WESTLab
An NFRC Accredited Simulation Laboratory

NFRC 100/200/500-2010 Simulation Test Report

Manufacturer: **Sunview Doors Limited**

Contact: **Tony Margiotta, CA**

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RECERTIFICATION REPORT

WESTLab Report No.: **SDL14003-JM**

WESTLab Report Date: **1/31/2014**

Revision/Addendum Date: **1/31/2014**

NFRC Product Line ID: **SDL-K-6**

Report Type: **Recertification**

Model/Series: **Buckingham Eco Patio Door**

Operator Type: Sliding Glass Door-Sliding Glass Door (XX or OX)

Frame Type: Vinyl (VY)

Sash Type: Vinyl w/ Vertical Members Reinforced (VV)

Baseline Product for U-Factor Validation Testing:

Description: This product line validates using the test for the Buckingham Patio Door. See WESTLab report #SDL14002 for validation product details.

Simulated U-factor:

Test Size (mm): **x**

Physical Test Tolerance: *to*

NFRC Standard Size: _____
Note: if the test product is not an NFRC standard size, see the Window mdb file for U-factor calculation.

Notes: *Manufacturer must have the product described above tested by an accredited physical testing laboratory. Physical test window U-factor results must be within the tolerance range listed above. The baseline product simulated U-factor is within 20% or 0.10 of the lowest simulated U-factor listed in the matrix (as allowed by NFRC 100-2010) unless otherwise noted in the "Other Notes and Comments" section.*

Signature of Simulator In-Responsible-Charge: Jeff Baker

Jeff Baker, P.Eng., Certified Simulator

Disclaimers/Notes:

The window U-factor, SHGC, VT & CR values presented in this report were determined using the Therm and Window computer programs in full compliance with NFRC 100-2010, 200-2010 and 500-2010, and from information supplied by the manufacturer. This report does not constitute certification of this product and only relates to the fenestration products simulated. Authorized use of any U-factor, SHGC Visible Transmittance and Condensation Resistance ratings may only be granted by the Certification Program Administrator.
WESTLab does not imply or claim that the product simulated in this report will perform as stated in actual use conditions. This report is the property of WESTLab and the client, and must not be reproduced, except in full, without written approval from WESTLab and the client.
Ratings values included in this report are for submittal to an NFRC-licensed IA 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. Rounding of values in this report is per NFRC 601 NFRC unit and measurement policy.

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NFRC Product Line Summary (2010 Std)

Simulation Report # SDL14003-JM

Manufacturer Name: Sunview Doors Limited
Series/Model: Buckingham Eco Patio Door
Operator Type: Sliding Glass Door-Sliding Glass Door (XX or OX)
Frame/Sash Type: Vinyl (VY) / Vinyl w/ Vertical Members Reinforced (VV)

Product Line ID: SDL-K-6
Model Size: 2000mm x 2000mm
Frame Abs.: 0.3

Simulation Orig Report Date: 1/31/2014
Simulation Revision Date: 1/31/2014
Report Type: Recertification
Simulation Lab Code: SWWC

Note: If options in this matrix are grouped (i.e. there are group ID numbers), the option numbers will not match the NFRC database option numbers

												No Dividers		Dividers < 1"		Dividers ≥ 1"	
Opt#	#Grp'd	Description/Code	Glass Thicknesses	Gap Width(s)	Gas	Emissivity(sfc)	Spacer/Seal	Divider	U-Factor	CR	Tint	SHGC	VT	SHGC	VT	SHGC	VT
010	2	LE366-CL	0.118, 0.118	0.750	ARG	0.022(2)	OF-S	N,G	**0.29**	**60**	CL	**0.21**	0.50	**0.19**	0.44		
011	2	LE366-CL	0.158, 0.158	0.688	ARG	0.022(2)	OF-S	N,G	**0.29**	**59**	CL	**0.21**	0.50	**0.19**	0.43		
012	2	LE272-CL	0.118, 0.118	0.750	ARG	0.042(2)	OF-S	N,G	**0.30**	**59**	CL	**0.32**	0.55	**0.28**	0.48		
013	2	LE272-CL	0.158, 0.158	0.688	ARG	0.042(2)	OF-S	N,G	**0.29**	**59**	CL	**0.32**	0.55	**0.28**	0.48		
014	2	CL-LE180	0.118, 0.118	0.750	ARG	0.068(3)	OF-S	N,G	**0.30**	**59**	CL	**0.53**	0.61	**0.47**	0.53		
015	2	CL-LE180	0.158, 0.158	0.688	ARG	0.068(3)	OF-S	N,G	**0.30**	**58**	CL	**0.52**	0.61	**0.46**	0.53		
016	2	GRD63/31-CL	0.118, 0.118	0.750	ARG	0.026(2)	OF-S	N,G	**0.29**	**60**	CL	**0.24**	0.49	**0.22**	0.43		
017	2	GRD63/31-CL	0.158, 0.158	0.688	ARG	0.026(2)	OF-S	N,G	**0.29**	**59**	CL	**0.24**	0.48	**0.21**	0.42		
018	2	GRD80/70-CL	0.118, 0.118	0.750	ARG	0.095(2)	OF-S	N,G	**0.31**	**58**	CL	**0.51**	0.62	**0.45**	0.55		
019	2	GRD80/70-CL	0.158, 0.158	0.688	ARG	0.095(2)	OF-S	N,G	**0.31**	**58**	CL	**0.50**	0.62	**0.44**	0.54		
020	1	LE366-i89	0.118, 0.118	0.750	ARG	0.022(2) 0.149(4)	OF-S	N	**0.25**	**49**	CL	**0.21**	0.49				
021	1	LE366-i89	0.158, 0.158	0.688	ARG	0.022(2) 0.149(4)	OF-S	N	**0.25**	**48**	CL	**0.21**	0.48				
022	1	LE272-i89	0.118, 0.118	0.750	ARG	0.042(2) 0.149(4)	OF-S	N	**0.25**	**48**	CL	**0.32**	0.54				
023	1	LE272-i89	0.158, 0.158	0.688	ARG	0.042(2) 0.149(4)	OF-S	N	**0.25**	**48**	CL	**0.31**	0.54				
024	1	LE180-i89	0.118, 0.118	0.750	ARG	0.068(2) 0.149(4)	OF-S	N	**0.26**	**47**	CL	**0.49**	0.60				
025	1	LE180-i89	0.158, 0.158	0.688	ARG	0.068(2) 0.149(4)	OF-S	N	**0.26**	**47**	CL	**0.47**	0.59				
026	1	LE366-CL-LE366	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.022(2) 0.022(5)	OF-S	N	**0.22**	**65**	CL	**0.19**	0.36				
027	1	LE366-CL-CL	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.022(2)	OF-S	N	**0.26**	**62**	CL	**0.20**	0.46				
028	1	LE272-CL-LE272	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.042(2) 0.042(5)	OF-S	N	**0.23**	**65**	CL	**0.27**	0.44				
029	1	LE272-CL-CL	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.042(2)	OF-S	N	**0.27**	**62**	CL	**0.30**	0.51				
030	1	LE180-CL-LE180	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.068(2) 0.068(5)	OF-S	N	**0.23**	**65**	CL	**0.43**	0.54				
031	1	CL-CL-LE180	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.068(5)	OF-S	N	**0.27**	**61**	CL	**0.48**	0.56				
032	1	GRD63/31-CL-GRD63/31	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.026(2) 0.026(5)	OF-S	N	**0.22**	**65**	CL	**0.21**	0.34				
033	1	GRD63/31-CL-CL	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.026(2)	OF-S	N	**0.26**	**62**	CL	**0.23**	0.45				

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. (NFRC 500, Sec. 4.4)

WESTLab

Initials: HB

NFRC Product Line Summary (2010 Std)

Simulation Report # SDL14003-JM

Manufacturer Name: Sunview Doors Limited
Series/Model: Buckingham Eco Patio Door
Operator Type: Sliding Glass Door-Sliding Glass Door (XX or OX)
Frame/Sash Type: Vinyl (VY) / Vinyl w/ Vertical Members Reinforced (VV)

Product Line ID: SDL-K-6
Model Size: 2000mm x 2000mm
Frame Abs.: 0.3

Simulation Orig Report Date: 1/31/2014
Simulation Revision Date: 1/31/2014
Report Type: Recertification
Simulation Lab Code: SWWC

Note: If options in this matrix are grouped (i.e. there are group ID numbers), the option numbers will not match the NFRC database option numbers

												No Dividers		Dividers < 1"		Dividers ≥ 1"	
Opt#	#Grp'd	Description/Code	Glass Thicknesses	Gap Width(s)	Gas	Emissivity(sfc)	Spacer/Seal	Divider	U-Factor	CR	Tint	SHGC	VT	SHGC	VT	SHGC	VT
034	1	GRD80/70-CL-GRD80/70	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.095(2) 0.095(5)	OF-S	N	**0.24**	**65**	CL	**0.45**	0.56				
035	1	CL-CL-GRD80/70	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.095(5)	OF-S	N	**0.27**	**61**	CL	**0.49**	0.57				
036	1	LE366-LE366-i89	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.022(2) 0.022(4) 0.149(6)	OF-S	N	**0.20**	**55**	CL	**0.16**	0.35				
037	1	LE272-LE272-i89	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.042(2) 0.042(4) 0.149(6)	OF-S	N	**0.21**	**55**	CL	**0.25**	0.43				
038	1	LE180-CL-i89	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.068(2) 0.149(6)	OF-S	N	**0.24**	**49**	CL	**0.44**	0.55				
039	1	LE180-LE180-i89	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.068(2) 0.068(4) 0.149(6)	OF-S	N	**0.21**	**54**	CL	**0.41**	0.53				
040	1	LE270-CL ODL BLIND	0.118, 0.118, 0.118	0.813, 0.313	ARG	0.037(2) 0.149(6)	CU-D	N	**0.36**	**56**	BG	**0.27**	0.49				
041	1	LE366-LE366-CL	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.022(2) 0.022(4)	OF-S	N	**0.22**	**65**	CL	**0.17**	0.36				
042	1	CL-LE180-LE180	0.118, 0.118, 0.118	0.313, 0.313	ARG	0.068(3) 0.068(5)	OF-S	N	**0.23**	**65**	CL	**0.45**	0.54				
043	2	LE366-CL	0.118, 0.118	0.778	ARG	0.022(2)	SS-D	N,G	**0.30**	**57**	CL	**0.21**	0.50	**0.19**	0.44		
044	2	LE270-CL	0.118, 0.118	0.778	ARG	0.037(2)	SS-D	N,G	**0.30**	**57**	CL	**0.29**	0.54	**0.25**	0.47		

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. (NFRC 500, Sec. 4.4)

WESTLab

Initials: HB

Report # SDL14003-JM
Date: 1/31/2014
Rev: 1/31/2014

Summary - Frame, IG Unit & Dividers:

Manufacturer: Sunview Doors Limited
Model/Series: Buckingham Eco Patio Door
Operator Type: Sliding Glass Door-Sliding Glass Door (XX or OX)
Frame Type: Vinyl (VY)
Sash Type: Vinyl w/ Vertical Members Reinforced (VV)

Frame Description & Comments:

Unique Cross Sections: 7
TB Type: None
TB Material:
Frame Core Material: Vinyl Extrusion
Sash Core Material: Vinyl Extrusion
Sash Type: Full Sash
Reinforcement: Steel - All Vertical Sash Members & MR
Hardware: Non-continuous. Not modeled.
Frame Clad Type: Extruded Vinyl
Sash Clad Type: Extruded Vinyl
Frame Finish: Vinyl Exterior/Interior
Sash Finish: Vinyl Exterior/Interior
Glazing Seal(s): Flexible Vinyl (ext & Int)
Weatherstrip Types: Pile Seal, Vinyl Flex, Vinyl Bulb
Weatherstrip Locations: All Sections (PS, VF), Jambs (VB)

Frame Comments: Sill Frame comprises up of vinyl and aluminum anodized components. Composite Stiffener located in the Head and Jamb sections - Vision Ecoproducts - Eco Cellulosic Composte (NFRC 101 - Appendix C). Reinforcement is Galvanized Steel and is located in both Upper and Lower Meeting Rail and both Jambs.

Glazing Description & Comments:

IG OA(s): 0.98"-1.003" OA
Glass Thicknesses: 3.0mm and 4.0mm
Low E Products/Sfcs: LE360 (e=0.022), LE272 (e=0.042), LE180 (e=0.068), i89 (e=0.149), Guardian 63/31 (e=0.026), Guardian 80/70 (e=0.095), LE270 (e=0.037)
Gas Fill and Ratio: Argon 90%
Fill Method: Evacuated Chamber
IG Comments: For DG options, LE products on sfc#2 except LE180 on sfc #3. I89 is on surface #4. For TG options, LE products are used on sfc#2 & #5, LE on sfc #2 except LE180 and GRD80/70 on sfc #5 and LE366 on sfc #2&#4 and LE180 on sfc #3&#5. I89 on surface #6.
Argon only except for Blind option. Blind option - Intercept spacer offered.
Spacer Types: Standard SuperSpacer (OF-S), Cardinal XL Steel Spacer (SS-D), Intercept Spacer (CU-D)
Spacer Backings: Butyl (OF-S); Silicone and PIB (SS-D); Butyl (CU-D)

Divider Description & Comments:

	Divider 1:	*Divider 2:*	*Divider 3:*	*Divider 4:*
Type:	Internal (painted)	Internal (painted)		
Internal Bar Shape/Matl:	Contoured/Painted	Flat Bar/Painted		
Dimension (W x D):	0.217" x 0.709"	0.187" x 0.625"		
Modeled:	No	No		

Divider Patterns: **Res (H x V):** **x** **(Per Lite)** **NFRC Std. Pattern** N/A

Comments: **Divider 1 & 2:** The rectangular bar is grouped under the contoured bar.
Dividers were modeled as per the 3mm gap rule therefore no dividers were modeled.
Triples not offered with dividers.

