



SPECIAL SHAPES

SECTION DIRECTORY



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General Notes:

Specifications subject to change without notice. Go to www.PellaADM.com for most current technical data.
For complete CSI Format Specifications see www.PellaADM.com.



SPECIAL SHAPES

BRAND SUMMARY

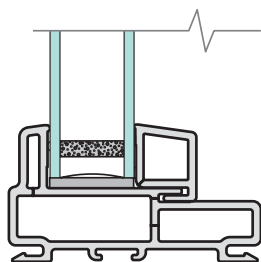


Pella® Special Shape Windows have the innovations you demand. The frame and glass stop are made of a fiberglass-resin composite. Pella Special Shape windows are prefinished in White, Tan, Brown, Black, and Morning Sky Gray to match Pella® Impervia® products. The fiberglass resin has a solid acrylic-resin capstock finish extruded over it. The finish provides flexible color options and excellent UV resistance for durability and resistance to fading and chalking. Most Pella Special Shape windows with Low-E insulating glass with argon meet or exceed ENERGY STAR® guidelines in all 50 states.



BLOCK FRAME

The block frame is our most versatile frame. Units can be installed in masonry openings using installation clips or in wood frame openings using optional fins. Units can also be field joined together.





SPECIAL SHAPES

PRODUCT SELECTION GUIDE

Size and Performance Data
Sound Performance



	BLOCK FRAME
SIZES	
Half and Quarter Circle	●
Arch Head and Partial Arch Head	●
Springline	●
Trapezoid	●
Pentagon	●
Left and Right Triangle	●
Isosceles Triangle	●
PERFORMANCE	
Meets or Exceeds AAMA/WDMA Ratings	FW-CW30 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 1.57 psf wind pressure)	0.10
Water Resistance	4.5 psf
Design Pressure	30 psf
OTHER PERFORMANCE CRITERIA	
Forced Entry Resistance Level (Minimum Security Grade) ₁	40

Sound Transmission Class and Outdoor-Indoor Transmission Class

Product	Frame Size Tested ₂	Glazing System			STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness		
SPECIAL SHAPES	47-1/2" x 47-1/2"	1"	2.5mm	2.5mm	27	21

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

(2) ASTM E 1425 defines standard sizes for acoustical testing. Ratings achieved at that size are representative of all sizes of the same configuration.



SPECIAL SHAPES

PRODUCT SELECTION GUIDE

Features and Options



BLOCK FRAME

GLAZING

Glazing Type

Dual-pane Insulating Glass

S

Insulated Glass Options / Low-E Types

Clear Insulating Glass (no Low-E coating)

S

Advanced Low-E Insulating Glass

O

SunDefense™ Low-E Insulating Glass

O

AdvancedComfort Low-E Insulating Glass

O

NaturalSun Low-E Insulating Glass

O

Additional Glass Options

Annealed Glass

S

Tempered Glass

O

Obscure Glass³

O

Gas Fill / High Altitude

Argon

S

High Altitude

O

High Altitude with Argon

O

EXTERIOR / INTERIOR

Prefinished White

S

Prefinished Tan, Brown, Black, or Morning Sky Gray

O

Prefinished Dual-color (All exterior colors available with White interior)

O

GRILLES

Grilles-Between-the-Glass

Traditional, Starburst², Sunburst²

O

S = Standard; O = Optional

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

(2) Select shapes only.

