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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 Microsft Word or other text editing application):
https://media.pella.com/professional/adm/Vinyl-HS-DS/PellaHurricaneShield_SingleHung.rtf

CSI Specs (readable using Microsft Word or other text editing application):
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-SH-Elev_D.dwg

CAD cross sections (requires appropriate CAD software to read and use):
https://media.pella.com/professional/adm/Vinyl-HS-DS/CWS-8100-SH_D.dwg

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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Performance Data

	Hurricane Shield Series Single-Hung
Sizes	
Standard Sizes	S
Special Sizes Available Built on 1/8" Increments	O
Frames	
Nail Fin Only	O
Nail Fin with J-Channel	O
Block	O
Integral 5/8" Flange	O
Performance [1]	
Non-Impact Performance	
Meets or Exceeds AAMA/WDMA/HVHZ Ratings	LC PG50 - LC PG60 Keystone Certified
Air Infiltration (cfm/ft² of frame @ 1.57 psf wind pressure.)	=<.30 cfm/sq ft.
Design Pressure	50 - 60 psf
Water Penetration Resistance	7.5 - 10.6 psf
Impact	
Meets or Exceeds AAMA/WDMA/HVHZ Ratings	LC PG55 - LC PG70 Keystone Certified
Air Infiltration (cfm/ft² of frame @ 1.57 psf wind pressure.)	=<.30 cfm/sq ft.
Design Pressure	55 - 70 psf
Water Penetration Resistance	8.3 - 10.6 psf
Other Performance Criteria	
Forced Entry Resistance (Minimum Security Grade) [2]	10
Operating Force (lb) Initiate Motion/Maintain Motion (tested size and glazing) [3]	30/40

Sound Transmission Class and Outdoor-Indoor Transmission Class

Frame Size Tested [4]	Glazing System			STC Rating	OITC Rating
	Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness		
Single-Hung – Dual Pane Standard Insulating Glass					
47.25" x 59.25"	7/8"	3.175mm	3.175mm	27	22
Single-Hung – Dual Pane Impact Laminated Insulating Glass					
47.25" x 59.25"	7/8"	3.175mm	7.9375mm	36	29

S = Standard; O = Optional; (–) = Not Available

(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) Glazing configurations may result in higher operational forces.

(4) 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.

Features and Options

	Hurricane Shield Series Single-Hung
Glazing (Insulating Glass)	
Glazing Type	
Dual-pane insulating glass	S
Insulated Glass Options / Low-E Types	
Advanced Low-E	O
Coastal Low-E	O
SunDefense™ Low-E	O
Glass Configuration	
Standard Insulating Glass	S
Non-Impact Laminated Glass	O
Impact Laminated Glass	O
Additional Glazing Options	
Annealed glass	S
Tempered glass	O
Obscure glass [1]	O
Neat Glass	O
Bronze Tint	O
Gray Tint	O
Blue Tint	O
Gas Fill / High Altitude	
Argon	S

	Hurricane Shield Series Single-Hung
SASH	
Integrated Dual Lift Rail	S
Aluminum Sash Reinforcement	S
Recessed Pressure Prevention Sash	S
Interior / Exterior Color	
White Interior/White Exterior	S
Bronze Interior/Bronze Exterior	O
White Interior/ Bronze Exterior	O
Hardware	
Color matched hardware	S
Sash Locks	
Autolock	S
Screens	
InView™ Screens	S
Grilles	
Grilles-Between-the-Glass	
3/4" Contour	O
5/8" flat	O
1" Contour	O
Grille Patterns: Traditional, Prairie, Top Row, Custom - Equally Divided	O
Exterior Applied Grille with Grilles-Between-the-Glass	
7/8" Contour Applied with 1" Contour GBG	O
Grille Patterns: Traditional, Prairie, Custom - Equally Divided	O

