Pella® Reserve™ Traditional Monumental-Hung Window



Product Selection Guide	
Size and Performance Data	W-MH-2
Sound Transmission Class	W-MH-2
Features and Options	W-MH-3
Glazing Performance	W-MH-4
Combination Assemblies	W-MH-8
Grille Types	
Grille Profiles	W-MH-10
Grille Patterns	W-MH-11
Design Data and Performance Class	W-MH-12
Custom Shapes	W-MH-13
Detailed Product Descriptions	
Clad	W-MH-14
Wood	W-MH-15
Unit Sections	
Clad	W-MH-16
Wood	W-MH-21

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:

Test Reports:

https://media.pella.com/professional/adm/CertificationReports/Test_Reports_AS-Clad.pdf

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

 $\underline{https://media.pella.com/professional/adm/Wood-CSI_Specs/08556.rtf}$

AIA Masterspec (readable using Microsoft Word or other text editing application):

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

 $\textbf{Clad:}\ \underline{https://media.pella.com/professional/adm/Clad-Wood/PR-MonumntlHung-C.rtf}$

 $\textbf{Wood:}\ \underline{https://media.pella.com/professional/adm/Clad-Wood/PR-MonumntlHung-W.rtf}$

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

 $\underline{https://media.pella.com/professional/adm/Clad-Wood/AS-RES-M6DH-Detail_D.dwg}$

3D & BIM (requires appropriate software to read and use):

 $\underline{\text{https://media.pella.com/professional/adm/RevitFiles/PR-Revit/Window-Monumental_Hung-Pella-Reserve-Traditional.zip} \\$

Combination Recommendations:

https://media.pella.com/professional/adm/Clad-Wood/D_Combinations.pdf

Installation Details:

 $\underline{https://media.pella.com/professional/adm/Clad-Wood/F_InstallationDetails.pdf}$

Impact-Resistant Double-Hung, Complete Product Information:

https://media.pella.com/professional/adm/Clad-Wood/Pella-ImpactResistant_DoubleHung.pdf

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.

Microsoft and Microsoft Word are registered trademarks of Microsoft Corp.



Size and Performance Data

	Clad	Wood
Sizes		
Special sizes only— Built-to-order in 1/8" increments (Includes transoms, egress sizes, arch heads, contemporary sash split, cottage sash split, variable sash split)	•	•
Performance ₁		
Meets or Exceeds AAMA/WDMA Ratings	H-LC25 - CW50 Hallmark Certified	H-LC25 - CW50 Hallmark Certified
Air Infiltration (cfm/ft² of frame @ 1.57 psf wind pressure)	0.11	0.11
Water Resistance	3.76 - 7.52 psf	3.76 - 7.52 psf
Design Pressure	25 - 50 psf	25 - 50 psf
Structural Test Pressure	37.5 - 75 psf	37.5 - 75 psf
Other Performance Criteria		
Forced Entry Resistance Level (Minimum Security Grade) ₂	Grade 10	Grade 10
Operating Force (lb) Maintain Motion (of Hallmark tested size and glazing) ₃ CW	45	45
LC	40	40

Sound Transmission Class / Outdoor-Indoor Transmission Class										
Product	Frame Size Tested ₄	Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness	Third Pane Thickness	STC Rating	OITC Rating			
	WITHOUT GRIL	LES								
	48" x 60"	13/16"	3mm	3mm	-	29	24			
Clad Monumental	48" x 60"	1-1/16"	2.5mm	3mm	2.5mm	29	24			
Single- and Double-Hung	47" x 59"	13/16"	5mm	3mm	-	32	27			
Double Hally	48" x 60"	13/16"	3mm	7.6mm PVB	-	33	29			
	48" x 60"	13/16"	3mm	6mm laminated	-	33	28			
	WITHOUT GRIL	LES								
Wood Monumental Single- and Double-Hung	48" x 60"	13/16"	3mm	3mm	-	32	28			

^{(-) =} Not Available

⁽¹⁾ Maximum performance for single unit when glazed with the appropriate glass thickness. 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 with sash weights over 121 lbs will result in operation forces over these values. Therefore, these units do not meet the operational force requirements for CW rated (45 lbs) or LC rated (40 lbs) hung windows.

⁽⁴⁾ Published performance data for air infiltration is determined by testing a minimum of four (4) products of NFRC model size. Testing is conducted in accordance with ASTM E283. Air infiltration ratings for products will differ by size. The performance data does not apply to combination assemblies unless noted. Actual product performance may vary for a number of reasons including installation and product care.



Features and Options

Standard	Options / Upgrades
Glazing	
Glazing Type	
Dual-Pane Insulating Glass	Triple-pane Insulating Glass
Insulated Glass Options/Low-	E Types
	SunDefense™ Low-E
	SunDefense+ Low-E
	AdvancedComfort Low-E
Advanced Low-E	NaturalSun Low-E
	NaturalSun+ Low-E
	Clear (no Low-E coating)
Additional Glass Options	
	Tempered Glass
	Obscure Glass 1
	Tinted Glass (Bronze, Gray and Green)
Annealed Glass	Noise reduction glass (STC 3mm/5mm or 4mm/6mm combination)
	Noise reduction laminated glass (non-impact)
	Reflective Bronze, Reflective Grey
	Spandrel
Gas Fill/High Altitude	
Argon	High altitude
Wood types	
Pine	Mahogany (clad and wood), Douglas Fir (clad only)
Exterior 1	
	EnduraClad Plus protective finish
EnduraClad® protective finish	Factory Primed Pine wood exterior
	Unfinished Mahogany wood exterior
Cladding Colors 1	
Standard colors	Feature Colors, Custom Colors
Interior	
Unfinished Wood	Factory primed 1, Factory prefinished paint 1, Factory prefinished stain 1
Hardware	
Hardware Finish	
Champagne, White, Brown or Matte Black	Satin Brass, Satin Nickel, Oil-Rubbed Bronze, Distressed Bronze, Distressed Nickel
Sash Locks	
Cam-action lock	Simulated lock, Air conditioner lock, Historical spoon-style lock (surface mounted), Head, sill, or stool mounted locks
Tilt-Wash Cleaning	
Tilt to interior on both sashes	-
Other Hardware	
_	Sash lifts
Grilles	
Integral Light Technology® Gr	
_	Traditional, Prairie, Top Row, Cross, New England, Victorian, Diamond, Custom
Grilles-Between-the-Glass	
_	Traditional, Prairie, Top Row ₁ , Cross or Custom-Equally Divided
Screens 2	
_	Full-Height or Half-Height InView™ screens, available with extruded aluminum screen frame

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

⁽²⁾ Size/Weight restrictions apply, see Design Data pages for details.



