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**Document Navigation Tips:**

Items listed in the table of contents above are active links that will take you to the corresponding page.  
The Pella logo on each page is a link back to this table of contents.  
Bookmarks are also included in this PDF document and are available as an additional navigation option.

**Supporting documents for this product:**

Detailed Product Description (readable using Microsoft Word or other text editing application):

[https://media.pella.com/professional/adm/Vinyl-HS-DS/PellaHurricaneShield\\_Casement.rtf](https://media.pella.com/professional/adm/Vinyl-HS-DS/PellaHurricaneShield_Casement.rtf)

CSI Specs (readable using Microsoft Word or other text editing application):

[https://media.pella.com/professional/adm/Vinyl-CSI\\_Specs/085313\\_HS.rtf](https://media.pella.com/professional/adm/Vinyl-CSI_Specs/085313_HS.rtf)

Size Tables (requires appropriate CAD software to read and use):

[https://media.pella.com/professional/adm/Vinyl-HS-DS/CWS-HS-CM\\_Elev\\_D.dwg](https://media.pella.com/professional/adm/Vinyl-HS-DS/CWS-HS-CM_Elev_D.dwg)

CAD cross sections (requires appropriate CAD software to read and use):

[https://media.pella.com/professional/adm/Vinyl-HS-DS/CWS-8400-CM\\_D.dwg](https://media.pella.com/professional/adm/Vinyl-HS-DS/CWS-8400-CM_D.dwg)

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The information published in this document is believed to be accurate at the time of publication. However, because we are constantly working to improve our products, specifications are subject to change without notice. Consult your local Pella representative for up-to-date product information.

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# Hurricane Shield™ Series Casement

## Size and Performance Data

Hurricane Shield Series Casement	
<b>Sizes</b>	
Standard Sizes	S
Special Sizes Available Built on 1/8" Increments	O
<b>Frames</b>	
Nail Fin Only	O
Nail Fin with J-Channel	O
Block	O
Integral 5/8" Flange	O
<b>Performance <sub>1</sub></b>	
<b>Standard Performance</b>	
Meets or Exceeds AAMA/WDMA/HVHZ Ratings	C C60- C C65 Keystone Certified
Air Infiltration (cfm/ft <sup>2</sup> of frame @ 1.57 psf wind pressure.)	≤0.30
Design Pressure	60-65 psf
Water Penetration Resistance	9-9.75 psf
<b>Impact Performance</b>	
Meets or Exceeds AAMA/WDMA/HVHZ Ratings	LC PG70 - C C65 Keystone Certified
Air Infiltration (cfm/ft <sup>2</sup> of frame @ 1.57 psf wind pressure.)	≤0.30
Design Pressure	65-70 psf
Water Penetration Resistance	10.50 psf
<b>Other Performance Criteria</b>	
Forced Entry Resistance (Minimum Security Grade) <sub>2</sub>	10
Maximum Operating Force (lbs) (Initiate Motion / Maintain Motion)	15/6

### Sound Transmission Class and Outdoor-Indoor Transmission Class

Frame Size Tested <sub>3</sub>	Glazing System			STC Rating	OITC Rating
	Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness		
<b>Casement Dual Pane Standard Insulating Glass</b>					
Vent 23.625" x 59.125"	7/8"	4.7625mm	4.7625mm	31	25
<b>Casement Dual Pane Impact Laminated Insulating Glass</b>					
Vent 23.625" x 59.125"	7/8"	3.175mm	7.9375mm	35	27

S = Standard; O = Optional

(1) Published performance data is for single unit only. See Design Data pages in this section for specific product performance class and grade values.

(2) The higher the level, the greater the product's ability to resist forced entry.

(3) ASTM E 1425 defines standard sizes for acoustical testing. Ratings achieved at that size are representative of all sizes of the same configuration. The presence of low-e or argon have negligible effect on sound attenuation characteristics.



# Hurricane Shield™ Series Casement

## Features and Options

	Hurricane Shield Series Casement
<b>Glazing (insulating glass)</b>	
<b>Glazing Type</b>	
Dual-pane insulating glass	S
<b>Glass Configuration</b>	
Standard Insulating Glass	S
Non-Impact Laminated Glass	O
Impact Laminated Glass	O
<b>Insulated Glass Options / Low-E Types</b>	
Advanced Low-E	O
Coastal Low-E	O
SunDefense™ Low-E	O
<b>Additional Glazing Options</b>	
Annealed glass	S
Tempered glass	O
Obscure glass <sub>1</sub>	O
Neat glass	O
Bronze Tint	O
Gray Tint	O
Blue Tint	O
<b>Gas Fill / High Altitude</b>	
Argon	S
<b>Sash</b>	
Aluminum Sash Reinforcement	S
<b>Interior / Exterior Color</b>	
White Interior/White Exterior	S
Bronze Interior/ Bronze Exterior	O
White Interior/ Bronze Exterior	O
<b>Hardware</b>	
Color matched hardware	S
<b>Screens</b>	
InView™ Screens	S
<b>Grilles</b>	
<b>Grilles-Between-the-Glass</b>	
3/4" Contour	O
5/8" Flat	O
1" Contour	O
Grille Patterns: Traditional, Prairie, Top Row <sub>2</sub> , Custom - Equally Divided	O
<b>Exterior Applied Grille with Grilles-Between-the-Glass</b>	
7/8" Contour Applied with 1" Contour GBG	O
Grille Patterns: Traditional, Prairie, Top Row, Custom - Equally Divided	O

S = Standard; O = Optional

(1) Contact your local Pella sales representative for current offering.