Report # SDL14003-JM
Date: 1/31/2014
Rev: 1/31/2014

Summary - Simulation & Other Notes:

Manufacturer:	**Sunview Doors Limited**
Model/Series:	**Buckingham Eco Patio Door**
Operator Type:	**Sliding Glass Door-Sliding Glass Door (XX or OX)**
Frame Type:	**Vinyl (VY)**
Sash Type:	**Vinyl w/ Vertical Members Reinforced (VV)**

Simulation Notes & Comments:

Sim Program Used: Therm 6.3 **Window Program Vers:** 6.3 **Spectral Data Version:** 32.0

Project File Path: C:\- WESTLab\Dropbox\W6\Sunview Patio Doors Ltd\SDL-K-6 SDL14003-JM Buckingham Eco

Therm File Convention: Example: HF_01.THM (Head Fixed), JV_01.THM (Jamb Vent),

Divider File Convention: Divders not Modeled (>3mm gap)

Spacer Origin: Modeled from Drawings provided

Project Simulator:

M. Koszela

Margaret Koszela, Certified Simulator

Sim Comments: Assumed nailing fins removed for validation testing.

Grouping/Simplification Notes & Comments:

U-Factor Groupings/Interpretations:

Type 1:	Nominal Glass Thickness	**Ref/TI:** NFRC 100, 4.2.5.D.
Type 2:	Divider Grouping (Contoured/Rectangular)	**Ref/TI:** NFRC 100, 4.2.4.1
Type 3:	Validation Matrix (Victorian and Buckingham and Buckingam Eco Patio	**Ref/TI:** NFRC 100, 4.2.3.1
Type 4:	Validation Matrix (Victorian and Buckingham and Buckingam Eco Patio	**Ref/TI:** NFRC 100, 4.2.1.e
Type 5:		**Ref/TI:**

Validation Test Matrix: Yes - Same Product Type

Other Comments: For validation test purposes the 6' Victorian Patio Door (WESTLab Report #SDL14001) is grouped together with the Buckingham Patio Door (WESTLab Report #SDL14002) and the Buckingham Eco Patio Door (WESTLab Report #SDL14003). The Buckingham Patio Door (WESTLab Report #SDL14002) is the group leader.

SHGC Simplifications:

Frame Absorptivity:	0.3		**Reference: NFRC 200, Sec. 4.7**
Generic Frame Option #('s):	27/(36), 31/(40)	**(for SHGC 0 & 1 Table)**	**Reference: NFRC 200, Sec. 4.2.3 A.**
Divider Simplification:	Yes		**Reference: NFRC 200, Sec. 4.2.3 B.**
Generic Glass Thickness:	Yes		**Reference: NFRC 200, Table 4-1**

Comments: SHGC & VT values were calculated from the SHGC 0 & 1, and VT 0 & 1 Generic Frame options listed above.

Report # SDL14003-JM
Date: 1/31/2014
Rev: 1/31/2014

Specialty Products Values Summary

Manufacturer: Sunview Doors Limited
Model/Series: Buckingham Eco Patio Door
Operator Type: Sliding Glass Door-Sliding Glass Door (XX or OX)
Frame Type: Vinyl (VY)
Sash Type: Vinyl w/ Vertical Members Reinforced (VV)

Note: *Changes in sight-line require additional, unique specialty products information.*

Specialty Products Frame Type 1 - Window5#/(Matrix#): 27/(36)

Frame Description: Standard Vinyl Frame

No Dividers		Dividers ≤ 1"		Dividers > 1"	
$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$
0.003496	0.773925	0.006652	0.680020	0.009596	0.592434
VT_0	VT_1	VT_0	VT_1	VT_0	VT_1
0.000000	0.770429	0.000000	0.673368	0.000000	0.582839

Specialty Products Frame Type 2 - Window5#/(Matrix#): 31/(40)

Frame Description: ODL Blind Option

No Dividers		Dividers ≤ 1"		Dividers > 1"	
$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$
0.007298	0.706738	0.010316	0.617429	0.013119	0.534439
VT_0	VT_1	VT_0	VT_1	VT_0	VT_1
0.000000	0.699440	0.000000	0.607114	0.000000	0.521320

Specialty Products Frame Type 3 - Window5#/(Matrix#):

Frame Description: N/A

No Dividers		Dividers ≤ 1"		Dividers > 1"	
$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$
VT_0	VT_1	VT_0	VT_1	VT_0	VT_1

Specialty Products Frame Type 4 - Window5#/(Matrix#):

Frame Description: N/A

No Dividers		Dividers ≤ 1"		Dividers > 1"	
$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$	$SHGC_0$	$SHGC_1$
VT_0	VT_1	VT_0	VT_1	VT_0	VT_1

Calculation Formulas: $SHGC = SHGC_0 + (SHGC_c \times (SHGC_1 - SHGC_0))$
$VT = VT_c \times (VT_1 - VT_0)$

Note: *$SHGC_c$ /VT_c (center) values must be obtained through the simulator and approved by the IA. All SHGC/VT values must have a corresponding approved NFRC U-factor.*

Initials: JB

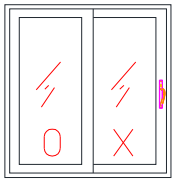
WESTLab Report #SDL14003

11/07/2012

Buckingham

TYPE	2 PANEL

Rev 3: July 10, 2012



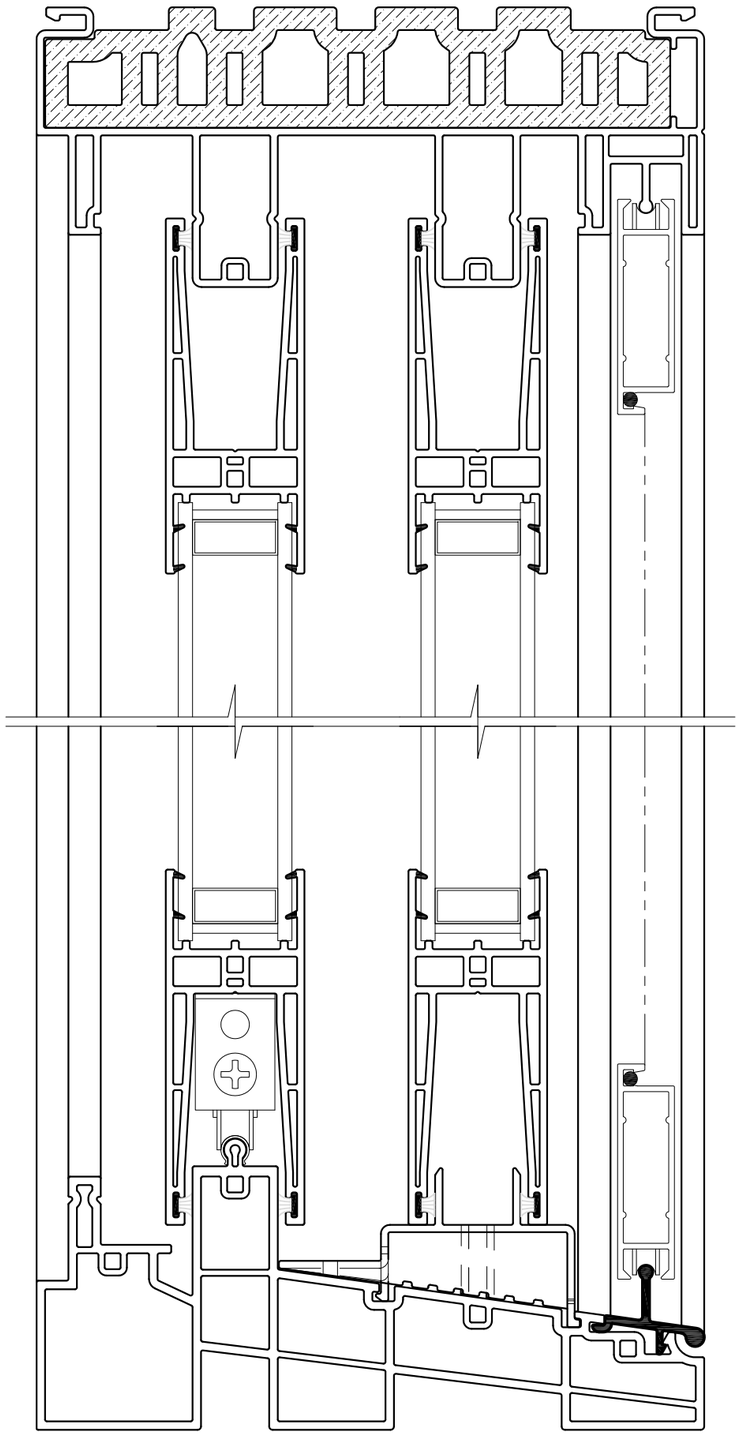
	Width(in)		Height(in)	Qty
DOOR SIZE	71.5	X	79.5	1

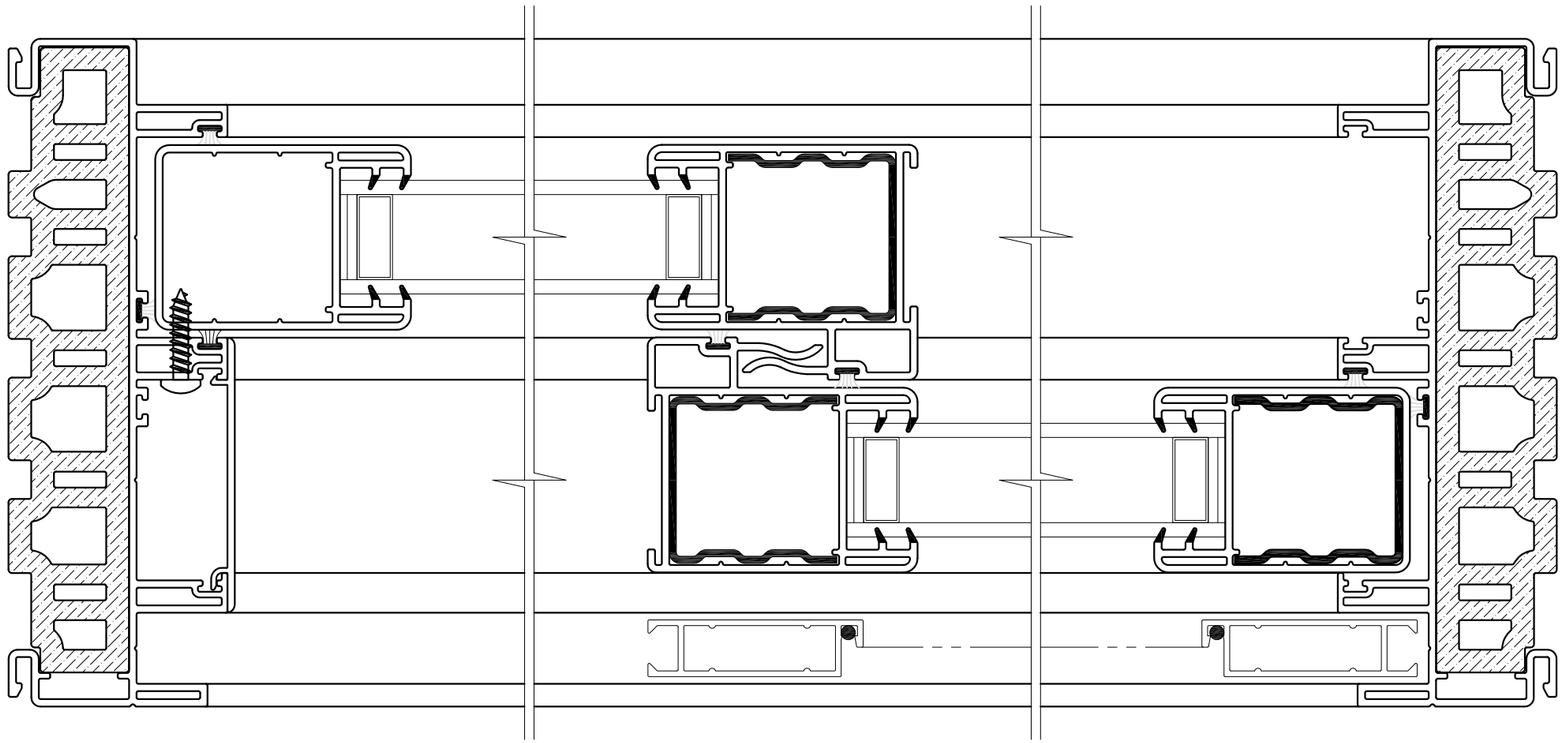
Assembly	Description	Part #	Cut Size	Qty	Manufacture
Frame & Sash	Header	1196	69 1/4	1	Vision Extrusions
	Jambs	1195	79 1/2	2	Vision Extrusions
	Sill	2691	69 1/4	1	Vision Extrusions
	Sash T/B	1194	35 3/16	4	Vision Extrusions
	Sash Lock	1192	75 13/16	2	Vision Extrusions
	Sash Interlock	1193	75 13/16	2	Vision Extrusions
	3-Panel Mullion	1234	0	0	Vision Extrusions
	4-Panel Operatable Mullion	1232	0	0	Vision Extrusions
Reinf.	Header Rice Hull Reinf.	3643	69 1/4	1	Vision Eco
	Jamb Rice Hull Reinf.	3643	79 1/2	2	Vision Eco
	Sash Reinf.(16GA Stff Orion)		72 1/4	4	CARGOWALL LIMITED
	3-Mullion Reinf.	EH-9440	0	0	CAN ART
Sill Component	Screen Track	ES-16134	69 1/4	1	CAN ART
	Door Track	26G	69 1/4	1	CARGOWALL LIMITED
	Fixed Panel Support	1198	33 1/4	1	Vision Extrusions
	Fixed Panel Support Addapter	SUNFPS	X	1	SIL PLASTIC
	Dust Plug-Sill (1)	DPRP2375-63-GYST 0875	(2 3/8"x7/8")	1	NAP
	Dust Plug-Sill (2)	DPRP125063-GYST 0560	(2 3/8"1/2")	1	NAP
Frame Component	Jamb Pocket Cover(Fix)	2837	76 5/8	0	Vision Extrusions
	Anti Lift Block	SUNHP	X	1	SIL PLASTIC
	Dust Plug	DPRP125063-GYST	(2 7/8"x1 1/4")	1	NAP
	Jamb Gasket-Top	107G01	X	2	NAP
	Jamb Gasket-Bottom	107G02	X	2	Ultrafab
	Bulb Seal-Jamb	AP 387	79 1/2	4	ANPLEX
	Weatherstripping	21018745WHGF	79 1/2	8	AMESBURY
	Roller Assembly	#1197stl-1032	X	2	FASCO/NAP
	Sill Bumper Blind	A541	3 1/2"	1	Alku Plastic
	Header Bumper Blind	A542	3 1/2"	1	Alku Plastic
Accessories	Handle Assembly	9700 Elite	X	1	Fasco
	Door Lock	9357FG14	X	1	Fasco
Screw	Square Socket /phil Head Wood Screw	1108665	(8-10x2 1/2")	16	Accurate Fasteners
	Quadrex Flat HD Zink Plated	1067419	(8-15x1")	7	Accurate Fasteners
	Quadrex PAN HD Zink Plated	1115960	(8-15x1/2")	2	Accurate Fasteners
	Tapping Screw Flat Head #2 Quadrex Drive Type A	1117709	(8-15x1/2")	1	Accurate Fasteners
Silicon	Silicon Clear	335AC	X	X	Fasco/CSL Silicones
	Silicon White	335AC	X	X	Fasco/CSL Silicones
Screen	Screen	0210-6-WH	(35 3/8x76 3/8)	1	TKG

