

Value - Strength - Afford ability - Security



SAFEHOUSE
WINDOWS & DOORS

General Windows Catalog

Its the GREEN solution for air infiltration, noise and costly heating and cooling losses
Always ready to protect 24-7

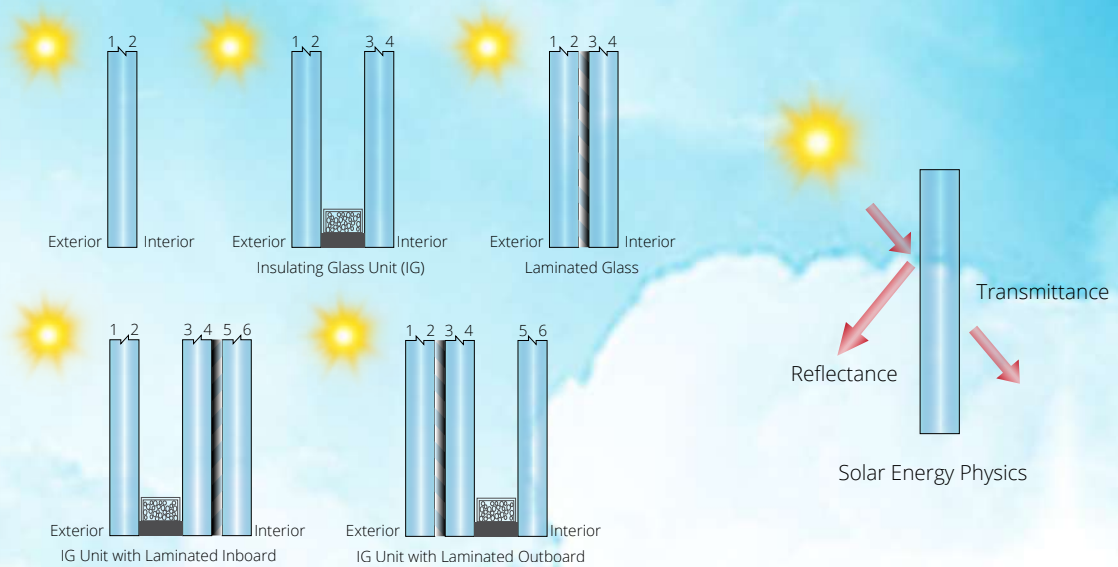


The High Impact Windows & Doors Series: Is the perfect style for contemporary, modern homes and other building applications. Like all our High Impact line, our windows & doors have been tested and approved by the Florida Building Code, one of the most stringent requirements in the nation. This product is built with the highest quality standards and controls to deliver the best protection against windstorms and hurricanes while enhancing the security of your property. The windows & doors by GIG offers a wide range of benefits including minimized air infiltration which helps control variations in room temperature. GIG Windows & Doors will meet and exceed your quality and style expectations at a competitive price.

Products available for residential, commercial, and hi-rise applications

COMMON GLASS CONFIGURATIONS

The following images depict the most common glass configurations and identify the glass surfaces with numbers showing the glass surfaces counting from exterior to interior.



SOLAR HEAT GAIN COEFFICIENT (SHGC)

The percent of solar energy incident on the glass that is transferred indoors, both directly and indirectly through the glass. The direct gain portion equals the solar energy transmittance, while the indirect is the fraction of solar incident in the glass that is absorbed and re-radiated or convected indoors. For example, 1/8" (3.1 mm) uncoated clear glass has a SHGC of approximately 0.86, of which 0.84 is direct gain (solar transmittance) and 0.02 is indirect gain (convection/ re-radiation).

SOLAR/REFLECTIVE COATINGS

Typically, highly reflective coatings that reduce solar heat gain through reflection and absorption. Through very effective at reducing heat gain, visible light transmittance is generally low, and U-Values are not as energy efficient as low-E coatings.

Test Protocols: TAS-201, 202, and 203. Anchor verification, calculations and structural analysis complies with FBC- . Also complies with ASTM E1300-98/02.

Substrate Approved Applications: Poured concrete, block, wood, and aluminum tube or steel member.

Standard Hardware: All assembly components are stainless steel.

Product Highlights:

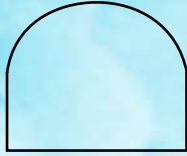
- 24-hour protection against wind-borne debris, hurricanes, and vandalism.
- Approved for forced entry by FBC section 241132.1, TAS 202-94.
- Aluminum extrusion tested and approved by the Florida building code
- Impact resistance, reduced UV, and air filtration, noise, and heating & cooling loss
- Custom made products to ensure quality fit, finish, and customer satisfaction

Beautiful Designer shapes configuration

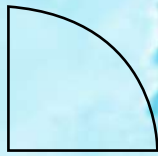
Configuration * Full View



Rectangle



Arch Top



Quarter Circle



Pentagon



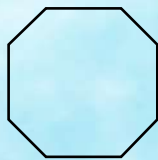
Hexagon



Trapezoid



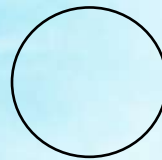
Half Circle



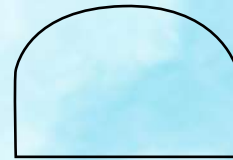
Octagon



Ellipse



Circle

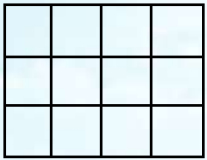


Eyebrow

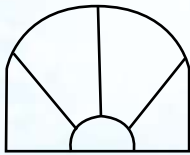


Gothic

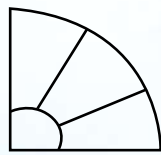
Configuration * Colonial



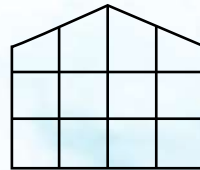
Rectangle



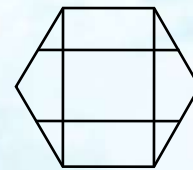
Arch Top



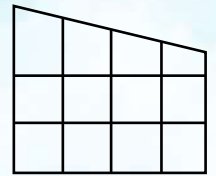
4-Lite Sunburs
Quarter Circle



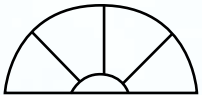
Pentagon



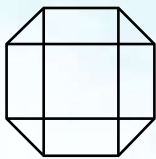
Hexagon



Trapezoid



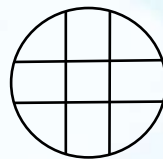
Half Circle



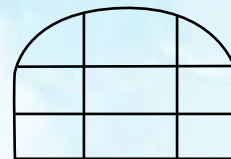
Octagon



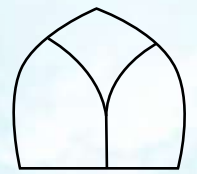
Ellipse



Circle Colonial



Eyebrow



Gothic

Hi-Rise Application

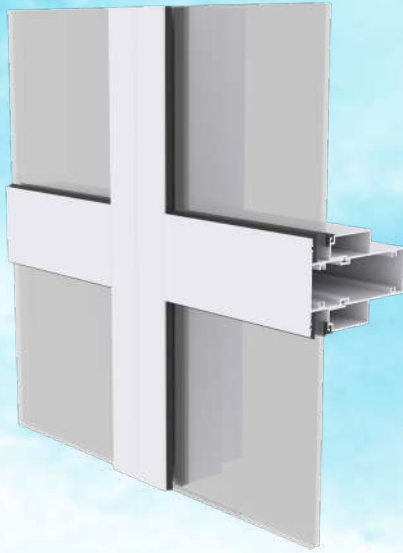


Residential Application

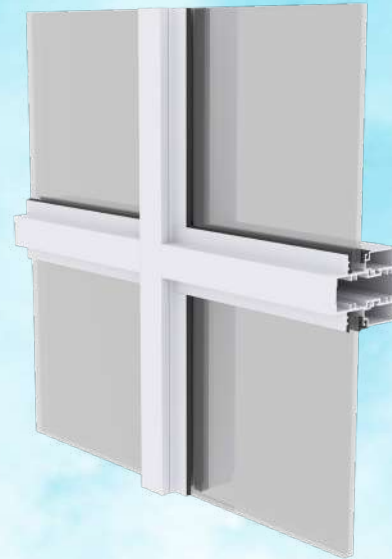


VERY STRONG PRODUCTS FOR VERY STRONG PROTECTION

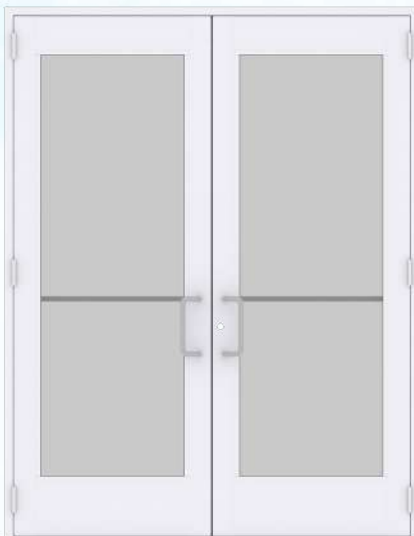
**HIGH IMPACT STOREFRONT
SERIES 12000**



**HIGH IMPACT STOREFRONT
SERIES 70000**



**HIGH IMPACT OUTSWING ENTRANCE
DOOR SERIES 70000**



HIGH IMPACT GLASS RAILING SERIES 28000

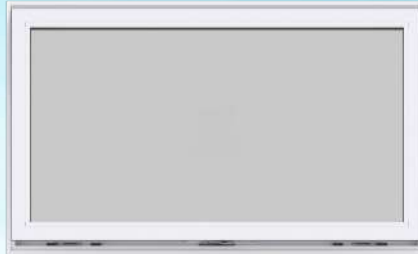


VERY STRONG PRODUCTS FOR VERY STRONG PROTECTION

**HIGH IMPACT OUTSWING
CASEMENT SERIES 8000**



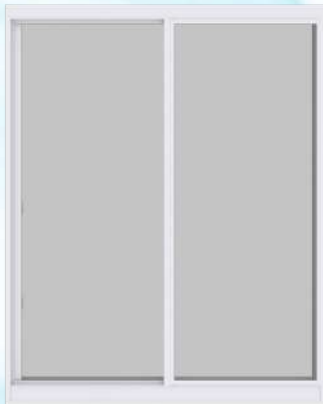
**HIGH IMPACT PROJECTED
OUT AWNING SERIES 8000**



**HIGH IMPACT FIXED
CASEMENT SERIES 8000**



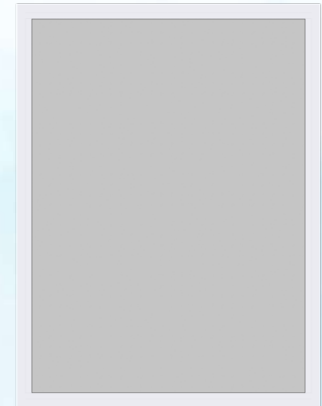
**HIGH IMPACT HORIZONTAL
ROLLER SERIES 18000**



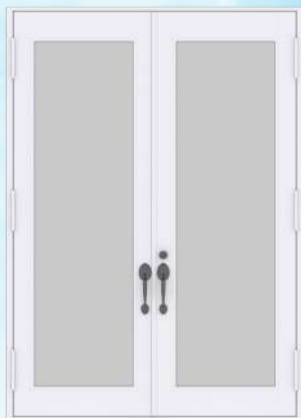
**HIGH IMPACT SINGLE
HUNG SERIES 20000**



