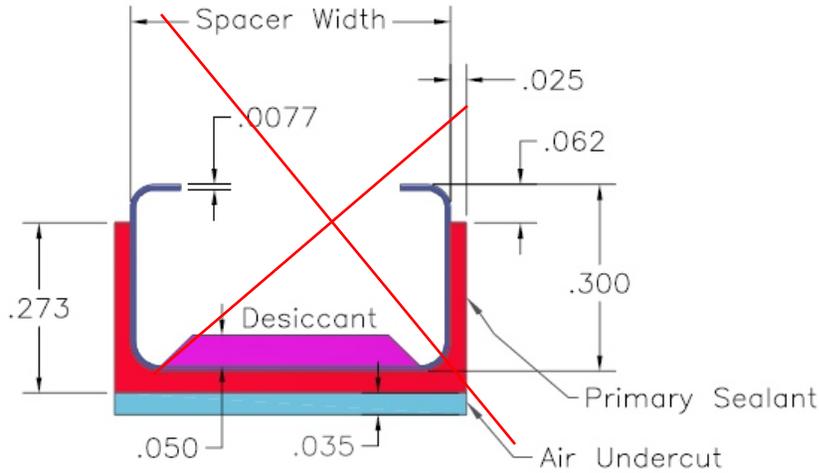
1. AREA: .308 IN²
2. MATERIAL: EPDM SPONGE
3. PART NO. NP881

ATI	
Report #	A5501
Date	12/6/10
Simulator	<i>John R. [Signature]</i>

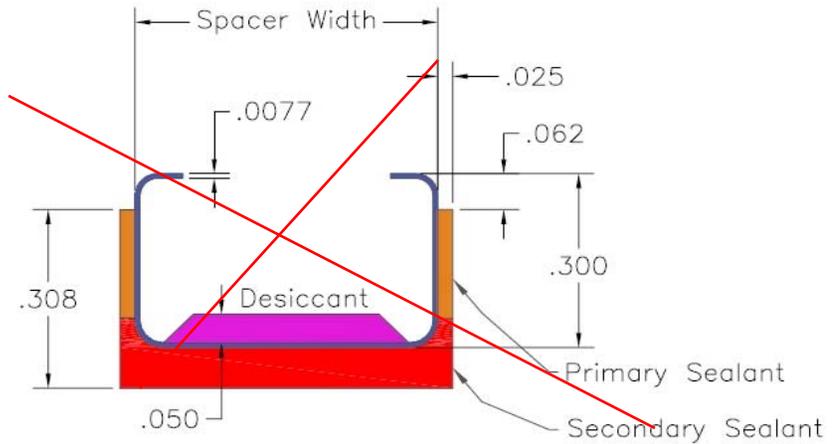
				UNITED STATES ALUMINUM CORP.	
				Willie C.	INTERIOR GLAZING
				02/05/10	GASKET (8000 SH WINDOW)
				4 X SIZE	PART# NP881
					8000SH-011

Intercept® Technologies —Correct Geometry

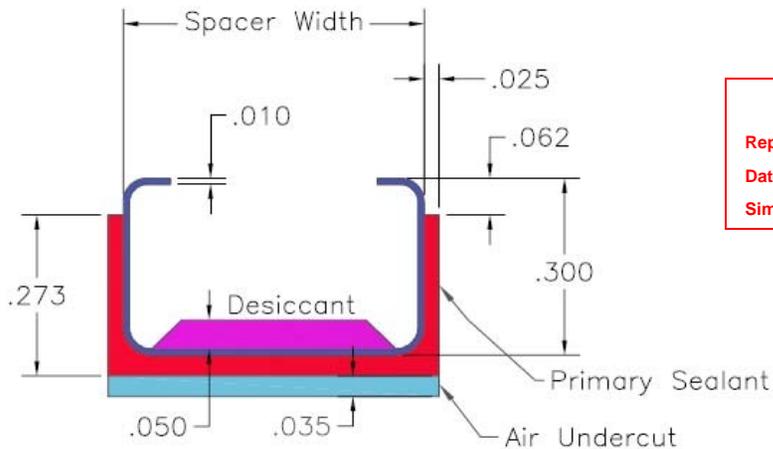
**Intercept® ULTRA Stainless Steel—Standard Profile
SINGLE SEAL**