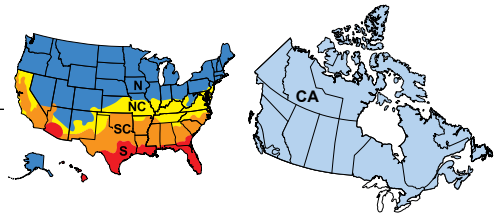
S = Standard; O = Optional

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

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm) Ext.	Glass (mm) Int.	Gap Fill	Performance Values [1] U-Factor	SHGC	VLT	CR	Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown U. S. Zone N	NC	SC	S	Canada [2] ER	Canada [2] Zone CA
Vent - Dual Pane Single-Hung Window - Low-E Glazing															
7/8"	SunDefense™ Low-E IG	K-274	3.175	3.175	Argon	0.31	0.21	0.49	52				S		
	with Grilles-Between-the-Glass					0.31	0.19	0.44	52				S		
7/8"	SunDefense™ Low-E IG	K-274	4.7625	4.7625	Argon	0.31	0.21	0.49	52				S		
	with Grilles-Between-the-Glass					0.32	0.19	0.43	52				S		
7/8"	SunDefense™ Low-E IG - Impact Laminated	K-274	3.175	7.9375	Argon	0.30	0.21	0.49	53		NC	SC	S		
	with Grilles-Between-the-Glass					0.31	0.19	0.42	53				S		
7/8"	SunDefense™ Low-E IG - Impact Laminated - Gray Interlayer	K-274	3.175	7.9375	Argon	0.30	0.21	0.33	53		NC	SC	S		
	with Grilles-Between-the-Glass					0.31	0.19	0.29	53				S		
7/8"	SunDefense™ Low-E IG - Impact Laminated	K-274	4.7625	7.9375	Argon	0.32	0.21	0.46	52				S		
	with Grilles-Between-the-Glass					0.33	0.17	0.42	52				S		
7/8"	SunDefense™ Low-E IG - Impact Laminated - Gray Interlayer	K-274	4.7625	7.9375	Argon	0.32	0.21	0.32	52				S		
	with Grilles-Between-the-Glass					0.33	0.19	0.29	52				S		
7/8"	SunDefense™ Low-E IG - Impact Laminated	K-274	4.7625	11.1125	Argon	0.38	0.22	0.46	47				S		
7/8"	SunDefense™ Low-E IG - Impact Laminated - Gray Interlayer	K-274				0.38	0.20	0.26	47				S		
7/8"	SunDefense™ Low-E IG - Non-Impact Laminated	K-274	3.175	4.7625	Argon	0.31	0.21	0.48	53				S		
	with Grilles-Between-the-Glass					0.31	0.19	0.43	53				S		
7/8"	SunDefense™ Low-E IG - Non-Impact Laminated	K-274	4.7625	6.35	Argon	0.31	0.21	0.48	52				S		
	with Grilles-Between-the-Glass					0.32	0.19	0.43	52				S		
7/8"	Advanced Low-E IG	K-274	3.175	3.175	Argon	0.32	0.28	0.53	51						
	with Grilles-Between-the-Glass					0.32	0.26	0.47	51						
7/8"	Advanced Low-E IG	K-274	4.7625	4.7625	Argon	0.31	0.28	0.52	52						
	with Grilles-Between-the-Glass					0.32	0.25	0.46	52				S		
7/8"	Advanced Low-E IG - Impact Laminated	K-274	3.175	7.9375	Argon	0.31	0.28	0.52	53						
	with Grilles-Between-the-Glass					0.32	0.25	0.46	52				S		
7/8"	Advanced Low-E IG - Impact Laminated	K-274	4.7625	6.35	Argon	0.31	0.28	0.52	52						
	with Grilles-Between-the-Glass					0.33	0.25	0.46	52				S		
7/8"	Advanced Low-E IG - Impact Laminated	K-274	4.7625	7.9375	Argon	0.32	0.28	0.51	52						
	with Grilles-Between-the-Glass					0.34	0.25	0.45	52				S		
7/8"	Advanced Low-E IG - Impact Laminated	K-274	4.7625	11.1125	Argon	0.39	0.28	0.50	47						
7/8"	Advanced Low-E IG - Non-Impact Laminated	K-274	3.175	4.7625	Argon	0.31	0.28	0.52	53						
	with Grilles-Between-the-Glass					0.31	0.25	0.46	53				S		
7/8"	Advanced Low-E IG - Non-Impact Laminated	K-274	4.7625	6.35	Argon	0.31	0.28	0.52	52						
	with Grilles-Between-the-Glass					0.33	0.25	0.46	52				S		
7/8"	Coastal Low-E IG	K-274	3.175	3.175	Argon	0.32	0.14	0.29	52				S		
	with Grilles-Between-the-Glass					0.32	0.13	0.26	52				S		
7/8"	Coastal Low-E IG	K-274	4.7625	4.7625	Argon	0.31	0.14	0.29	52				S		
	with Grilles-Between-the-Glass					0.32	0.13	0.26	52				S		
7/8"	Coastal Low-E IG - Impact Laminated	K-274	3.175	7.9375	Argon	0.30	0.14	0.29	53		NC	SC	S		
	with Grilles-Between-the-Glass					0.32	0.13	0.25	53				S		
7/8"	Coastal Low-E IG - Impact Laminated	K-274	4.7625	7.9375	Argon	0.32	0.15	0.28	52				S		
	with Grilles-Between-the-Glass					0.34	0.13	0.25	52				S		
7/8"	Coastal Low-E IG - Impact Laminated	K-274	4.7625	11.1125	Argon	0.38	0.15	0.28	47				S		
7/8"	Coastal Low-E IG - Non-Impact Laminated	K-274	3.175	4.7625	Argon	0.31	0.14	0.29	53				S		
	with Grilles-Between-the-Glass					0.31	0.13	0.26	53				S		
7/8"	Coastal Low-E IG - Non-Impact Laminated	K-274	4.7625	6.35	Argon	0.31	0.14	0.29	52				S		
	with Grilles-Between-the-Glass					0.32	0.13	0.26	52				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.