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



SPECIAL SHAPES

GLAZING PERFORMANCE - TOTAL UNIT

Special Shapes



Glass 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									
FIXED UNITS																		N	NC	SC	S	1	2	3
1"	Clear IG	PEL-N-127-01857-00001	3	3	air	0.46	0.69	72	46						22									
	with grilles-between-the-glass	PEL-N-127-01858-00001				0.46	0.62	65	46						18									
1"	Clear IG	PEL-N-127-01861-00001	5	5	air	0.46	0.66	71	46						20									
	with grilles-between-the-glass	PEL-N-127-01862-00001				0.46	0.59	64	46						16									
1"	Advanced Low-E IG	PEL-N-127-01887-00001	3	3	argon	0.27	0.33	62	60						24									
	with grilles-between-the-glass	PEL-N-127-01888-00001				0.27	0.30	55	60						23									
1"	Advanced Low-E IG	PEL-N-127-01891-00001	5	5	argon	0.27	0.32	61	62						24									
	with grilles-between-the-glass	PEL-N-127-01892-00001				0.27	0.29	54	62						22									
1"	SunDefense™ IG	PEL-N-127-01899-00001	3	3	argon	0.27	0.24	57	61						19									
	with grilles-between-the-glass	PEL-N-127-01900-00001				0.27	0.22	51	61						18									
1"	SunDefense IG	PEL-N-127-01903-00001	5	5	argon	0.26	0.24	56	62						21									
	with grilles-between-the-glass	PEL-N-127-01904-00001				0.26	0.22	50	62						19									
1"	AdvancedComfort Low-E IG	PEL-N-127-01923-00001	3	3	argon	0.23	0.32	60	50						29									
	with grilles-between-the-glass	PEL-N-127-01924-00001				0.23	0.29	54	50						27									
1"	AdvancedComfort Low-E IG	PEL-N-127-01927-00001	5	5	argon	0.22	0.31	59	50						30									
	with grilles-between-the-glass	PEL-N-127-01928-00001				0.22	0.28	53	50						28									
1"	NaturalSun Low-E IG	PEL-N-127-01875-00002	3	3	argon	0.28	0.61	70	62						39									
	with grilles-between-the-glass	PEL-N-127-01876-00002				0.28	0.55	63	62						36									
1"	NaturalSun Low-E IG	PEL-N-127-01879-00002	5	5	argon	0.28	0.58	69	61						38									
	with grilles-between-the-glass	PEL-N-127-01880-00002				0.28	0.53	62	61						35									
FIXED UNITS – WITH FOAM INSULATION																								
1"	Advanced Low-E IG	PEL-N-127-01971-00001	3	3	argon	0.27	0.33	62	61						24									
	with grilles-between-the-glass	PEL-N-127-01972-00001				0.27	0.30	55	61						23									
1"	Advanced Low-E IG	PEL-N-127-01975-00001	5	5	argon	0.26	0.32	61	63						25									
	with grilles-between-the-glass	PEL-N-127-01976-00001				0.26	0.29	54	63						23									
1"	SunDefense IG	PEL-N-127-01983-00001	3	3	argon	0.26	0.24	57	61						21									
	with grilles-between-the-glass	PEL-N-127-01984-00001				0.26	0.22	51	61						19									
1"	SunDefense IG	PEL-N-127-01987-00001	5	5	argon	0.26	0.24	56	63						21									
	with grilles-between-the-glass	PEL-N-127-01988-00001				0.26	0.22	50	63						19									
1"	AdvancedComfort Low-E IG	PEL-N-127-02007-00001	3	3	argon	0.22	0.32	60	51						30									
	with grilles-between-the-glass	PEL-N-127-02008-00001				0.22	0.29	54	51						28									
1"	AdvancedComfort Low-E IG	PEL-N-127-02011-00001	5	5	argon	0.21	0.31	59	50						31									
	with grilles-between-the-glass	PEL-N-127-02012-00001				0.21	0.28	53	50						29									
1"	NaturalSun Low-E IG	PEL-N-127-01959-00002	3	3	argon	0.28	0.61	70	63						39									
	with grilles-between-the-glass	PEL-N-127-01960-00002				0.28	0.55	63	63						36									
1"	NaturalSun Low-E IG	PEL-N-127-01963-00002	5	5	argon	0.27	0.58	69	62						39									
	with grilles-between-the-glass	PEL-N-127-01964-00002				0.27	0.53	62	62						36									

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.

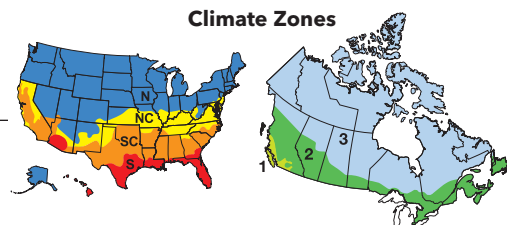
ENERGY STAR® values are updated to 2015 (Version 6) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative.

For center-glass values, see the Product Performance section.