(2) Top Row is only available with 5/8" flat grilles between-the-glass.



# Hurricane Shield™ Series Casement

## Glazing Performance - Total Unit

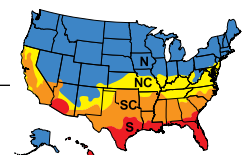
Glazing Thickness	Type of Glazing	CPD #	Glass (mm)		Gap Fill	Performance Values <sup>1</sup>				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown			
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S.			
										Zone			
<b>Vent - Dual Pane Casement Window - Low-E Glazing</b>										<b>N</b>	<b>NC</b>	<b>SC</b>	<b>S</b>
7/8"	SunDefense™ Low-E IG	K-262	3.175	3.175	Argon	0.27-0.32	0.18	0.42	55-63	N	NC	SC	S
	with Grilles-Between-the-Glass					0.27-0.32	0.17	0.38	55-63	N	NC	SC	S
7/8"	SunDefense™ Low-E IG	K-262	4.7625	4.7625	Argon	0.26-0.31	0.18-0.19	0.41	56-62	N	NC	SC	S
	with Grilles-Between-the-Glass					0.26-0.32	0.17	0.37	56-62	N	NC	SC	S
7/8"	SunDefense™ Low-E IG - Impact Laminated	K-262	3.175	7.9375	Argon	0.26-0.31	0.18-0.19	0.41	56-62	N	NC	SC	S
	with Grilles-Between-the-Glass					0.26-0.32	0.17	0.37	56-62	N	NC	SC	S
7/8"	SunDefense™ Low-E IG - Impact Laminated - Gray Interlayer	K-262	3.175	7.9375	Argon	0.27	0.26	0.43	N/A	N	NC	SC	S
	with Grilles-Between-the-Glass					0.27	0.26	0.43	N/A	N	NC	SC	S
7/8"	SunDefense™ Low-E IG - Impact Laminated	K-262	4.7625	7.9375	Argon	0.29-0.34	0.19	0.4	52-59	N	NC	SC	S
	with Grilles-Between-the-Glass					0.32-0.36	0.17	0.36	52-58				S
7/8"	SunDefense™ Low-E IG - Impact Laminated	K-262	4.7625	11.1125	Argon	0.33-0.38	0.19	0.39	47-52				S
	with Grilles-Between-the-Glass					0.36-0.41	0.17-0.18	0.35	47-52				S
7/8"	SunDefense™ Low-E IG - Non-Impact Laminated	K-262	3.175	4.7625	Argon	0.28	0.18	0.41	58	N	NC	SC	S
	with Grilles-Between-the-Glass					0.28	0.17	0.37	58	N	NC	SC	S
7/8"	Advanced Low-E IG	K-262	3.175	3.175	Argon	0.27-0.32	0.12	0.25	55-63	N	NC	SC	S
	with Grilles-Between-the-Glass					0.27-0.32	0.11-0.12	0.23	55-63	N	NC	SC	S
7/8"	Advanced Low-E IG	K-262	4.7625	4.7625	Argon	0.26-0.31	0.12-0.13	0.25	56-63	N	NC	SC	S
	with Grilles-Between-the-Glass					0.26-0.32	0.11-0.12	0.22	56-63	N	NC	SC	S
7/8"	Advanced Low-E IG - Impact Laminated	K-262	3.175	7.9375	Argon	0.26-0.31	.12-.13	0.25	56-62	N	NC	SC	S
	with Grilles-Between-the-Glass					0.26-0.32	0.11-0.12	0.22	56-62	N	NC	SC	S
7/8"	Advanced Low-E IG - Impact Laminated	K-262	4.7625	7.9375	Argon	0.29-0.30	0.13	0.24	39-40	N	NC	SC	S
	with Grilles-Between-the-Glass					0.31	0.12	0.22	36				S
7/8"	Advanced Low-E IG - Impact Laminated	K-262	4.7625	11.1125	Argon	0.33-0.38	0.13-0.14	0.24	47-52				S
	with Grilles-Between-the-Glass					0.36-0.41	0.12-0.13	0.21	47-52				S
7/8"	Coastal Low-E IG	K-262	3.175	3.175	Argon	0.27-0.32	0.24-0.25	0.45	56-62	N	NC	SC	S
	with Grilles-Between-the-Glass					0.27-0.32	0.22	0.41	56-62	N	NC	SC	S
7/8"	Coastal Low-E IG	K-262	4.7625	4.7625	Argon	0.27-0.31	0.24	0.44	55-63	N	NC	SC	S
	with Grilles-Between-the-Glass					0.27-0.33	0.22	0.4	55-63	N	NC	SC	S
7/8"	Coastal Low-E IG - Impact Laminated	K-262	3.175	7.9375	Argon	0.26-0.31	0.24	0.44	55-63	N	NC	SC	S
	with Grilles-Between-the-Glass					0.26-0.33	0.22	0.4	55-63	N	NC	SC	S
7/8"	Coastal Low-E IG - Impact Laminated	K-262	4.7625	7.9375	Argon	0.29-0.34	0.24	0.43	52-58	N	NC	SC	S
	with Grilles-Between-the-Glass					0.32-0.37	0.22	0.39	52-58				S
7/8"	Coastal Low-E IG - Impact Laminated	K-262	4.7625	11.1125	Argon	0.38-0.39	0.24	0.43	46-47				S
	with Grilles-Between-the-Glass					0.41	0.22	0.38	46-47				S