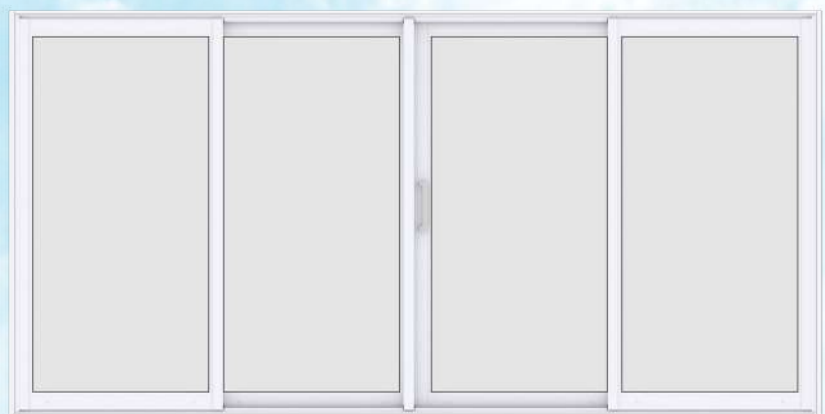
**HIGH IMPACT FIXED
WINDOW SERIES 21000**



**HIGH IMPACT OUTSWING
FRENCH DOOR SERIES 24000**



**HIGH IMPACT SLIDING
GLASS DOOR SERIES 26000**



QUALITY HARDWARE SERIES 8000



STAINLESS STEEL 4
BAR HINGE



STAINLESS STEEL NOVA
MULTIPOINT LOCK



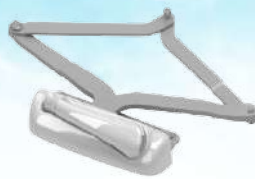
STAINLESS STEEL NOVA
SINGLE POINT LOCK



NOVA HANDLE
COVER



STAINLESS STEEL CASE-
MENT OPERATOR



STAINLESS STEEL
AWNING OPERATOR

QUALITY HARDWARE SERIES 24000



ARIA HANDLE



ACACIA HANDLE



SUMMIT HANDLE



LEVER COMPRESSION
LOCK 3 POINT LOCK



FLUSH BOLT



3 PIECES HINGE

Quality hardware series 26000



CREST LARGE
HANDLE



CREST II SMALL
HANDLE



INVISIO FLUSH-MOUNT
HANDLE



PJS-TA-188-OF-PRN
STAINLESS STEEL
HOUSING AND ACETAL
WHEEL



PR05-6000 STAINLESS
STEEL HOUSING AND
NYLON WHEEL

QUALITY HARDWARE SERIES 70000 & 12000 DOOR



STAINLESS STEEL
REGENT 3 POINT LOCK



STAINLESS STEEL
REGENT 2 POINT LOCK



STAINLESS STEEL ADAMS
RITE 3 POINT LOCK



STAINLESS STEEL ADAMS
RITE 2 POINT LOCK



STAINLESS STEEL
REGENT HINGE



ALUMINUM
CONTINUOUS HINGE



REGENT PULL & PUSH
BAR



REGENT CLOSER



VON DUPRIN 9947
EXIT DEVICE



SARGENT AD8400
EXIT DEVICE



ADAMS RITE EXIT
DEVICE

HIGH IMPACT OUTSWING CASEMENT S-8000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 11/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Single Stainless Steel arm roto operator and crank handle
- Stainless steel operator track
- Pair of stainless steel four bar concealed hinges
- Multipoint Lock
- Stainless steel locking bar
- Snubber blocks
- Up to 5-point locking system (depends on height of window)

Standard Features:

- Extruded screen frame
- Strong structural glazing
- Extruded square glazing bead
- Stainless steel assembly screws and corner keys
- Double weatherstripping
- 1/2" Exterior flange frame
- 2 3/4" deep frame

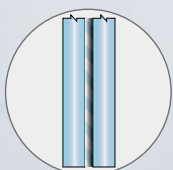
Optional Items:

- Equal Legs Frame
- Colonial muntin
- Hinges with washability

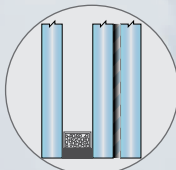
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

Glass Types:



Laminated Glass



Insulated Laminated Glass



- Configuration as viewed from outside looking in
- All windows dimensions are tip to tip 1/2" flange frame
- All window dimensions are to be taken from the outside (exterior)

Maximum & Minimum sizes (in inches)			
Width		Height	
Minimum available	18	Minimum available	18
Maximum available	42	Maximum available	74

Modular Sizes (In Inches)											
Width	Height	Width	Height	Width	Height	Width	Height	Width	Height	Width	Height
20	24	24	24	28	24	30	24	32	24	36	24
20	30	24	30	28	30	30	30	32	30	36	30
20	36	24	36	28	36	30	36	32	36	36	36e
20	42	24	42	28	42	30	42e	32	42e	36	42e
20	48	24	48	28	48e	30	48e	32	48e	36	48e
20	54	24	54	28	54e	30	54e	32	54e	36	54e
20	60	24	60	28	60e	30	60e	32	60e	36	60e
20	66	24	66	28	66e	30	66e	32	66e	36	66e
20	72	24	72	28	72e	30	72e	32	72e	36	72e
20	74	24	74	28	74e	30	74e	32	74e	36	74e
e= Meets clear opening egress requirements at 5.7 sq. ft.											

Commodity Sizes (In inches)					
Width	Height	Width	Height	Width	Height
19 1/8	17	26 1/2	17	37	17
19 1/8	26	26 1/2	26	37	26
19 1/8	38 3/8	26 1/2	38 3/8	37	38 3/8 e
19 1/8	50 5/8	26 1/2	50 5/8 e	37	50 5/8 e
19 1/8	63	26 1/2	63 e	37	63 e
19 1/8	72	26 1/2	72 e	37	72 e
e= Meets clear opening egress requirements at 5.7 sq. ft.					

Test Results							
Max. Asd design pressure rating	Max. frame width single Vent window	Max Frame Height	Max Vent Width	Max Vent Height	Max D.I.O Width	Max D.I.O. Height	REQ'D Glass Type
+72.0, -72.0	42"	74"	41"	72 1/2"	35 5/8"	67 3/16"	A B C D
+105.0, -105.0	42"	55"	41"	53 3/8"	35 5/8"	48 1/16"	B1 C1
+110.0, -110.0	40"	58"	39"	56 3/8"	33 5/8"	51 1/16"	B1 C1
+120.0, -120.0	37"	63"	36"	61 3/8"	30 5/8"	56 1/16"	B1 C1

Energy Values		U-FACTOR	S.H.G.C	VT
7/16 & 9/16	Clear	1.06	0.53	0.58
	Gray	1.06	0.41	0.34
	SB-60 Clear LOW-e	1.04	0.34	0.50
	SB-70 Clear LOW-e	1.04	0.27	0.41
11/16	Clear	0.75	0.53	0.55
	Gray	0.75	0.41	0.36
	SB-60 Clear LOW-e	0.65	0.30	0.48
	SB-70 Clear LOW-e	0.65	0.22	0.43

HIGH IMPACT PROJECT OUT AWNING S-8000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 11/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Single Stainless Steel arm roto operator and crank handle
- Stainless steel operator track
- Pair of stainless steel four bar concealed hinges
- Multipoint Lock
- Stainless steel locking bar
- Snubber blocks
- Up to 5-point locking system (depends on window height)

Standard Features:

- Extruded screen frame
- Strong structural glazing
- Extruded square glazing bead
- Stainless steel assembly screws and corner keys
- Double weatherstripping
- 1/2" Exterior flange frame
- 2 3/4" deep frame

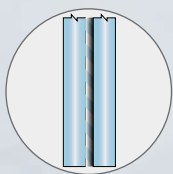
Optional Items:

- Equal Legs Frame
- Colonial muntin

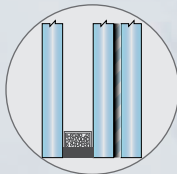
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

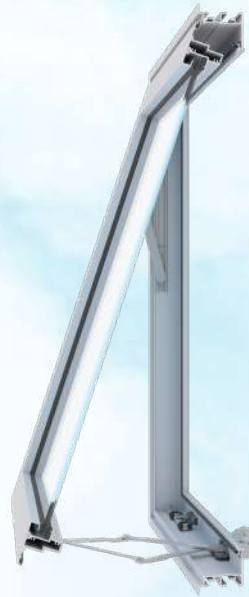
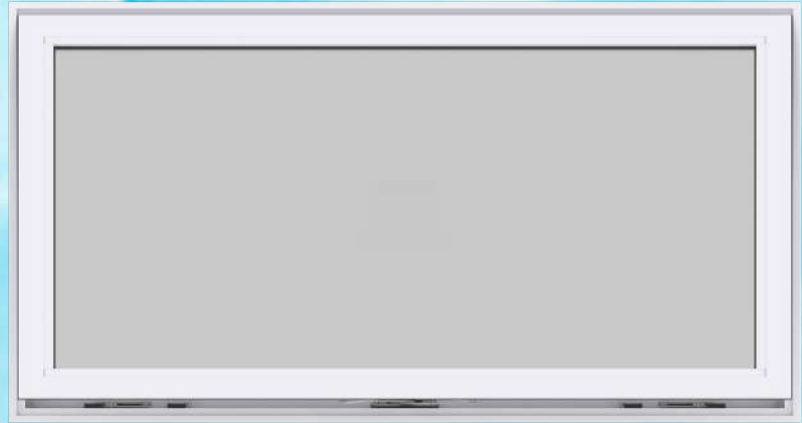
Glass Types:



Laminated Glass



Insulated Laminated Glass



- Configuration as viewed from outside looking in
- All windows dimensions are tip to tip 1/2" flange frame
- All window dimensions are to be taken from the outside (exterior)

Maximum & Minimum sizes (in inches)			
Width		Height	
Minimum available	18	Minimum available	17
Maximum available	84	Maximum available	84

Modular Sizes (In Inches)												
WxH	WxH	WxH	WxH	WxH	WxH	WxH	WxH	WxH	WxH	WxH	WxH	WxH
20X24	24X24	28X24	30X24	32X24	36X24	40X24	42X24	48X24	54X24	60X24	66X24	72X24
20X30	24X30	28X30	30X30	32X30	36X30	40X30	42X30	48X30	54X30	60X30	66X30	72X30
20X36	24X36	28X36	30X36	32X36	36X36	40X36	42X36	48X36	54X36	60X36		
20X42	24X42	28X42	30X42	32X42	36X42	40X42	42X42	48X42	54X42			
20X48	24X48	28X48	30X48	32X48	36X48	40X48	42X48	48X48				
20X54	24X54	28X54	30X54	32X54	36X54	40X54	42X54					
20X60	24X60	28X60	30X60	32X60	36X60	40X60	42X60					
20X66	24X66	28X66	30X66	32X66	36X66	40X66	42X66					
20X72	24X72	28X72	30X72	32X72	36X72	40X72	42X72					
20X84	24X84	28X84	30X84	32X84	36X84	40X84	42X84					
e = Meets clear opening egress requirements at 5.7 sq.ft.												

All window dimension shown are tip to tip of exterior 1/2" flange on frame. Do not use Project Out Windows where Egress (Emergency Escape)

Commodity Sizes (In inches)					
Width	Height	Width	Height	Width	Height
19 1/8	17	26 1/2	17	37	17
19 1/8	26	26 1/2	26	37	26
19 1/8	38 3/8	26 1/2	38 3/8	37	38 3/8
19 1/8	50 5/8	26 1/2	50 5/8	37	50 5/8
19 1/8	63	26 1/2	63	37	63
19 1/8	72	26 1/2	72	37	72
e = Meets clear opening egress requirements at 5.7 sq.ft.					