	Width(in)		Hight(in)	Qnt'y	
Glass Size	32	X	70 3/4	2	

WESTLab Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	PRELIMINARY	





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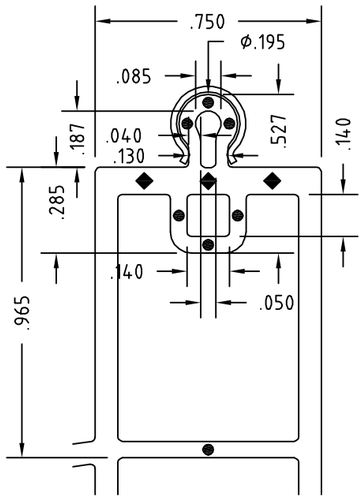
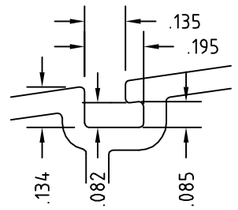
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	SUNVIEW PATIO DOORS				
	PART: BUCKINGHAM PATIO DOOR (COMPOSITE INSERTS) – CROSS SECTIONS				
SIZE: "B"	COLOUR: VARIOUS	MATERIAL: VARIOUS	AREA: N/A	TOOL NO.: N/A	DATE: 01–04–2012
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 3 : 4	VOLUME: N/A	PART NO.: N/A	DWG NO.: X107H01

WESTLab Report #SDL14003

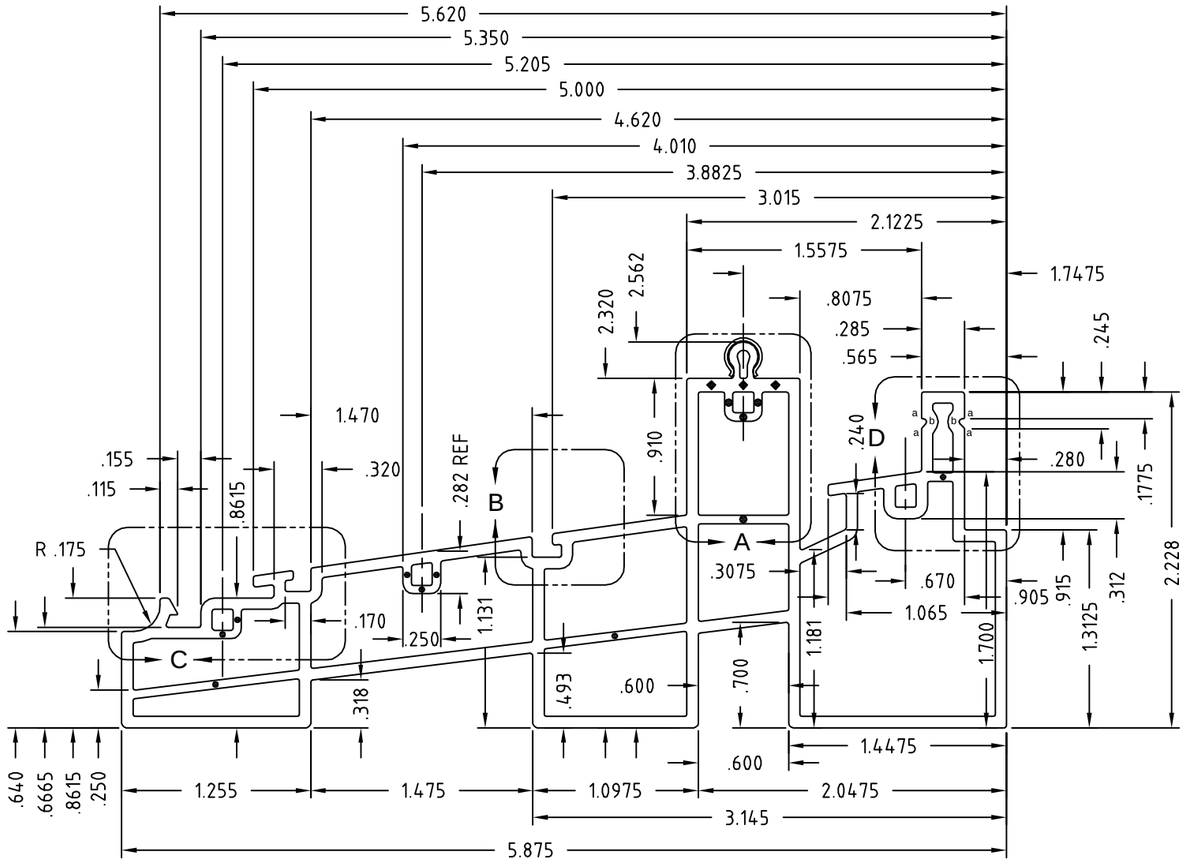
REVISIONS		
REV	DESCRIPTION	APPROVED
A1	PRELIMINARY	
B1	INTERIOR SCREW PORT REMOVED	
C1	REAR SCREW PORT THICKENED FOR MOUNTING	
	LOCKING HARDWARE - 8° SLOPED ADDED TO WALL	

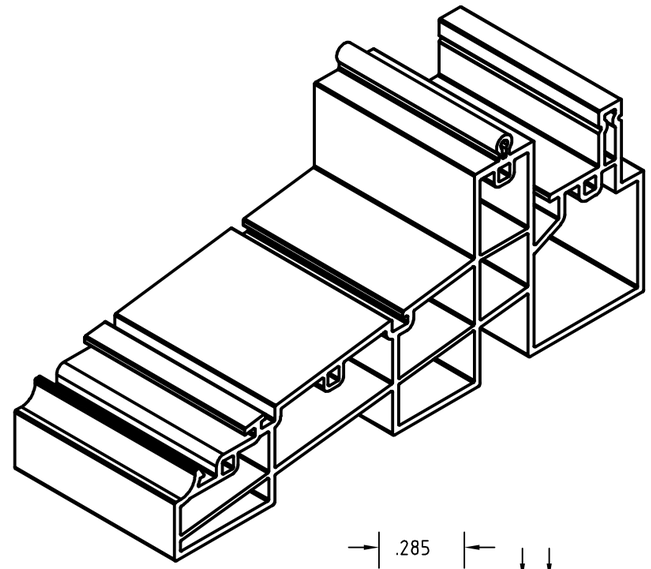


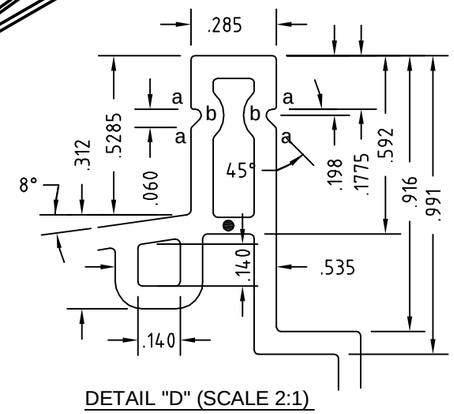
DETAIL "A" (SCALE 2:1)



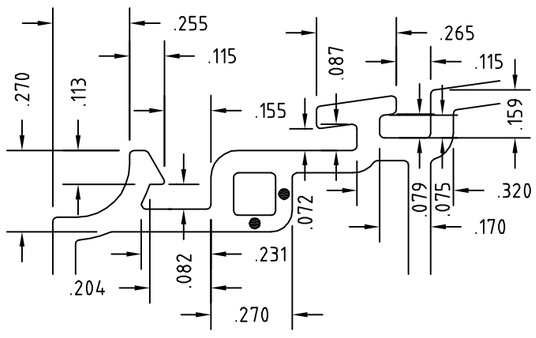
DETAIL "B" (SCALE 2:1)







DETAIL "D" (SCALE 2:1)



DETAIL "C" (SCALE 2:1)

NOTE: BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.075"
● = 0.055"
◆ = 0.090"

RADII:
a = 0.010"
b = 0.020
unmarked = 0.015"