R-Value = 1/U-Factor  
 SHGC = Solar Heat Gain Coefficient  
 VLT % = Visible Light Transmission  
 CR = Condensation Resistance  
 ER = Canadian Energy Rating

(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2016 (Version 6) criteria.

Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown.

See the Product Performance section for more detailed information or visit [www.energystar.gov](http://www.energystar.gov) for Energy Star guidelines.





# Hurricane Shield™ Series Casement

## Glazing Performance - Total Unit

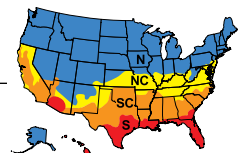
Glazing Thickness	Type of Glazing	CPD #	Glass (mm)		Gap Fill	Performance Values <sup>1</sup>				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown			
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S.			
										Zone			
Vent - Dual Pane Casement Window - Tinted Glazing										N	NC	SC	S
7/8"	Bronze IG	K-262	3.175	3.175	Argon	0.40-0.42	0.41	0.39	44-47				
	with Grilles-Between-the-Glass					0.40-0.42	0.37	0.35	44-47				
7/8"	Bronze IG	K-262	4.7625	4.7625	Argon	0.39-0.42	0.37	0.34	43-47				
	with Grilles-Between-the-Glass					0.38-0.42	0.33	0.31	43-47				
7/8"	Bronze IG - Impact Laminated	K-262	3.175	7.9375	Argon	0.39-0.42	0.39	0.38	44-47				
	with Grilles-Between-the-Glass					0.39-0.42	0.35	0.35	44-47				
7/8"	Bronze IG - Impact Laminated	K-262	4.7625	7.9375	Argon	0.41-0.44	0.35	0.33	43-46				
	with Grilles-Between-the-Glass					0.43-0.45	0.32	0.3	43-46				
7/8"	Bronze IG - Impact Laminated	K-262	4.7625	11.1125	Argon	0.43-0.46	0.34	0.33	40-43				
	with Grilles-Between-the-Glass					0.44-0.47	0.31	0.29	40-43				
7/8"	Gray IG	K-262	3.175	3.175	Argon	0.40-0.42	0.38	0.35	44-47				
	with Grilles-Between-the-Glass					0.40-0.42	0.35	0.32	44-47				
7/8"	Gray IG	K-262	4.7625	4.7625	Argon	0.39-0.42	0.33	0.29	43-47				
	with Grilles-Between-the-Glass					0.38-0.42	0.3	0.26	43-47				
7/8"	Gray IG - Impact Laminated	K-262	3.175	7.9375	Argon	0.39-0.42	0.36	0.35	44-47				
	with Grilles-Between-the-Glass					0.39-0.42	0.33	0.31	44-47				
7/8"	Gray IG - Impact Laminated	K-262	4.7625	7.9375	Argon	0.41-0.44	0.32	0.29	43-46				
	with Grilles-Between-the-Glass					0.43-0.45	0.29	0.26	43-46				
7/8"	Gray IG - Impact Laminated	K-262	4.7625	11.1125	Argon	0.43-0.46	0.31-0.32	0.28	40-43				
	with Grilles-Between-the-Glass					0.44-0.47	0.29	0.25	40-43				
7/8"	Blue IG	K-262	3.175	3.175	Argon	0.42	0.27	0.39	N/A				

R-Value = 1/U-Factor  
 SHGC = Solar Heat Gain Coefficient  
 VLT % = Visible Light Transmission  
 CR = Condensation Resistance  
 ER = Canadian Energy Rating

(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2016 (Version 6) criteria.

Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown.

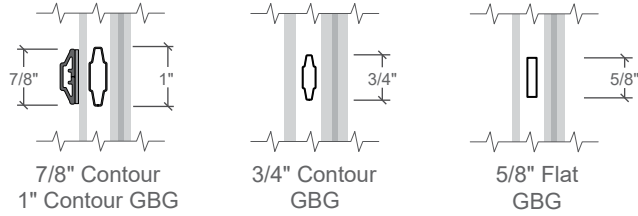
See the Product Performance section for more detailed information or visit [www.energystar.gov](http://www.energystar.gov) for Energy Star guidelines.