ng ess		NEDG Contified	Glass	s (mm)		Pe	rformar	nce Valu	es ₁	Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
Glazing Thickness	Type of Glazing	NFRC Certified Product #	Ext.	Int.	Gap Fill			S.	U. S.				Can	ada 2			
						<u>-</u>	S				Zone		ie		Zone		
Clad	Exterior, Dual-Pane Glazing									N	NC	SC	S		CA		
13/16"	Clear IG with 3mm glass	PEL-N-235-02441-00001	3	3	Air	0.44	0.54	0.56	44								
	with grilles-between-the-glass	PEL-N-235-02442-00001				0.44	0.48	0.50	44								
	with integral grilles	PEL-N-235-02443-00001				0.44	0.48	0.50	44								
13/16"	Advanced Low-E IG	PEL-N-235-02469-00001	3	3	Argon	0.28	0.25	0.48	59								
	with grilles-between-the-glass	PEL-N-235-02470-00001				0.28	0.23	0.42	59			SC	S				
	with integral grilles	PEL-N-235-02471-00001				0.29	0.23	0.42	59				S				
13/16"	SunDefense™ Low-E IG	PEL-N-235-02565-00001	3	3	Argon	0.28	0.19	0.44	60			SC	S				
	with grilles-between-the-glass	PEL-N-235-02566-00001				0.28	0.17	0.39	60			SC	S				
	with integral grilles	PEL-N-235-02567-00001				0.29	0.17	0.39	60				S				
13/16"	SunDefense+ Low-E IG	PEL-N-235-04437-00001	3	3	Argon	0.24	0.19	0.43	49		NC	SC	S				
	with grilles-between-the-glass	PEL-N-235-04438-00001				0.24	0.17	0.38	49		NC	SC	S				
	with integral grilles	PEL-N-235-04439-00001				0.25	0.17	0.38	49		NC	SC	S				
13/16"	AdvancedComfort Low-E IG	PEL-N-235-02517-00001	3	3	Argon	0.25	0.25	0.47	48		NC						
	with grilles-between-the-glass	PEL-N-235-02518-00001				0.25	0.22	0.41	48		NC	SC	S				
-	with integral grilles	PEL-N-235-02519-00001				0.25	0.22	0.41	48		NC	SC	S				
13/16"	NaturalSun Low-E IG	PEL-N-235-02613-00001	3	3	Argon	0.29	0.47	0.54	59								
	with grilles-between-the-glass	PEL-N-235-02614-00001				0.29	0.42	0.48	59								
	with integral grilles	PEL-N-235-02615-00001				0.30	0.42	0.48	59								
13/16"	NaturalSun+ Low-E IG	PEL-N-235-04389-00001	3	3	Argon	0.25	0.43	0.53	47	N					-		
	with grilles-between-the-glass	PEL-N-235-04390-00001			32	0.25	0.38	0.47	47		NC						
	with integral grilles	PEL-N-235-04391-00001				0.26	0.38	0.47	47		.,,						
Tinte	d Glazing	1 22 11 200 0 1001 00001				0.20	0.00	0.17	.,								
13/16"	Bronze Advanced Low-E IG	PEL-N-235-02661-00001	5	3	Argon	0.28	0.23	0.31	59			SC	S				
	with grilles-between-the-glass	PEL-N-235-02662-00001			J .	0.28	0.20	0.27	59			SC	S				
-	with integral grilles	PEL-N-235-02663-00001				0.29	0.20	0.27	59				S				
13/16"	Gray Advanced Low-E IG	PEL-N-235-02677-00001	5	3	Argon	0.28	0.21	0.27	59			SC	S		$\overline{}$		
	with grilles-between-the-glass	PEL-N-235-02678-00001				0.28	0.19	0.24	59			SC	S				
	with integral grilles	PEL-N-235-02679-00001				0.29	0.19	0.24	59				S				
13/16"	Green Advanced Low-E IG	PEL-N-235-02693-00001	5	3	Argon	0.28	0.26	0.42	59						一		
	with grilles-between-the-glass	PEL-N-235-02694-00001			32	0.28	0.23	0.37	59			SC	S				
	with integral grilles	PEL-N-235-02695-00001				0.29	0.23	0.37	59				S				
High	Altitude Glazing	1 22 11 200 02000 00001				0.20	0.20	0.07									
13/16"	Advanced Low-E IG	PEL-N-235-02465-00001	3	3	Air	0.31	0.26	0.48	56								
	with grilles-between-the-glass	PEL-N-235-02466-00001			1	0.31	0.23	0.42	56				S				
	with integral grilles	PEL-N-235-02467-00001				0.32	0.23	0.42	56				S				
13/16"	SunDefense™ Low-E IG	PEL-N-235-02561-00001	3	3	Air	0.31	0.19	0.44	56				S		一		
107.10	with grilles-between-the-glass	PEL-N-235-02562-00001			7	0.31	0.17	0.39	56								
	with integral grilles	PEL-N-235-02563-00001				0.32	0.17	0.39	56				<u> </u>				
13/16"	SunDefense+ Low-E IG	PEL-N-235-04433-00001	3	3	Air	0.32	0.19	0.43	45			SC	S		\vdash		
15/10	with grilles-between-the-glass	PEL-N-235-04434-00001			All	0.27	0.13	0.43	45			SC	S				
	with integral grilles	PEL-N-235-04435-00001				0.27	0.17	0.38	45	 		SC	S		\vdash		
13/16"	AdvancedComfort Low-E IG	PEL-N-235-02513-00001	3	3	Air	0.27	0.25	0.47	44						$\overline{}$		
15/10	with grilles-between-the-glass	PEL-N-235-02514-00001			All	0.27	0.23	0.47	44	 		SC	S		\vdash		
	with integral grilles	PEL-N-235-02515-00001				0.27	0.23	0.41	44			SC	S		_		
13/16"	NaturalSun Low-E IG	PEL-N-235-02609-00001	3	3	Air	0.32	0.23	0.54	55	\vdash		- 50			\vdash		
13/10	with grilles-between-the-glass	PEL-N-235-02609-00001		3	All	0.32	0.47	0.34	55					1			
	with integral grilles	PEL-N-235-02610-00001				0.32	0.42	0.48	55	-				1			
13/16"	NaturalSun+ Low-E IG		3	3	Air	0.33	0.42	0.48	38	\vdash				\vdash	\vdash		
13/10		PEL-N-235-04385-00001 PEL-N-235-04386-00001		3	All	0.27	0.43	0.53	38	-				 	\vdash		
	with integral grilles				1					\vdash				-	 		
	with integral grilles	PEL-N-235-04387-00001				0.28	0.38	0.47	38	I			1	I	l .		

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 for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR ${\!}^{\tiny{\circledR}}$ 2020 initiative.

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.

Rev. 02/02/2024







ng less	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap	Performance Values 1				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown						
Glazing Thickness						Fill	ctor	30	VLT	~	U. S.				Cana	ada 2	
~ F			Ext.	Mid.	Int.		U-Factor	SHGC		CR	Zone			ER	Zone		
Clad E	Exterior, Triple-Pane Glazing										N	NC	SC	S		CA	
1-1/16"	Advanced Low-E IG	PEL-N-235-02925-00001	2.5	3	2.5	Argon	0.21	0.23	0.43	72	N	NC	SC	S	27	CA	
	with grilles-between-the-glass	PEL-N-235-02926-00001					0.21	0.21	0.38	72	Ν	NC	SC	S	25	CA	
	with integral grilles	PEL-N-235-02927-00001					0.21	0.21	0.38	72	N	NC	SC	S	25	CA	
1-1/16"	SunDefense™ Low-E IG	PEL-N-235-02961-00001	2.5	3	2.5	Argon	0.20	0.17	0.39	72	N	NC	SC	S	24	CA	
	with grilles-between-the-glass	PEL-N-235-02962-00001					0.21	0.16	0.35	72		NC	SC	S			
	with integral grilles	PEL-N-235-02963-00001					0.21	0.16	0.35	72		NC	SC	S			
1-1/16"	NaturalSun Low-E IG	PEL-N-235-02889-00001	2.5	3	2.5	Argon	0.21	0.39	0.48	71	N	NC			36	CA	
	with grilles-between-the-glass	PEL-N-235-02890-00001					0.21	0.35	0.43	71	N	NC			34	CA	
	with integral grilles	PEL-N-235-02891-00001					0.21	0.35	0.43	71	N	NC			34	CA	
High A	Altitude Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-235-02921-00001	2.5	3	2.5	Air	0.23	0.23	0.43	68		NC	SC	S			
	with grilles-between-the-glass	PEL-N-235-02922-00001					0.24	0.21	0.38	68		NC	SC	S			
	with integral grilles	PEL-N-235-02923-00001					0.24	0.21	0.38	68		NC	SC	S			
1-1/16"	SunDefense Low-E IG	PEL-N-235-02957-00001	2.5	3	2.5	Air	0.23	0.18	0.39	68		NC	SC	S			
	with grilles-between-the-glass	PEL-N-235-02958-00001					0.24	0.16	0.35	68		NC	SC	S			
	with integral grilles	PEL-N-235-02959-00001					0.23	0.16	0.35	68		NC	SC	S			
1-1/16"	NaturalSun Low-E IG	PEL-N-235-02885-00001	2.5	3	2.5	Air	0.24	0.39	0.48	68	N	NC					
	with grilles-between-the-glass	PEL-N-235-02886-00001					0.24	0.35	0.43	68	N	NC					
	with integral grilles	PEL-N-235-02887-00001					0.24	0.35	0.43	68	N	NC					

R-Value = 1/U-Factor

SHGC = Solar Heat Gain Coefficient VLT % = Visible Light Transmission CR = Condensation Resistance ER = Canadian Energy Rating

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.