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

Climate Zones





SPECIAL SHAPES

GLAZING PERFORMANCE - TOTAL UNIT

Special Shapes



Glass 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			
HIGH ALTITUDE GLAZING										N	NC	SC	S		1	2	3	
1"	(HA) Advanced Low-E IG	PEL-N-127-01881-00001	3	3	air	0.32	0.33	62	59						18			
	with grilles-between-the-glass	PEL-N-127-01882-00001				0.32	0.30	55	59						17			
1"	(HA) Advanced Low-E IG	PEL-N-127-01885-00001	5	5	air	0.31	0.32	61	58						19			
	with grilles-between-the-glass	PEL-N-127-01886-00001				0.31	0.29	54	58						17			
1"	(HA) SunDefense IG	PEL-N-127-01893-00001	3	3	air	0.31	0.24	57	59						14			
	with grilles-between-the-glass	PEL-N-127-01894-00001				0.31	0.22	51	59						13			
1"	(HA) SunDefense IG	PEL-N-127-01897-00001	5	5	air	0.30	0.24	56	59						16			
	with grilles-between-the-glass	PEL-N-127-01898-00001				0.30	0.22	50	59						14			
1"	(HA) AdvancedComfort Low-E IG	PEL-N-127-01917-00001	3	3	air	0.25	0.32	60	47						26			
	with grilles-between-the-glass	PEL-N-127-01918-00001				0.25	0.29	54	47						25			
1"	(HA) AdvancedComfort Low-E IG	PEL-N-127-01921-00001	5	5	air	0.25	0.31	59	46						26			
	with grilles-between-the-glass	PEL-N-127-01922-00001				0.25	0.28	53	46						24			
1"	(HA) NaturalSun Low-E IG	PEL-N-127-01869-00002	3	3	air	0.32	0.61	70	58						34			
	with grilles-between-the-glass	PEL-N-127-01870-00002				0.32	0.55	63	58						31			
1"	(HA) NaturalSun Low-E IG	PEL-N-127-01873-00002	5	5	air	0.32	0.58	69	58						33			
	with grilles-between-the-glass	PEL-N-127-01874-00002				0.32	0.53	62	58						30			
HIGH ALTITUDE GLAZING – WITH FOAM INSULATION																		
1"	(HA) Advanced Low-E IG	PEL-N-127-01965-00001	3	3	air	0.31	0.33	62	60						20			
	with grilles-between-the-glass	PEL-N-127-01966-00001				0.31	0.30	55	60						18			
1"	(HA) Advanced Low-E IG	PEL-N-127-01969-00001	5	5	air	0.30	0.32	61	59						20			
	with grilles-between-the-glass	PEL-N-127-01970-00001				0.30	0.29	54	59						18			
1"	(HA) SunDefense IG	PEL-N-127-01977-00001	3	3	air	0.30	0.24	57	60						16			
	with grilles-between-the-glass	PEL-N-127-01978-00001				0.30	0.22	51	60						14			
1"	(HA) SunDefense IG	PEL-N-127-01981-00001	5	5	air	0.30	0.24	56	60						16			
	with grilles-between-the-glass	PEL-N-127-01982-00001				0.30	0.22	50	60						14			
1"	(HA) AdvancedComfort Low-E IG	PEL-N-127-02001-00001	3	3	air	0.24	0.32	60	47						28			
	with grilles-between-the-glass	PEL-N-127-02002-00001				0.24	0.29	54	47						26			
1"	(HA) AdvancedComfort Low-E IG	PEL-N-127-02005-00001	5	5	air	0.24	0.31	59	47						27			
	with grilles-between-the-glass	PEL-N-127-02006-00001				0.24	0.28	53	47						25			
1"	(HA) NaturalSun Low-E IG	PEL-N-127-01953-00002	3	3	air	0.32	0.61	70	59						34			
	with grilles-between-the-glass	PEL-N-127-01954-00002				0.32	0.55	63	59						31			
1"	(HA) NaturalSun Low-E IG	PEL-N-127-01957-00002	5	5	air	0.31	0.58	69	58						34			
	with grilles-between-the-glass	PEL-N-127-01958-00002				0.31	0.53	62	58						31			

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.

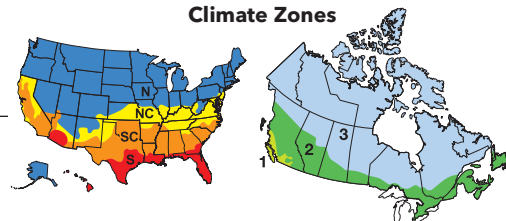
ENERGY STAR® values are updated to 2015 (Version 6) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative.

For center-glass values, see the Product Performance section.

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Climate Zones





SPECIAL SHAPES

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 mullied together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. Below are examples of available field-assembled combinations. See the Composites and Combination section—for requirements and limitations related to mulling various combinations.

Contact your local Pella sales representative for more information.

Fixed Window Combinations

SINGLE UNIT WITH HALF CIRCLE	2-WIDE WITH HALF CIRCLE	SINGLE UNIT WITH QUARTER CIRCLE	SINGLE UNIT WITH ARCH HEAD	2-WIDE WITH ARCH HEAD

Double- or Single-Hung Combinations

SINGLE UNIT WITH HALF CIRCLE	2-WIDE WITH HALF CIRCLE	SINGLE UNIT WITH ARCH HEAD	2-WIDE WITH ARCH HEAD	SPRINGLINE WITH DOUBLE-HUNG / SINGLE-HUNG

Sliding Window Combinations

SINGLE UNIT WITH HALF CIRCLE	SINGLE UNIT WITH ARCH HEAD	SINGLE UNIT WITH PARTIAL ARCH HEAD



[Click here for the Impervia Combinations Section](#)

• Downloadable PDF file.