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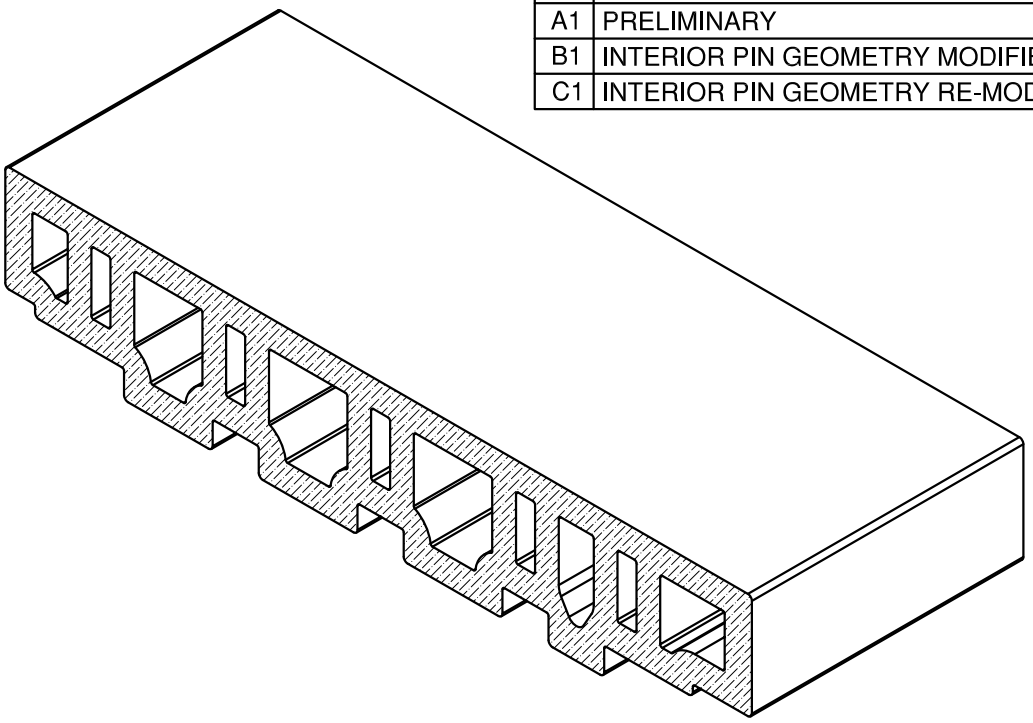
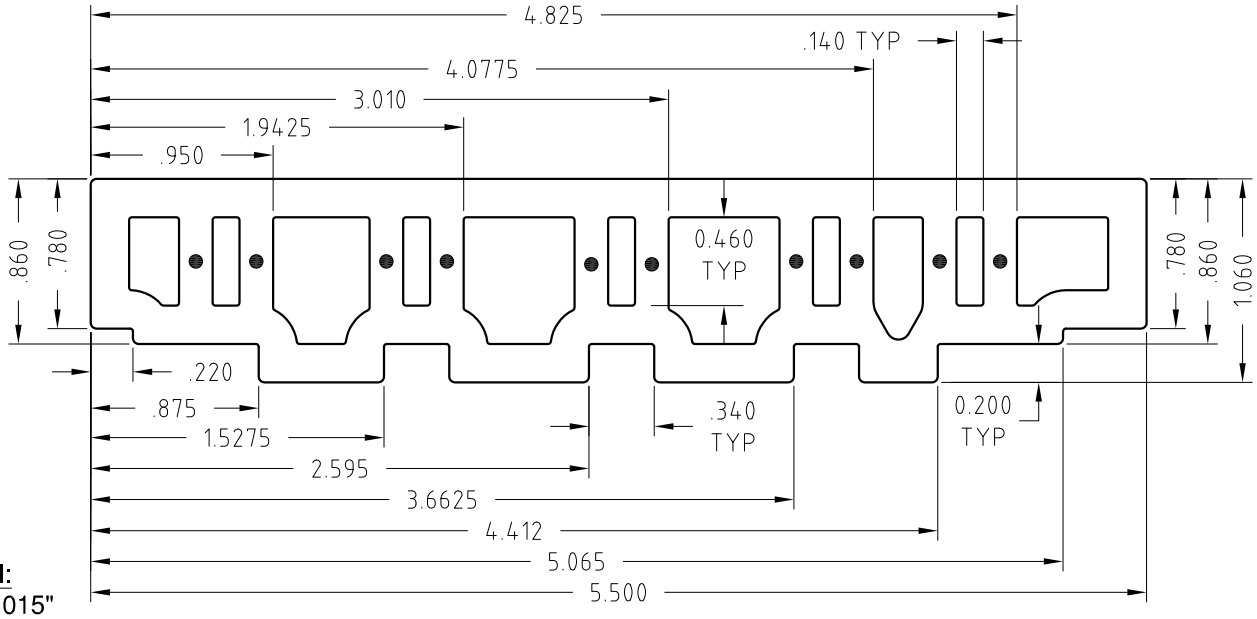
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	SUNVIEW PATIO DOORS				
	PART: NEW PATIO DOOR SILL – (V & B)				
SIZE: "B"	COLOUR: VARIOUS	MATERIAL: RIGID PVC	AREA: 2.004 in²	TOOL NO.: 2691	DATE: 03–04–2010
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	VOLUME: 0.000	PART NO.: 2691	DWG NO.: E107B01

WESTLab Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	PRELIMINARY	
B1	INTERIOR PIN GEOMETRY MODIFIED	
C1	INTERIOR PIN GEOMETRY RE-MODIFIED	





RADII:
a = 0.015"
b = 0.020"
c = 0.025"
unmarked = 0.030"

WALL THICKNESS:
NOMINAL = 0.200"
● = 0.175"

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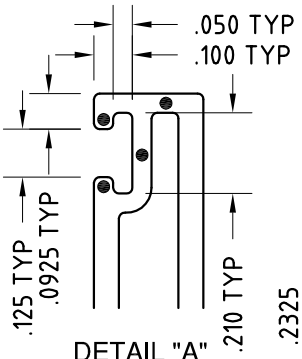
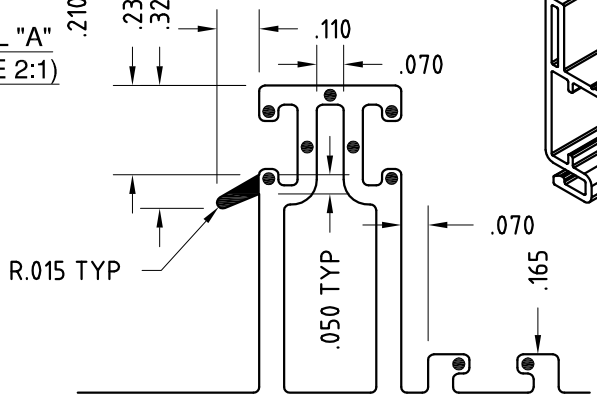
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: COMPOSITE PATIO DOOR STIFFENER (2)				
SIZE: "A"	COLOUR: VARIOUS	MATERIAL: COMPOSITE	AREA: 3.400 in^2	TOOL NO.: 3643	DATE: 12-14-2011
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	WEIGHT (lbs/ft): 1.600	PART NO.: 3643	DWG NO.: E700A19

WESTLab Report #SDL14003

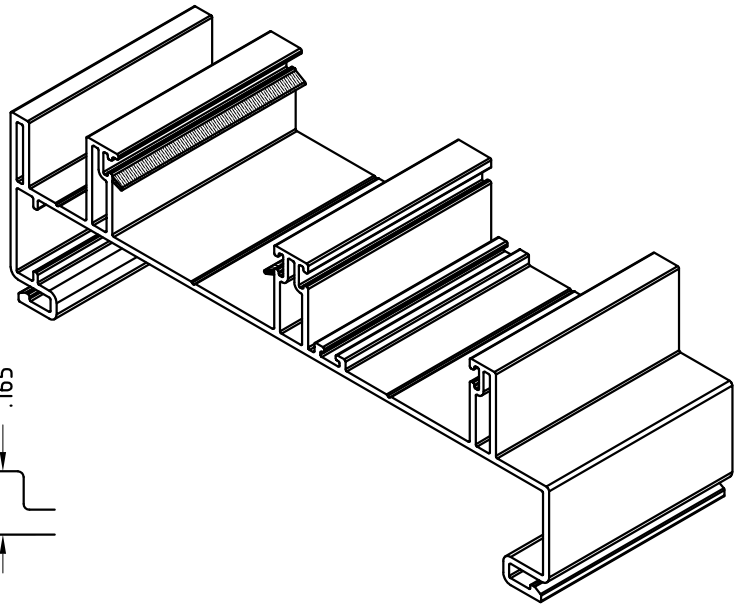
REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED FOR TOOLING	
B1	GEOMETRY MODIFIED	
C1	STAPLE LOCATERS MOVED	

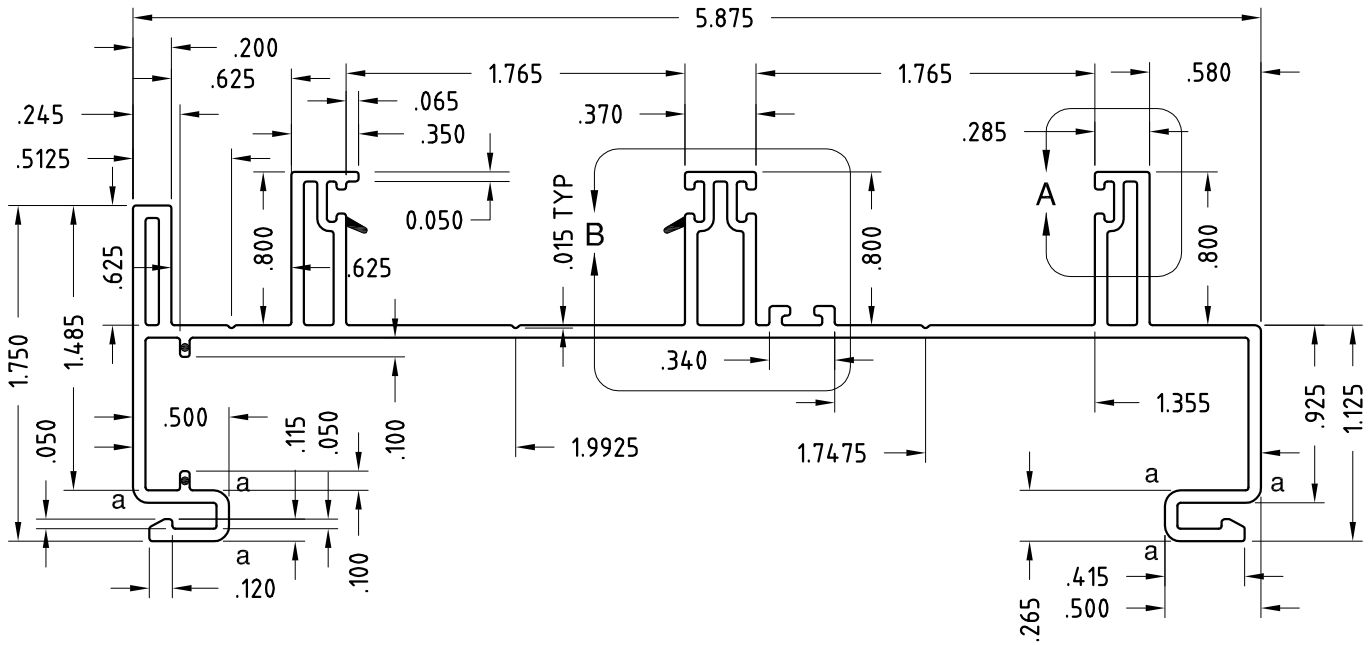


DETAIL "A"
(SCALE 2:1)



DETAIL "B" (SCALE 2:1)





RADII:
a = 0.080"
unmarked = 0.015"

NOTE: BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.065"
● = 0.050"

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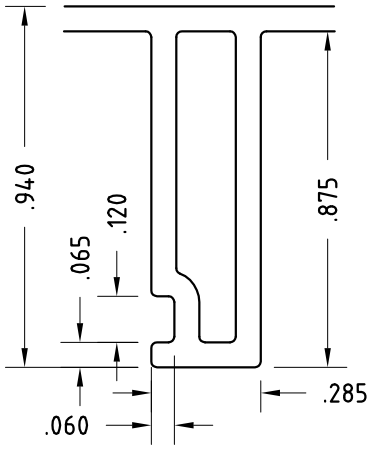
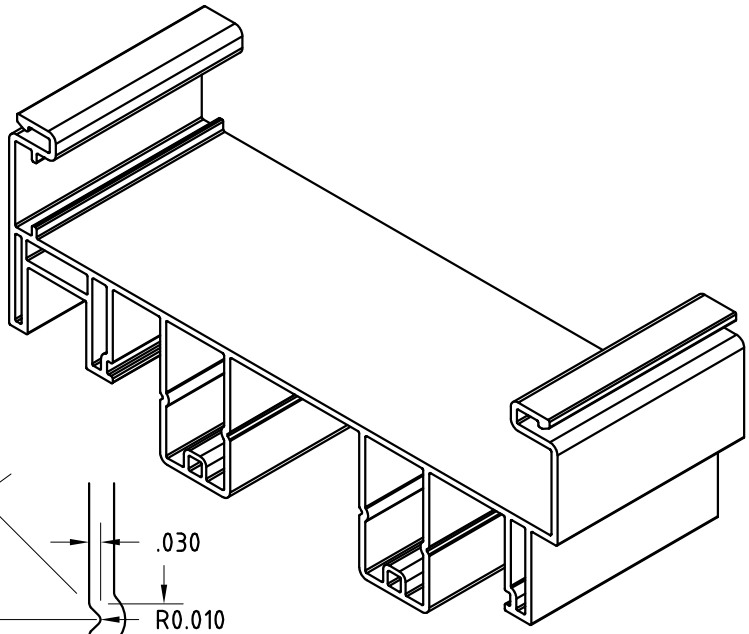
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: PATIO DOOR JAMB				
SIZE: "A"	COLOUR: WHITE	MATERIAL: RIGID PVC	AREA: 1.104 in^2	TOOL NO.: 1195	DATE: 02−21−2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	VOLUME: 0.000	PART NO.: E107A04	DWG NO.: 107A04

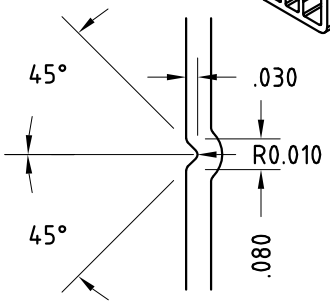
WE: Test Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED FOR TOOLING	
B1	TOP SCREEN TRACK REMOVED	