Test Results								
Max. Asd design pressure rating	Max, frame width single Vent window	Max frame single Height vent window	Max frame Height single	Max vent width	Max vent height	Max D.L.O width	Max D.L.O. Height	REQ'D glass type
+72.0, -72.0	42"	74"	74"	41"	72 1/2"	35 5/8"	67 3/16"	A B C D
+72.0, -72.0	84"	42"	42"	82 1/2"	40 1/2"	77 3/16"	35 3/16"	A B C D
+105.0, -105.0	42"	55"	55"	41"	53 3/8"	35 5/8"	48 1/16"	B1 C1
+110.0, -110.0	40"	58"	58"	39"	56 3/8"	33 5/8"	51 1/16"	B1 C1
+120.0, -120.0	37"	63"	63"	36"	61 3/8"	30 5/8"	56 1/16"	B1 C1

Energy Values		U-FACTOR	S.H.G.C	V.T
7/16 & 9/16	Clear	1.06	0.53	0.58
	Gray	1.06	0.41	0.34
	SB-60 Clear LOW-e	1.04	0.40	0.50
	SB-70 Clear LOW-e	1.04	0.27	0.41
11/16	Clear	0.75	0.53	0.55
	Gray	0.75	0.41	0.36
	SB-60 Clear LOW-e	0.65	0.30	0.48
	SB-70 Clear LOW-e	0.65	0.22	0.43

HIGH IMPACT FIXED CASEMENT S-8000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 11/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Accessories:

- Stainless steel assembly screw
- Extruded square glazing bead
- 2 3/4" deep Frame
- Strong structural glazing
- Fastener covers

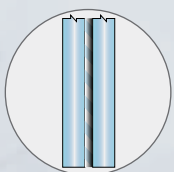
Optional Items:

- Equal Legs Frame
- Colonial muntin

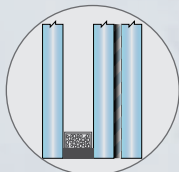
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

Glass Types:



Laminated Glass



Insulated Laminated Glass



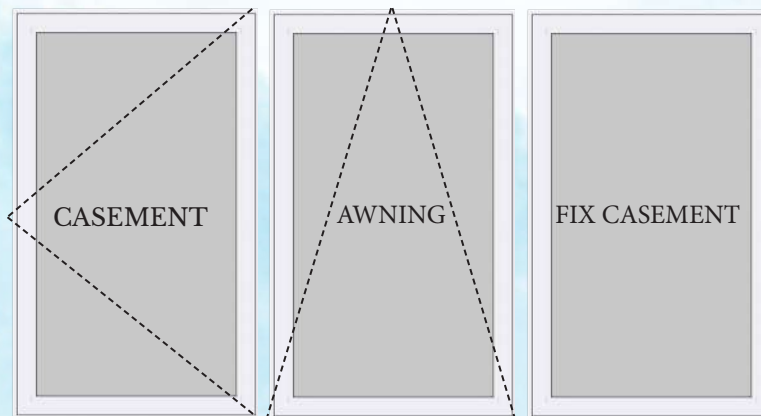
- Configuration as viewed from outside looking in
- All windows dimensions are tip to tip 1/2" flange frame
- All window dimensions are to be taken from the outside (exterior)

Rectangular Fixed Sizes (in inches)	
Max area is 22 sq.ft. Max D.P. +72.0, -72.0	
Max area is 16 sq.ft. Max D.P. +120.0, -120.0	
Fixed window does not meet egress.	

• Side "a" is always equal or shorter than "b".
• "a", "b" may be oriented in any direction.

Test Results							
Max. Asd Design Pressure Rating	Max, Frame Width Single Vent Window	Max, Frame Height Single Vent Window	Max Vent Width	Max Vent Height	Max D.L.O Width	Max D.L.O Height	REQ'D Glass Type
+72.0, -72.0	42"	74"	41"	72 1/2"	35 5/8"	67 3/16"	A B C D
+105.0, -105.0	42"	55"	41"	53 3/8"	35 5/8"	48 1/16"	B1 C1
+110.0, -110.0	40"	58"	39"	56 3/8"	33 5/8"	51 1/16"	B1 C1
+120.0, -120.0	37"	63"	36"	61 3/8"	30 5/8"	56 1/16"	B1 C1

Energy Values		U-FACTOR	S.H.G.C	V.T
7/16" & 9/16"	Clear	1.06	0.53	0.58
	Gray	1.06	0.41	0.34
	SB-60 Clear LOW-e	1.04	0.34	0.50
	SB-70 Clear LOW-e	1.04	0.27	0.41
11/16"	CLEAR	0.75	0.53	0.55
	GRAY	0.75	0.41	0.36
	SB-60 Clear LOW-e	0.65	0.30	0.48
	SB-70 Clear LOW-e	0.65	0.22	0.43



The Fixed Casement Window was created to match the project out awning and casement window frame, when all 3 windows are installed together in multiple configuration.

HIGH IMPACT HORIZONTAL ROLLER S-18000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 11/16" Insulated Laminated

Glass Coatings:

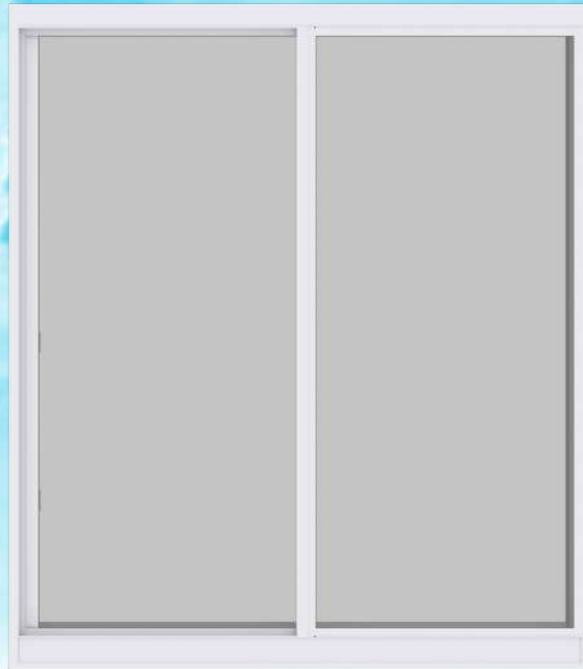
- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Egress self closing lock (Jamb)

Standard Features:

- Two & Three Panel configurations available (OX, XO, XOX)
- Equal lites or 1/4, 1/2, 1/4 configurations
- Stainless Steel screw assembly
- Double weatherstripping and weeped sill
- 2 3/8" deep frame
- Extruded square glazing bead
- Strong structural glazing
- Extruded screen frame



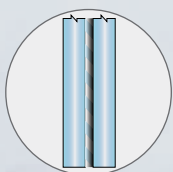
Optional Items:

- Equal Legs Frame
- Colonial muntin

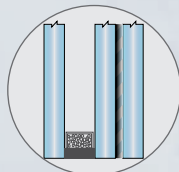
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

Glass Types:



Laminated Glass



Insulated Laminated Glass

- Configuration as viewed from outside looking in
- All windows dimensions are tip to tip 1/2" flange frame
- All window dimensions are to be taken from the outside (exterior)

Modular Sizes XO or OX (in inches)

Width	Height	Width	Height	Width	Height	Width	Height	Width	Height	Width	Height	Width	Height
24	24	36	24	48	24	54	24	60	24	66	24	72	24
24	26	36	26	48	26	54	26	60	26	66	26	72	26
24	36	36	36	48	36	54	36	60	36	66	36	72	36
24	38 3/8	36	38 3/8	48	38 3/8	54	38 3/8	60	38 3/8	66	38 3/8	72	38 3/8
24	48	36	48	48	48	54	48	60	48	66	48	72	48
24	50 5/8	36	50 5/8	48	50 5/8	54	50 5/8e	60	50 5/8e	66	50 5/8e	72	50 5/8e
24	54	36	54	48	54	54	54e	60	54e	66	54e	72	54e
24	60	36	60	48	60	54	60e	60	60e	66	60e	72	60e
24	63	36	63	48	63	54	63e	60	63e	66	63e	72	63e
24	74	36	74	48	74	54	74e	60	74e	66	74e	72	74e

e= Meets clear opening egress requirements at 5.7 sq. ft.

Commodity Sizes (In inches)

Width	Height	Width	Height	Width	Height	Width	Height
26 1/2	26	37	26	53 1/8	26	74	26
26 1/2	38 3/8	37	38 3/8	53 1/8	38 3/8	74	38 3/8e
26 1/2	50 5/8	37	50 5/8	53 1/8	50 5/8e	74	50 5/8e
26 1/2	63	37	63	53 1/8	63e	74	63e
26 1/2	74	37	74	53 1/8	74e	74	74e

e= Meets clear opening egress requirements at 5.7 sq. ft.

*XOX configuration also available

Test Result (XO) OR (OX) Window

Maximum design load	Maximum water pressure	Maximum frame width	Maximum frame height	Max. Operable (x) window width	Max. Fixed (o) window width	Max. Operable (x) D.L.O. Width	Max. Fixed (o) D.L.O. Width	Max. Operable (x) or fixed (o) D.L.O. Height	REQ'D glass type
+100.0, -150.0	'+15 psf.	74 1/4"	56 1/4"	37 1/8"	37 1/8"	33 9/16"	33 9/16"	49 1/4"	29B
+100.0, -130.0	'+15 psf.	74 1/4"	63 1/4"	37 1/8"	37 1/8"	33 9/16"	33 9/16"	56 1/4"	29B
+90.0, -100.0	'+13.5 psf.	74 1/4"	74 1/4"	37 1/8"	37 1/8"	33 9/16"	33 9/16"	67 1/4"	29A
+100.0, -150.0	'+15 psf.	60 1/4"	60 1/4"	30 1/8"	30 1/8"	26 9/16"	26 9/16"	53 1/4"	29B

Test Result (XOX) Window

Maximum design load	Maximum water pressure	Maximum frame width	Maximum frame height	Max. Operable (x) window width	Max. Fixed (o) window width	Max. Operable (x) D.L.O. Width	Max. Fixed (o) D.L.O. Width	Max. Operable (x) or fixed (o) D.L.O. Height	REQ'D glass type
'+100, -130 psf	+15 psf.	111 1/8"	63 1/4"	37 1/16"	37"	33 1/2"	33 1/2"	56 1/4"	29B
+100, -130 psf	+15 psf.	111 1/8"	63 1/4"	28 1/16"	55"	24 3/4"	51"	56 1/4"	29B
'+90, -100 psf.	+13.5 psf.	111 1/8"	74 1/4"	37 1/16"	37"	33 1/2"	33 1/2"	67 1/4"	29A
'+90, -100 psf.	+13.5 psf.	111 1/8"	74 1/4"	28 1/16"	55"	24 3/4"	51"	67 1/4"	29A
'+100, -150 psf	+15 psf.	96 1/4"	63 1/4"	32 1/8"	32"	28 3/8"	28 3/8"	56 1/4"	29B

Energy Values

		U-FACTOR	S.H.G.C	V.T
7/16 & 9/16	Clear	1.08	0.58	0.67
	Gray	1.08	0.46	0.38
	SB-60 Clear LOW-e	1.08	0.39	0.49
	SB-70 Clear LOW-e	1.08	0.30	0.46
11/16	Clear	0.75	0.53	0.55
	Gray	0.75	0.41	0.36
	SB-60 Clear LOW-e	0.65	0.30	0.48
	SB-70 Clear LOW-e	0.65	0.22	0.43

HIGH IMPACT SINGLE HUNG S-20000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 11/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Egress self closing lock (Sill mounted)

Standard Features:

- Matching top and bottom sightlines
- 2 3/8" deep Frame
- Hidden block and tackle balance
- Extruded square glazing bead
- Strong structural glazing
- Extruded screen frame

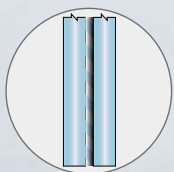
Optional Items:

- Equal leg frame
- Uneven size vent windows (Oriel)
- Colonial muntin

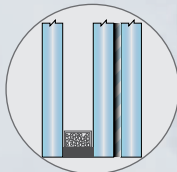
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