SPECIAL SHAPES

GRILLE TYPES

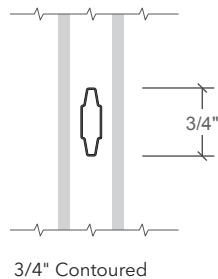
Grille Profiles

Grille Patterns



Grille Profiles

GRILLES-BETWEEN-THE-GLASS

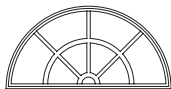


Grille Patterns

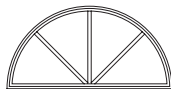
GRILLES-BETWEEN-THE-GLASS



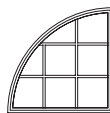
Half Circle
Traditional



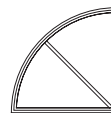
Half Circle
Sunburst⁽¹⁾



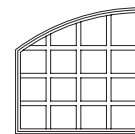
Half Circle
Starburst⁽¹⁾



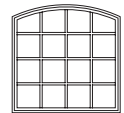
Quarter Circle
Traditional



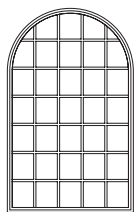
Quarter Circle
Starburst⁽¹⁾



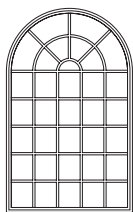
Partial Arch Head
Traditional



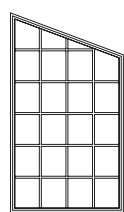
Arch Head
Traditional



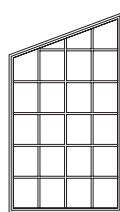
Springline
Traditional



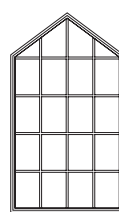
Springline
Sunburst



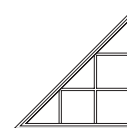
Left
Trapezoid



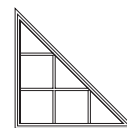
Right
Trapezoid



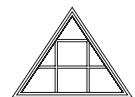
Pentagon



Left Triangle

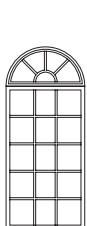


Right Triangle

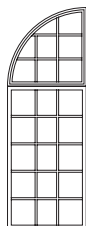


Isosceles
Triangle

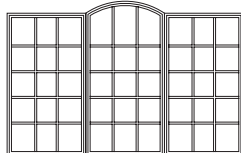
SHAPES WITH GRILLE PATTERNS TO MATCH COMPANION UNIT



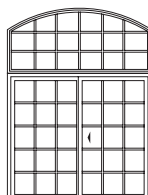
Fixed
Frame
with Half
Circle



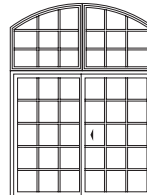
Fixed Frame
with Quarter
Circle



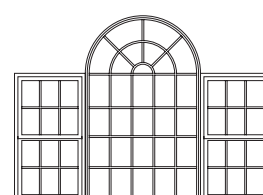
Arch Head with
Fixed Window
Flankers



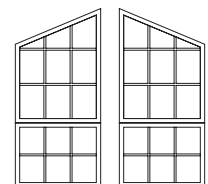
Sliding Window
with Arch Head



Sliding Window
with Partial
Arch Head



Springline Sunburst
with Double-Hung/
Single-Hung Flankers



Fixed Frame
with Trapezoid

(1) Available in select shapes.