⁽¹⁾ Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

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



ng ess		NFRC Certified	Glass	(mm)		Pe	rforman	nce Valu	es ₁			eas Me e Crite			
Glazing Thickness	Type of Glazing	Product #	Ext.	Int.	Gap Fill	U-Factor	SHGC	CR KLT		U.S.				Can	ada 2
						ے ا	S	_			Zo	ne		ER	Zone
Woo	d Exterior, Dual-Pane Glazing									N	NC	SC	S		CA
13/16"	Clear IG with 3mm glass	PEL-N-236-02433-00001	3	3	Air	0.43	0.54	0.57	44						
	with grilles-between-the-glass	PEL-N-236-02434-00001				0.43	0.48	0.50	44						
	with integral grilles	PEL-N-236-02435-00001				0.43	0.48	0.50	44						
13/16"	Advanced Low-E IG	PEL-N-236-02461-00001	3	3	Argon	0.28	0.26	0.48	59						
	with grilles-between-the-glass	PEL-N-236-02462-00001				0.28	0.23	0.43	59			SC	S		
	with integral grilles	PEL-N-236-02463-00001				0.28	0.23	0.43	59			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-236-02557-00001	3	3	Argon	0.27	0.19	0.45	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02558-00001				0.27	0.17	0.40	59			SC	S		
	with integral grilles	PEL-N-236-02559-00001				0.28	0.17	0.40	59			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-236-04429-00001	3	3	Argon	0.24	0.19	0.44	49		NC	SC	S		
	with grilles-between-the-glass	PEL-N-236-04430-00001				0.24	0.17	0.39	49		NC	SC	S		
	with integral grilles	PEL-N-236-04431-00001				0.24	0.17	0.39	49		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-236-02509-00001	3	3	Argon	0.24	0.25	0.47	48		NC				
	with grilles-between-the-glass	PEL-N-236-02510-00001				0.24	0.23	0.42	48		NC	SC	S		
	with integral grilles	PEL-N-236-02511-00001				0.25	0.23	0.42	48		NC	SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-236-02605-00001	3	3	Argon	0.28	0.48	0.55	58						
	with grilles-between-the-glass	PEL-N-236-02606-00001				0.28	0.43	0.48	58						
	with integral grilles	PEL-N-236-02607-00001				0.29	0.43	0.48	58						
13/16"	NaturalSun+ Low-E IG	PEL-N-236-04381-00001	3	3	Argon	0.25	0.43	0.53	47	N					
	with grilles-between-the-glass	PEL-N-236-04382-00001				0.25	0.39	0.47	47		NC				
	with integral grilles	PEL-N-236-04383-00001				0.25	0.39	0.47	47		NC				
Tinte	ed Glazing														
13/16"	Bronze Advanced Low-E IG	PEL-N-236-02653-00001	5	3	Argon	0.27	0.23	0.31	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02654-00001				0.27	0.21	0.28	59			SC	S		
	with integral grilles	PEL-N-236-02655-00001				0.28	0.21	0.28	59			SC	S		
13/16"	Gray Advanced Low-E IG	PEL-N-236-02669-00001	5	3	Argon	0.27	0.21	0.27	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02670-00001				0.27	0.19	0.24	59			SC	S		
	with integral grilles	PEL-N-236-02671-00001				0.28	0.19	0.24	59			SC	S		
13/16"	Green Advanced Low-E IG	PEL-N-236-02685-00001	5	3	Argon	0.27	0.26	0.42	59						
	with grilles-between-the-glass	PEL-N-236-02686-00001				0.27	0.23	0.38	59			SC	S		
	with integral grilles	PEL-N-236-02687-00001				0.28	0.23	0.38	59			SC	S		
High	Altitude Glazing														
13/16"	Advanced Low-E IG	PEL-N-236-02457-00001	3	3	Air	0.31	0.26	0.48	55						
	with grilles-between-the-glass	PEL-N-236-02458-00001				0.31	0.23	0.43	55				S		
	with integral grilles	PEL-N-236-02459-00001				0.31	0.23	0.43	55				S		
13/16"	SunDefense™ Low-E IG	PEL-N-236-02553-00001	3	3	Air	0.30	0.19	0.45	56				S		
	with grilles-between-the-glass	PEL-N-236-02554-00001				0.30	0.17	0.40	56				S		
	with integral grilles	PEL-N-236-02555-00001				0.31	0.17	0.40	56				S		
13/16"	SunDefense+ Low-E IG	PEL-N-236-04425-00001	3	3	Air	0.26	0.19	0.44	45			SC	S		
	with grilles-between-the-glass	PEL-N-236-04426-00001				0.26	0.17	0.39	45			SC	S		
	with integral grilles	PEL-N-236-04427-00001				0.27	0.17	0.39	45			SC	S		
13/16"		PEL-N-236-02505-00001	3	3	Air	0.26	0.25	0.47	44	<u> </u>					
	with grilles-between-the-glass	PEL-N-236-02506-00001				0.26	0.23	0.42	44			SC	S		<u> </u>
	with integral grilles	PEL-N-236-02507-00001				0.27	0.23	0.42	44	<u> </u>		SC	S		<u> </u>
13/16"	NaturalSun Low-E IG	PEL-N-236-02601-00001	3	3	Air	0.31	0.48	0.55	55						
	with grilles-between-the-glass	PEL-N-236-02602-00001				0.31	0.42	0.48	55						
	with integral grilles	PEL-N-236-02603-00001				0.32	0.42	0.48	55	<u> </u>					<u> </u>
13/16"		PEL-N-236-04377-00001	3	3	Air	0.27	0.43	0.53	44	<u> </u>					<u> </u>
	with grilles-between-the-glass	PEL-N-236-04378-00001				0.27	0.39	0.47	44						
	with integral grilles	PEL-N-236-04379-00001				0.27	0.39	0.47	44	l				l	I

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

ER = Canadian Energy Rating

Rev. 02/02/2024

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.