**Intercept® ULTRA Stainless Steel—Standard Profile
DUAL SEAL**

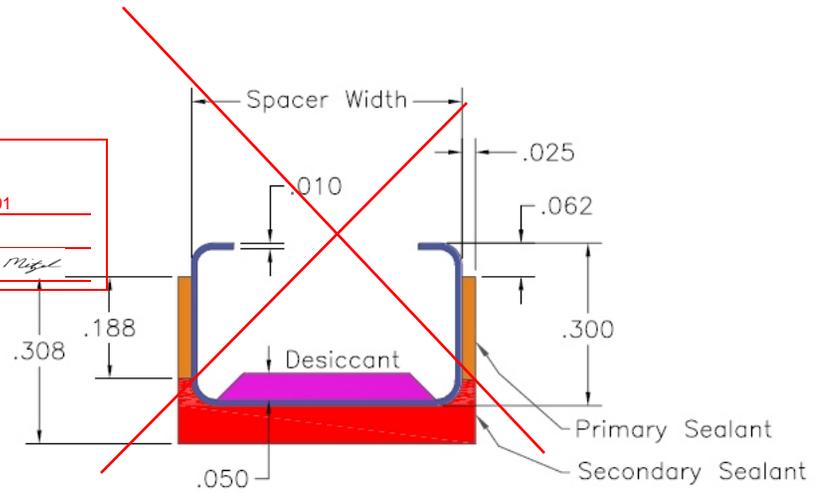


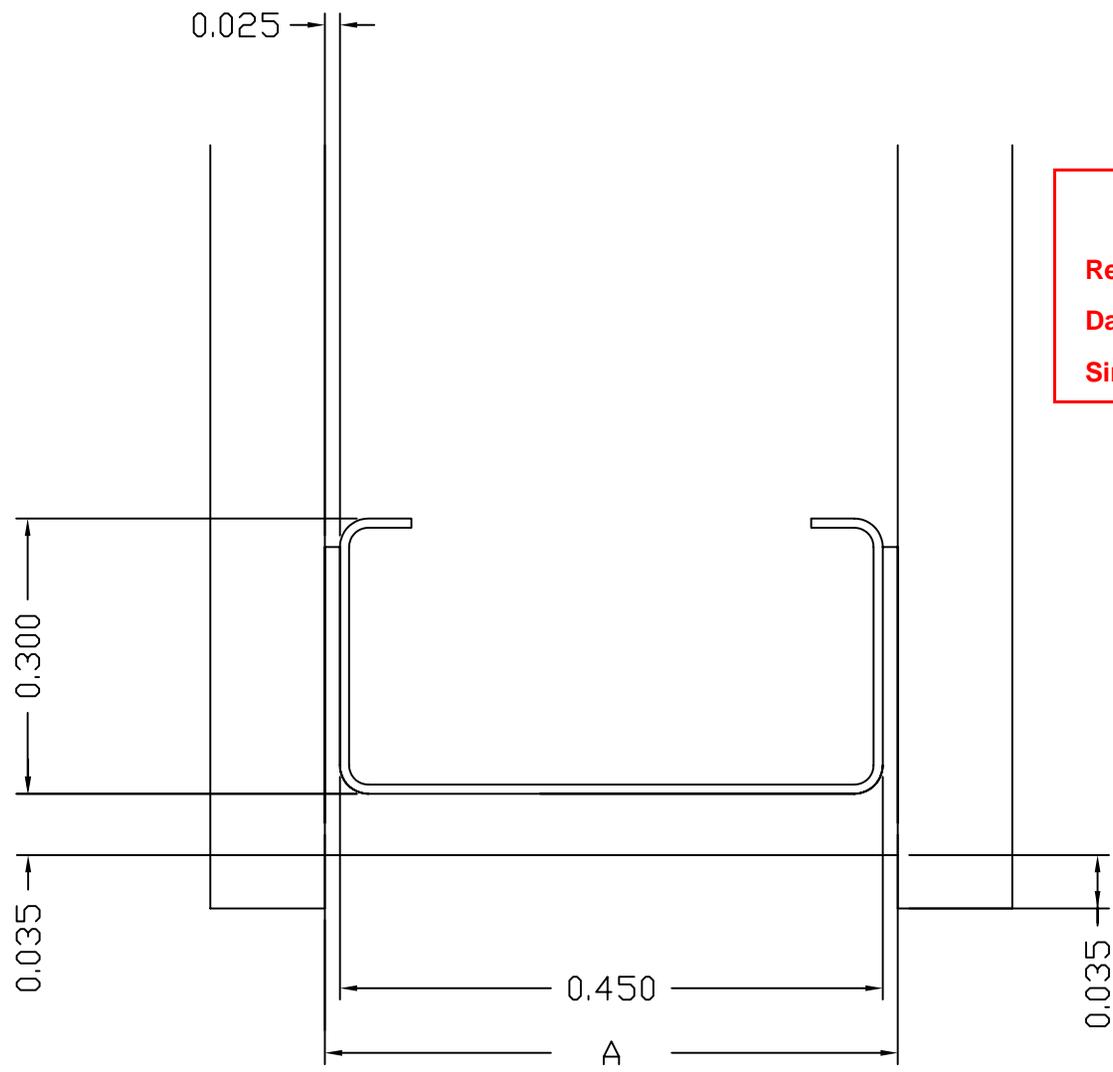
**Intercept® Blackline or Electrolytic Tin Plated Steel—Standard Profile
SINGLE SEAL**