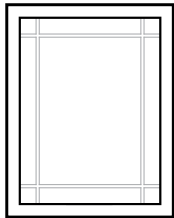
### Grille Profiles

#### Grilles-Between-the-Glass



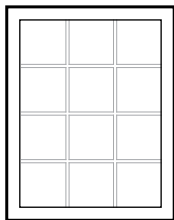
### Grille Patterns

#### Prairie Lite Patterns

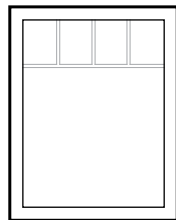


9-Lite Prairie

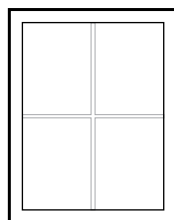
#### Other Available Patterns



Traditional



Top Row



Custom - Equally  
Divided

#### Prairie

- Approximately 4" from edge of sash to center of bar
- Minimum actual glass is 13"

#### Custom - Equally Divided

- Specify number of lites.
- Grilles must be equally divided on visible glass.
- Minimum 6" x 6".

#### Top Row

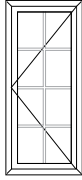
- Standard visible glass to separator bar = 14" or half of total visible glass height, whichever is smaller.



# Hurricane Shield™ Series Casement

## Special Sizes and Dimensions

### 1-Wide Vent Unit



#### MINIMUM

17.875" W x 20" H  
(454 x 508)

#### MAXIMUM

37" W x 72" H  
(940 x 1 829)

#### General Notes:

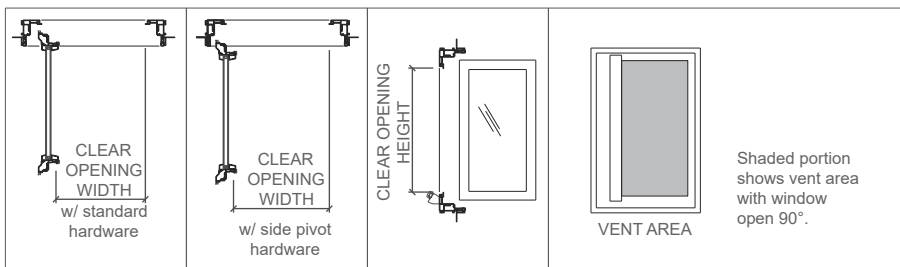
- To convert areas to square meters (m<sup>2</sup>), multiply square feet by 0.0929.
- Rough Opening = Frame Dimension + 1/2".
- Unit Height must be > Unit Width.
- Keep frame dimensions to the nearest 1/8" increment.
- Tempered glass must measure ≥ 19" diagonally.

#### Miscellaneous Formulas

1-Wide-Vent	
Visible Glass	$VGW = AGW - 1"$ $VGH = AGH - 1"$
Actual Glass	$AGW = FW - 5.5"$ $AGH = FH - 5.5"$

#### KEY:




































AGW = Actual Glass Width  
 AGH = Actual Glass Height  
 FW = Frame Width  
 FH = Frame Height  
 VGW = Visible Glass Width  
 VGH = Visible Glass Height





# Hurricane Shield™ Series Casement

## Size Tables

		(610) (597)	(711) (699)	(813) (800)	(914) (902)	(1 016) (1 003)
Opening		2' 0"	2' 4"	2' 8"	3' 0"	3' 4"
Frame		23 1/2"	27 1/2"	31 1/2"	35 1/2"	39 1/2"
(711) (699)	2' 4"	 2-0/2-4	 2-4/2-4	 2-8/2-4	 3-0/2-4	 3-4/2-4
(914) (902)	3' 0"	 2-0/3-0	 2-4/3-0	 2-8/3-0	 3-0/3-0	 3-4/3-0
(1 118) (1 105)	3' 8"	 2-0/3-8	 2-4/3-8	 2-8/3-8	 3-0/3-8	 3-4/3-8
(1 219) (1 207)	4' 0"	 2-0/4-0	 2-4/4-0	 2-8/4-0	 3-0/4-0	 3-4/4-0
(1 321) (1 308)	4' 4"	 2-0/4-4	 2-4/4-4	 2-8/4-4	 3-0/4-4	 3-4/4-4
(1 524) (1 511)	5' 0"	 2-0/5-0	 2-4/5-0	 2-8/5-0	 3-0/5-0	 3-4/5-0
(1 829) (1 816)	6' 0"	 2-0/6-0	 2-4/6-0	 2-8/6-0	 3-0/6-0	 3-4/6-0
	71 1/2"					





## Detailed Product Description

### Frame

- Overall frame depth: 3" on all frame types.
- Frame members are mitered and heat fused to provide a fully welded corner assembly. Sill is fitted with weeps.
- Frame: [1" setback nail fin for 2" wall depth] [Block frame for 3" wall depth] [Integral 5/8" flange for 2-13/16" wall depth].
- Interior and exterior frame surfaces are extruded rigid PVC.