⁽¹⁾ Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

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



ng	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap	Performance Values 1				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown						
Glazing Thickness						Fill	ctor	SHGC	VLT	R	U. S.				Can	ada 2	
~ F			Ext.	Mid.	Int.		U-Factor	SHC		CR		Zo	ne		ER	Zone	
Wood	d Exterior, Triple-Pane Glazing										N	NC	SC	S		CA	
1-1/16""	Advanced Low-E IG	PEL-N-236-02917-00001	2.5	3	2.5	Argon	0.20	0.24	0.43	71	N	NC			28	CA	
	with grilles-between-the-glass	PEL-N-236-02918-00001					0.20	0.21	0.38	71	N	NC	SC	S	27	CA	
	with integral grilles	PEL-N-236-02919-00001					0.20	0.21	0.38	71	N	NC	SC	S	27	CA	
1-1/16"	SunDefense™ Low-E IG	PEL-N-236-02953-00001	2.5	3	2.5	Argon	0.20	0.17	0.40	72	N	NC	SC	S	24	CA	
	with grilles-between-the-glass	PEL-N-236-02954-00001					0.20	0.16	0.35	71		NC	SC	S	24	CA	
	with integral grilles	PEL-N-236-02955-00001					0.20	0.16	0.35	71		NC	SC	S	24	CA	
1-1/16"	NaturalSun Low-E IG	PEL-N-236-02881-00001	2.5	3	2.5	Argon	0.20	0.40	0.49	71	N	NC			38	CA	
	with grilles-between-the-glass	PEL-N-236-02882-00001					0.20	0.35	0.43	71	N	NC			35	CA	
	with integral grilles	PEL-N-236-02883-00001					0.20	0.35	0.43	71	N	NC			35	CA	
High	Altitude Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-236-02913-00001	2.5	3	2.5	Air	0.23	0.24	0.43	68		NC					
	with grilles-between-the-glass	PEL-N-236-02914-00001					0.23	0.21	0.38	68		NC	SC	S			
	with integral grilles	PEL-N-236-02915-00001					0.23	0.21	0.38	68		NC	SC	S			
1-1/16"	SunDefense Low-E IG	PEL-N-236-02949-00001	2.5	3	2.5	Air	0.22	0.18	0.40	68	N	NC	SC	S			
	with grilles-between-the-glass	PEL-N-236-02950-00001					0.23	0.16	0.35	68		NC	SC	S			
	with integral grilles	PEL-N-236-02951-00001					0.23	0.16	0.35	68		NC	SC	S			
1-1/16"	NaturalSun Low-E IG	PEL-N-236-02877-00001	2.5	3	2.5	Air	0.23	0.40	0.49	67	N	NC			34	CA	
	with grilles-between-the-glass	PEL-N-236-02878-00001					0.23	0.35	0.43	67	N	NC					
	with integral grilles	PEL-N-236-02879-00001					0.23	0.35	0.43	67	N	NC					

R-Value = 1/U-Factor

SHGC = Solar Heat Gain Coefficient VLT % = Visible Light Transmission CR = Condensation Resistance ER = Canadian Energy Rating

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.



⁽¹⁾ Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

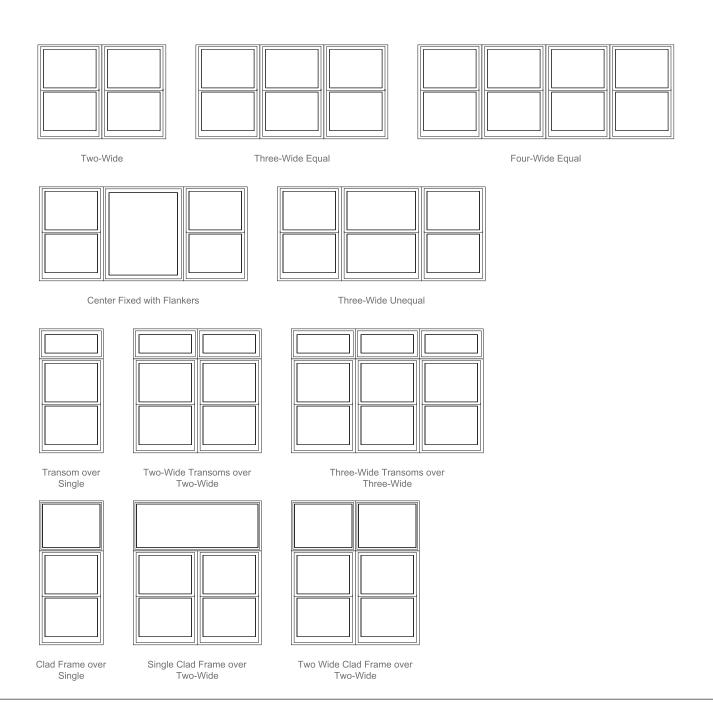
⁽²⁾ The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

Combination Assemblies

Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mulled together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. See the Combinations Recommendations document for typical mullions, requirements and limitations.

Contact your local Pella sales representative for more information.



When Sash is Shipped Separate factory assembled combinations are not available.

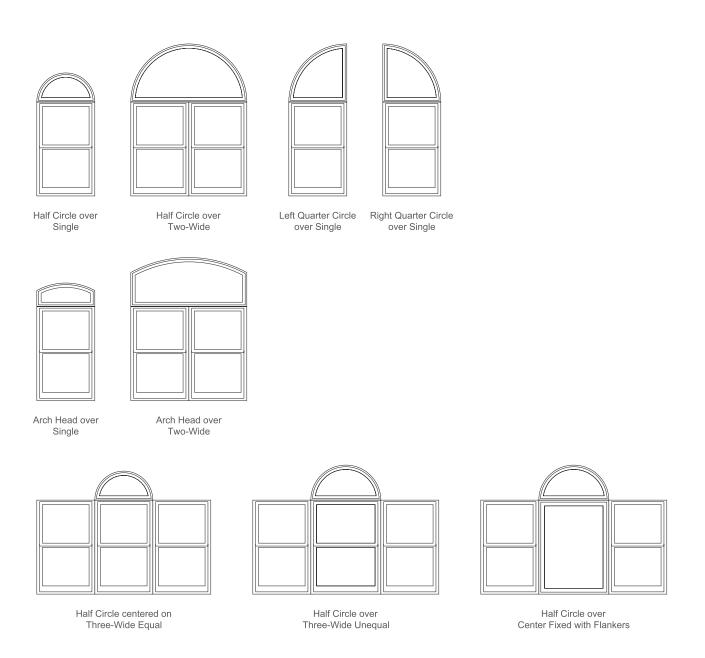


Combination Assemblies

Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mulled together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. See the Combinations Recommendations document for typical mullions, requirements and limitations.

Contact your local Pella sales representative for more information.



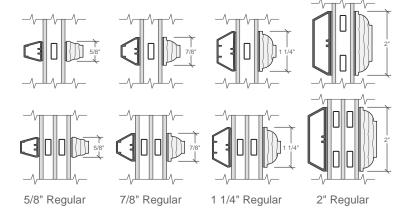
When Sash is Shipped Separate factory assembled combinations are not available.



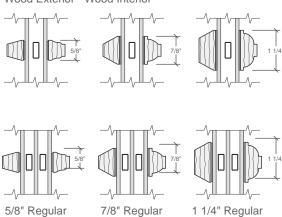
Grille Profiles

Traditional Style Collection - Integral Light Technology ®

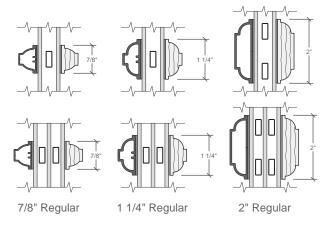
Putty Glaze and Ogee Grilles Clad Exterior - Wood Interior



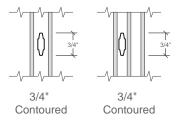
Putty Glaze and Ogee Grilles Wood Exterior - Wood Interior



Ogee Grilles Clad Exterior - Wood Interior



Grilles-Between-the-Glass



Interior wood ILT grilles available in Pine, Mahogany or Douglas Fir to match complete unit. Exterior wood ILT grilles available in Pine or Mahogany to match complete unit.

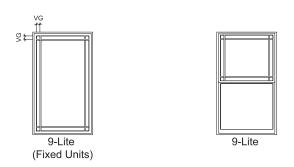
12-Lite



Grille Patterns

Integral Light Technology® Grilles

Prairie Lite Patterns

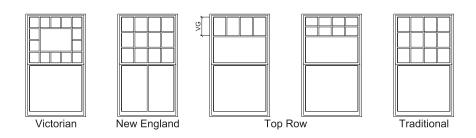


Standard corner lite dimension for Prairie patterns = 2-1/2" VG.

Available in transoms ≥ 1'3" height and width.