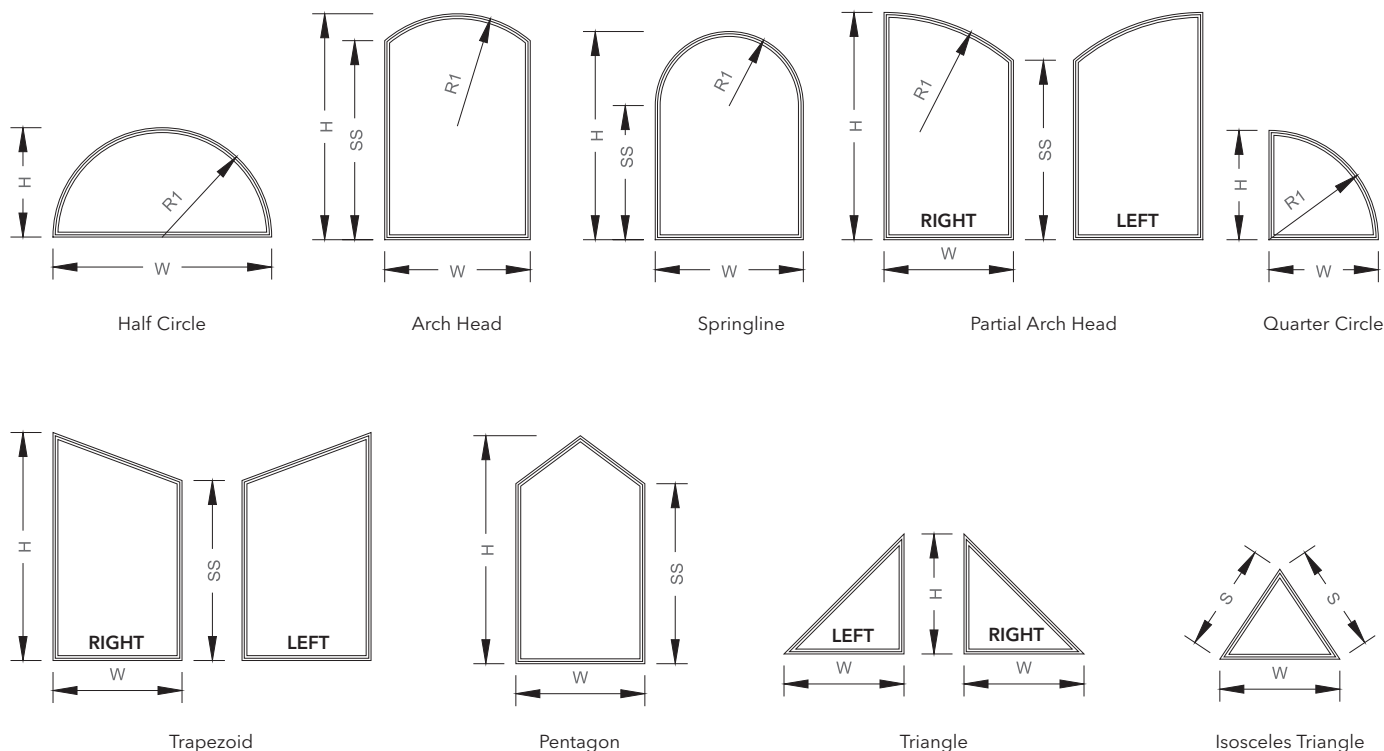
The above are examples only.

Grilles may not align when multiple units are combined below or beside special shape units.



SPECIAL SHAPES

CUSTOM SHAPES AND SIZES



FRAME DIMENSIONS

Description	Frame Radius		Width		Height			Min. Unit Frame Angle	Max. Unit Frame Angle	Max. Square Footage
	Min.	Max.	Min.	Max.	Min.	Max.	SS			
Half Circle	11.75"	50.75"	23.5"	101.5"	—	—	—	—	—	36
Arch Head	11.75"	150"	17.5"	107.5"	11.5"	95.5"	6"	90°	160°	36
Springline	11.75"	35.75"	23.5"	71.5"	47.5"	95.5"	8"	—	—	36
Partial Arch Head	11.75"	150"	17.5"	71.5"	11.5"	95.5"	8"	40°	160°	36
Quarter Circle	11.75"	71.5"	13.5"	71.5"	—	—	—	—	—	36
Trapezoid	—	—	11.5"	95.5"	11.5"	95.5"	8"	20	160°	36
Pentagon	—	—	17.5"	95.5"	23.5"	95.5"	8"	40	160°	36
Isosceles Triangle	—	—	17.5"	95.5"	11.5"	95.5"	—	20	90°	36
Triangle	—	—	17.5"	95.5"	11.5"	71.5"	—	20	140°	36

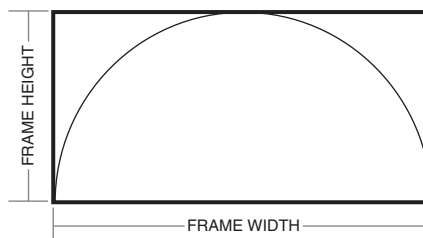
Miscellaneous Formulas

VISIBLE GLASS

Width = Frame - 3-1/4"
Height = Frame - 3-1/4"

ACTUAL GLASS

Width = Frame - 2"
Height = Frame - 2"



For all shapes, calculate the area as if it were a rectangle.

To convert areas to square meters (m²), multiply square feet by 0.0929.

(-) = Not Available; SS = Short side
Units are available in 1/4" increments.



SPECIAL SHAPES

DETAILED PRODUCT DESCRIPTIONS



FRAME

- Frame is glass-filled ABS with acrylic capstock [with optional foam insulation¹].
- Overall frame depth is 3" or 3-1/4"
- Nominal wall thickness of members is .090" thick.
- Jambs contain factory-drilled (counter-bored) installation screw holes.

EXTERIOR / INTERIOR

- Surfaces are prefinished.
 - Color is [White] [Tan] [Brown] [Black] [Morning Sky Gray].
 - or -
 - Dual-color option [Tan] [Brown] [Black] [Morning Sky Gray] exterior with White interior.