(2) The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

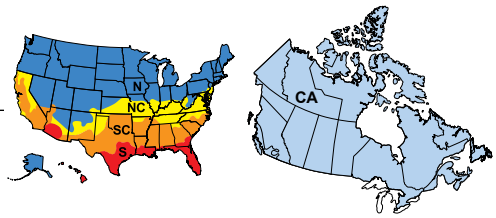
Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown.

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Vent - Dual Pane Single-Hung Window - Tinted Glazing										N	NC	SC	S		CA
7/8"	Bronze IG	K-274	3.175	3.175	Argon	0.47	0.48	0.47	43						
	with Grilles-Between-the-Glass					0.47	0.43	0.42	43						
7/8"	Bronze IG	K-274	4.7625	4.7625	Argon	0.46	0.43	0.4	42						
	with Grilles-Between-the-Glass					0.46	0.38	0.36	42						
7/8"	Bronze IG - Impact Laminated	K-274	3.175	7.9375	Argon	0.45	0.46	0.45	43						
	with Grilles-Between-the-Glass					0.46	0.41	0.40	43						
7/8"	Bronze IG - Impact Laminated	K-274	4.7625	7.9375	Argon	0.46	0.41	0.39	43						
	with Grilles-Between-the-Glass					0.47	0.36	0.35	42						
7/8"	Bronze IG - Impact Laminated	K-274	4.7625	11.1125	Argon	0.49	0.40	0.38	40						
7/8"	Bronze IG - Non-Impact Laminated	K-274	3.175	4.7625	Argon	0.46	0.46	0.46	43						
	with Grilles-Between-the-Glass					0.46	0.41	0.41	43						
7/8"	Bronze IG - Non-Impact Laminated	K-274	4.7625	6.35	Argon	0.46	0.42	0.40	42						
	with Grilles-Between-the-Glass					0.47	0.37	0.35	42						
7/8"	Gray IG	K-274	3.175	3.175	Argon	0.47	0.46	0.43	43						
	with Grilles-Between-the-Glass					0.47	0.41	0.38	43						
7/8"	Gray IG	K-274	4.7625	4.7625	Argon	0.46	0.39	0.34	42						
	with Grilles-Between-the-Glass					0.46	0.35	0.31	42						
7/8"	Gray IG - Impact Laminated	K-274	3.175	7.9375	Argon	0.45	0.44	0.41	43						
	with Grilles-Between-the-Glass					0.46	0.39	0.37	43						
7/8"	Gray IG - Impact Laminated	K-274	4.7625	7.9375	Argon	0.46	0.38	0.34	43						
	with Grilles-Between-the-Glass					0.47	0.34	0.30	42						
7/8"	Gray IG - Impact Laminated	K-274	4.7625	11.1125	Argon	0.49	0.37	0.33	40						
7/8"	Gray IG - Non-Impact Laminated	K-274	3.175	4.7625	Argon	0.46	0.44	0.42	43						
	with Grilles-Between-the-Glass					0.46	0.4	0.37	43						
7/8"	Gray IG - Non-Impact Laminated	K-274	4.7625	6.35	Argon	0.46	0.38	0.34	42						
	with Grilles-Between-the-Glass					0.47	0.34	0.31	42						
7/8"	Blue IG	K-274	3.175	3.175	Argon	0.48	0.48	0.63	N/A						
7/8"	Blue IG - Impact Laminated	K-274	3.175	7.9375	Argon	0.48	0.47	0.68	N/A						

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



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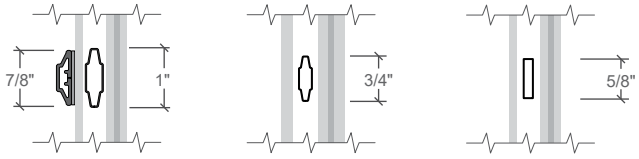
Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown.

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.