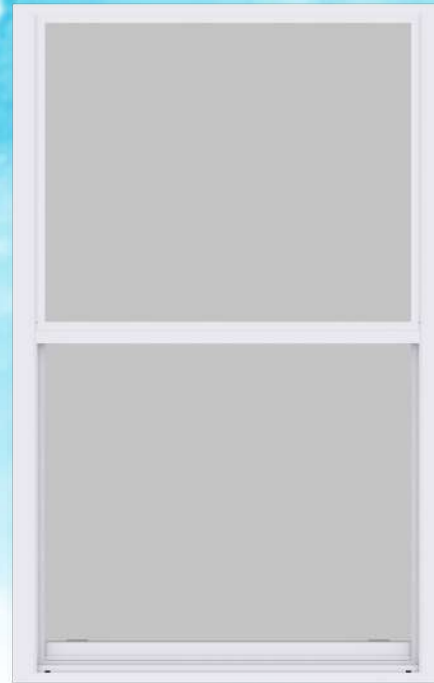
Glass Types:



Laminated Glass



Insulated Laminated Glass



- Configuration as viewed from outside looking in
- All windows dimensions are tip to tip 1/2" flange frame
- All window dimensions are to be taken from the outside (exterior)

Modular Sizes (in inches)									
Width	Height	Width	Height	Width	Height	Width	Height	Width	Height
24"	26"	32"	26"	40"	26"	44"	26"	48"	26"
24"	38 3/8"	32"	38 3/8"	40"	38 3/8"	44"	38 3/8"	48"	38 3/8"
24"	50 5/8"	32"	50 5/8"	40"	50 5/8"	44"	50 5/8"	48"	50 5/8"
24"	59 1/2"	32"	59 1/2"	40"	59 1/2"e	44"	59 1/2"e	48"	59 1/2"
24"	63"	32"	63"	40"	63"e	44"	63"e	48"	63"e
24"	74"	32"	74"	40"	74"e	44"	74"e	48"	74"e
e= Meets clear opening egress requirements at 5.7 sq. ft.									

Commodity Sizes (In inches)							
Width	Height	Width	Height	Width	Height	Width	Height
19 1/8"	26"	26 1/2"	26"	37"	26"	53 1/8"	26"
19 1/8"	38 3/8"	26 1/2"	38 3/8"	37"	38 3/8"	53 1/8"	38 3/8"
19 1/8"	50 5/8"	26 1/2"	50 5/8"	37"	50 5/8"	53 1/8"	50 5/8"
19 1/8"	59 1/2"	26 1/2"	59 1/2"	37"	59 1/2"	53 1/8"	59 1/2"e
19 1/8"	63"	26 1/2"	63"	37"	* 63e	53 1/8"	63"e
19 1/8"	74"	26 1/2"	74"	37"	74e	53 1/8"	74"e
* For windows size 37x63 meet egress only 1st floor 5.0. sq.ft.							
The minimum net clear opening for Grade-floor emergency escape and rescue openings shall be 5.0 sq.ft. (0.46m ²)							
e = Meets clear opening egress requirements at 5.7 sq.ft.							

Test Result (XO) OR (OX) WINDOW								
Maximum design load	Maximum water pressure	Maximum frame width	Maximum frame height	Max. Operable (x) D.L.O. height	Max. Operable (x) D.L.O. Width	Max. Fixed (o) D.L.O. height	Max. Fixed (O) D.L.O. Width	REQ'D glass type
'+80, -80 psf.	'+12 psf.	53 1/8"	74 1/4"	33 1/4"	47 3/8"	33 5/8"	47 1/4"	19 OR 19C
'+90, -90 psf.	'+13.5 psf.	53 1/8"	74 1/4"	33 1/4"	47 3/8"	33 5/8"	47 1/4"	19A
'+100, -100 psf.	'+15 psf.	44"	74 1/4"	33 1/4"	38 1/8"	33 5/8"	38"	19A
'+120, -150 psf.	+18 psf.	53 1/8"	74 1/4"	33 1/4"	47 3/8"	33 5/8"	47 1/4"	19B

Energy Values		U-FACTOR	S.H.G.C	V.T
7/16 & 9/16	Clear	1.05	0.59	0.67
	Gray	1.05	0.46	0.39
	SB-60 Clear LOW-e	1.05	0.39	0.51
	SB-70 Clear LOW-e	1.05	0.30	0.47
11/16	Clear	0.75	0.53	0.55
	Gray	0.75	0.41	0.36
	SB-60 Clear LOW-e	0.65	0.30	0.48
	SB-70 Clear LOW-e	0.65	0.22	0.43

HIGH IMPACT FIXED WINDOW S-21000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 11/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70XL

Standard Accessories:

- Stainless steel assembly screw
- Extruded square glazing bead
- 2 3/4" deep Frame
- Strong structural glazing
- Fastener covers

Designer Fixed Windows:

- Half Circle
- Arch top/eyebrow
- Full Circle
- Octagon
- Hexagon
- Ellipse
- Oval
- Trapezoid
- Pentagon
- Gothic Pentagon

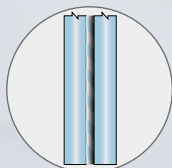
Optional Items:

- Equal Legs Frame
- Uneven size vent windows (Oriel)
- Colonial Muntin

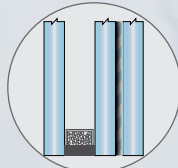
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.78

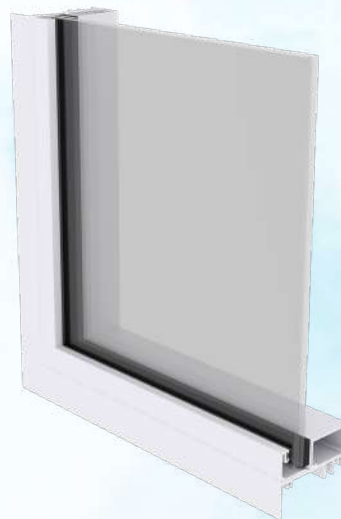
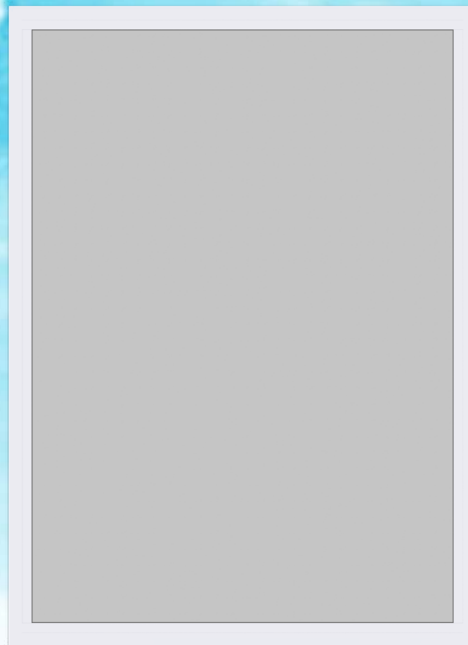
Glass Types:



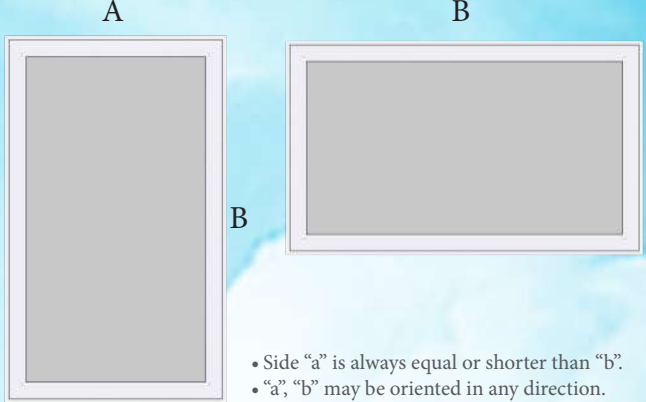
Laminated Glass



Insulated Laminated Glass



- Configuration as viewed from outside looking in
- All windows dimensions are tip to tip 1/2" flange frame
- All window dimensions are to be taken from the outside (exterior)

Rectangular Fixed Sizes (in inches)	
Max area is 38 sq.ft. With 7/16" P.V.B.	 <ul style="list-style-type: none"> • Side "a" is always equal or shorter than "b". • "a", "b" may be oriented in any direction.
Max area is 41 1/2 sq.ft. With 9/16" S.G.P.	
Max area is 31 sq.ft. With 11/16" P.V.B. insulated	
Fixed window does not meet egress.	

TEST RESULTS					
MAX. ASD DESIGN PRESSURE RATING	MAX. FRAME WIDTH	MAX FRAME HEIGHT	MAX D.L.O. WIDTH	MAX D.L.O. HEIGHT	REQ'D GLASS TYPE
+72.0, -72.0	50"	89"	46 7/16"	85 7/16"	10B, 11B
+105.0, -105.0	50"	110"	46 7/16"	106 7/16"	10A, 11A
+110.0, -110.0	50"	120"	46 7/16"	116 7/16"	10, 11

ENERGY VALUES		U-FACTOR	S.H.G.C	V.T
7/16 & 9/16	Clear	1.04	0.67	0.79
	Gray	1.04	0.52	0.45
	SB-60 Clear LOW-e	1.04	0.44	0.58
	SB-70 Clear LOW-e	1.03	0.33	0.54
11/16	Clear	0.63	0.64	0.71
	GRAY	0.63	0.50	0.48
	SB-60 Clear LOW-e	0.60	0.33	0.60
	SB-70 Clear LOW-e	0.56	0.27	0.56

Other Design and Larger Sizes Available
Like No other in the Industry

Design Pressures
+130.0, -154.0 P.S.F.

HIGH IMPACT OUTSWING FRENCH DOOR S-24000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 13/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Flush Bolt
- Aluminum hinges

Standard Features:

- Extruded snap- on round glazing beads
- 4 ½ deep frame
- Fastener covers
- Triple weatherstripping
- Outswing configuration
- Stainless steel screw
- Sill Height 1. 5/8"

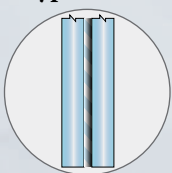
Optional Items:

- 3- point locking system
- Handle Summit, Aria, Acacia, White, Bronze, Silver, Satin Nickel, Antique Brass
- Square Glazing Bead
- Colonial Muntin
- 10" Bottom Rail
- Uneven Panel for Double Door

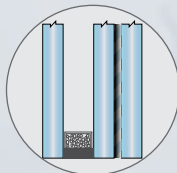
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

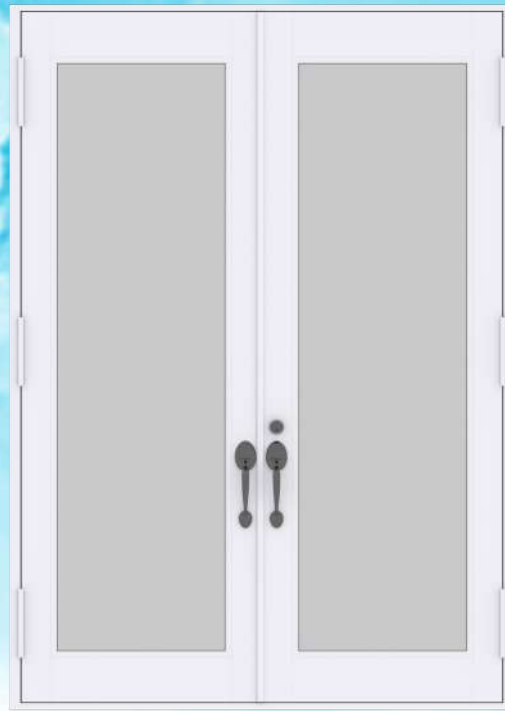
Glass Types:



Laminated Glass



Insulated Laminated Glass



- Configuration as viewed from outside looking in
- All doors dimensions are tip to tip frame
- All doors dimensions are to be taken from the outside (exterior)