GLAZING SYSTEM

- Quality float glass complying with ASTM C 1036.
- 1" insulating glass [[annealed] [tempered]] [obscure²] [[clear] [Advanced] [SunDefense™] [AdvancedComfort] [NaturalSun] Low-E coated, with argon]] sealed and bonded to frame.
- High altitude glazing [with argon] available.

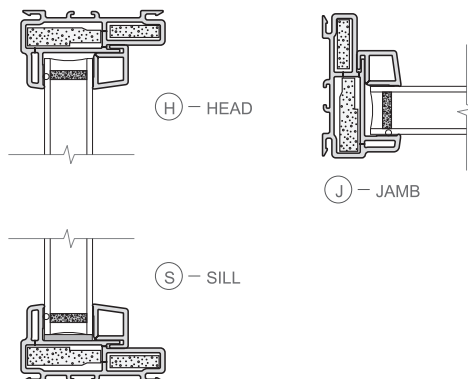
OPTIONAL PRODUCTS

Grilles

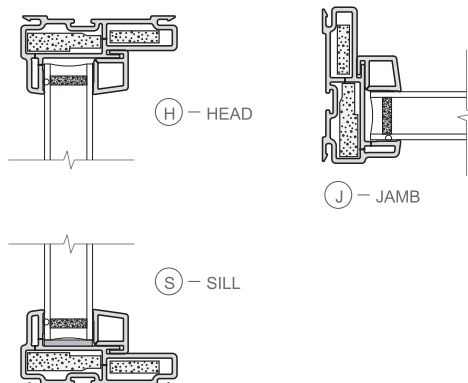
- Grilles-Between-the-Glass
 - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.
 - Grilles are factory prefinished [White] [Tan] [Brown] [Black] [Morning Sky Gray] to match interior and exterior finish.

FOAM INSULATION INSERTS ¹

3" Fixed Frame Window



3 1/4" Fixed Frame Window



(1) Foam insulation inserts are not available with clear glazing.

(2) Obscure glazing is not available when AdvancedComfort Low-E coated IG is specified.



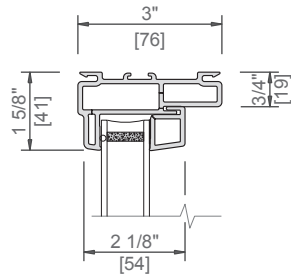
SPECIAL SHAPES

UNIT SECTIONS

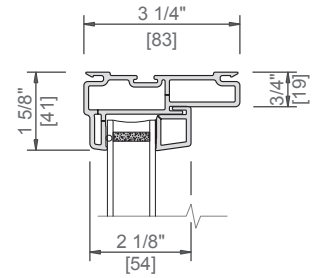
Frame Types



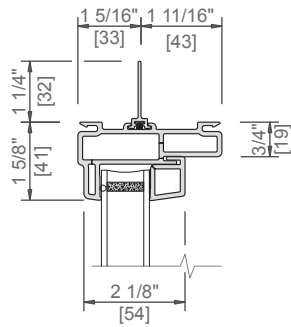
3" BLOCK FRAME



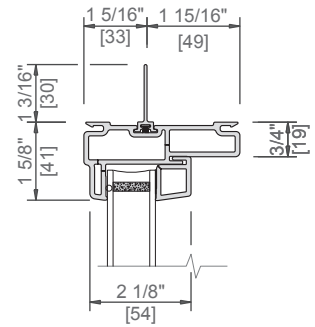
3 1/4" BLOCK FRAME



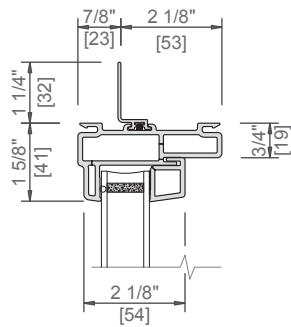
3" BLOCK FRAME
w/ STANDARD FIN



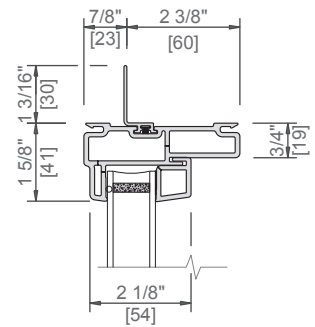
3 1/4" BLOCK FRAME
w/ STANDARD FIN



3" BLOCK FRAME
w/ OFF SET FIN



3 1/4" BLOCK FRAME
w/ OFF SET FIN



Scale 3" = 1' 0"