Grilles

Grille Profiles

Grilles-Between-the-Glass



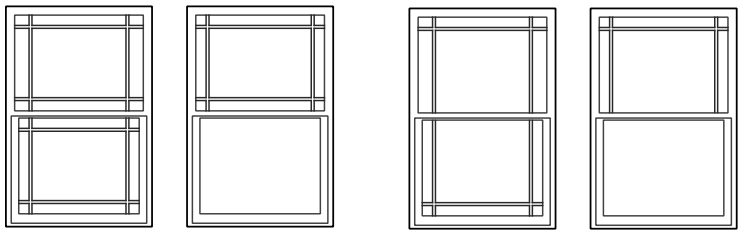
7/8" Contour
1" Contour GBG

3/4" Contour
GBG

5/8" Flat
GBG

Grille Patterns

Prairie Lite Patterns



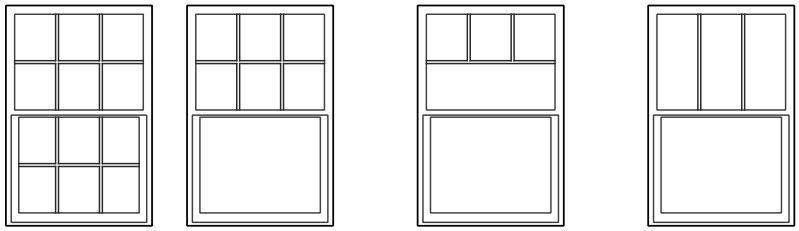
9-Lite Prairie

6-Lite Prairie

Prairie

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

Other Available Patterns



Traditional

Top Row

Custom - Equally Divided

Traditional

- Specify upper or both sash
- Specify number of lites
- Grilles must be equally divided on visible glass
- Minimum 6" x 6" center-to-center

Top Row

- Standard visible glass to separator bar must be ≤1/2 upper actual glass

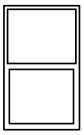
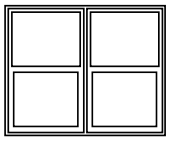
For traditional patterns, see size tables.

Size Tables

		(610) (597)	(711) (699)	(813) (800)	(914) (902)	(1 016) (1 003)	(1 118) (1 105)	(1 219) (1 207)
	Opening	2' 0"	2' 4"	2' 8"	3' 0"	3' 4"	3' 8"	4' 0"
	Frame	23 1/2"	27 1/2"	31 1/2"	35 1/2"	39 1/2"	43 1/2"	47 1/2"
(711) (699)	2' 4"	27 1/2"	2-0/2-4	2-4/2-4	2-8/2-4	3-0/2-4	3-4/2-4	3-8/2-4	4-0/2-4
(914) (902)	3' 0"	35 1/2"	2-0/3-0	2-4/3-0	2-8/3-0	3-0/3-0	3-4/3-0	3-8/3-0	4-0/3-0
(1 118) (1 105)	3' 8"	43 1/2"	2-0/3-8	2-4/3-8	2-8/3-8	3-0/3-8	3-4/3-8	3-8/3-8	4-0/3-8
(1 219) (1 207)	4' 0"	47 1/2"	2-0/4-0	2-4/4-0	2-8/4-0	3-0/4-0	3-4/4-0	3-8/4-0	4-0/4-0
(1 321) (1 308)	4' 4"	51 1/2"	2-0/4-4	2-4/4-4	2-8/4-4	3-0/4-4	3-4/4-4	3-8/4-4	4-0/4-4
(1 524) (1 511)	5' 0"	59 1/2"	2-0/5-0	2-4/5-0	2-8/5-0	3-0/5-0	3-4/5-0	3-8/5-0	4-0/5-0
(1 829) (1 816)	6' 0"	71 1/2"	2-0/6-0	2-4/6-0	2-8/6-0	3-0/6-0	3-4/6-0	3-8/6-0	4-0/6-0

Special Sizes and Dimensions

Listed sizes are the minimum and maximum manufacturable sizes. Please reference the Florida Building & Product Approval site, Texas Department of Insurance site, or your local rep for specific sizing based on needed performance.

	1-Wide Vent Unit		Integral 2-Wide Vent Unit Composite	
				
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
Equal Sash	13-1/2" W x 21" H (343 x 533)	52" W x 74" H (1 321 x 1 880)	27" W x 21" H (686 x 533)	48 Ft² (4.46 m²) 74-1/8" W x 72" H (1 883 x 1 829)
Contemporary	13-1/2" W x 21" H (343 x 533)	52" W x 96" H (1 321 x 2 438)	27" W x 21" H (686 x 533)	74-1/8" W x 72" H (1 883 x 1 829)

Equal Sash Glass Ratio	Contemporary Glass Ratio
50 : 50	60 : 40

General Notes:

- Rough Opening–Frame Dimension + 1/2". Tip to Tip Dimension = Frame Dimension +1.25"
- Keep frame dimensions to the nearest 1/8" increment
- 2-Wide units are composites with multiple windows in one frame with integral mullions

Glass Formulas

		Actual Glass Width	Actual Glass Height	Visible Glass Width	Visible Glass Height
Single Unit	Equal Sash	AUGW=FW - 3.217 ALGW=FW - 5.75	AUGH or ALGH = (FH ÷ 2) - 3.043	AGW - 1"	AGH - 1"
	Contemporary		AUGH = (FH X .6) - 2.899 ALGH = (FH X .4) - 3.187		
2-Wide	Equal Sash	AUGW=(FW÷2) - 3.217 ALGW=(FW÷2) - 5.75	AUGH or ALGH = (FH ÷ 2) - 3.043	AGW - 1"	AGH - 1"
	Contemporary		AUGH = (FH X .6) - 2.899 ALGH = (FH X .4) - 3.187		

KEY:

AGW = Actual Glass Width
AGH = Actual Glass Height
ALGH = Actual Lower Glass Height
AUGH = Actual Upper Glass Height
FW = Frame Width
FH = Frame Height
VGW = Visible Glass Width
VGH = Visible Glass Height

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 for 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.
- Includes a dual, integral extruded sash lift as standard.
- Contains sealed insulating glass.