Single Door Sizes								
Code Size	Width	Height	Code Size	Width	Height	Code Size	Width	Height
2668	31 1/4"	80"	2680	31 1/4"	96"	2610	31 1/4"	120"
2868	33 1/4"	80"	2880	33 1/4"	96"	2810	33 1/4"	120"
3068	37 1/4"	80"	3080	37 1/4"	96"	3010	37 1/4"	120"
4068	42"	80"	4080	42"	96"	4010	42"	120"

Double Door Sizes								
Code Size	Width	Height	Code Size	Width	Height	Code Size	Width	Height
4068	48"	80"	4080	48"	96"	4010	48"	120"
5068	60"	80"	5080	60"	96"	5010	60"	120"
5468	64"	80"	5480	64"	96"	5410	64"	120"
6068	72"	80"	6080	72"	96"	6010	72"	120"
6868	80"	80"	6880	80"	96"	6810	80"	120"

Sidelite Sizes							
Width	Height	Width	Height	Width	Height	Width	Height
12"	80"	12"	84"	12"	96"	12"	100"
18"	80"	18"	84"	18"	96"	18"	100"
24"	80"	24"	84"	24"	96"	24"	100"
30"	80"	30"	84"	30"	96"	30"	100"
33"	80"	33"	84"	33"	96"	33"	100"
36"	80"	36"	84"	36"	96"	36"	100"
42"	80"	42"	84"	42"	96"	42"	100"
48"	80"	48"	84"	48"	96"	48"	100"
Transom Size 80"x48"							

Test result		
Maximum Water Resistance	10.5 P.S.F.	
Large Missile	3'x8' Panel (HS/HS Glass)	+70.0, -70.0 P.S.F.
	3'x10'	+45.0, -45.0 P.S.F.
Forced Entry Test	Passed	

Energy Values		U-FACTOR	S.H.G.C	V.T
7/16 & 9/16	Clear	1.04	0.42	0.45
	Gray	1.04	0.33	0.26
	SB-60 Clear LOW-e	1.04	0.28	0.38
	SB-70 Clear LOW-e	1.04	0.23	0.31
11/16	Clear	0.81	0.40	0.41
	Gray	0.81	0.32	0.27
	SB-60 Clear LOW-e	0.74	0.25	0.37
	SB-70 Clear LOW-e	0.74	0.19	0.32

HIGH IMPACT SLIDING GLASS DOOR S-26000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 1" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Interior lock and handle
- Stainless steel housing with Nylon Rollers
- White, Bronze or Gray Handles

Standard Features:

- 2, 3, 4, & 5 track and pocketed configurations
- 5.1/8 deep frame on 2 tracks
- 7. 5/8 deep frame on 3 tracks
- 10. 1/8 deep frame on 4 tracks
- 12. 5/8 deep frame on 5 tracks
- Stainless steel fasteners
- Heavy Duty extruded screen frame
- 2-point lock
- Concealed installation screws

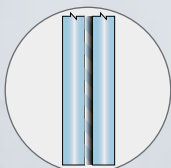
Optional Items:

- Exterior Keyed security lock
- Dual Track extruded screen frame
- 3, 4, 5 tracks configurations
- Freestanding Jamb
- Corner Door 90*

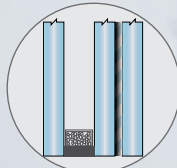
Aluminum Specification:

- Tempered 6005-T5
- Overall Thickness 1/8"

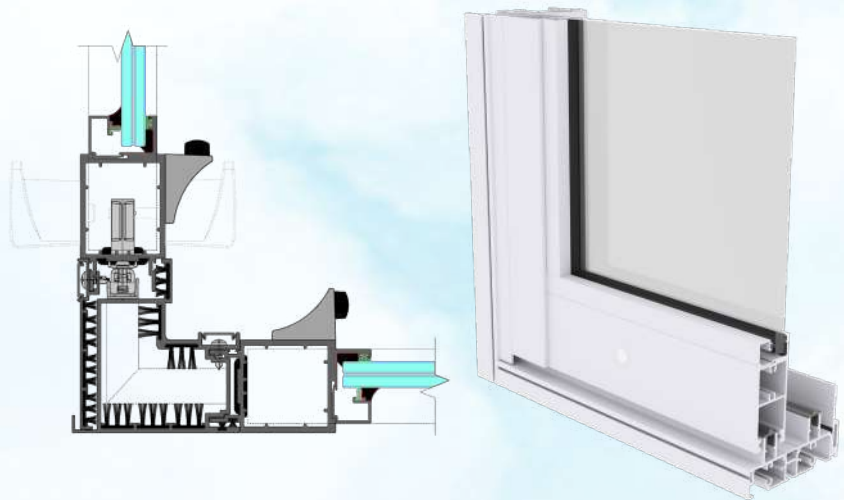
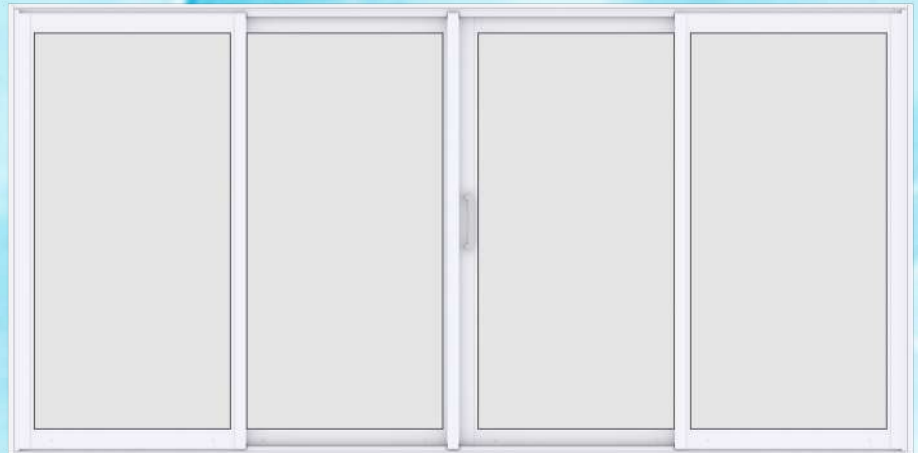
Glass Types:



Laminated Glass



Insulated Laminated Glass



Corner Door Configuration without mullion.

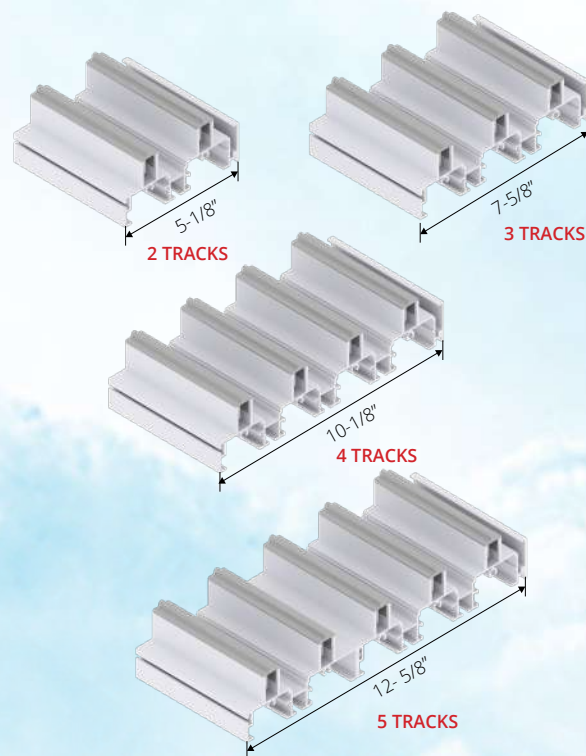
- Frame width 90" inches will be allowable to be installed for up to 120" frame height doors and a maximum panel width 60".
- Frame width 75" inches will be allowable to be installed for up to 144" frame height doors and a maximum panel width of 48".

Door Sizes		
2 Track Configuration	Width	Height
OX - XO - XX	48"	80"-96"-120"-144"
	60"	80"-96"-120"-144"
	72"	80"-96"-120"-144"
	96"	80"-96"-120"-144"
	120"	80"-96"-120"
OXO	108"	80"-96"-120"-144"
	144"	80"-96"-120"-144"
	180"	80"-96"-120"
OXXO - XXXX	120"	80"-96"-120"-144"
	144"	80"-96"-120"-144"
	192"	80"-96"-120"-144"
	240"	80"-96"-120"
3 Track Configuration	Width	Height
OXX - XO - XXX	90"	80"-96"-120"-144"
	108"	80"-96"-120"-144"
	144"	80"-96"-120"-144"
	180"	80"-96"-120"
OXXXXO - OXXXXX - XXXXXO - XXXXXX	216"	80"-96"-120"-144"
	240"	80"-96"-120"-144"
	288"	80"-96"-120"-144"
	360"	80"-96"-120"
4 Track Configuration	Width	Height
OXXX - XXXO - XXXX	120"	80"-96"-120"-144"
	144"	80"-96"-120"-144"
	180"	80"-96"-120"-144"
	240"	80"-96"-120"
OXXXXXXXXO - OXXXXXXXXX - XXXXXXXXO - XXXXXXXXX	240"	80"-96"-120"-144"
	288"	80"-96"-120"-144"
	384"	80"-96"-120"-144"
	480"	80"-96"-120"
5 Track Configuration	Width	Height
OXXXX - XXXXO - XXXXX	180"	80"-96"-120"-144"
	216"	80"-96"-120"-144"
	240"	80"-96"-120"-144"
	300"	80"-96"-120"
OXXXXXXXXXO - OXXXXXXXXXX - XXXXXXXXXXO - XXXXXXXXXX	288"	80"-96"-120"-144"
	360"	80"-96"-120"-144"
	480"	80"-96"-120"-144"
	600"	80"-96"-120"

Test Result		
Maximum Water Resistance Large & Small Missile	Sill Riser Adapter 3 1/2"	7.5 P.S.F.
	Sill Riser Adapter 4"	9 P.S.F.
	Sill Riser Adapter 5 3/8"	15 P.S.F.
Large Missile	5'x10' panel (Ann/Ann Glass)	+60.0, -60.0 P.S.F.
	5'x7' panel (HS/HS Glass)	+100.0, -177.0 P.S.F.
	5'x8' panel (HS/HS Glass)	+90.0, -132.0 P.S.F.
	5'x10' panel (HS/HS Glass)	+78.0, -88.0 P.S.F.
	4'x12' panel (HS/HS Glass)	+70.0, -70.0 P.S.F.
Small Missile	4'x10' panel (Temp./Temp. Glass)	+100.0, -140.0 P.S.F.