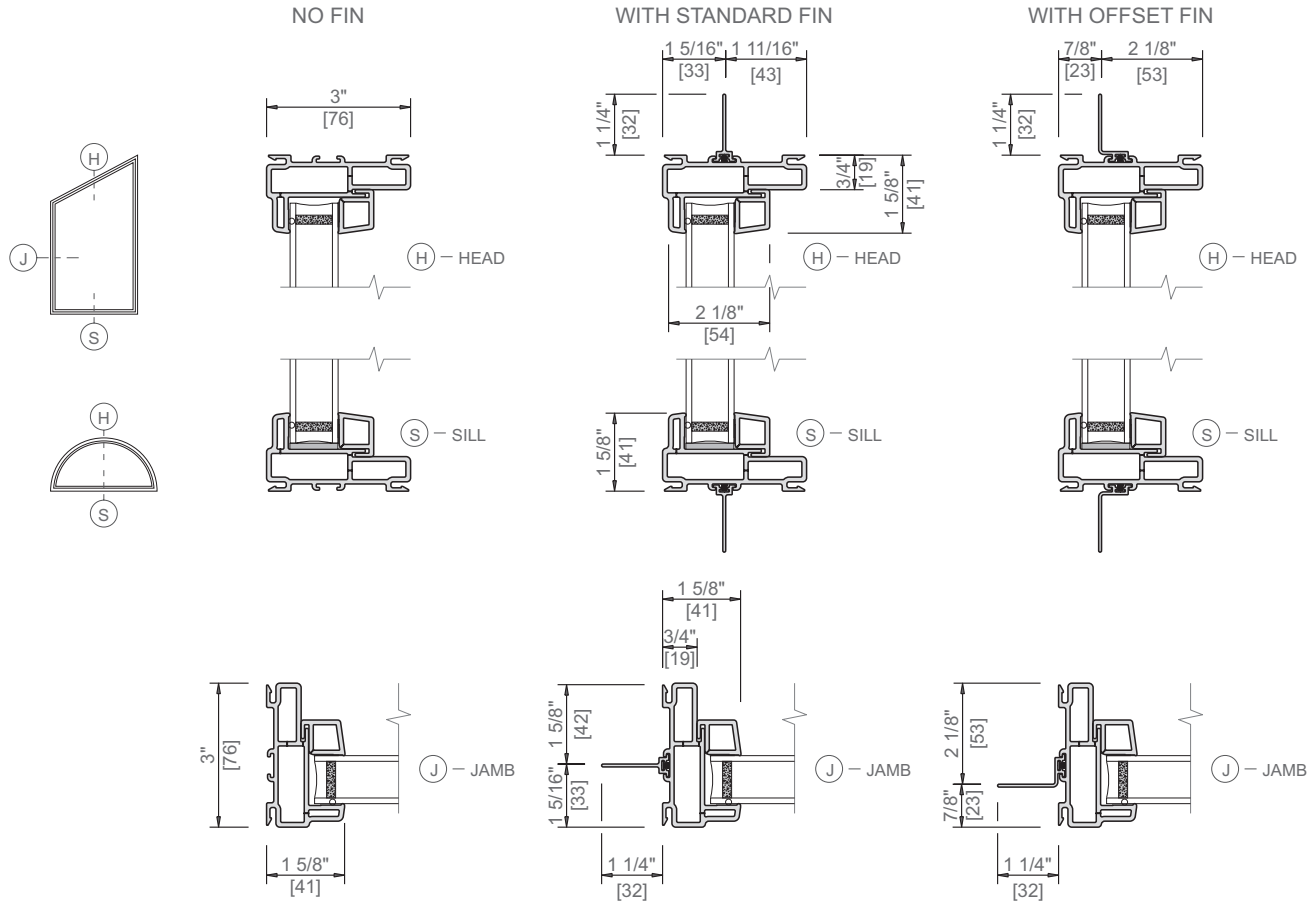
All dimensions are approximate.



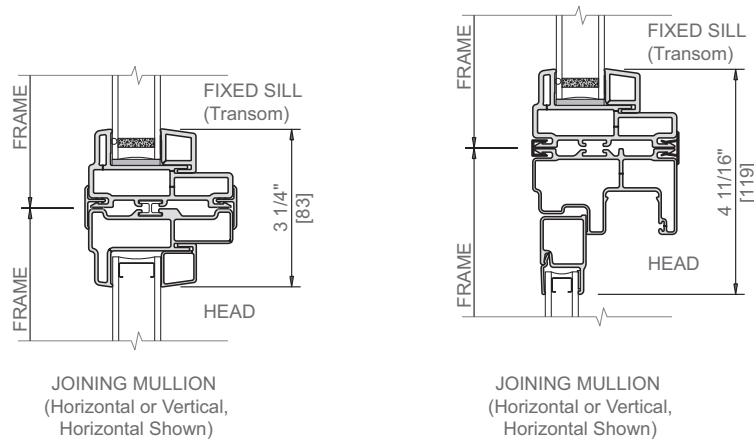
SPECIAL SHAPES

UNIT SECTIONS

3" Block Frame



TYPICAL JOINING MULLION



Scale 3" = 1' 0"

All dimensions are approximate.