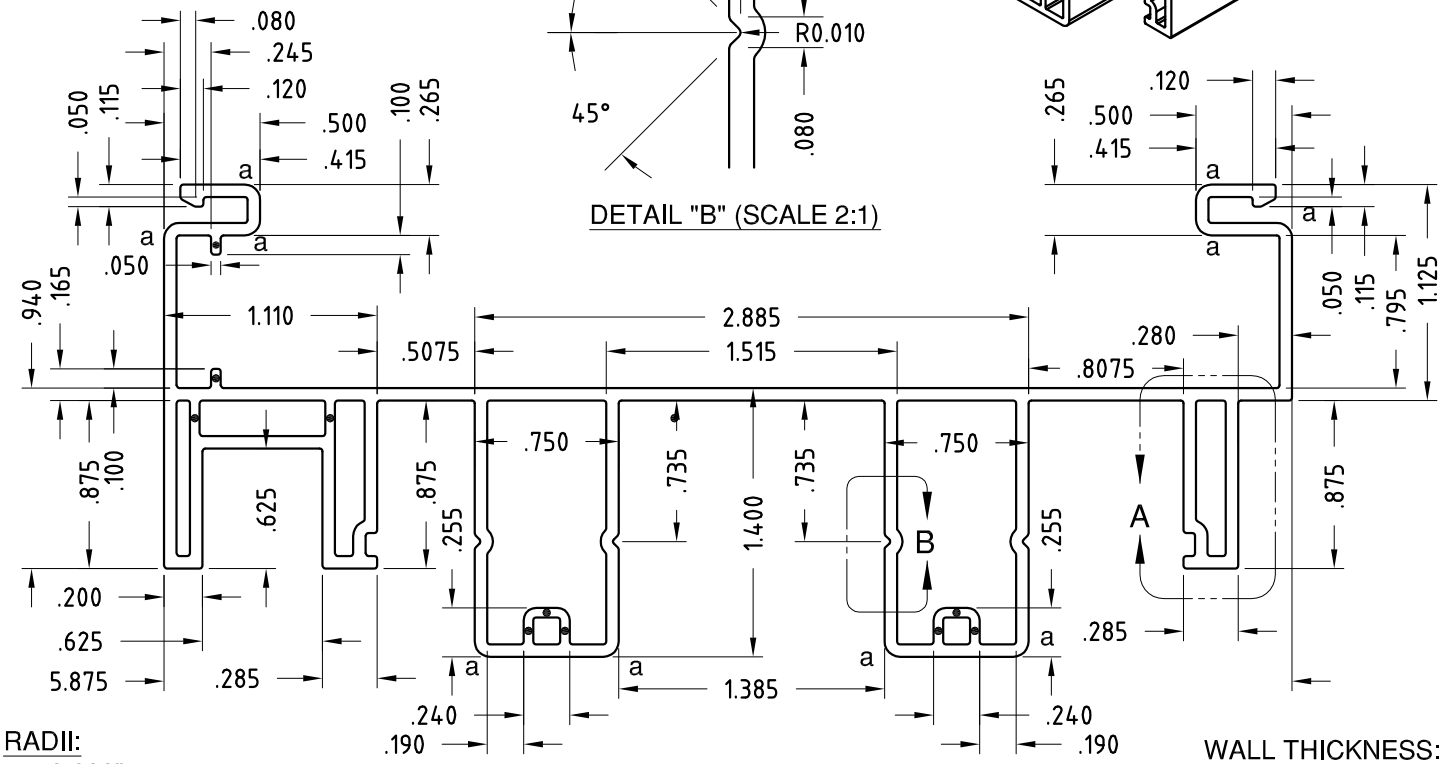


DETAIL "A" (SCALE 2:1)





DETAIL "B" (SCALE 2:1)



RADII:
a = 0.080"
unmarked = 0.015"

NOTE: BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.065"
● = 0.050"

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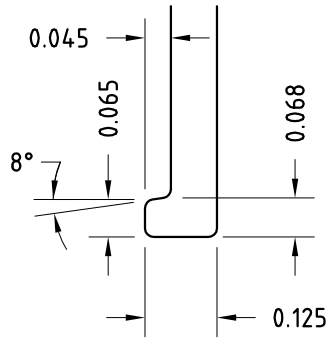
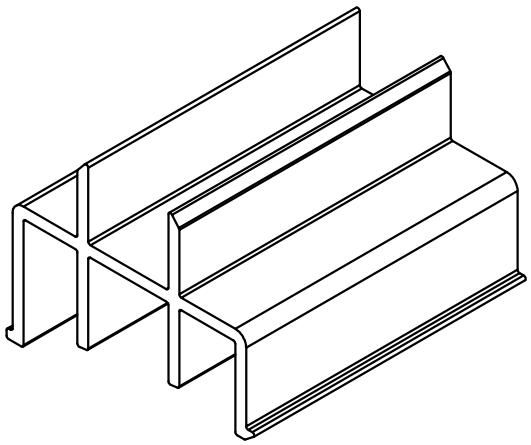
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: PATIO DOOR HEADER				
SIZE: "A"	COLOUR: WHITE	MATERIAL: RIGID PVC	AREA: 1.516 in^2	TOOL NO.: 1196	DATE: 02-21-2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	VOLUME: 0.000	PART NO.: 107A05	DWG NO.: E107A05

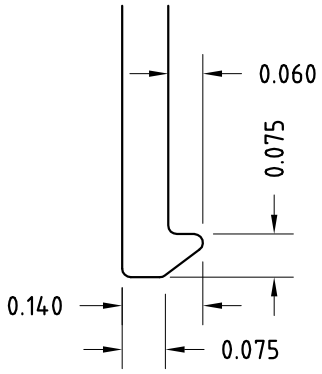
WESTLab Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED FOR TOOLING	
B1	WALL THICKNESS CHANGED TO 0.080"	

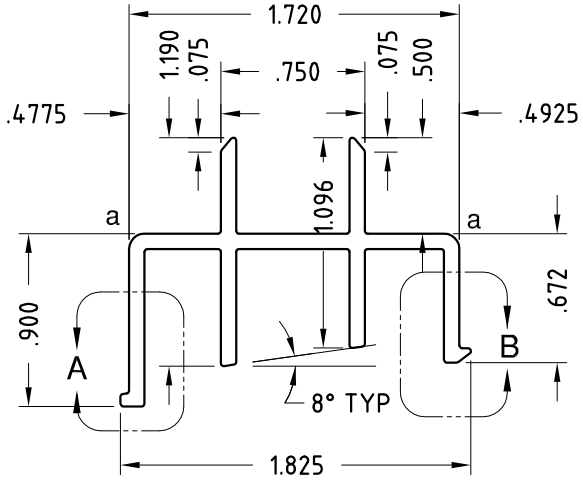


DETAIL "A" (SCALE 3:1)





DETAIL "B" (SCALE 3:1)



RADII:
a = 0.125
unmarked = 0.015"

NOTE: BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.080"

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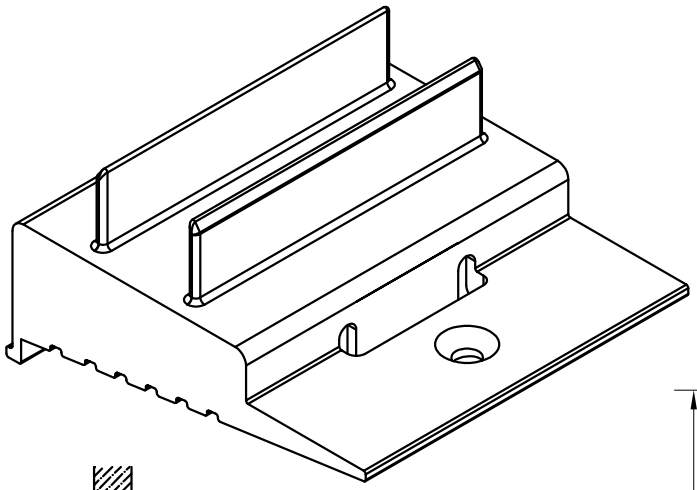
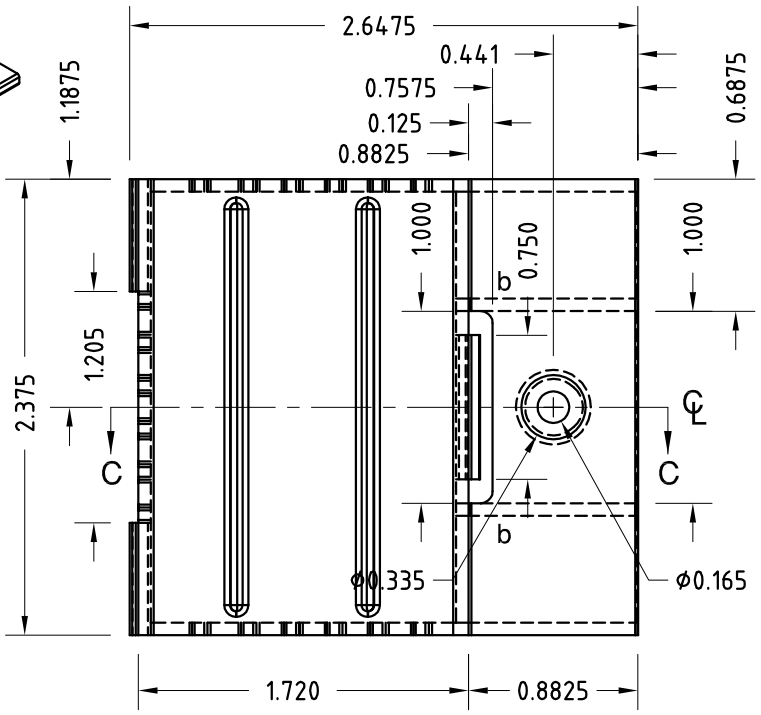
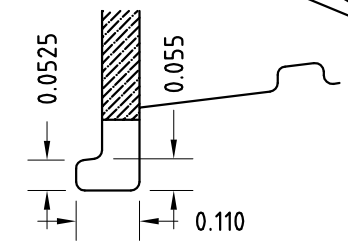
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: PANEL SUPPORT				
SIZE: "A"	COLOUR: WHITE	MATERIAL: RIGID PVC	AREA: 0.419 in^2	TOOL NO.: 1198	DATE: 04-30-2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	VOLUME: 0.000	PART NO.: 107A07	DWG NO.: E107A07

WESTLab Report #SDL14003

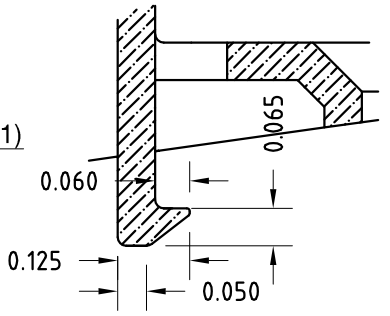
REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED	
B1	CENTRE SCREW BOSS MOVED TO FRONT LIP	
C1	TOP RAIL WALLS LENGTHENED	



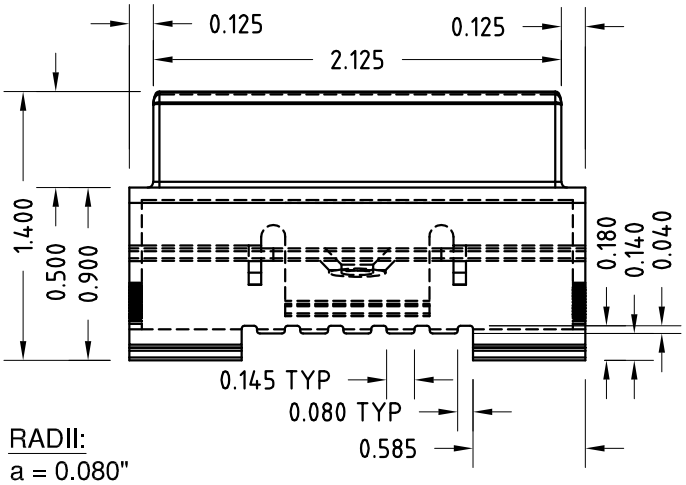




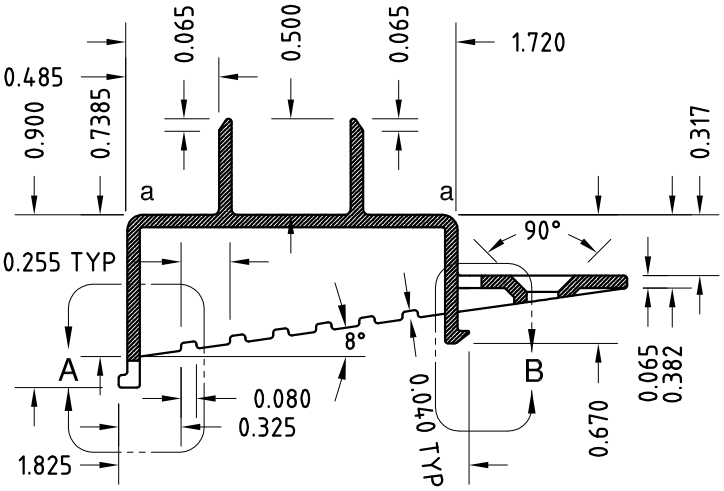
DETAIL "A" (SCALE 3:1)



DETAIL "B" (SCALE 3:1)



RADII:
a = 0.080"
b = 0.0625
unmarked = 0.015"



SECTION " C - C "

NOTE: PART SYMMETRICAL ABOUT CENTRE LINE

WALL THICKNESS:
NOMINAL = 0.065"

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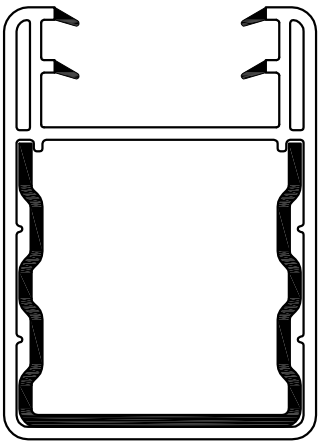
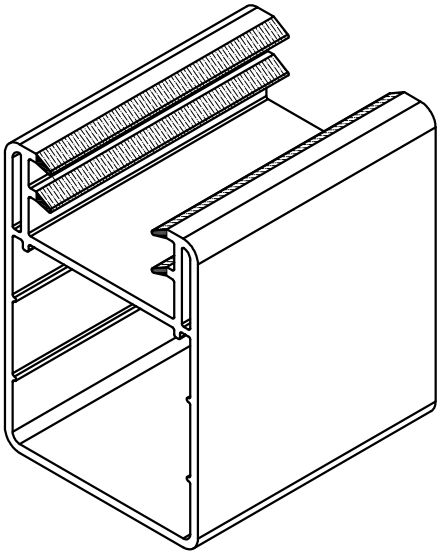
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: FIXED PANEL SUPPORT				
SIZE: "A"	COLOUR: VARIOUS	MATERIAL: RIGID PVC	VOLUME: 0.783 in^3	TOOL NO.: N/A	DATE: 04-04-2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	WEIGHT: LBS 0.041	PART NO.: 107101	DWG NO.: I107101