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

ATI
 Report # A5501
 Date 12/6/10
 Simulator Joan R. Nigal



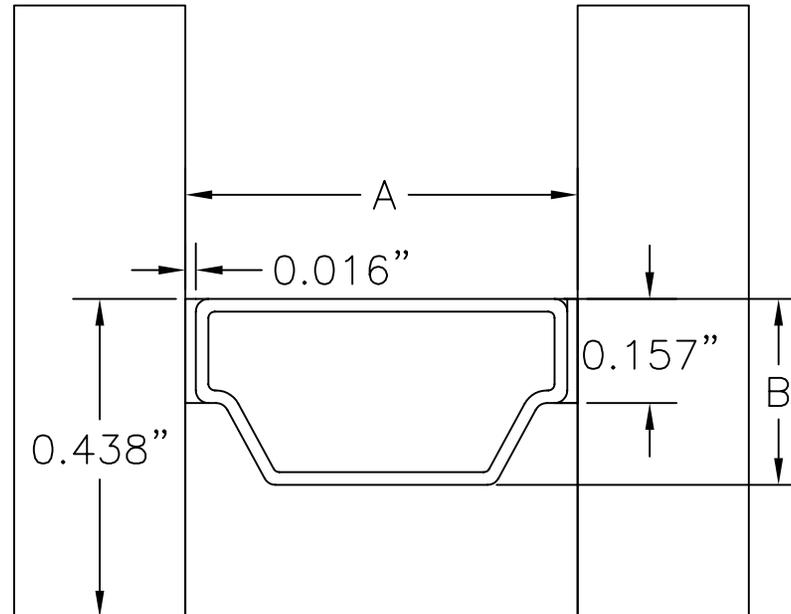


ATI	
Report #	<u> A5501 </u>
Date	<u> 12/6/10 </u>
Simulator	<u> Jason R. Miguel </u>

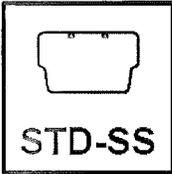
Offset: 0.035"
Primary Sealant: 0.035"
A: 0.500"

MATERIAL - .010 STEEL (Galv.)