Available in all standard and special sizes.

Other Available Patterns

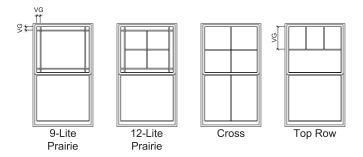


VG = Visible Glass

Lite dimensions noted can vary.

For size and pattern availability contact your local Pella sales representative.

Grilles-Between-the-Glass



Prairie

- Standard corner lite dimension for Prairie patterns = 2-1/2" VG.
- Available in transoms ≥ 1'3" height and width.

Cross

- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

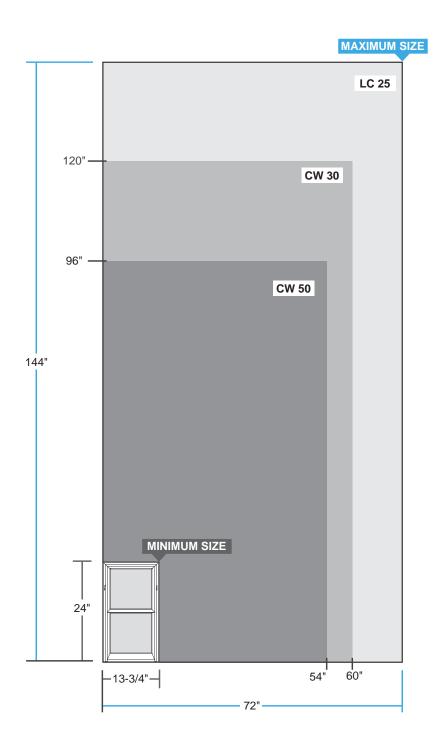
Top Row

- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

For traditional patterns, see size tables.



Design Data and Performance Class





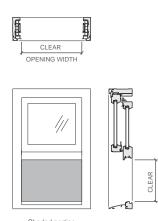
Sizes and Dimensions

Miscellaneous Formulas

Frame	Minimum	Maximum
Rectangular	13-3/4" W x 24" H (349 x 610 mm)	72" W x 144" H (1 829 x 3 658 mm)
Non-rectangular	13-3/4" W x 24" H (349 x 610 mm)	60" W x 120" H (1 524 x 3 048 mm)

Vent - Equal Sash Only

Visible	Width = Frame - 7.594						
Glass (inches)	Height = (Frame - 10.572) ÷ 2						
Actual Glass	Width = Frame - 6.245						
(inches)	Height = (Frame - 7.874) ÷ 2						
	COW = Frame - 4.928						
Clear	Standard Balances: COH = AGH - 1.313						
Opening* (inches)	Upgraded Balances: COH = AGH - 8.688						
	If Frame Height is >120", then Clear Opening Height is limited to 24"						
Vent area (ft²)	(COW x COH) ÷ 144						



shows vent

- * Addition of Sash Lug will reduce Clear Opening width and height by 1.25"
 - Units > 120" will have limited sash travel.
 - Sash is shipped out of unit when Frame Height > 106" or Individual Sash Weight > 92 lbs or Frame Width > 60".
 - •Units will be single hung only when frame height > 120".
 - Maximum sash weight is 200 lbs.
 - •Standard balance not available when sash weight > 70 lbs or if Frame Height > 96".
 - When sash weight > 92 lbs sash will not have tilt in cleaning feature.
 - Full Screen not available when Frame Height > 120".
 - Units with sash weights over 121 lbs will result in operation forces that do not meet the operational force requirements for CW rated (45 lbs) or LC rated (40 lbs) hung windows.

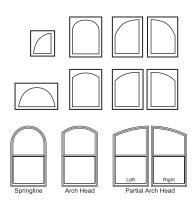
Custom Options

Pella Reserve single-hung windows are available in custom shapes shown below, and additional shapes per drawing. For specifications, size limitations, and details on these units, contact your local Pella sales representative.

The following additional options are available:

- Special Wood Types.
- Custom Grille Types and Patterns.
- · Custom Glazing.
- · Custom Width and height rectangular units.
- Custom Width sash stiles and rails.
- Curved Top Glass in rectangular sash.
- Shape vent and fixed windows.
- Specialty Windows See the Specialty Windows section.

Glass Shapes





Pella® Reserve™ Traditional Monumental-Hung Window

Detailed Product Description - Aluminum-Clad Exterior

Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage
- Interior exposed surfaces are [clear pine, curved members may have visible finger joints] [mahogany] [douglas fir].
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples and concealed corner locks. Vinyl Jamb liner includes wood/clad inserts.

- Overall frame depth is 5-7/8" (149mm) for a wall depth of 4-9/16" (116mm). Optional factory applied jamb extensions available from 4-9/16" (116mm) and 7-3/16" (183 mm) wall depths.
- Optional factory installed fold-out installation fins with flexible fin corners.
 Optional factory-applied EnduraClad® exterior trim.

Sash

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine, curved members may have visible finger joints] [mahogany (not available if sash weight > 200 lbs.)] [douglas fir]. Exterior surfaces are clad with extruded aluminum and sealed.
- Corners mortised and tenoned, glued and secured with metal fasteners. Sash thickness is 2-1/4" (57mm).

- Exterior sash profile is [ogee] [putty glaze], interior profile is ogee.
 Double-hung upper sash (if sash weight ≤ 92 lbs.) has surface-mounted wash locks for
- Double-hung and single-hung lower sash (if sash weight ≤ 92 lbs.) has concealed wash locks in lower check rail for tilt-in cleaning.

Weatherstripping

- Santoprene-wrapped foam at head and sill.
 Full length glass filled polypropylene interlocker with integrated slip-coated thermoplastic elastomer leaf. Secondary nylon bristle rainstrip on lower sash at sill.
- Vinyl-wrapped foam with secondary nylon bristle rainstrip inserted into jamb liner to seal against sides of sash.

Glazing System

- Quality float glass complying with ASTM C 1036.
- Quality float glass compying with Active Close.

 Custom and high altitude glazing available.

 Silicone-glazed dual-pane 13/16" dual-seal insulating glass [[annealed] [tempered]],

 [[clear] [[Advanced] [SunDefense"] [SunDefense+] [NaturalSun] [NaturalSun+]

 [AdvancedComfort] Low-E [with argon]] [[bronze] [gray] [green] Advanced Low-E

 [with Argon]] [obscure] [Reflective Bronze] [Reflective Gray].
- Silicone-glazed dual-pane 13/16" dual-seal tempered spandrel glass [Lava Bronze Amber] [Black] [Ford Blue] [Symmetry Bronze] [Symmetry Gray] [Symmetry Green].
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced] [SunDefense] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E [with argon]].
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass (not available if sash weight > 200 lbs.) [[annealed] [tempered]] [[Advanced Low-E] [SunDefense™ Low-E] [NaturalSun Low-E] [with argon]] [Obscure [standard] [fern]].

- · Aluminum-clad exteriors shall be coated with EnduraClad® protective finish, in a multistep, baked-on finish
 - Color is [standard] [feature] [custom]₁.
- Aluminum-clad exteriors shall be coated with EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]1.

[Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [pine: factory prefinished [paint] [stain] 1]

Hardware

- Galvanized block-and-tackle balances are attached to self-locking balance shoes connected to the sashes using zinc die cast terminals concealed within the frame. – or
- Class 5 hybrid balance attached to [locking] [non-locking] balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame. - or -
- Galvanized block-and-tackle balances combined with a Class 5 hybrid balance attached to non-locking balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- All balances comply with AAMA 902 specification
 Lock hardware is [standard lock (cam-action)] [spoon-style lock] [air-conditioner lock]
 [simulated lock (Single-piece lock ties upper and lower sash together. When removed, lower sash becomes operable)]. Two sash locks on units with frame width 37" and
- Hardware Finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Satin Brass] [Satin Nickel] [Oil-Rubbed Bronze] [Distressed Bronze] [Distressed Nickel].