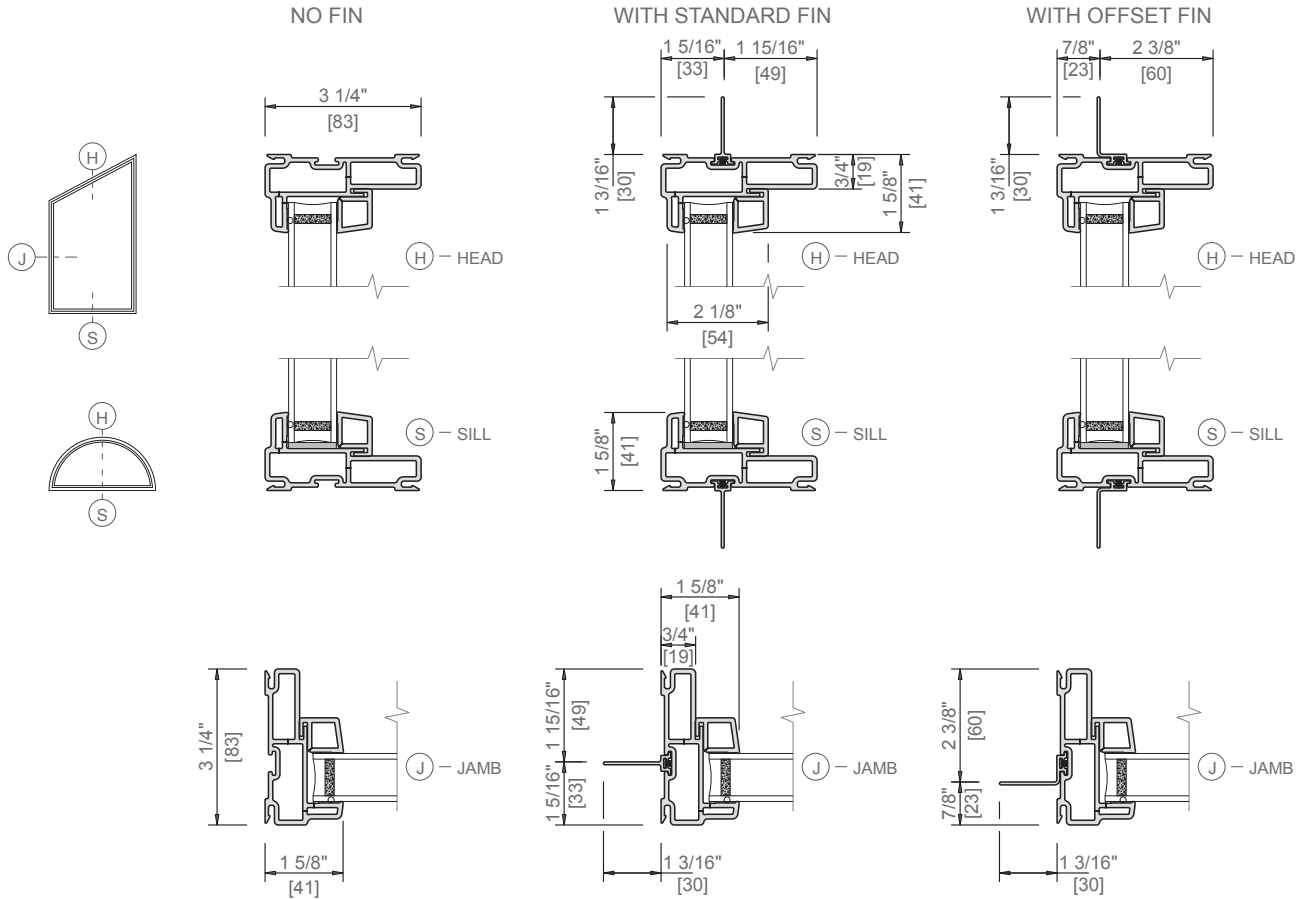
See the Installation and Performance section at www.PellaADM.com for mullion applications and structural limitations.



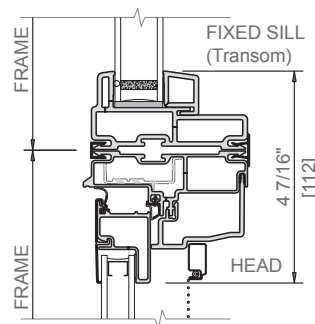
SPECIAL SHAPES

UNIT SECTIONS

3-1/4" Block Frame



TYPICAL JOINING MULLION



JOINING MULLION
(Horizontal or Vertical,
Horizontal Shown)

Scale 3" = 1' 0"

All dimensions are approximate.

See the Installation and Performance section at www.PellaADM.com for mullion applications and structural limitations.