Stainless Steel Spacer



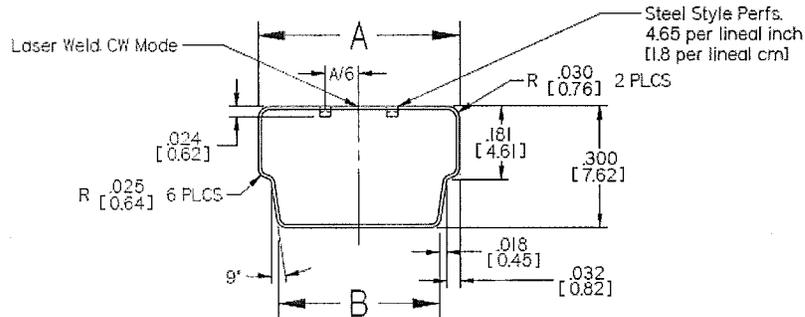
Offset: None
Primary Sealant: Polyisobutylene
Secondary Sealant: Silicone
Material: Stainless Steel
Width (A): 0.500
Height (B): 0.295
Wall Thickness: 0.016



Viracon-9-19-2007 (R1)

ALLMETAL®

Standard Stainless Steel Air Spacer



Dimensions are in decimal inches; dimensions in [] brackets are in mm.

Tolerance: All dimensions are $\pm .005$ [.13] unless otherwise specified.

Material: UNS S20100 "201" Stainless Steel, .0080 [.203] \pm .00025 [.0064] Wall Thickness, Annealed Temper, 1 CBA Finish.

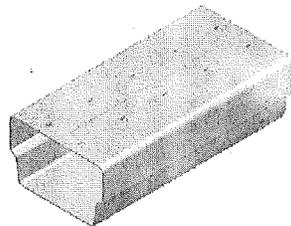
Thermal: Conductivity = 103 Btu-in/h-ft² - °F [14.855 W/m°C]

Expansion = 8.7×10^{-6} in/in/°F [15.7×10^{-6} cm/cm/°C]

Shearing type perforations, 4.65 holes/inch [1.8 holes/cm], hole dia. at minimum opening approximately .002 [.051].

Continuous laser weld, no exterior flash, no through burns; Spacer must be clean and free of dirt, oil, dings.

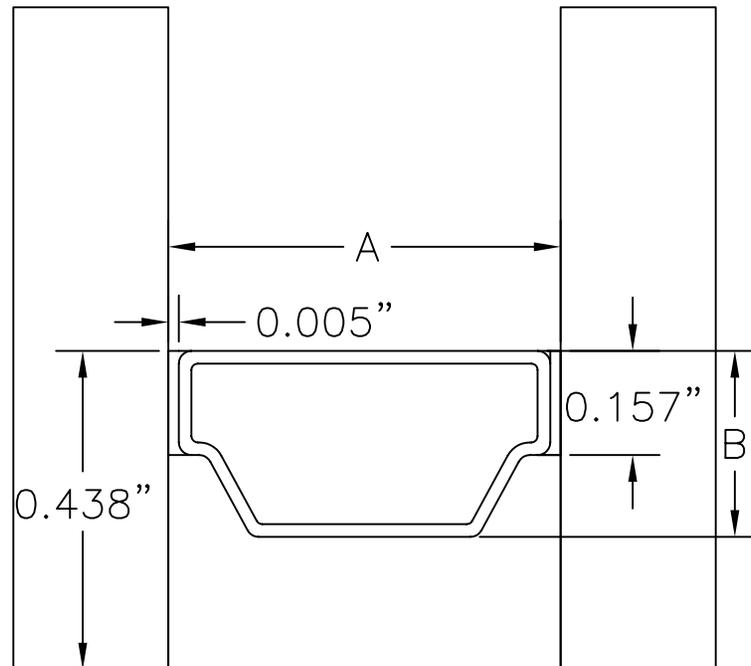
Air Spacer Width Fractional	Decimal Equivalent	
	A	B
3/16	.188	.088
7/32	.219	.119
1/4	.250	.150
17/64	.266	.166
9/32	.281	.181
19/64	.297	.197
5/16	.313	.213
11/32	.344	.244
23/64	.359	.259
3/8	.375	.275
13/32	.406	.306
7/16	.438	.338
15/32	.469	.369
1/2	.500	.400
17/32	.531	.431
9/16	.563	.463
19/32	.594	.494
5/8	.625	.525
21/32	.656	.556
11/16	.688	.588
23/32	.719	.619
3/4	.750	.650
25/32	.781	.681
13/16	.816	.716
27/32	.844	.744
7/8	.875	.775
1	1.000	.900