Optional Products

Sash

Exterior sash lugs

Factory applied, color to match exterior cladding.

Grilles

- Integral Light Technology® grilles
 Integral Light Technology® grilles
 Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [pine]
 [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site finishing] factory primed] [pine: factory prefinished [paint] [stain]
 - Exterior grilles are [5/8" putty profile] [7/8" [putty glaze] [ogee] profile] [1-1/4" [putty glaze] [ogee] profile] [2" ogee profile] that are extruded aluminum. Patterns are [Traditional] [Prairie] [Top Row] [New England] [Victorian].

 - Insulating glass contains non-glare spacer between the panes of glass.
 Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
- Grilles-Between-the-Glass 2
- or Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass)
 Patterns are [Traditional] [Prairie] [Cross] [Top Row]

 - $Interior\ color\ is\ [White]\ [Tan_3]\ [Brown_3]\ [Putty_3]\ [Black]\ [Ivory]\ [Harvest]$
 - [Cordovan] [Brickstone]. Exterior color 4 is [standard 1].

- InView™ Screens
 - [Full-screen (not available on units > 120" tall)] [half-screen] black Vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in a [extruded (optional on clad exterior units < 84" height, standard on wood exterior units or clad exterior units >84")] [standard] aluminum frame fitted to outside of window, supplied complete with all necessary hardware. Full screen spreader bar placed on units > 37" width or > 65" height.

 - Screen frame finish is [standard screen: baked enamel] [premium extruded: baked enamel], color to match window cladding.

- Optional sash lift furnished for field installation. Finish matches lock hardware. Two lifts on units having frame width 37" or greater.
- Optional factory applied limited opening device for venting units; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device for venting units. Sash mounted device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Finish matches lock hardware. Complies with ASTM F2090-10.
- · Optional [head, sill, stool locks]

Optional factory installed integrated security sensors available in vent units.

⁽¹⁾ Contact your local Pella sales representative for current designs and color options.

⁽²⁾ Available in clear or Low-E Insulating Glass only

⁽³⁾ Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.

⁽⁴⁾ Appearance of exterior grille color will vary depending on Low-E coating on glass



Pella® Reserve™ Traditional Monumental-Hung Window

Detailed Product Description - Wood Exterior

Frame

- Select wood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage
- Interior exposed surfaces are [clear pine] [mahogany] curved members may have visible finger joints.
- Exterior surfaces are [pine] [mahogany].
- Vinyl Jamb liner includes wood inserts.

 Overall frame depth is 5-5/8" (143mm) for a wall depth of 5-7/16" (138mm).
- Optional factory applied jamb extensions available from 5-7/16" (138mm) and 7-3/16" (183mm) wall depths.
- Optional factory installed fold-out installation fins with flexible fin corners.
 Optional factory-applied pine [1-7/8"] [3-1/2"] brickmould and [1-1/8"] [1-7/8"] subsill.

- Select wood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and
- mildew. Plus, an additional ingredient adds protection against termite damage. Interior exposed surfaces are [clear pine, curved members may have visible finger joints] [mahogany (not available if sash weight > 200 lbs.)].
 Exterior surfaces are [pine] [mahogany].
 Corners mortised and tenoned, glued and secured with metal fasteners.

- Sash thickness is 2-1/4" (57mm).
 Exterior sash profile is putty glaze, interior sash profile ogee.
 Double-hung upper sash (if sash weight ≤ 92 lbs.) has surface-mounted wash locks for tilt-in cleaning.
- Double-hung and single-hung lower sash (if sash weight ≤ 92 lbs.) has concealed wash locks in lower check rail for tilt-in cleaning.

Weatherstripping

- Santoprene-wrapped foam at head and sill.
- Full length glass filled polypropylene interlocker with integrated slip-coated thermoplastic elastomer leaf.
- Secondary nylon bristle rain strip on lower sash at sill.
- Vinyl-wrapped foam with secondary nylon bristle rain strip inserted into jamb liner to seal against sides of sash.

Glazing System

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.

 Silicone-glazed dual-pane 13/16" dual-seal insulating glass [[annealed] [tempered]],
 [[clear] [[Advanced] [SunDefense"] [SunDefense+] [NaturalSun] [NaturalSun+]
 [AdvancedComfort] Low-E [with argon]] [[bronze] [gray] [green] Advanced Low-E
 [with Argon]] [obscure] [Reflective Bronze] [Reflective Gray].
- Silicone-glazed dual-pane 13/16" dual-seal tempered spandrel glass [Lava Bronze Amber] [Black] [Ford Blue] [Symmetry Bronze] [Symmetry Gray] [Symmetry Green]
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced] [SunDefense] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E [with argon]].
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass (not available if sash weight > 200 lbs.) [[annealed] [tempered]] [[Advanced Low-E] [SunDefense $^{\text{\tiny M}}$ Low-E] [NaturalSun Low-E] [with argon]] [Obscure [standard] [fern]].

· [Pine: factory primed with one coat acrylic latex] [Mahogany: [factory primed with one coat acrylic latex] [Unfinished, ready for site finishing]].

• [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [pine: factory prefinished [paint] [stain] 1]

Hardware

- Galvanized block-and-tackle balances are attached to self-locking balance shoes connected to the sashes using zinc die cast terminals concealed within the frame. – or
- Class 5 hybrid balance attached to [locking] [non-locking] balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- or -Galvanized block-and-tackle balances combined with a Class 5 hybrid balance attached to non-locking balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- All balances comply with AAMA 902 specification
 Sash lock is [standard (cam-action)] [historic spoon-style] [air-conditioner lock]
 [simulated lock (Single-piece lock ties upper and lower sash together. When removed, lower sash becomes operable)]. Two sash locks on units with frame width 37" and
- Hardware finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Satin Brass] [Satin Nickel] [Oil-rubbed Bronze] [Distressed Bronze] [Distressed Nickel].

Optional Products

Grilles

- Integral Light Technology® grilles

 Integral Light Technology® grilles

 Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [pine] [mahogany]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint] [stain] 1].

 Exterior grilles are solid [5/8"] [7/8"] [1-1/4"] [2"] putty glaze profile that are [pine] [mahogany]. Exterior surfaces are water repellent, preservative-treated in the state of the state of
 - in accordance with WDMA I.S.-4, and are [unfinished, ready for site finishing] [factory primed].

 - Patterns are [Traditional] [Prairie] [Top Row] [Cross] [New England] [Victorian]. Insulating glass contains non-glare spacer between the panes of glass.

 Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
- Grilles-Between-the-Glass 2
 Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass). Patterns are [Traditional] [Prairie] [Cross] [Top Row] Interior color is [White] [Tan3] [Brown3] [Putty3] [Black] [Ivory] [Harvest]

 - [Cordovan] [Brickstone
 - Exterior color 4 is [standard 1].

Screens

- - [Full-screen (not available on units > 120" tall)] [half-screen] black Vinyl-coated
 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware
 - Full screen spreader bar placed on units > 37" width or > 65" height.
 - Screen frame finish is [standard screen: baked enamel] [premium extruded: baked enamel], color to match window cladding.

Hardware

- Optional sash lift furnished for field installation. Finish matches lock hardware. Two lifts
- on units having frame width 37" or greater.

 Optional factory applied limited opening device available for venting units; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device for venting units. Sash mounted device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Finish matches lock hardware. Complies with ASTM F2090-10. Optional [head, sill, stool locks].

Sensors

Optional factory installed integrated security sensors available in vent units.