### Sash

- Sash members are extruded, rigid PVC.
- Sash members are mitered and heat-fused to provide a fully welded corner assembly.
- Contains sealed insulating glass.

### Weatherstripping

- Vent units include weatherstripping around the sash perimeter with a fin-type, pile and an extruded bulb weatherstrip.

### Glazing System

- Quality float glass complying with ASTM C 1036.
- Exterior face-glazed sealed insulating glass.
- Dual-Pane insulating glass [[annealed] [tempered]] [[Advanced] [NaturalSun] [SunDefense™] [Neat, SunDefense] [Obscure, SunDefense] Low-E coated [with Argon]] [Obscure] [Gray] [Blue] [Bronze].

### Interior / Exterior

- Window frame and sash members are [[White] [Bronze] with integral color extruded throughout the profiles] [Bronze] exterior, white integral on interior. Exterior, consisting of a solar reflective coating exceeding AAMA 613 test requirements, with White integral color extruded throughout the profiles on the interior.
- All exposed PVC surfaces are smooth, glossy and uniform in appearance.

### Hardware

- Multi-point unison lock with single handle is factory-installed zinc die cast. Lock tie-bars are stainless steel.
- High quality [steel] [stainless steel] dual-arm roto-operator with fold down crank handle on sill.
- Hinge arms are [steel] [stainless steel].
- Corrosion-resistant fasteners of PVC-compatible material.
- Hardware finish is [White] [Bronze].

### Screens

- Set in aluminum frame and fitted to interior of window.
- Screen frame finish is baked enamel, color to match interior.
- Supplied complete with all necessary hardware.
- InView™ Screens
  - Black vinyl coated 18/18 mesh fiberglass screen cloth complying with SMA 1201.

### Optional Products

#### Grilles

- Grilles-Between-the-Glass
  - [Dual-Pane Insulating glass contains [[3/4"] [1"] contoured] [5/8" flat] aluminum grilles permanently installed between two panes of glass].
  - Patterns are [Traditional] [9-Lite Prairie] [Top Row<sup>1</sup>].
  - Exterior grille color matches exterior frame.
- Exterior Applied Grille with Grilles-Between-the-Glass
  - 7/8" Grilles permanently bonded to the exterior of glass.
  - Patterns are [Traditional] [9-Lite Prairie].
  - Grilles match color of interior and exterior frame.

#### Hardware

- Optional limited opening hardware available for vent units in [White] [Bronze] extruded vinyl to match the unit; nominal 3" opening.
- Optional factory applied window opening control device. Device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Complies with ASTM F2090-17.

(1) Top Row is only available with 5/8" flat grilles between-the-glass.