Weatherstripping

- Sash is weatherstripped around the sash perimeter with a fin-type, pile weatherstrip.

Glazing System

- Quality float glass complying with ASTM C 1036.
- Exterior face-glazed sealed insulating glass.
- Dual-Pane insulating glass [[annealed] [tempered]] [[Advanced] [SunDefense™] [Neat, SunDefense], [Obscure, SunDefense] Low-E coated [with Argon]] [Obscure$_3$] [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

- Block and tackle balances are concealed within the frame and are connected to the sash. Balance release clips to remove the sash are located in the upper jambs of the unit.
- All fasteners are corrosion-resistant material compatible with PVC.
- Locks are factory-installed, zinc die cast, self-aligning, [AutoLocks] located on the checkrail. Two sash locks are installed on units with 35-1/2" or greater frame width.
- Hardware finish is [White] [Matte Black].

Screens

- Set in aluminum frame and fitted to exterior of window.
- Screen frame finish is baked enamel, color to match exterior
- Screens are secured with metal tabs.
- InView™ Screens
  - Black vinyl coated 18/18 mesh fiberglass screen cloth complying with SMA1201.
  - Black vinyl coated 18/16 mesh fiberglass screen cloth complying with ASTM D 3656 and SMA1201.

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] [6-Lite Prairie] [9-Lite Prairie] [Top Row$_1$].
  - Interior grille color matches interior frame.
  - Exterior grille color matches exterior frame.
- Exterior Applied Grille with Grilles-Between-the-Glass.
  - 7/8" grilles permanently bonded to the exterior of glass with 1" contour grilles permanently installed between two panes of glass.
  - Patterns are [Traditional] [6-Lite Prairie] [9-Lite Prairie].
  - Grilles match color of interior and exterior frame.

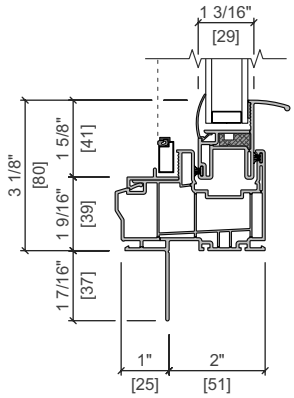
Hardware

- Optional limited opening hardware available for vent units in [White] [Matte Black] extruded vinyl to match the unit; nominal 3-3/4" opening.
- Optional window opening control device available for field installation. 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 F2090-10.

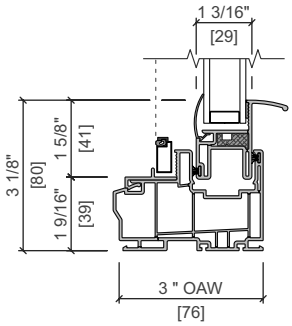
(1) Top Row is only available with 5/8" flat grilles between-the-glass

Unit sections - Frame Types

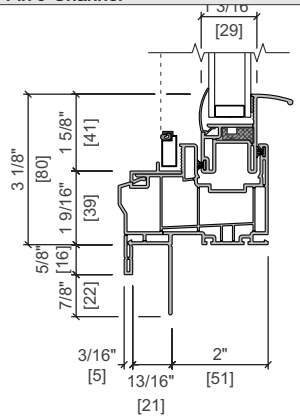
NEW CONSTRUCTION FRAME
Standard Nail Fin