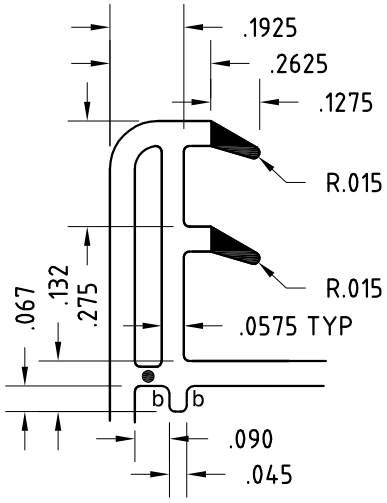
WESTLab Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED FOR TOOLING	
B1	REINFORCEMENT NIBS MODIFIED	
C1	REINFORCEMENT NIB LOCATIONS MODIFIED	
D1	TOP INSIDE LEGS MOVED 0.0075" INWARDS	

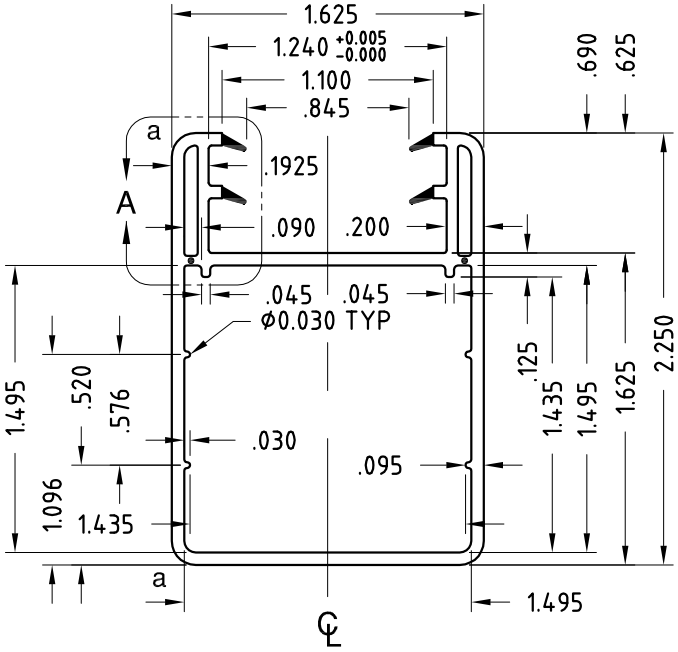


ASSEMBLY SHOWN WITH
STEEL REINFORCEMENT INSERTED





DETAIL "A"
(SCALE 2:1)



RADII:
a = 0.125
b = 0.020"
unmarked = 0.015"

NOTE: PART SYMMETRICAL ABOUT CENTRE LINE
BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.065"
● = 0.050"

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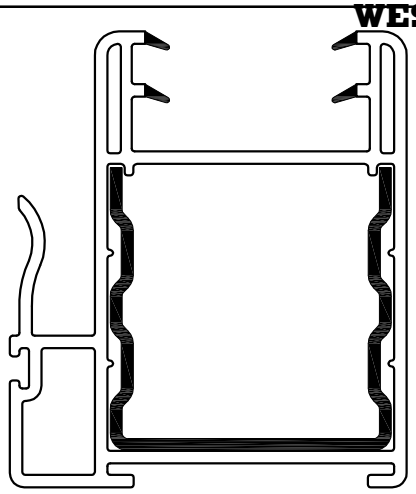
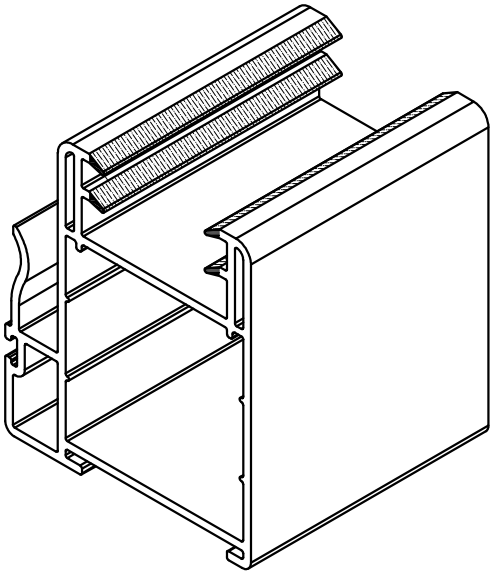
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: EXTRUDED VERTICAL SASH				
SIZE: "A"	COLOUR: WHITE	MATERIAL: RIGID PVC	AREA: 0.607 in^2	TOOL NO.: 1192	DATE: 05-08-2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	VOLUME: 0.000	PART NO.: 107A01	DWG NO.: E107A01

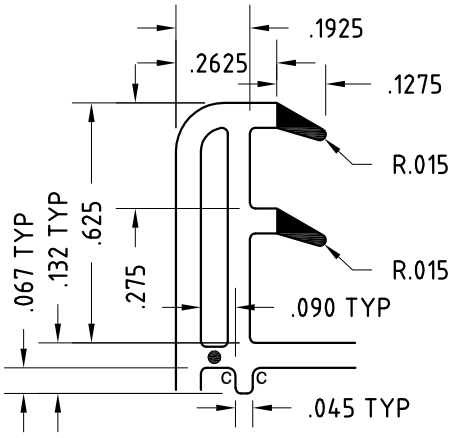
WES[illegible]ort #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED FOR TOOLING	
B1	REINFORCEMENT NIBS MODIFIED	
C1	REINFORCEMENT NIB LOCATIONS MODIFIED	
D1	INTERLOCK GAP OPENED TO 0.260"	
E1	TOP INSIDE LEGS MOVED 0.0075" INWARDS	

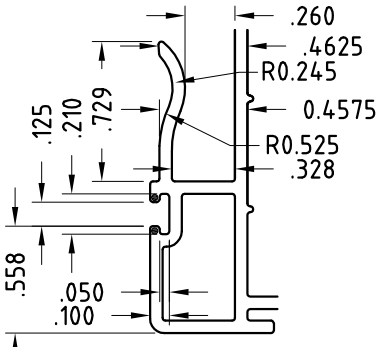


ASSEMBLY SHOWN WITH
STEEL REINFORCEMENT INSERTED

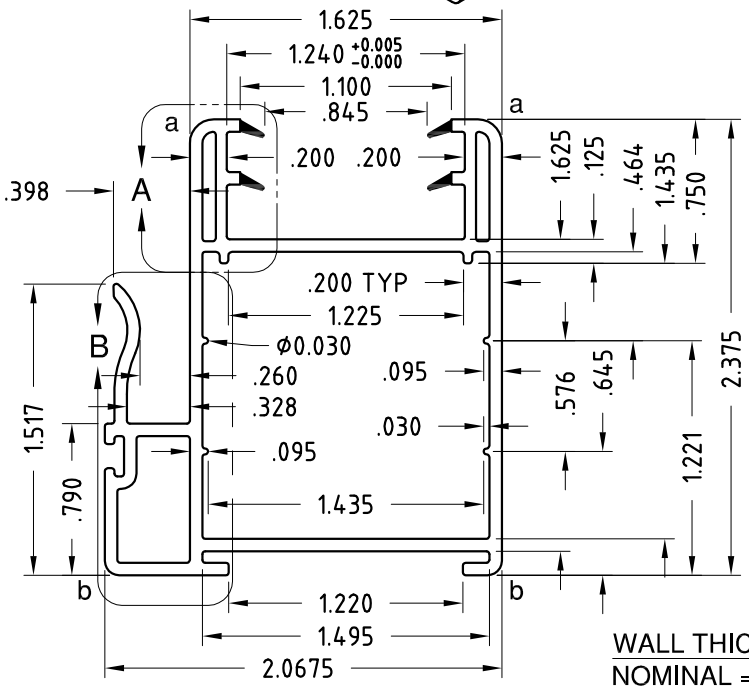




DETAIL "A" (SCALE 2:1)



DETAIL "B" (SCALE 1:1)



RADII:
a = 0.125"
b = 0.075"
c = 0.020"

WALL THICKNESS:
NOMINAL = 0.065"
● = 0.050"

NOTE: BREAK ALL SHARP CORNERS WITH 0.015" RADII

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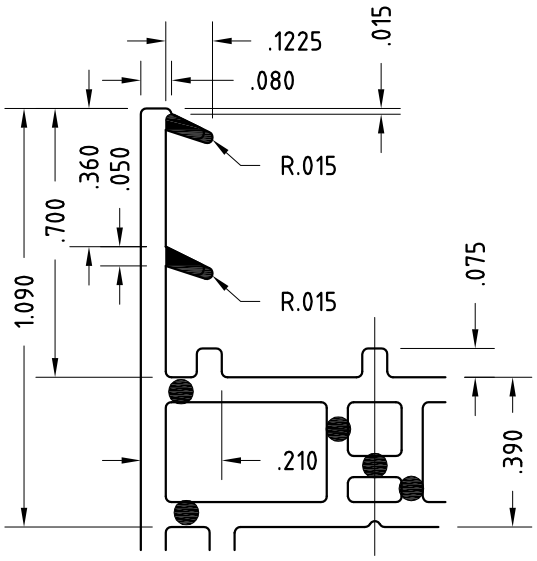
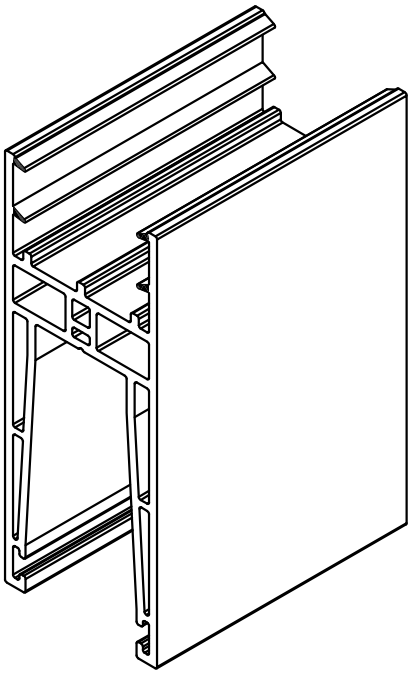
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: INTERLOCKING SASH				
SIZE: "A"	COLOUR: WHITE	MATERIAL: RIGID PVC	AREA: 0.803 in^2	TOOL NO.: 1193	DATE: 05-08-2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	VOLUME: 0.000	PART NO.: 107A02	DWG NO.: E107A02

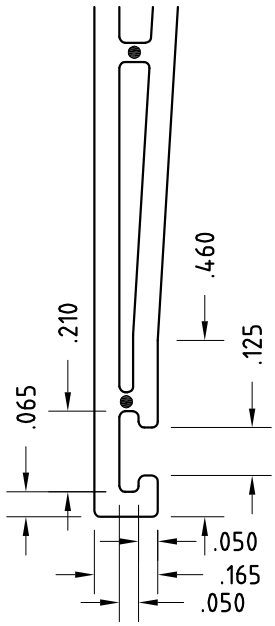
WESTLAKE Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	RELEASED FOR TOOLING	

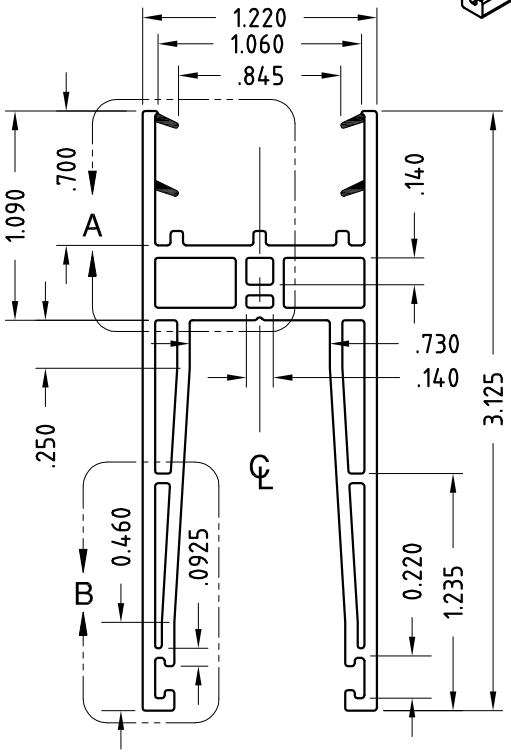


DETAIL "A" (SCALE 2:1)





DETAIL "B"
(SCALE 2:1)



RADII:
a = 0.125"
b = 0.075"

NOTE: PART SYMMETRICAL ABOUT CENTRE LINE
BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.065"
● = 0.050"