Energy values		U-Factor	S.H.G.C	V.T
7/16 & 9/16	Clear	1.07	0.51	0.59
	Gray	1.07	0.40	0.33
	SB-60 Clear LOW-e	1.08	0.32	0.50
	SB-70 Clear LOW-e	1.08	0.26	0.40
1"	Clear	0.75	0.48	0.53
	Gray	0.75	0.34	0.30
	SB-60 Clear LOW-e	0.63	0.28	0.47
	SB-70 Clear LOW-e	0.63	0.20	0.42

FRAME HEAD & SILL



HIGH IMPACT OUTSWING ENTRANCE DOOR S-70000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 1 5/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- Flush Bolt
- Stainless steel hinges 4 1/2" X 4"
- Push and Pull 1" X 10" Handle

Standard Features:

- Extruded snap-on square glazing beads
- 4 1/2" deep frame
- Fastener Cover
- Triple weatherstripping
- Outswing configuration
- Stainless steel screw

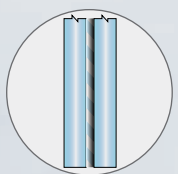
Optional Items:

- 3-Point Locking System
- Handle Summit, Aria, Acadia, White, Bronze, Silver, Satin Nickel, Antique Brass
- Colonial Muntin
- 6" or 10" Bottom Rail
- Uneven Panel for Double Door

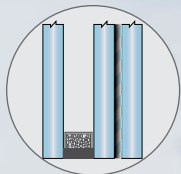
Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.80

Glass Types:



Laminated Glass



Insulated Laminated Glass



1/4" Saddle Threshold 1/2" ADA Threshold 1 1/2" Water Resistance Threshold

Panic Device Type

- Series AD8400- ASSA ABLOY
- Series G86- ASSA ABLOY
- Series 9947- VON DUPRIN

- Configuration as viewed from outside looking in
- All doors dimensions are tip to tip frame
- All doors dimensions are to be taken from the outside (exterior)

Single Door Sizes								
Code Size	Width	Height	Code Size	Width	Height	Code Size	Width	Height
2668	31 1/4"	80"	2680	31 1/4"	96"	2610	31 1/4"	120"
2868	33 1/4"	80"	2880	33 1/4"	96"	2810	33 1/4"	120"
3068	37 1/4"	80"	3080	37 1/4"	96"	3010	37 1/4"	120"
4068	42"	80"	4080	42"	96"	4010	42"	120"

Double Door Sizes								
Code Size	Width	Height	Code Size	Width	Height	Code Size	Width	Height
4068	48"	80"	4080	48"	96"	4010	48"	120"
5068	60"	80"	5080	60"	96"	5010	60"	120"
5468	64"	80"	5480	64"	96"	5410	64"	120"
6068	72"	80"	6080	72"	96"	6010	72"	120"
6868	80"	80"	6880	80"	96"	6810	80"	120"

Side lite size, the system integrates with the series 12000 and 70000 Store front.

Sidelite Sizes, the system integrates with the series 12000 and 70000 Store front							
Width	Height	Width	Height	Width	Height	Width	Height
12"	80"	12"	84"	12"	96"	12"	120"
18"	80"	18"	84"	18"	96"	18"	120"
24"	80"	24"	84"	24"	96"	24"	120"
30"	80"	30"	84"	30"	96"	30"	120"
33"	80"	33"	84"	33"	96"	33"	120"
36"	80"	36"	84"	36"	96"	36"	120"
42"	80"	42"	84"	42"	96"	42"	120"
48"	80"	48"	84"	48"	96"	48"	120"

Transom Size 80"x48"

Test result		
Maximum Water Resistance with 1 1/2" threshold		8 P.S.F.
Large Missile	3'x7' Panel (HS/HS Glass)	+130.0, -140.0 P.S.F.
	3'x10'	+90.0, -100.0 P.S.F.
Forced Entry Test	Passed	

Energy Values		U-factor	S.H.G.C	V.T
7/16"	Clear	1.04	0.65	0.75
	Gray	1.04	0.51	0.43
	SB-60 Clear LOW-e	1.05	0.43	0.55
	SB-70 Clear LOW-e	1.04	0.32	0.51
9/16"	Clear	1.04	0.65	0.75
	Gray	1.04	0.51	0.43
	SB-60 Clear LOW-e	1.05	0.43	0.55
	SB-70 Clear LOW-e	1.04	0.32	0.51
1-5/16"	Clear	0.63	0.53	0.65
	Gray	0.63	0.37	0.33
	SB-60 Clear LOW-e	0.63	0.34	0.56
	SB-70 Clear LOW-e	0.63	0.24	0.46

HIGH IMPACT STOREFRONT S-70000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer, Spandrel

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 1 5/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- #14 X 2 3/4" with 180 KSI tensile strength, coated with xyaln 5000 series flouraPolymer coating

Standard Features:

- 4 1/2" deep frame
- Fastener Cover
- Double weatherstripping
- Strong Structural Glazing

Optional Items:

- Colonial Muntin

Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 0.100"

Water resistant at 13.5 P.S.F. (ASTM E 547/E 331)

Air Infiltration at 6.24 P.S.F. (ASTM E 283)

Commercial rated

Forced entry test (ASTM F588)

Drop load test 400 ft. lbs. ANSIZ97.1

Jamb, Head, and Sill 2. 1/4" X 4. 1/2"

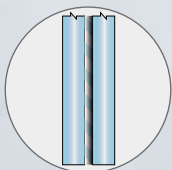
Vertical and Horizontal Mullion 3" X 4. 1/2"

Small Fasteners Covers

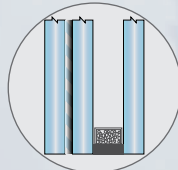
Large Fasteners Covers

4 Assembly screws per corner joint 1/4" X 2. 3/4"

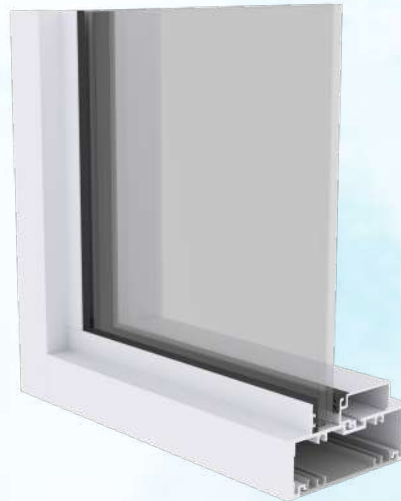
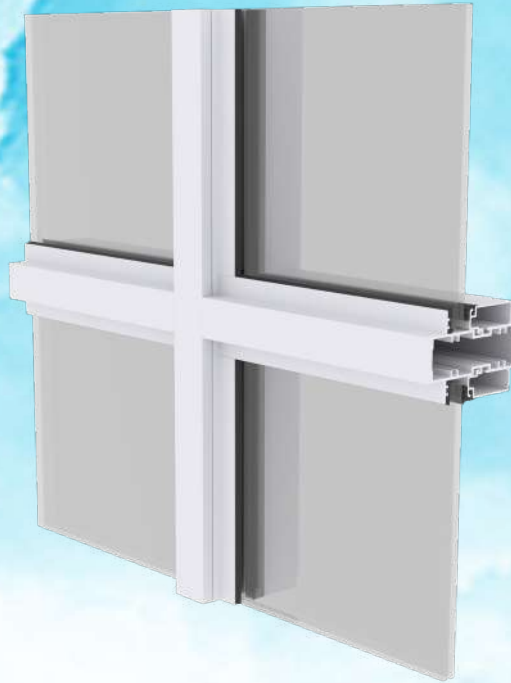
Glass Types:



Laminated Glass



Insulated Laminated Glass



- The system integrates with Entrance Door with medium stile 4" with a variety of locking hardware 2- and 3-point lock including panic device concealed vertical rod exit device. 1/2" threshold bumper, 1/4" threshold saddle, and height sill 1. 1/2" for water resistance (8 P.S.F)

Max Area is 35 sq.ft. - 7/16" P.V.B.	
Max Area is 59 sq.ft. - 7/16" S.G.P.	
Max Area is 28 sq.ft. - 9/16", 1-5/16" P.V.B.	
Max Area is 35 sq.ft. - 9/16", 1-5/16" S.G.P.	
Fixed window does not meet egress.	

Test Result - Single Panel Dimension		
Design pressure	Width	Height
+66.0, -66.0 P.S.F.	36"	144"
+55.0, -55.0 P.S.F.	60"	142"
+90.0, -90.0 P.S.F.	36"	108"
+90.0, -90.0 P.S.F.	48"	82"
+90.0, -180.0 P.S.F.	36"	144"
+90.0, -180.0 P.S.F.	42"	120"
+90.0, -180.0 P.S.F.	48"	108"

Test Result - Free Standing Maximum Vertical Mullion and Jamb Mullion Span		
Maximum	Maximum Effecting Spacing	Maximum Mullion Span
+50.0, -50.0 P.S.F.	36"	140"
+66.0, -66.0 P.S.F.	48"	108"
+70.0, -70.0 P.S.F.	60"	81"
+90.0, -90.0 P.S.F.	36"	105"
+55.0, -55.0 P.S.F.	60"	144"
+90.0, -150.0 P.S.F.	36"	144"
+90.0, -180.0 P.S.F.	48"	130"

Test Result - Maximum Horizontal Mullion Span		
Maximum	Maximum Effecting Spacing	Maximum Mullion Span
+70.0, -70.0 P.S.F.	57"	81"
+90.0, -150.0 P.S.F.	33"	144"
+90.0, -180.0 P.S.F.	45"	130"

Energy Values		U-FACTOR	S.H.G.C	V.T
7/16"	Clear	1.04	0.65	0.75
	Gray	1.04	0.51	0.43
	SB-60 Clear LOW-e	1.05	0.43	0.55
	SB-70 Clear LOW-e	1.04	0.32	0.51
9/16"	Clear	1.04	0.65	0.75
	Gray	1.04	0.51	0.43
	SB-60 Clear LOW-e	1.05	0.43	0.55
	SB-70 Clear LOW-e	1.04	0.32	0.51
1-5/16"	Clear	0.63	0.53	0.65
	Gray	0.63	0.37	0.33
	SB-60 Clear LOW-e	0.63	0.34	0.56
	SB-70 Clear LOW-e	0.63	0.24	0.46

HIGH IMPACT STOREFRONT S-12000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear, Gray, Bronze, Solexia Green, White Interlayer, Spandrel

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- 1 5/16" Insulated Laminated

Glass Coatings:

- Energy efficient low-E options
- SB-60 & SB-70

Standard Hardware:

- #14 X 2 3/4" with 180 KSI Tensile Strength, coated with Xyaln 5000 Series FlouaraPolymer coating

Standard Features:

- 6" deep frame
- Fastener Cover
- Double weatherstripping
- Strong Structural Glazing

Optional Items:

- Colonial muntin

Aluminum Specification:

- Tempered 6063-T6
- Overall Thickness 1/8"

Water resistant at 19.5 P.S. F. (ASTM E 547/E 331)

Air Infiltration at 6.24 P.S.F. (ASTM E 283)

Commercial rated

Forced entry test (ASTM F588)

Drop load test 400 ft. lbs. ANSIZ97.1

Jamb, Head, and Sill 3" X 6"

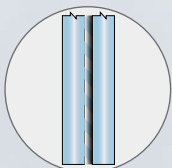
Vertical and Horizontal Mullion 4" X 6"

Small Fasteners Covers

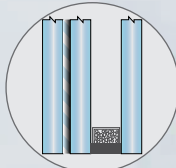
Large Fasteners Covers

4 Assembly screws per corner joint 1/4" X 2. 3/4"

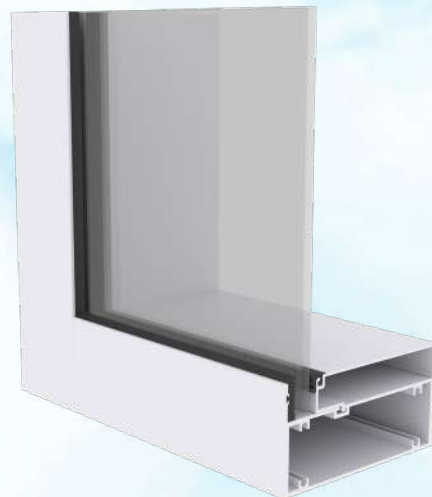
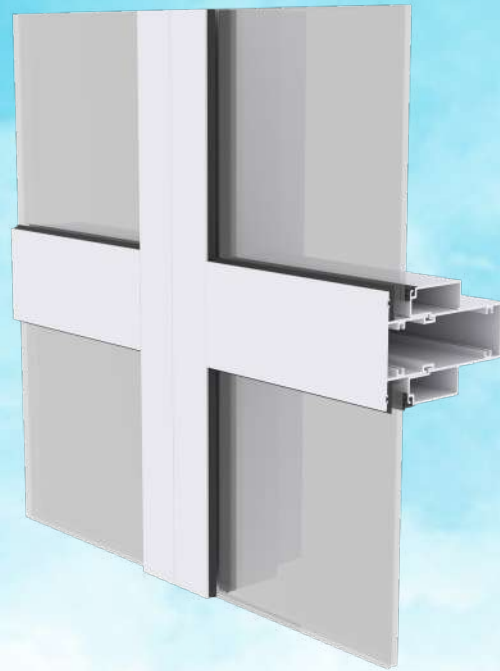
Glass Types:



Laminated Glass



Insulated Laminated Glass



- The system integrates with Entrance Door with medium stile 4" with a variety of locking hardware 2- and 3-point lock including panic device concealed vertical rod exit device. 1/2" threshold bumper, 1/4" threshold saddle, and height sill 1. 1/2" for water resistance (8 P.S.F)

Max Area is 36 sq.ft. - 7/16" P.V.B.	
Max Area is 50 sq.ft. - 9/16", 1-5/16" P.V.B.	
Max Area is 42 sq.ft. - 9/16", 1-5/16" S.G.P.	
Fixed window does not meet egress.	