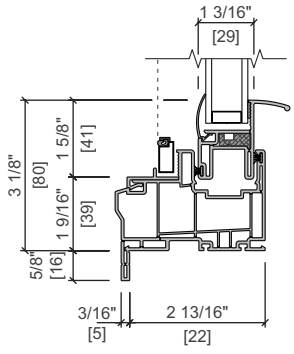
REPLACEMENT FRAME
Block Frame



Nail Fin J-Channel

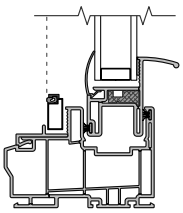


Flush Flange

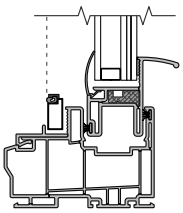


GLAZING OPTIONS

7/8" IG



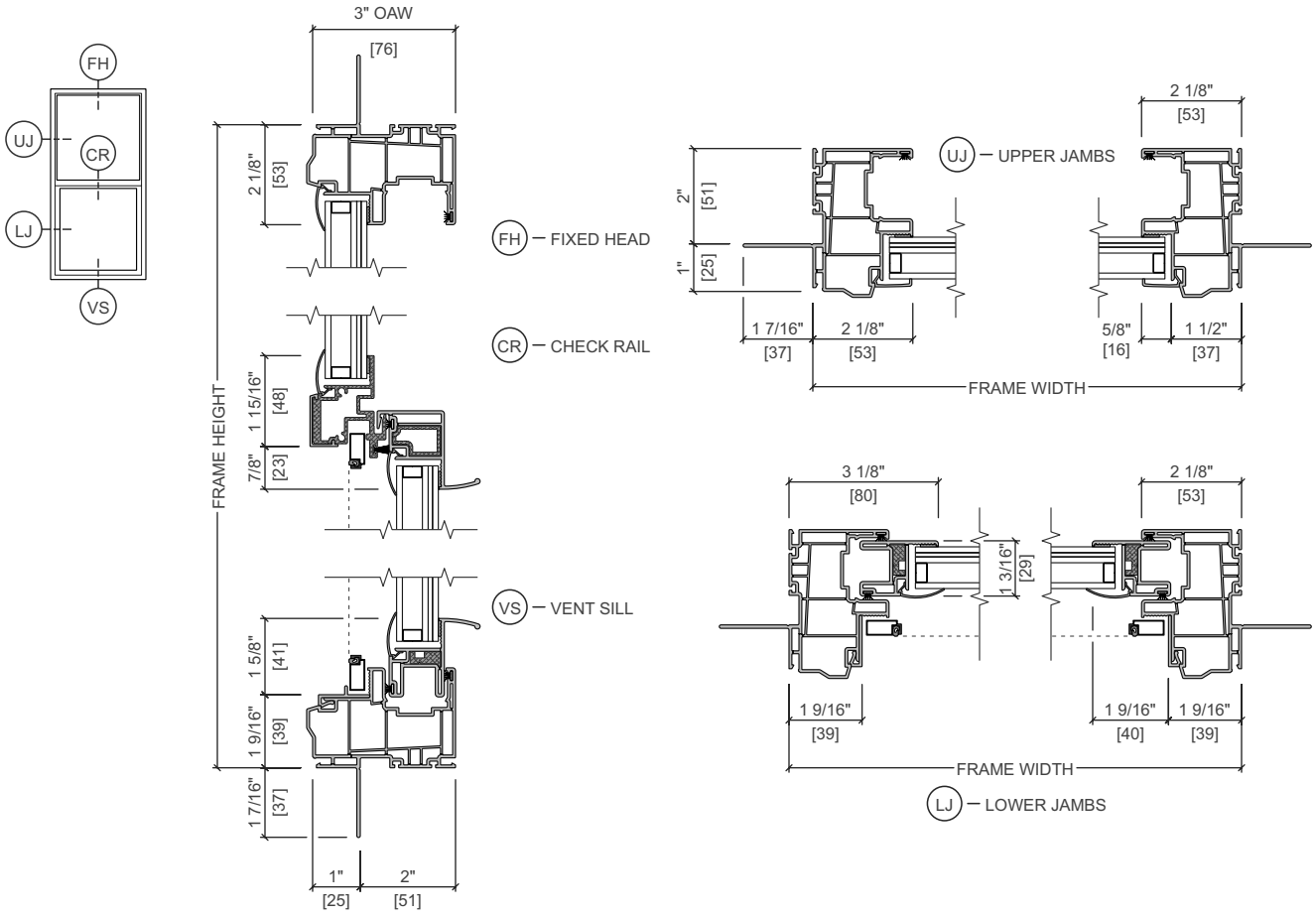
7/8" IMPACT IG



Scale 3" = 1' 0"

All dimensions are approximate.