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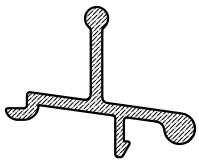
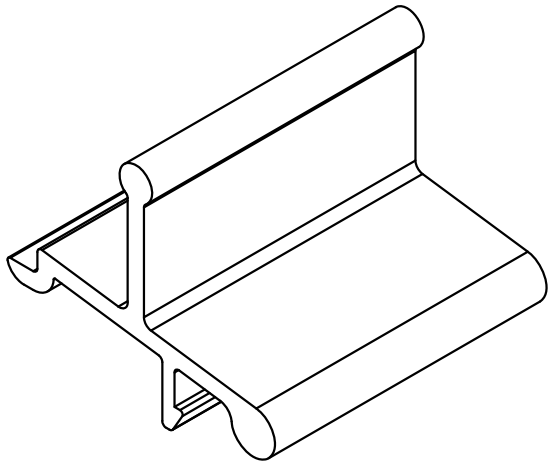
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: PATIO DOOR RAIL				
SIZE: "A"	COLOUR: WHITE	MATERIAL: RIGID PVC	AREA: 0.880 in^2	TOOL NO.: 1194	DATE: 02−09−2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	WEIGHT: LBS/FT 0.553	PART NO.: 107A03	DWG NO.: E107A03

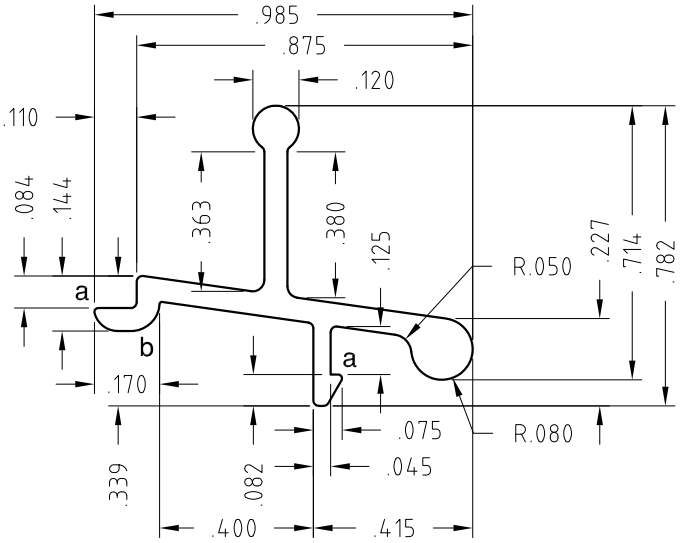
WESTLab Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	PRELIMINARY	
A2	MATERIAL DESCRIPTION CHANGED	



PROFILE SECTION (SCALE 1:1)





RADII:
a = 0.010"
b = 0.075"
unmarked = 0.015"

NOTE: BREAK ALL SHARP CORNERS WITH 0.015" RADII

WALL THICKNESS:
NOMINAL = 0.060"

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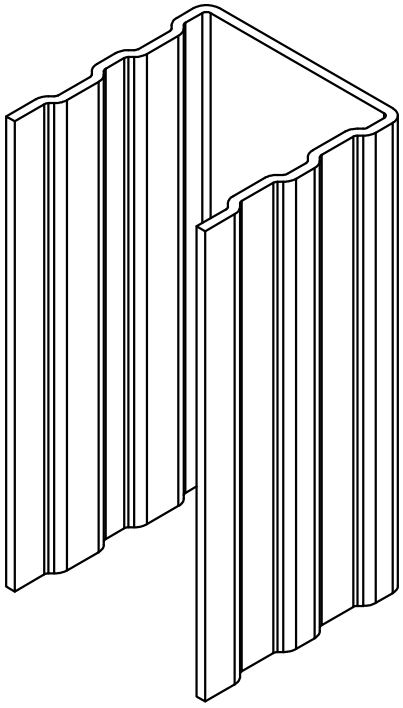
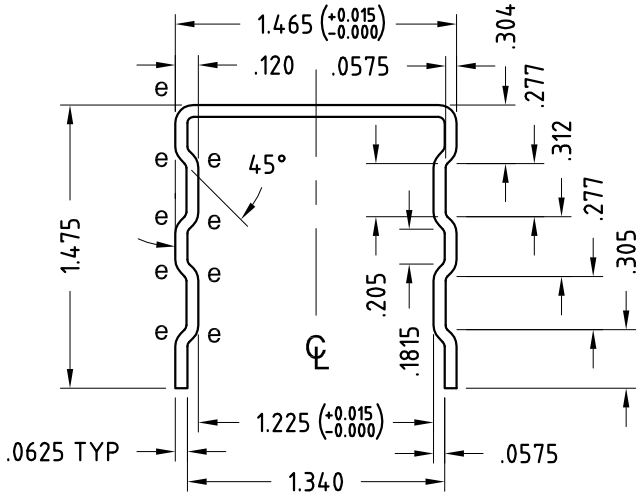
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	SUNVIEW PATIO DOORS				
	PART: ALUMINUM SCREEN TRACK				
SIZE: "A"	COLOUR: UNPAINTED	MATERIAL: 6063 T5	AREA: 0.120 in^2	TOOL NO.: N/A	DATE: 01-09-2012
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 2 : 1	VOLUME: 0.000	PART NO.: 107B06	DWG NO.: A107B06

WESTLab Report #SDL14003

REVISIONS		
REV	DESCRIPTION	APPROVED
A1	PRELIMINARY	
B1	PART GEOMETRY MODIFIED	





RADII:
a = 0.007"
b = 0.020"
c = 0.030"
d = 0.050"
e = 0.08325"
f = full
unmarked = 0.03125"

NOTE: PART SYMMETRICAL ABOUT CENTRE LINE

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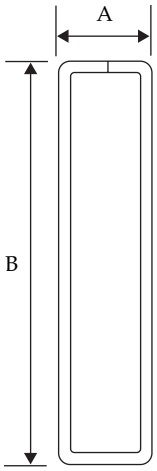
TOLERANCES	CUSTOMER:				
X.XX ± 0.015 X.XXX ± 0.010 X.XXXX ± 0.005 DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES U.O.S.	VISION EXTRUSIONS LIMITED				
	PART: PATIO DOOR SASH REINFORCEMENT				
SIZE: "A"	COLOUR: UNPAINTED	MATERIAL: 16 Ga. G90	AREA: 0.274 in^2	TOOL NO.: N/A	DATE: 03–18–2008
SHEET: 1 of 1	DRAWN BY: TC	SCALE: 1 : 1	WEIGHT: LBS/FT	PART NO.: 107F01	DWG NO.: S107F01

MB

ALLMETAL®

Muntin Bar

Aluminum: Painted, ~~Mill Finish, Clear & Color In™ Anodized~~



TOLERANCE
A, ± .005 (.127mm)
B, ± .005 (.127mm)

SPECIAL NOTICE
Cleaning and Handling of Muntin Bar

We recommend muntin bar to be wiped clean before installation into an insulating glass unit. A household grade liquid cleaner may be used for this purpose.

To avoid breakdown of painted surfaces, do not use M.E.K., Triethane, Alcohol or like substances for the cleaning of painted muntin bar.

When machining and processing muntin bar in your plant, keep saw tables and work areas free of saw cut filings to avoid scratching the painted surfaces.

Packaging Information			
Muntin Bar Size	**Part #**	**Pieces Per Shipping Carton 12' 8" Lengths**	**Lineal Feet Per Shipping Carton 12' 8" Lengths**
1/8 x .610	219697	200	2533
3/16 x 9/16†	119320	150	1900
3/16 x .610†	119705	125	1583
3/16 x 5/8†	120874	125	1583
3/16 x 3/4	122909	110	1393
3/16 x 13/16	123618	110	1393
3/16 x 1	123823	85	1076
1/4 x 9/16	119427	135	1710
1/4 x 5/8†	121410	120	1520
1/4 x 3/4	123063	95	1203
1/4 x 13/16	215017	95	1203
1/4 x 1	123836	70	887
1/4 x 1 1/4	123856	51	646
5/16 x 1	210318	60	684
3/8 x 5/8	121468	90	1140
3/8 x 3/4	123088	75	950
3/8 x 13/16	215016	70	887
3/8 x 7/8	123797	55	697
3/8 x 1	201968	55	696
3/8(.375) x 3/8	205591	140	1773
7/16 x 3/8	119016	115	1457
7/16 x 3/8	216500**	115	1457
7/16 x 1/2	213045	88	1115
7/16 x 5/8Δ	214621	65	823
1/2 x 3/4*	201043	50	633
1/2 x 1	203710	40	506

Specification In Inches		
Muntin Bar Size	**A**	**B**
1/8 x .610	.125	.610
3/16 x 9/16†	.187	.551
3/16 x .610†	.187	.610
3/16 x 5/8†	.187	.630
3/16 x 3/4†	.187	.775
3/16 x 13/16†	.187	.801
3/16 x 1	.187	1.000
1/4 x 9/16	.235	.562
1/4 x 5/8†	.235	.625
1/4 x 3/4	.235	.765
1/4 x 13/16	.235	.801
1/4 x 1	.235	1.000
1/4 x 1 1/4	.235	1.250
5/16 x 1	.312	1.000
3/8 x 5/8†	.325	.625
3/8 x 3/4	.325	.750
3/8 x 13/16	.325	.801
3/8 x 7/8	.325	.875
3/8 x 1	.325	1.000
3/8(.375) x 3/8	.375	.375
7/16 x 3/8	.438	.375
7/16 x 3/8	.438	.375
7/16 x 1/2	.438	.500
7/16 x 5/8Δ	.438	.625
1/2 x 3/4*	.500	.750
1/2 x 1	.500	1.000

Part numbers shown are standard white color.

Material thickness: .0185

† Available in tutone. Please see Color Selection Chart located in front of catalog.

Δ Part number shown is Dark Bronze Anodized Color.

* Part number shown is Clear Anodized. **Part number shown is white welded.

Note: Available in pre-cut lengths and pre-notched; tutone and post-painted. Custom colors also available.

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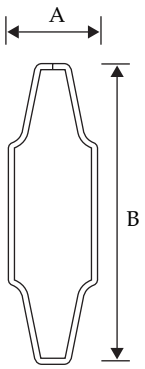
CMB

ALLMETAL®

Contour Muntin Bar

Aluminum: Painted, ~~Mill Finish, Clear & Color In™ Anodized~~



TOLERANCE
A, ± .005 (.127mm)
B, ± .005 (.127mm)

SPECIAL NOTICE
Cleaning and Handling of Muntin Bar

We recommend muntin bar to be wiped clean before installation into an insulating glass unit. A household grade liquid cleaner may be used for this purpose.

To avoid breakdown of painted surfaces, do not use M.E.K., Triethane, Alcohol or like substances for the cleaning of painted muntin bar.

When machining and processing muntin bar in your plant, keep saw tables and work areas free of saw cut filings to avoid scratching the painted surfaces.

Packaging Information			
Muntin Bar Size Millimeter	**Part #**	**Pieces Per Shipping Carton 12' 8" Lengths**	**Lineal Feet Per Shipping Carton 12' 8" Lengths**
5.5 x 18	124040	170	2153
8 x 18	123911	120	1520
8 x 25	124307	84	1064

Specification In Inches		
Muntin Bar Size Millimeter	**A**	**B**
5.5 x 18	.217	.709
8 x 18	.315	.709
8 x 25	.315	.984

Part numbers shown are standard white color.
Available in solid & tutone colors.
Please see Color Selection Chart located in front of catalog.

Material Thickness:
.016: 5.5 x 18mm and 8 x 18mm.
.0185: 8 x 25mm.

Note: Available in pre-cut lengths and pre-notched; tutone and post-painted. Custom colors also available.
Painted seam available in limited colors upon request.

Please see terms & conditions of sale.
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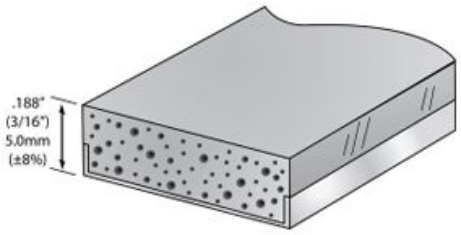
Super Spacer® Standard



Super Spacer® Standard is extruded as a flexible organic foam warm edge spacer. Its polymer EPDM (ethylene-propylene-diene-monomer) is well-known in the industry for its excellent resistance to ozone, weathering, water and aging, while maintaining its flexibility through wide changes in temperature and barometric pressure.

With its multi-layer vapor barrier and acrylic adhesive, Super Spacer provides superior argon gas retention and optimal thermal performance. Its all foam construction is 950 times less conductive than aluminum spacer systems, resulting in its industry-leading condensation resistance.

Super Spacer Standard has an aesthetically pleasing narrow sightline and is part of the TrueWARM® family of Edgetech window spacer products. And, because it's Super Spacer, you can expect windows that are energy efficient and long lasting.

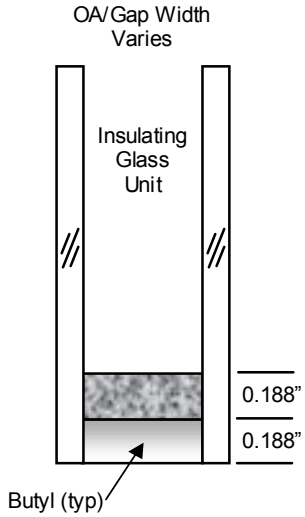
Insulating glass units built with Standard Super Spacer backed by a butyl secondary seal have passed more than 60 weeks of P-1 durability testing – the industry's toughest test! Experts estimate that one week in the P-1 chamber is equivalent to approximately one year of field performance.