TOLERANCES EXCEPT AS NOTED	
DECIMAL INCHES	.XX XXX .XXX
	$\pm .01$.05 .002
DECIMAL MM	X .XX
	$\pm .25$ mm .13mm
ANGULAR	$\pm 1^\circ$

Air Spacer Width Millimeter	Decimal Equivalent	
	A	B
5.5	.217	.117
6.0	.236	.136
7.0	.276	.176
7.5	.295	.195
8.0	.315	.215
9.0	.354	.254
10.0	.394	.294
11.0	.433	.333
11.5	.453	.353
12.0	.472	.372
13.0	.512	.412
13.2	.520	.420
14.0	.551	.451
15.0	.591	.491
15.5	.610	.510
16.0	.630	.530
17.0	.669	.569
17.5	.689	.589
18.0	.709	.609
18.5	.728	.628
19.0	.748	.648
20.0	.787	.687
22.0	.866	.766

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

ALLMETAL

INC.
SINCE 1915

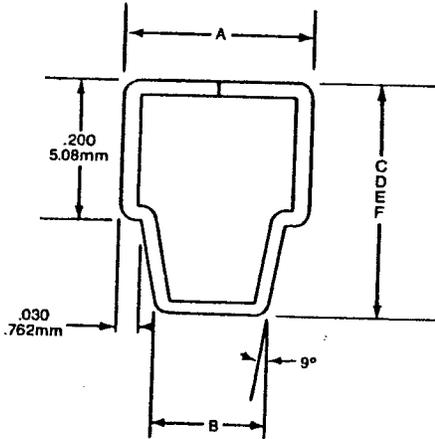
Standard Air Spacer

***LASER WELDED**

TOLERANCES:

- A, $\pm .005$.127mm
- B, $\pm .005$.127mm
- C, D, E, F $\pm .005$.127mm

DECIMAL
IN INCHES



- *3/16 & 5mm Not Welded at this Time
 - "C" — .0135" Clear Anodized Aluminum Height — .309 7.85mm
 - "D" — .0165" Clear Anodized Aluminum Height — .315 8mm
 - "E" — .0170" Mill Finish Aluminum Height — .316 8.03mm
 - "F" — .0150" Electro-Galvanized & Black Steel Height — .318 8.07mm
- Available with serrations at no extra charge on inside of Aluminum spacer at "A" dimension; not recommended for spacers to be bent.

FRACTIONAL DECIMAL IN INCHES

Size	A	B
3/16	.188	.088
7/32	.219	.119
1/4	.250	.150
17/64	.266	.166
9/32	.281	.181
19/64	.297	.197
5/16	.313	.213
11/32	.344	.244
23/64	.359	.259
3/8	.375	.275
13/32	.406	.306
7/16	.438	.338
15/32	.469	.369
1/2	.500	.400
17/32	.531	.431
9/16	.563	.463
19/32	.594	.494
5/8	.625	.525
21/32	.656	.556
11/16	.688	.588
23/32	.719	.619
3/4	.750	.650
13/16	.813	.713
7/8	.875	.775

MILLIMETERS DECIMAL IN INCHES

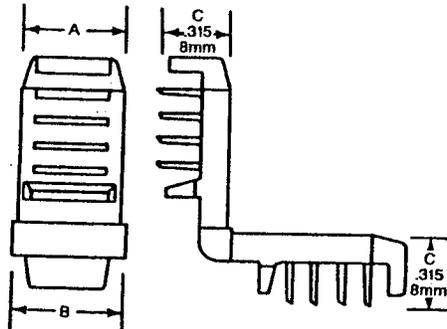
Size	A	B
5	.197	.097
6	.236	.136
7	.276	.176
7.5	.296	.196
8	.315	.215
9	.354	.254
10	.394	.294
11	.433	.333
11.5	.453	.353
12	.472	.372
13	.512	.412
13.2	.520	.420
14	.551	.451
15	.591	.491
15.5	.610	.510
16	.630	.530
17	.669	.569
18	.709	.609
18.5	.728	.628
19	.748	.648
20	.787	.687
22	.866	.766

Standard Fixed Nylock Corner Key with Fin

COMPOUND:

#6 Nylon

Also available upon request, at no additional cost, glass reinforced nylon for added strength.