⁽¹⁾ Contact your local Pella sales representative for current color options

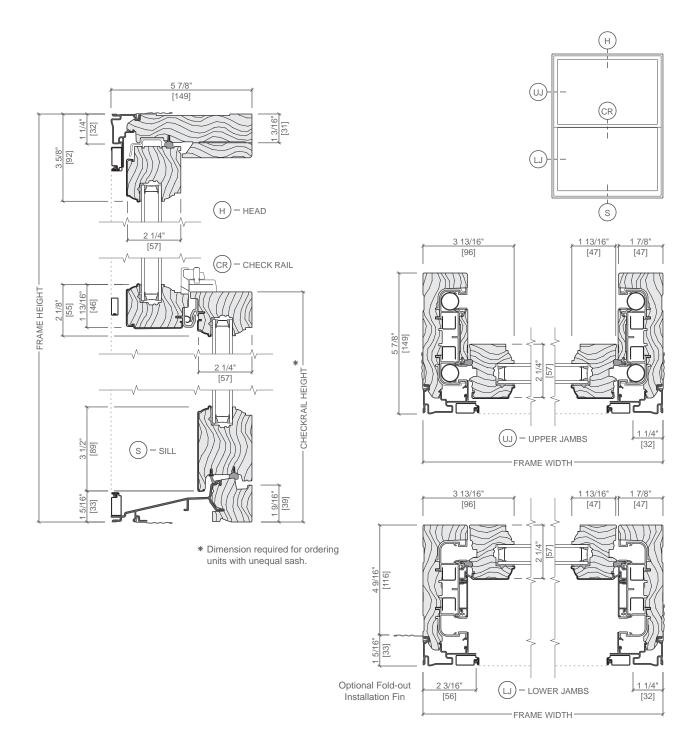
⁽²⁾ Available in clear or Low-E Insulating Glass only

⁽³⁾ Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.

⁽⁴⁾ Appearance of exterior grille color will vary depending on Low-E coating on glass