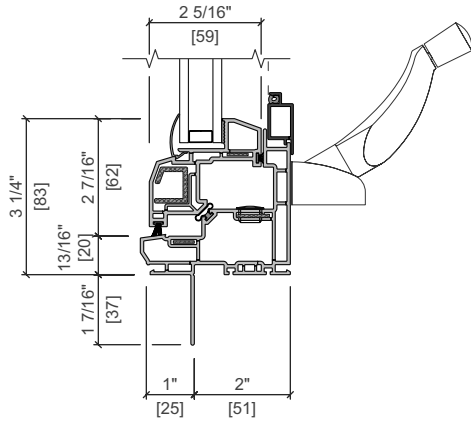


# Hurricane Shield™ Series Casement

## Unit Sections - Frame Types

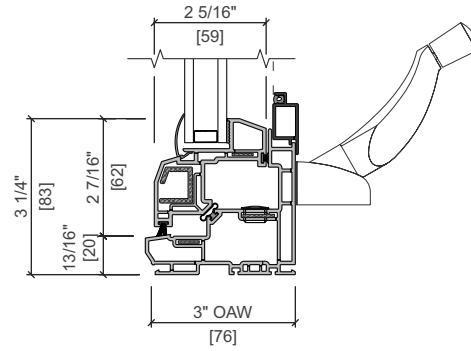
### NEW CONSTRUCTION FRAME

#### Standard Nail Fin

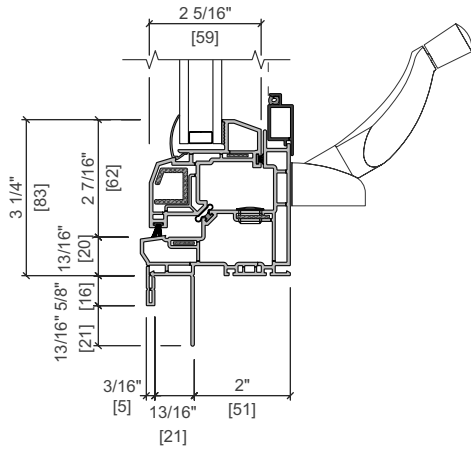


### REPLACEMENT FRAME

#### Block Frame



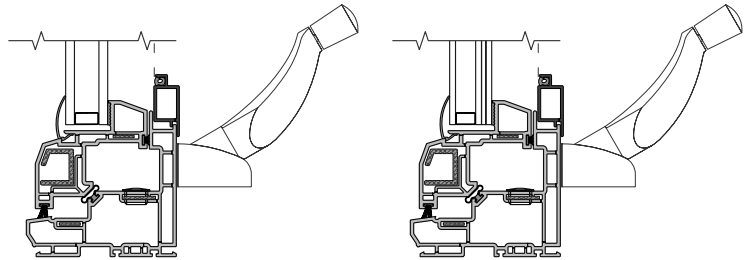
#### Nail Fin J-Channel



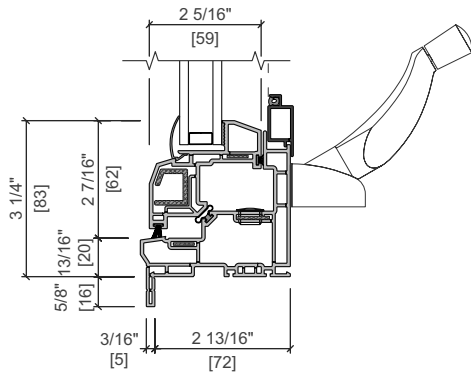
### GLAZING OPTIONS

#### 7/8\" IG

#### 7/8\" IMPACT IG



#### Flush Flange

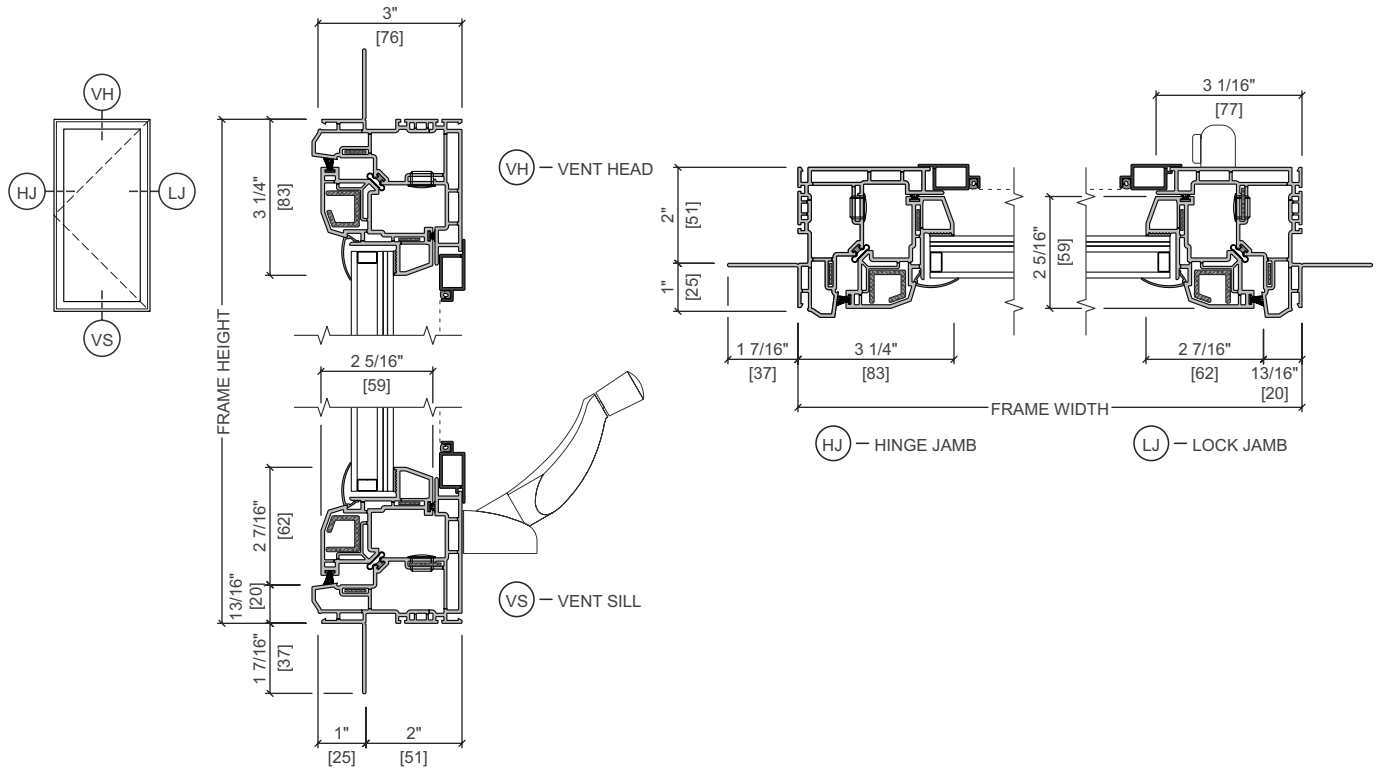


Scale 3" = 1' 0"  
 All dimensions are approximate.