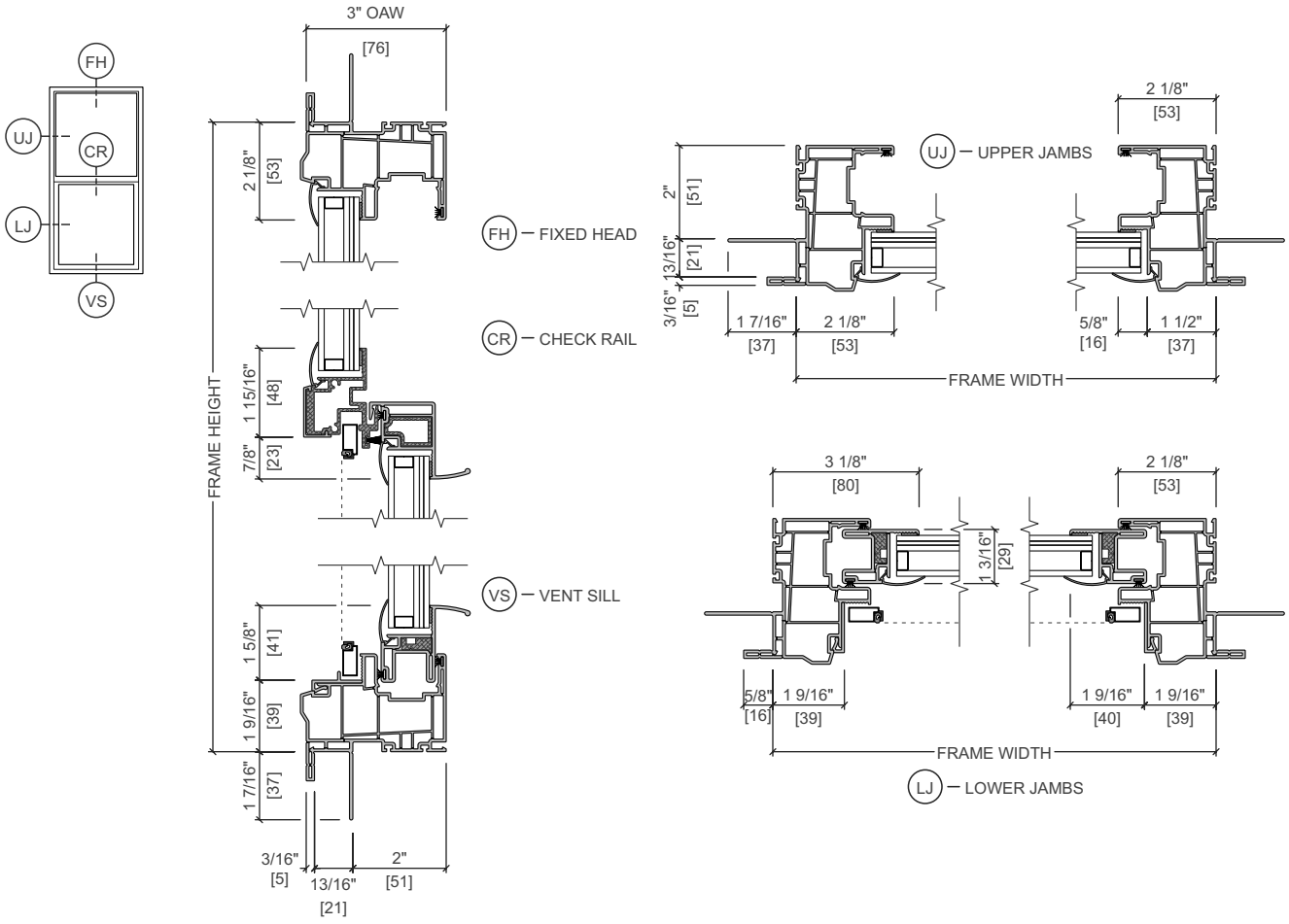
Unit sections - Nail Fin



Scale 3" = 1' 0"

All dimensions are approximate.