DECIMAL IN INCHES

TOLERANCES:

- A, $\pm .005$.127mm
- B, $\pm .005$.127mm
- C, $\pm .005$.127mm

FRACTIONAL DECIMAL IN INCHES

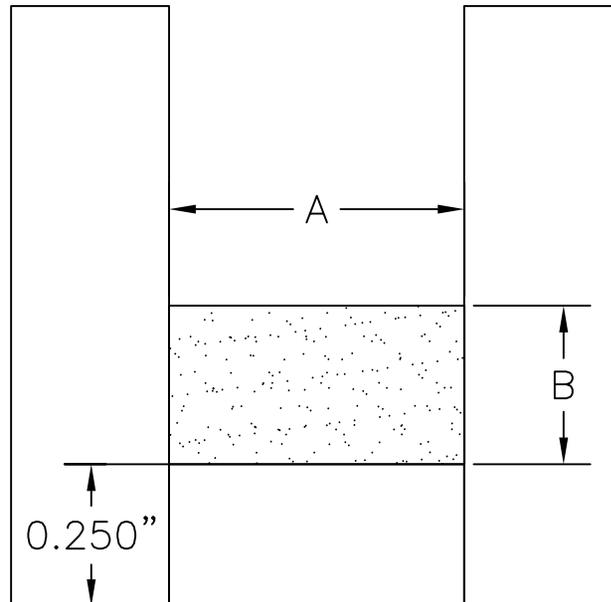
Size	A	B
3/16-.188	.148	.178
7/32-.219	.178	.208
1/4-.250	.210	.240
17/64-.266	.226	.256
9/32-.281	.241	.271
19/64-.297	.257	.287
5/16-.313	.273	.303
11/32-.344	.304	.334
23/64-.359	.314	.344
3/8-.375	.335	.365
13/32-.406	.366	.396
7/16-.438	.397	.427
15/32-.469	.438	.468
1/2-.500	.456	.490
17/32-.531	.487	.521
9/16-.563	.518	.552
19/32-.594	.550	.584
5/8-.625	.581	.615
21/32-.656	.612	.646
11/16-.688	.644	.678
23/32-.719	.674	.708
3/4-.750	.706	.740
13/16-.813	.769	.803
7/8-.875	.831	.865

MILLIMETERS DECIMAL IN INCHES

Size	A	B
5 -.197	.148	.178
6 -.236	.196	.226
7 -.276	.241	.271
7.5-.297	.257	.287
8 -.315	.273	.303
9 -.354	.314	.344
10 -.394	.354	.384
11 -.433	.397	.427
11.5-.453	.413	.443
12 -.472	.438	.468
13 -.512	.468	.502
14 -.551	.507	.541
15 -.591	.550	.584
15.5-.610	.566	.600
16 -.630	.581	.615
17 -.669	.625	.659
18 -.709	.664	.698
19 -.748	.706	.740
20 -.787	.737	.771
22 -.866	.831	.865



SUPER SPACER



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

Technical Specification

Super Spacer® Standard is a flexible, organic foam spacer product that provides excellent perimeter insulation for sealed glazing units. Desiccant-filled with pre-applied side adhesive, the structural foam spacer significantly simplifies insulating glass (IG) production.

Featuring a vapor barrier backing, the product must be used in combination with conventional IG sealants. For sealant compatibility, please reference IG sealants Technical Bulletin RD0018, which is available on our website at www.superspacer.com in the technical section.