# Hurricane Shield™ Series Casement

## Unit Sections - Nail Fin

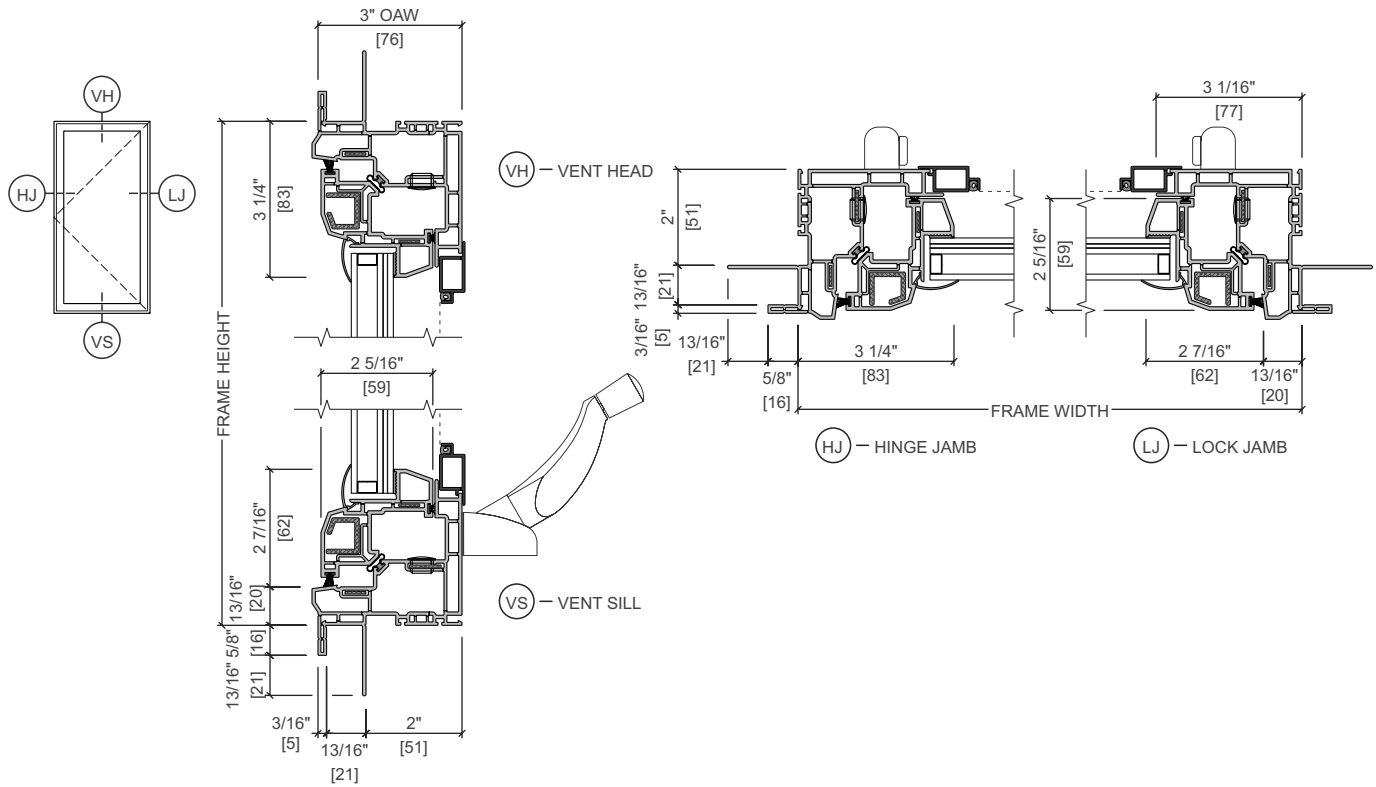


Scale 3" = 1' 0"  
All dimensions are approximate.