Standard Sizes and Options:

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	1509	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

Application Detail



Spacer Sizes :
Standard Super Spacer is available in a standard 3/16 inch (5 mm) thickness and a full range of spacer widths from 3/16 inch (5 mm) to 3/4 inch (19 mm).

Standard Color:
Charcoal grey.

Material used for SuperSpacer Standard:
Edgetech-Super Spacer Standard (EPDM), k = 0.127
Spacer code: OF-S
This material is listed in NFRC 101, Appendix C

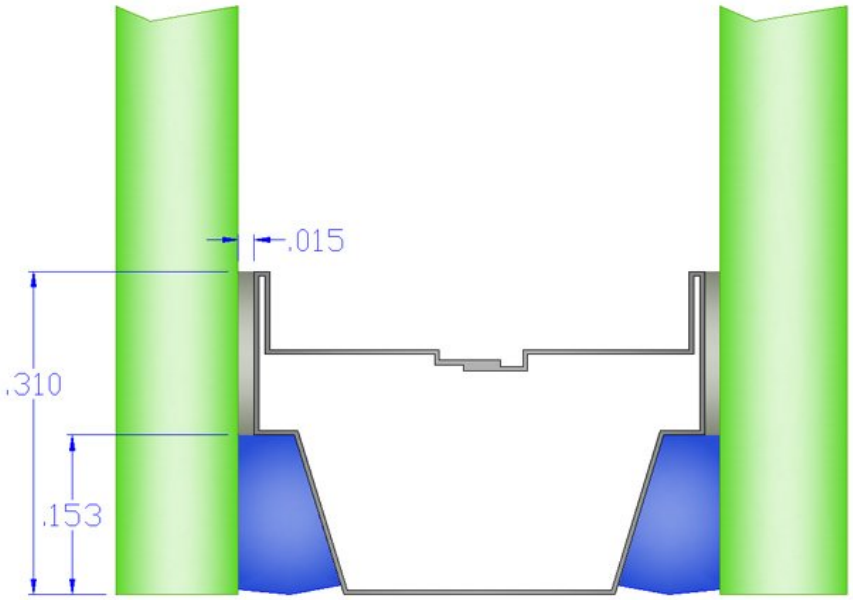
WESTLab Report #SDL14003

Cardinal IG
XL Edge Simulation Model

The purpose of this guide is to help properly model the XL Edge seal system when performing Therm window simulations.

XL Edge geometry.
Shown here is the proper XL Edge geometry that should be used for thermal models. This geometry is also included within the attached XL Edge.dxf CAD file.

Some important items are:
- PIB thickness is 0.015".
- Spacer back even with glass edge.
- Stainless steel thickness is 0.0045" for most airspaces.

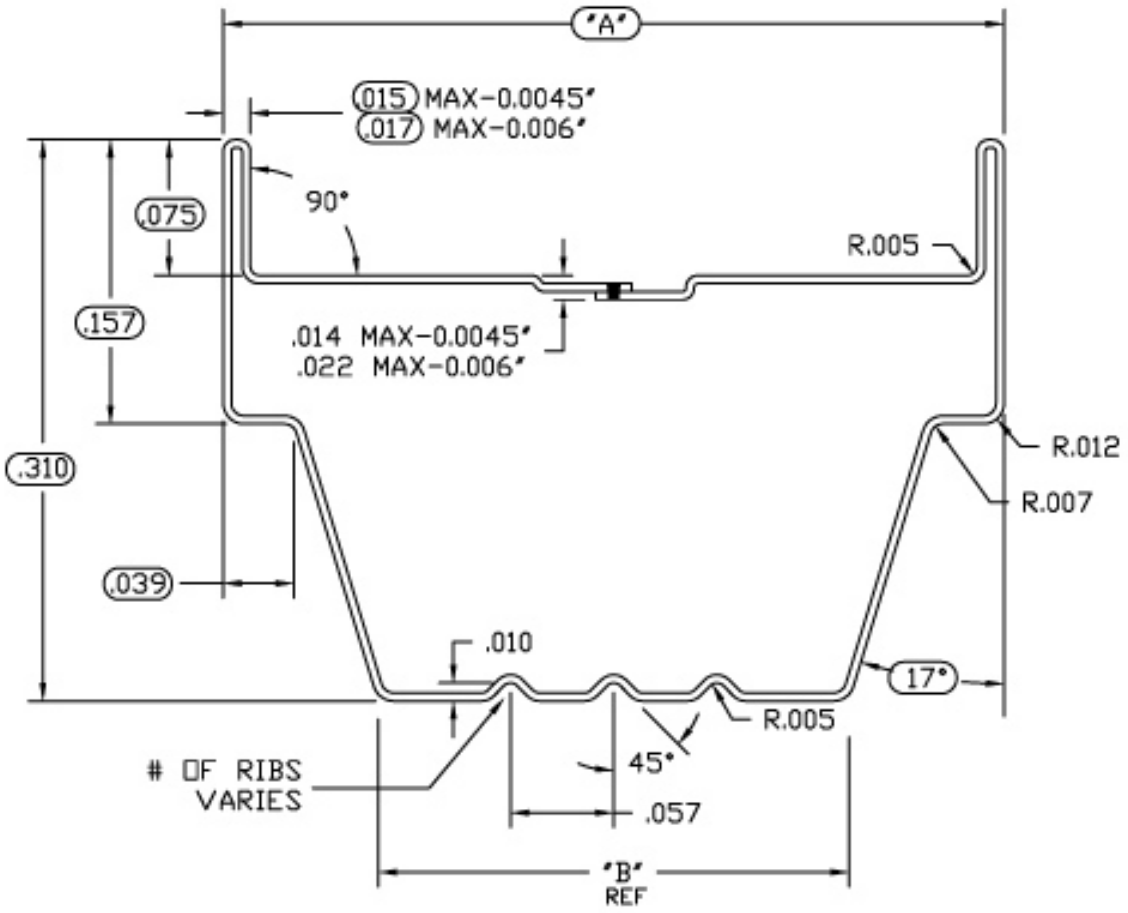


Thermal conductivity
The following thermal conductivity values should be used when modeling XL Edge.

- Silicone: 0.202 BTU/hr-ft-F (0.350 W/m-K)
- PIB [ADCO PIB-8 HSNB Gray]: 0.089 BTU/hr-ft-F (0.155 W/m-K)
- Desiccant [desiccant-loose fill]: 0.017 BTU/hr-ft-F (0.030 W/m-K)
- Spacer [Cardinal Stainless Steel]: 8.197 BTU/hr-ft-F (14.187 W/m-K)

Cardinal's stainless steel alloy spacer and ADCO PIB have a lower thermal conductivity than the default values listed in the NFRC 101-2010EOA1.pdf document "Procedure for Determining Thermophysical Properties of Materials for Use in NFRC – Approved Software Programs". For specific information on the NFRC "Procedure for Determining Thermophysical Properties of Materials for Use in NFRC – Approved Software Programs", please go to the following web site.
http://www.nfrc.org/documents/NFRC101-2010E0A1.pdf

SPACER GEOMETRY FOR XL EDGE SIMULATIONS



P/N	NAME	A	B	WALL	# RIBS
58-065	6.5	.236	.064	.0045	1
58-075	7.5	.276	.104	.0045	1
58-080	8.0	.295	.123	.0045	2
58-098	9.8	.366	.194	.0045	3
58-105	10.5	.394	.222	.0045	3
58-112	11.2	.422	.250	.0045	3
58-115	11.5	.432	.260	.0045	3
58-122	12.2	.460	.288	.0045	3
58-130	13.0	.492	.320	.0045	5
57-130	13.0	.492	.320	.006	5
57-145	14.5	.550	.378	.006	5
57-158	15.8	.602	.430	.006	5
57-160	16.0	.610	.438	.006	7
57-165	16.5	.630	.458	.006	7
57-175	17.5	.669	.497	.006	7
57-195	19.5	.748	.576	.006	9
57-210	21.0	.807	.635	.006	9

MATERIAL: 201 STAINLESS STEEL

CARDINAL IG

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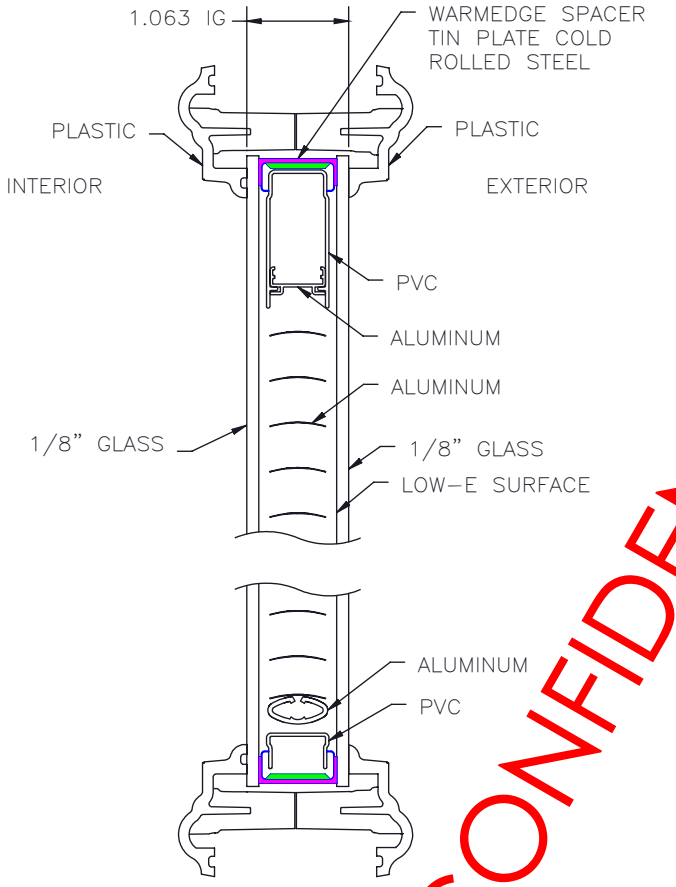
TITLE: FBR SPACERS

SCALE	DATE	DRAWN BY	APPROV

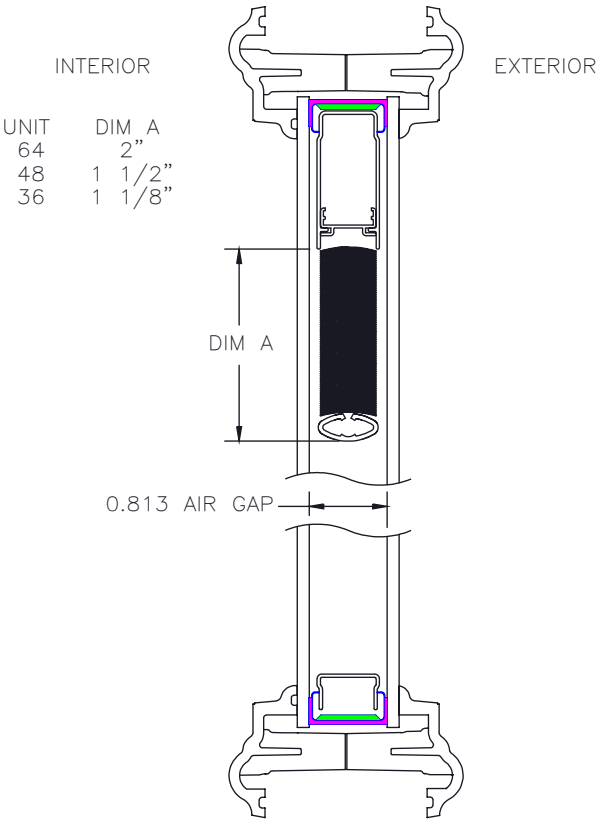
TOLERANCES .XXX=±.003 ANGULAR=±1° | PARTS

WESTLab Report #SDL14003

WARMEDGE DUAL GLAZED BLIND SECTIONS
DATE 6/21/10

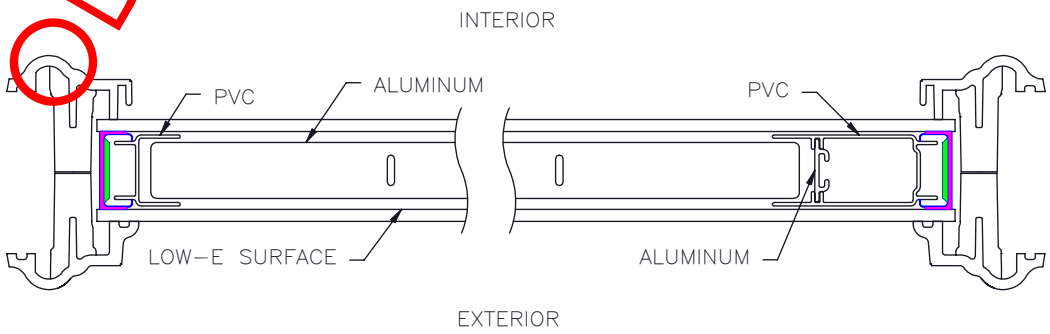


WARMEDGE BLIND
VERTICAL CROSS SECTION



WARMEDGE BLIND
VERTICAL CROSS SECTION

ODL CONFIDENTIAL



WARMEDGE BLIND
HORIZONTAL CROSS SECTION