Characteristics	Norm	Specification / Typical Value
Composition:	—	Foam EPDM (Ethylene Propylene Diene Monomer) base with desiccant pre-fill
Performance Characteristics: Thermal conductivity Colors Gas / Moisture vapor barrier Primary structural seal	ASTM C 518 — ASTM F 1249 ASTM D 3985	0.127 W/m ² K Light Grey, Charcoal, Black WVTR < 0.020 gm/m ² /day Oxygen < 0.009 cc/m ² /day Acrylic adhesive
Physical Characteristics: Density	ASTM D 1056	50 - 65 pcf
Dimensions:	—	Reference attached table
Desiccant fill, 3A molecular-sieve	—	40% by weight
Intermittent temperature range	—	-40°C to 85°C / -40°F to 185°F
Compatible secondary sealants	—	Reference IG sealants Technical Bulletin RD0018
Fogging	ASTM E 2190 EN 1279 - 6 CAN/CGSB 12.8	No fog in visual area - Pass No fog in visual area - Pass No fog in visual area - Pass
Gas Retention	EN 1279 - 3	Pass*
I.G. Durability	ASTM E 2190 EN 1279 - 2	Pass Pass*

*with hot-melt butyl or DSE/DSA

Product Features

Warm-Edge Benefits

Superior organic foam insulation; low thermal conductivity; substantially reduced perimeter condensation; typical overall 0.2 W/m²K (0.04 BTU/h-ft²-°F) U-value window improvement (vs. aluminum spacer).

Organic Foam Features

Very good UV resistance; good high/low temperature performance; good dew-point drop; good compression-set resistance; enhanced sound dampening.

Edge-Seal Durability

Continuous vapor barrier at corners; no chemical fogging; high desiccant capacity.

Reverse Dual-Seal Design

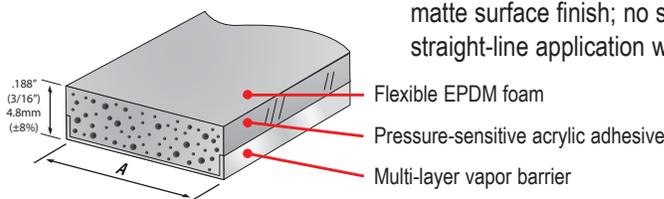
Outer hot-melt butyl sealant for enhanced gas retention; inner structural acrylic side adhesive; immediate unit handling; no cold flow or spacer/seal migration problems.

Improved Productivity

Fast tape application; elimination of desiccant filling; no corner key assembly; simplified production of shaped units; limited equipment investment; high-volume production with reduced labor force.

Pleasing Aesthetic Appearance

Standard charcoal grey color; good color stability; smooth matte surface finish; no surface blistering or bubbling; straight-line application with sharp 90° corners.



Metric size (A) Width mm (± 4%)	Imperial size (A) Width inches (± 4%)	Meter/Reel	Feet/Reel	Meter/ Auto Reel	Feet/ Auto Reel
4.8 mm	0.188"	610	2000	N/A	N/A
6.0 mm	0.236"	460	1500	1380	4528
6.4 mm	0.250"	457	1500	1372	4500
7.9 mm	0.313"	335	1100	1006	3300
8.0 mm	0.315"	335	1099	1005	3297
9.5 mm	0.375"	305	1000	914	3000
10.0 mm	0.394"	305	1000	915	3002
11.1 mm	0.438"	274	900	823	2700
11.9 mm	0.468"	244	800	731	2400
12.0 mm	0.472"	245	803	735	2411
12.7 mm	0.500"	244	800	731	2400
14.0 mm	0.551"	215	705	645	2116
14.3 mm	0.563"	213	700	640	2100
15.9 mm	0.625"	206	675	617	2025
16.0 mm	0.630"	205	673	615	2018
17.5 mm	0.688"	183	600	549	1800
18.0 mm	0.709"	185	607	555	1821
19.1 mm	0.750"	175	575	526	1725
20 mm	0.787"	155	509	457	1500

Note: all metric dimensions and tolerances are for reference only

Continuous Packaged Length

For regular insulating-glass production, Super Spacer Standard is supplied on reels with the continuous packaged length varying depending on the spacer width.

Protective Packaging

To provide desiccant protection, the reels are sealed in moisture-proof foil bags. The reels are then shipped in recyclable cardboard boxes.