# Hurricane Shield™ Series Casement

## Unit Sections - Nail Fin with J-Channel

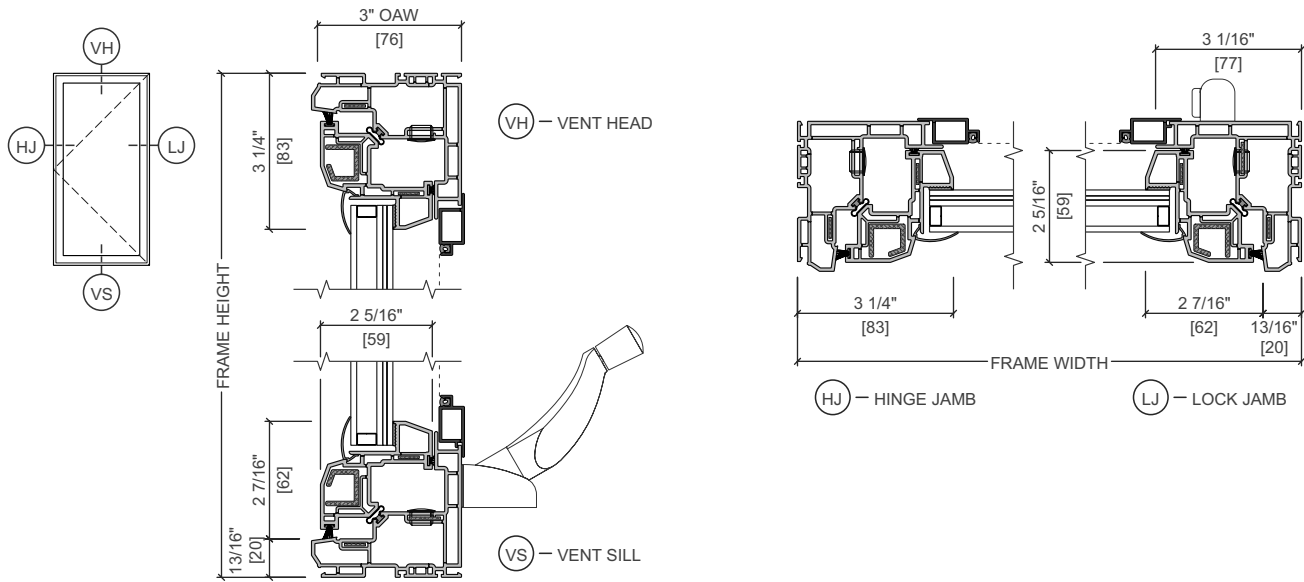


Scale 3" = 1' 0"  
All dimensions are approximate.



# Hurricane Shield™ Series Casement

## Unit Sections - Block Frame

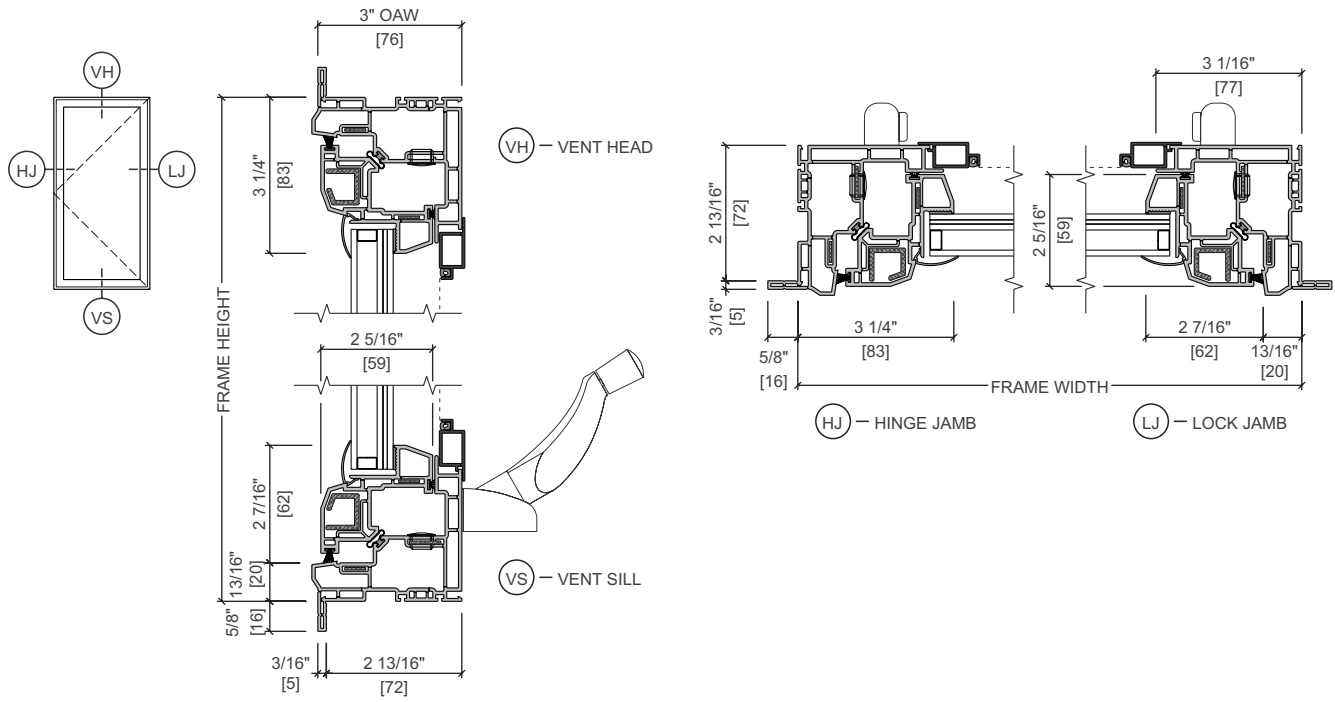


Scale 3" = 1' 0"  
All dimensions are approximate.



# Hurricane Shield™ Series Casement

## Unit Sections - Flush Flange



Scale 3" = 1' 0"  
All dimensions are approximate.