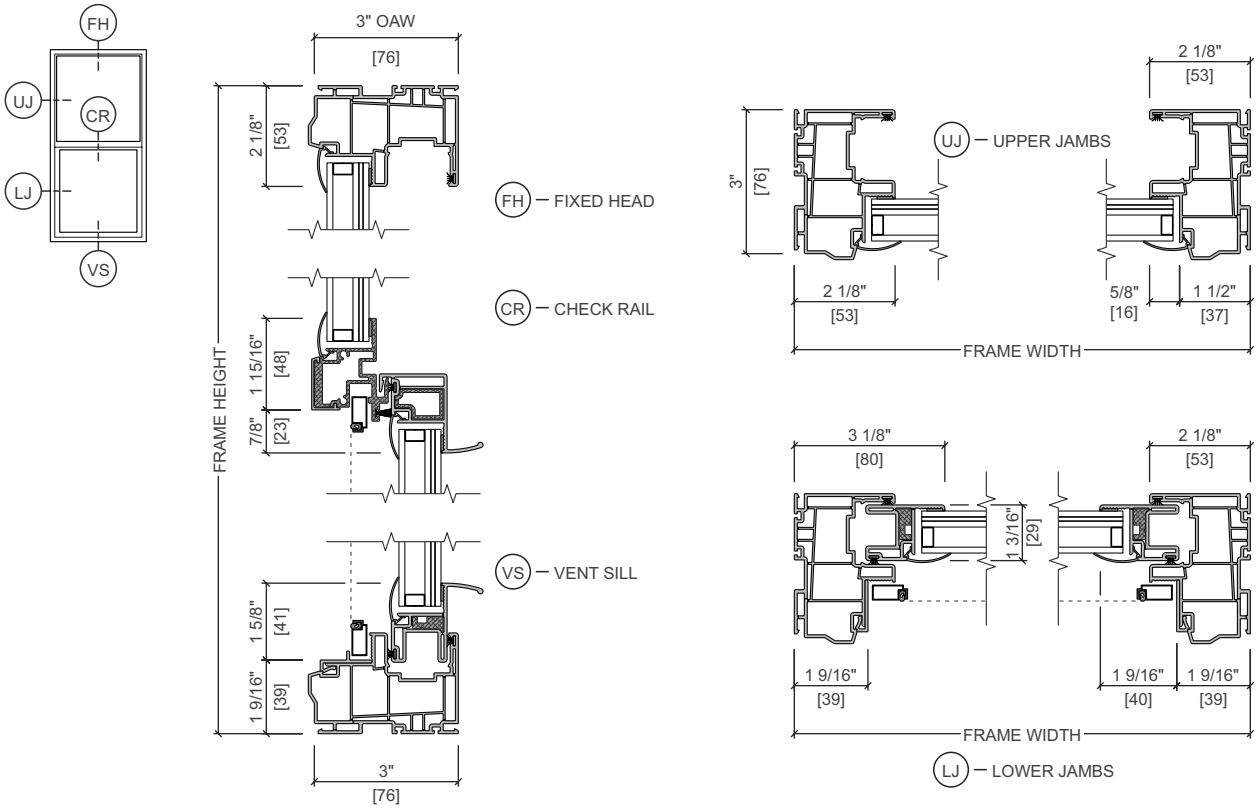
Unit sections - Nail Fin with J-Channel



Scale 3" = 1' 0"

All dimensions are approximate.

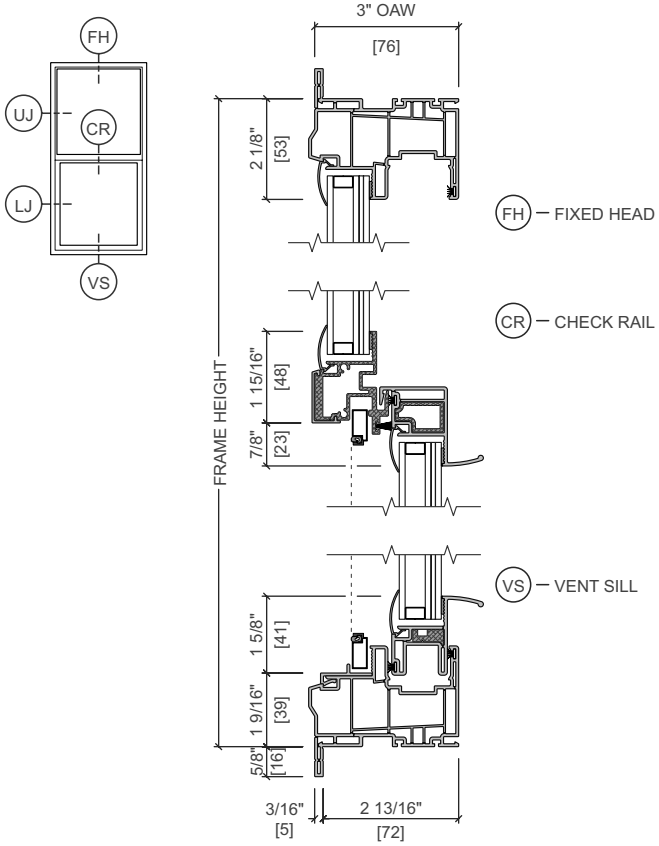
Unit sections - Block Frame

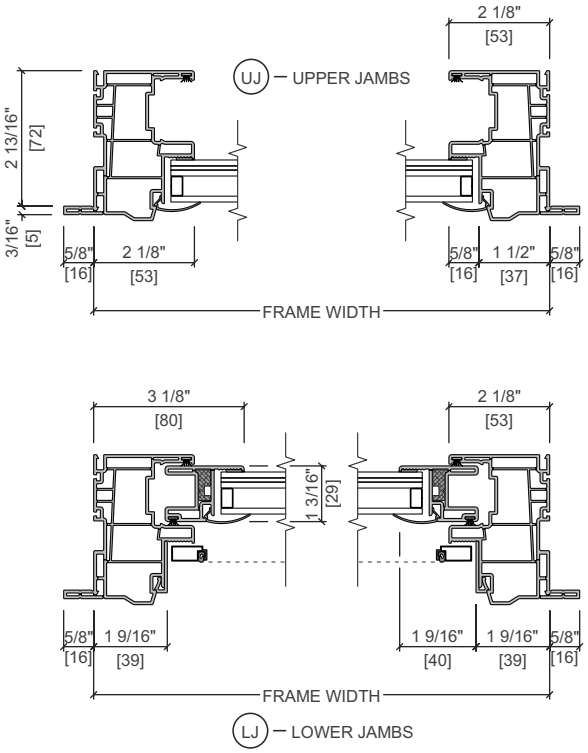


Scale 3" = 1' 0"

All dimensions are approximate.

Unit sections - Flush Flange





Scale 3" = 1' 0"

All dimensions are approximate.