• Side "a" is always equal or shorter than "b".
 • "a", "b" may be oriented in any direction

Test Result - Single Panel Dimension		
Design pressure	Width	Height
+80.0, -80.0 P.S.F.	72"	100"
+70.9, -70.9 P.S.F.	84"	86"
+80.0, -80.0 P.S.F.	48"	139"
+130.0, -140.0 P.S.F.	60"	98"
+130.0, -140.0 P.S.F.	42"	139"
+130.0, -140.0 P.S.F.	56"	108"
+130.0, -140.0 P.S.F.	72"	84"

Test Result - Free Standing Maximum Vertical Mullion and Jamb Mullion Span		
Design pressure	Maximum Effecting Spacing	Maximum Mullion Span
+60.0, -55.0 P.S.F.	48"	189"
+70.0, -70.0 P.S.F.	60"	148"
+90.0, -90.0 P.S.F.	84"	120"
+100.0, -100.0 P.S.F.	48"	152"
+125.0, -125.0 P.S.F.	42"	145"
+130.0, -130.0 P.S.F.	48"	133"
+130.0, -140.0 P.S.F.	60"	115"

Test Result - Maximum Horizontal Mullion Span		
Design pressure	Maximum Effecting Spacing	Maximum Mullion Span
+75.0, -75.0 P.S.F.	84"	84"
+120.0, -120.0 P.S.F.	60"	75"
+130.0, -140.0 P.S.F.	60"	64"

Energy Values		U-FACTOR	S.H.G.C	VT
7/16"	Clear	1.11	0.64	0.72
	Gray	1.11	0.51	0.41
	SB-60 Clear LOW-e	1.11	0.43	0.53
	SB-70 Clear LOW-e	1.11	0.33	0.49
9/16"	Clear	1.11	0.62	0.70
	Gray	1.11	0.48	0.35
	SB-60 Clear LOW-e	1.11	0.40	0.49
	SB-70 Clear LOW-e	1.11	0.32	0.49
1-5/16"	Clear	0.73	0.53	0.63
	Gray	0.73	0.37	0.31
	SB-60 Clear LOW-e	0.71	0.35	0.36
	SB-70 Clear LOW-e	0.71	0.25	0.44

HIGH IMPACT GLASS RAILINGS S-28000

Available Finishes:

- White, Bronze, and Clear Anodized

Standard Glass Colors:

- Clear
- Gray
- Bronze
- Solexia Green
- White Interlayer

Standard Features:

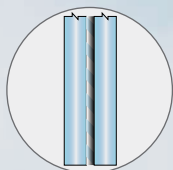
- 3" Deep Post
- 5" Deep Cap Oval
- 5 3/4" Deep Cap Sloped
- 5" Deep Cap Round
- 5" Deep Cap Square
- 135° Post
- 90° Corner Post
- 3" X 3" End and Interior Post

Standard Hardware:

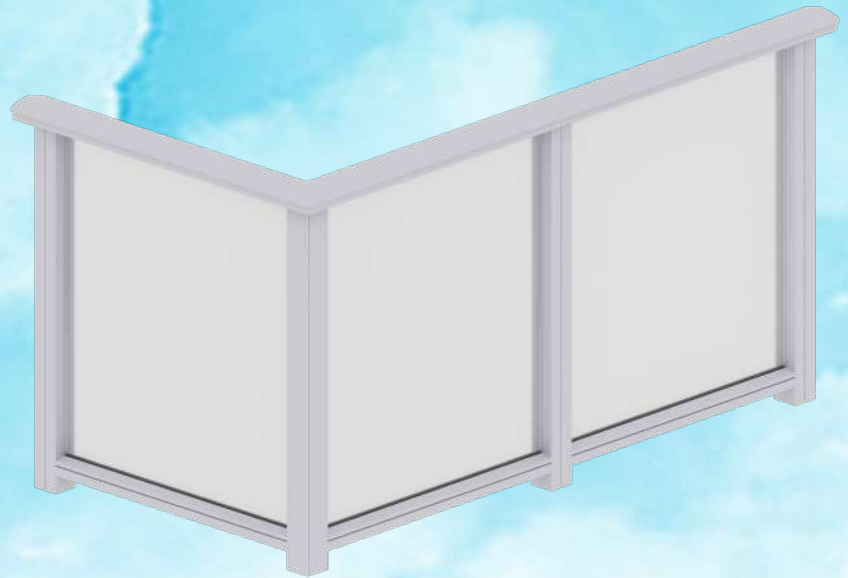
- #14 X 2 3/4" Assembly Screws with 180 KSI Tensile Strength, coated with Xyaln 5000 series Series FlouoraPolymer coating
- Double Weatherstripping

Glass Types:

- 7/16" Laminated
- 9/16" Laminated
- Full Tempered Glass



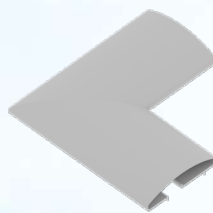
Laminated Glass
7/16 - 9/16



EXTERIOR GLASS CONFIGURATION
POST TO POST



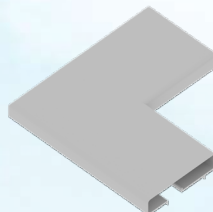
INTERIOR GLASS CONFIGURATION
POST TO POST



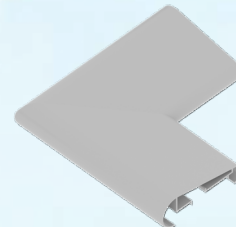
OVAL CAP






ROUND CAP



SQUARE CAP



SLOPED CAP

Test Results		Max. ASD Design Pressure Rating Schedule For 44" Tall Railing System								
Max. ASD design pressure rating	REQ'D interior & end post	REQ'D Hole At Post (W/ D=5")					REQ'D Glass	Max. Post spacing		
		f'c=3 Ksi	f'c=4 Ksi	f'c=6 Ksi	f'c=8 Ksi	f'c=10 Ksi				
 <p>POST (A) POST (B)</p> <ul style="list-style-type: none"> • None Reinforcement System up to ±100.0 P.S.F. • 90° Post • 135° Post 	+70.0,-70.0 psf OR LESS	A, D	d=4"	d=4"	d=4"	d=4"	d=4"	14	36"	
		A, D	d=4"	d=4"	d=4"	d=4"	d=4"	14	42"	
		A, D	d=4-1/4"	d=4"	d=4"	d=4"	d=4"	14	48"	
		A, D	d=4-1/2"	d=4"	d=4"	d=4"	d=4"	14	50"	
	+71.0,-71.0 psf TO +80.0,-80.0 psf	A, D	d=4"	d=4"	d=4"	d=4"	d=4"	14	36"	
		A, D	d=4-1/4"	d=4"	d=4"	d=4"	d=4"	14	42"	
		A, D	d=4-1/2"	d=4"	d=4"	d=4"	d=4"	14	48"	
		A, D	d=4-3/4"	d=4"	d=4"	d=4"	d=4"	14	50"	
	+81.0,-81.0 psf TO +90.0,-90.0 psf	A, D	d=4-1/4"	d=4"	d=4"	d=4"	d=4"	14	36"	
		A, D	d=4-1/2"	d=4"	d=4"	d=4"	d=4"	14	42"	
		A, D	d=5"	d=4-1/4"	d=4"	d=4"	d=4"	14	48"	
		A, D	d=5"	d=4-1/4"	d=4"	d=4"	d=4"	14	50"	
	+91.0,-91.0 psf TO +100.0,-100.0 psf	A, D	d=4-1/2"	d=4"	d=4"	d=4"	d=4"	14	36"	
		A, D	d=4-3/4"	d=4"	d=4"	d=4"	d=4"	14	42"	
		A, D	d=5"	d=4-1/4"	d=4"	d=4"	d=4"	14	48"	
A, D		d=5-1/4"	d=4-1/2"	d=4"	d=4"	d=4"	14	50"		
 <p>POST (B) POST (E)</p> <ul style="list-style-type: none"> • Single Reinforcement System up to ±135.0 P.S.F. • 90° Post • 135° Post 	+101.0,-101.0 psf TO +110.0,-110.0 psf	B, E	d=4 3/4"	d=4"	d=4"	d=4"	d=4"	14	36"	
		B, E	d=5"	d=4-1/4"	d=4"	d=4"	d=4"	14	42"	
		B, E	d=5-1/2"	d=4-3/4"	d=4"	d=4"	d=4"	14	48"	
	+111.0,-111.0 psf TO +128.0,-128.0 psf	B, E	d=5"	d=4-1/4"	d=4"	d=4"	d=4"	14	36"	
		B, E	d=5-1/2"	d=4-1/2"	d=4"	d=4"	d=4"	14	42"	
		B, E	d=6"	d=5"	d=4-1/4"	d=4-1/4"	d=4-1/4"	14	48"	
	+129.0,-129.0 psf	B, E	d=5"	d=4-1/4"	d=4"	d=4"	d=4"	14A	36"	
		B, E	d=5-1/2"	d=4-3/4"	d=4"	d=4"	d=4"	14A	42"	
		B, E	d=6"	d=5"	d=4-1/4"	d=4"	d=4"	14A	48"	
	+130.0,-130.0 psf TO +135.0,-135.0 psf	B, E	d=5-1/4"	d=4-1/4"	d=4"	d=4"	d=4"	14A	36"	
		B, E	d=5-1/2"	d=5"	d=4"	d=4"	d=4"	14A	42"	
		B, E	d=6"	d=5-1/4"	d=4-1/4"	d=4-1/4"	d=4-1/4"	14A	48"	
	 <p>POST (C) POST (F)</p> <ul style="list-style-type: none"> • Double Reinforcement System up to ±185.0 P.S.F. • 90° Post • 135° Post 	+136.0,-136.0 psf TO +140.0,-140.0 psf	C, F	d=5-1/4"	d=4-1/2"	d=4"	d=4"	d=4"	14A	36"
			C, F	d=5-3/4"	d=5"	d=4"	d=4"	d=4"	14A	42"
			C, F	d=6-1/4"	d=5-1/4"	d=4-1/2"	d=4-1/2"	d=4-1/2"	14A	48"
+141.0,-141.0 psf TO +150.0,-150.0 psf		C, F	d=5-1/2"	d=4-3/4"	d=4"	d=4"	d=4"	14A	36"	
		C, F	d=6"	d=5"	d=4-1/4"	d=4-1/4"	d=4-1/4"	14A	42"	
		C, F	d=6-1/2"	d=5-1/2"	d=4-1/2"	d=4-1/2"	d=4-1/2"	14A	48"	
+151.0,-151.0 psf TO +160.0,-160.0 psf		C, F	d=5-3/4"	d=5"	d=4"	d=4"	d=4"	14A	36"	
		C, F	d=6-1/4"	d=5-1/4"	d=4-1/2"	d=4-1/2"	d=4-1/2"	14A	42"	
		C, F	d=6-3/4"	d=5-3/4"	d=4-3/4"	d=4-3/4"	d=4-3/4"	14A	48"	
+161.0,-161.0 psf TO +170.0,-170.0 psf		C, F	d=6"	d=5"	d=4-1/4"	d=4-1/4"	d=4-1/4"	14A	36"	
		C, F	d=6-1/2"	d=5-1/2"	d=4-1/2"	d=4-1/2"	d=4-1/2"	14A	42"	
		C, F	d=7"	d=6"	d=5"	d=5"	d=5"	14A	48"	
+171.0,-171.0 psf TO +180.0,-180.0 psf		C, F	d=6"	d=5-1/4"	d=4-1/2"	d=4-1/2"	d=4-1/2"	14A	36"	
		C, F	d=6-1/2"	d=5-3/4"	d=4-3/4"	d=4-3/4"	d=4-3/4"	14A	42"	
		C, F	d=7"	d=6"	d=5"	d=5"	d=5"	14A	48"	
+181.0,-181.0 psf TO +185.0,-185.0 psf	C, F	d=6-1/4"	d=5-1/4"	d=4-1/2"	d=4-1/2"	d=4-1/2"	14A	36"		
	C, F	d=6-3/4"	d=5-3/4"	d=4-3/4"	d=4-3/4"	d=4-3/4"	14A	42"		
	C, F	d=7-1/4"	d=6-1/4"	d=5"	d=4"	d=4"	14A	48"		