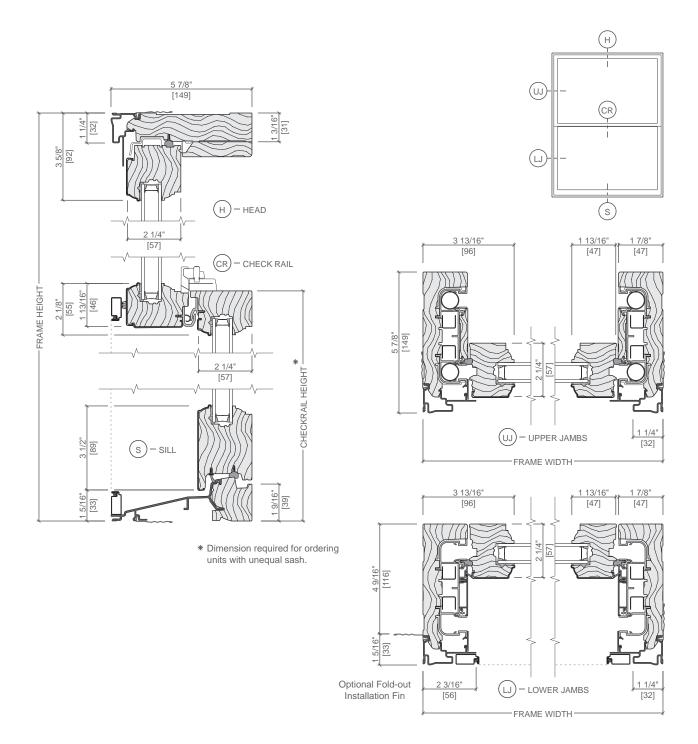


Unit Sections - Aluminum-Clad Exterior, Dual-Pane Double-Hung



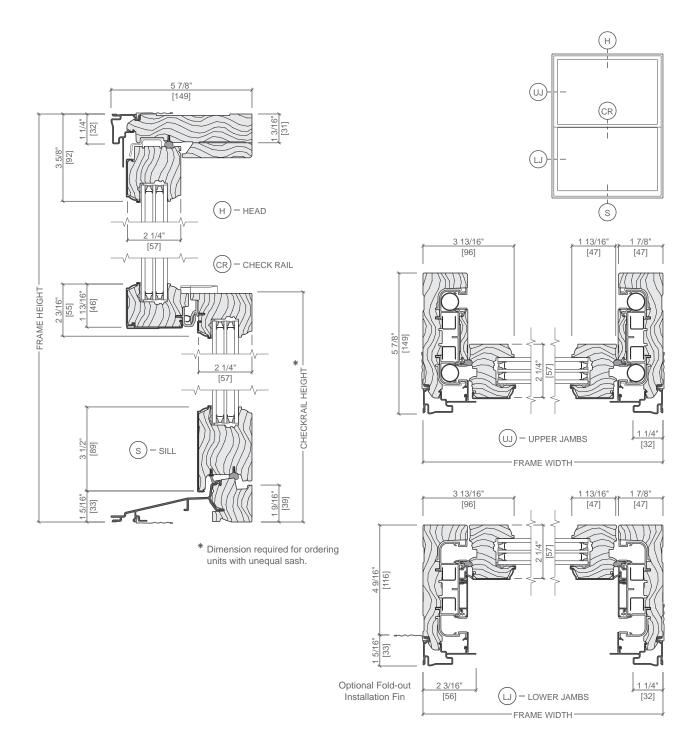


Unit Sections - Aluminum-Clad Exterior, Dual-Pane Single-Hung



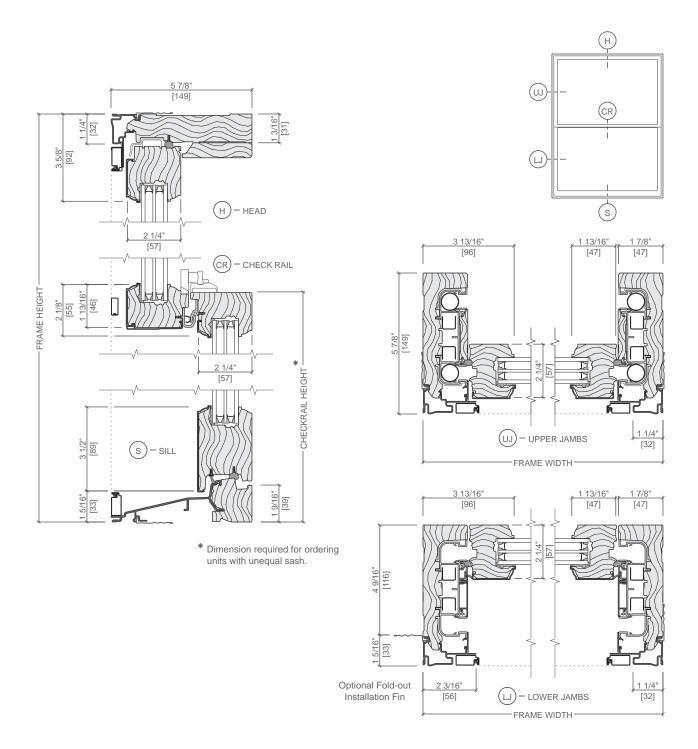


Unit Sections - Aluminum-Clad Exterior, Triple-Pane Simulated-Hung



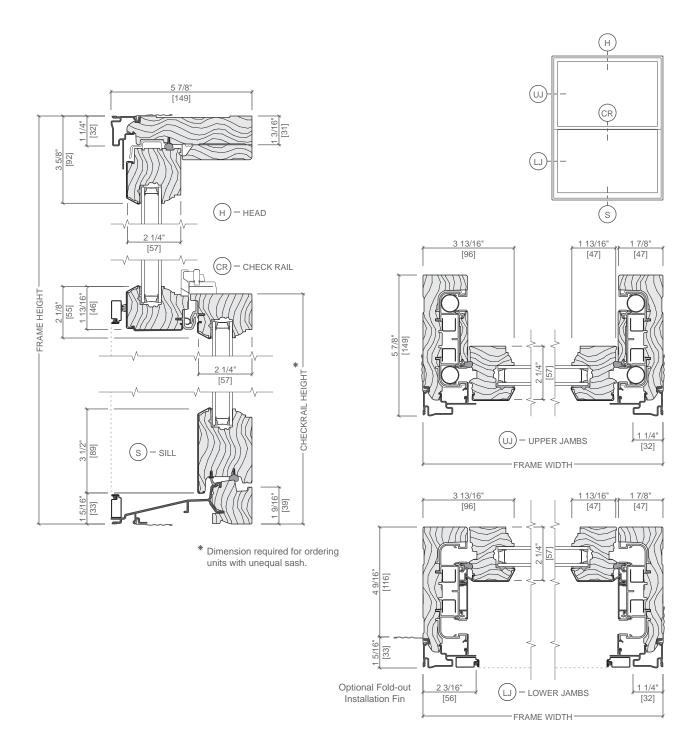


Unit Sections - Aluminum-Clad Exterior, Triple-Pane Double-Hung



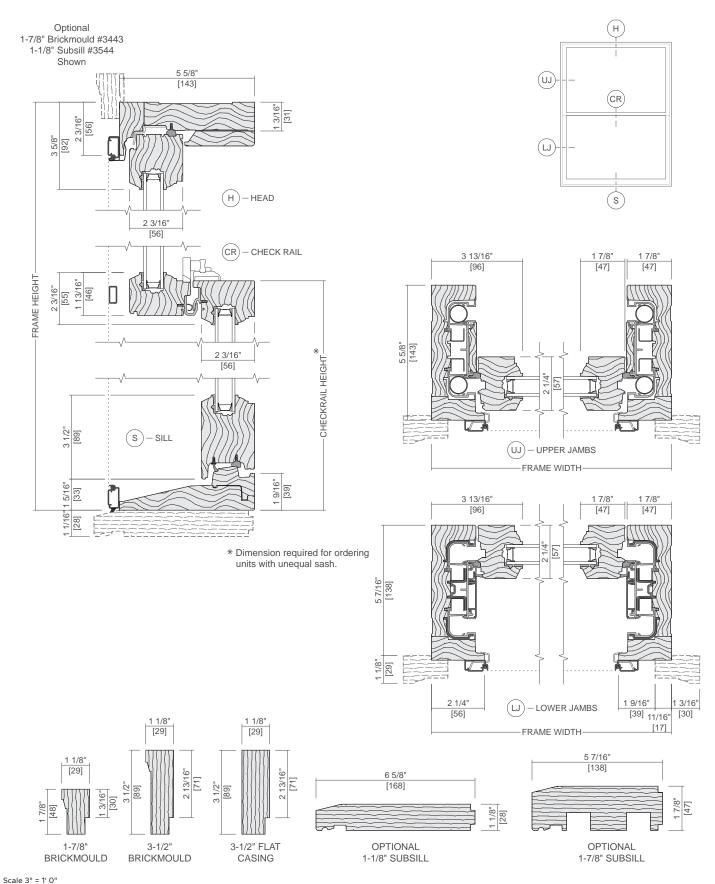


Unit Sections - Aluminum-Clad Exterior, Dual-Pane Putty Glaze Profile





Unit Sections - Wood Exterior, Dual-Pane Double-Hung

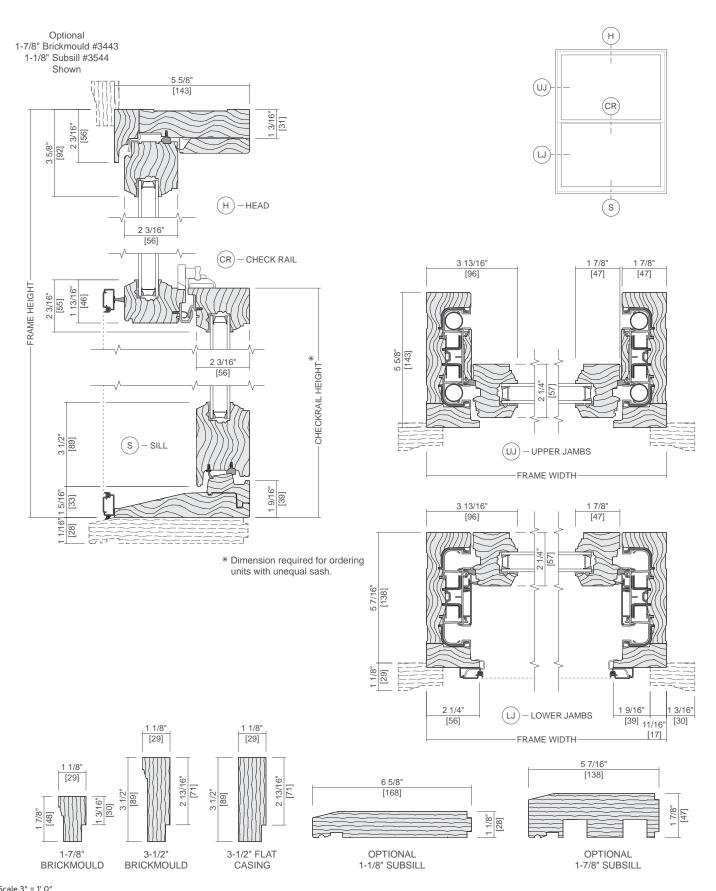


Scale 3" = 1" U"

Rev. 12/10/2024

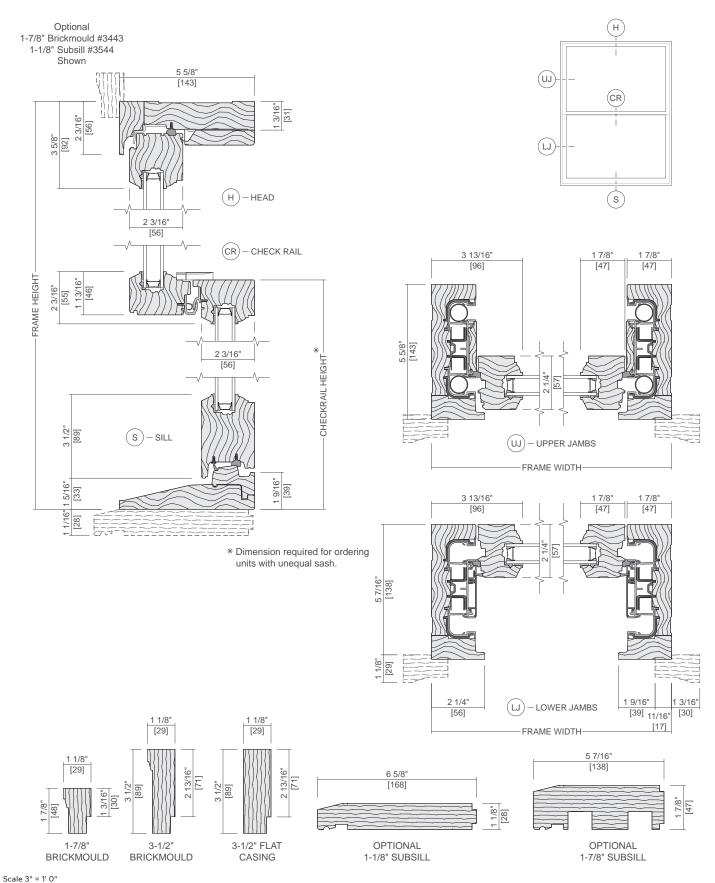


Unit Sections - Wood Exterior, Dual-Pane Single-Hung





Unit Sections - Wood Exterior, Dual-Pane Simulated-Hung



All dimensions are approximate.

Rev. 12/10/2024



Unit Sections - Wood Exterior, Triple-Pane Double-Hung