HIGH IMPACT CLIPPED ALUMINUM MULLION S-14000

Available Finishes:

- White
- Bronze
- Clear Anodized



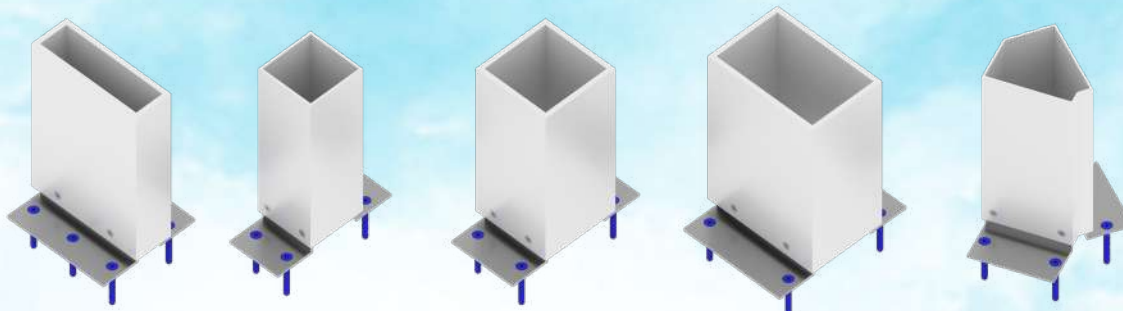
1"X3"X1/8"

1"X4"X1/8"

1"X4"X3/8"

2"X4"X1/8"

2"X6"X1/8"



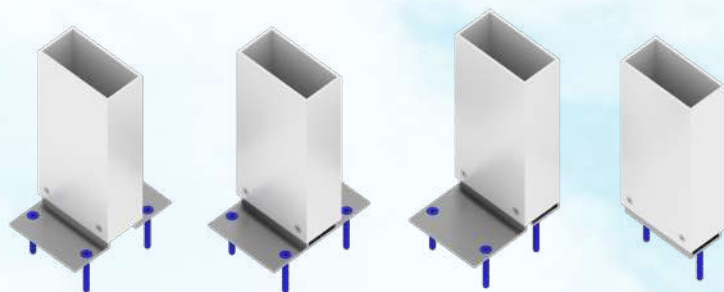
2"X6"X1/4"

3"X3"X1/8"

4"X4"X1/4"

4"X6"X1/4"

45 °

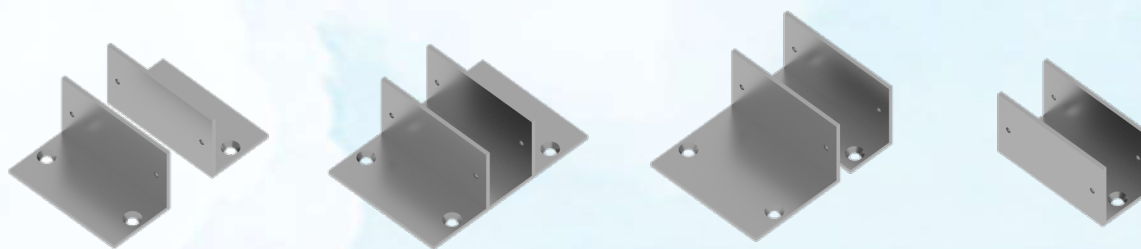


C1 CLIP

C2 CLIP

C3 CLIP

C4 CLIP



GENERAL NOTES AND SPECIFICATIONS:

INSTRUCTIONS TO DETERMINE REQUIRED INTERIOR CLIPPED MULLION:

Use mullion/anchor load charts on sheets 7 thru 29 as follows:

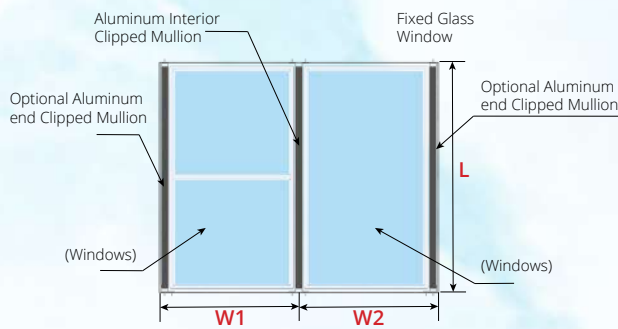
- STEP 1. Determine A.S.D design load required for particular opening per section 1620 of florida building code.
- STEP 2. Use Florida approval approved glazing products meeting above A.S.D. Design load requirements.
- STEP 3. Use glazing products connection to mullion as per applicable product approval.
- STEP 4. Using charts on sheets 7 thru 29, select mullion with capacity exceeding the A.S.D. Design load specified in step 1 above. See clip details on sheets 4 thru 6.
- STEP 5. Using charts on sheets 7 thru 29, select anchor clip, and connection type with A.S.D. Design pressure rating larger than the A.S.D. Design loads determined in step 1 above.

INSTRUCTIONS TO DETERMINE REQUIRED END CLIPPED MULLION:

USE MULLION/ANCHOR LOAD CHARTS ON SHEETS 30 THRU 40 AS FOLLOWS:

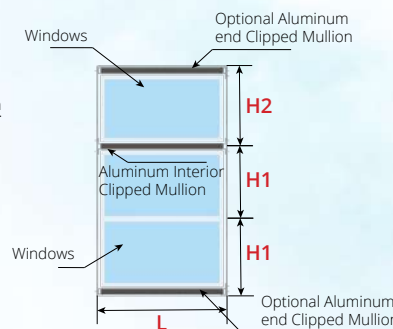
- STEP 1. Determine A.S.D design load required for particular opening per section 1620 of florida building code.
- STEP 2. Use Florida approval approved glazing products meeting above A.S.D. Design load requirements.
- STEP 3. Use glazing products connection to mullion as per applicable product approval.
- STEP 4. Using charts on sheets 30 thru 40, select mullion with capacity exceeding the A.S.D. Design load specified in step 1 above. See clip details on sheets 4 thru 6.
- STEP 5. Using charts on sheets 30 thru 40, select anchor clip, and connection type with A.S.D. Design pressure rating larger than the A.S.D. Design loads determined in step 1 above.

5. All glazing products used with these mullions must meet the applicable florida building code approved requirements i.E. Wind load, air and water infiltration, forced entry resistant, safeguards, etc



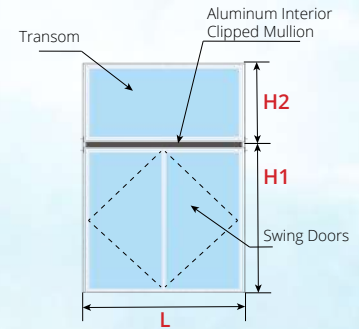
L= Mullion Span (See Schedule)
 Tributary Width (b) = $\frac{W1 + W2}{2}$
 For Interior Mullions
 Tributary Width (b) = $\frac{W1}{2}$ or $\frac{W2}{2}$, Respectively
 For End Mullions

INSTALLATION ELEVATION W/ VERTICAL INTERIOR AND OPTIONAL END CLIPPED MULLIONS



L= Mullion Span (See Schedule)
 Tributary Width (b) = $\frac{H1 + H2}{2}$
 For Interior Mullions
 Tributary Width (b) = $\frac{H1}{2}$ or $\frac{H2}{2}$, Respectively
 For End Mullions

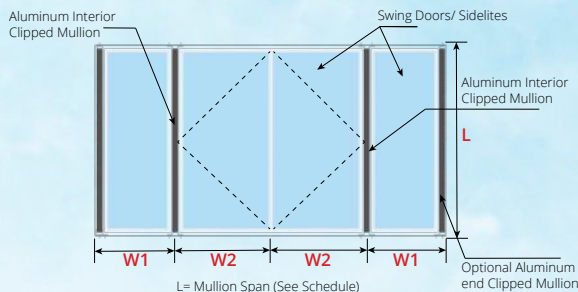
INSTALLATION ELEVATION W/ HORIZONTAL INTERIOR AND OPTIONAL END CLIPPED MULLIONS



L= Mullion Span (See Schedule)
 Tributary Width (b) = $\frac{H1 + H2}{2}$
 For Interior Mullions

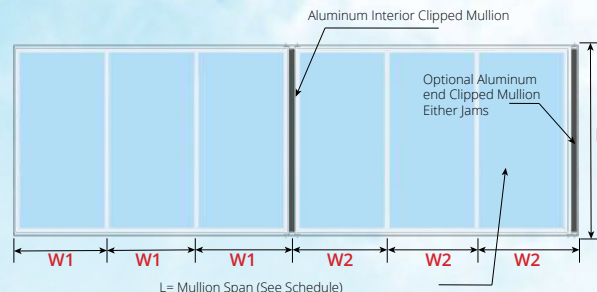
INSTALLATION ELEVATION W/ HORIZONTAL INTERIOR CLIPPED MULLIONS

This product approval document (P.A.D.) Applies to two or more fenestrations mulled together in any combination where interior or end mullion is clipped to existing structure. Mullion's structural adequacy has been verified without the contribution of fenestration frames attached to it.



L= Mullion Span (See Schedule)
 Tributary Width (b) = $\frac{W1 + W2}{2}$

INSTALLATION ELEVATION W/ VERTICAL INTERIOR AND OPTIONAL END CLIPPED MULLIONS



L= Mullion Span (See Schedule)
 Tributary Width (b) = $\frac{W1 + W2}{2}$
 For Interior Mullions
 Tributary Width (b) = $\frac{W1}{2}$ or $\frac{W2}{2}$
 For End Mullions

INSTALLATION ELEVATION W/ VERTICAL INTERIOR AND OPTIONAL END CLIPPED MULLIONS

very strong product for very strong protection

Thank You

Maintenance Required

Hardware on windows and doors must be cleaned, cleared of debris, and lubricated semi-annually. Aluminum, glass, and weatherstripping must be washed with mild soap solution and a soft rag every three (3) months- no abrasive cleaners should be used. Glass surfaces can be cleaned with a commercial glass cleaner and paper towels. Products installed within one (1) mile of high salinity areas or coastlines should perform the maintenance with double the frequency as referred to above. Products installed on waterfront properties may require more frequent maintenance based on actual site conditions such as blowing sand or saltwater spray. Assessment of maintenance and applicability shall be as determined by its sole discretion.



Made in the USA