

# CHAPTER 28

## WOOD POLYGONS AND RECTANGLES

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### **NOTE:**

Specifications and technical data are subject to change without notice.

Allow 1/16" (2) tolerance on all measurements.

Metric measurements are shown in parenthesis.

For accessories dimensions and applications see the Accessories section of this manual.

For technical assistance about Marvin products you may call our Architectural Hotline 1-800-346-3363 or visit our website: [www.Marvin.com](http://www.Marvin.com).

# WOOD POLYGONS AND RECTANGLES

## UNIT FEATURES

### **Frame:**

- Pine wood interior and exterior standard. Optional mahogany or vertical grain Douglas fir
- Frame width: 4 9/16" (116)
- Frame thickness: 1 3/16" (30 mm)
- Subsill thickness: 15/16" (24)

### **Interior and exterior finish:**

- Treated bare wood or white primed (pine only)

### **Jamb Extensions:**

- Jamb extensions available for various wall thickness factory applied, finish to match interior

### **Removable Interior Grilles:**

- Bar: Pine wood, 3/4" (19) or 1 1/8" (29) wide
- Pattern: Rectangular, custom lite layouts available, contact your Marvin representative

### **Simulated Divided Lite (SDL):**

- Interior / Exterior bars: 7/8" (22) or 1 1/8" (29) wide bars. Pine wood standard, optional mahogany or vertical grain Douglas fir. Finish to match interior and exterior
- Pattern: Rectangular, custom lite layouts available, contact your Marvin representative
- Installation method: Factory applied with acrylic foam tape

### **Grilles-between-the-glass (GBG):**

- 11/16" (17mm) white contoured aluminum bar. Optional flat aluminum spacer bar, contact your Marvin representative

### **Authentic Divided Lite (ADL):**

- Bar (interior and exterior): single glazed 7/8" (22) wide bars, insulated glass 1-11/16" (43) wide bars: available in standard pine and optional mahogany or vertical grain Douglas fir. Finish to match interior and exterior
- Pattern: Rectangular, custom lite layouts available, contact your Marvin representative

### **Glass and Glazing:**

- Glazing method: Insulated or single glazed, single glazed with energy panel. Insulated glass hermetically sealed
- Glazing seal: Silicone glazed, closed cell foam tape
- Glazing type: Clear glass, optional glass types: Low E II with argon, Laminated, Tempered, Obscure, Bronze tint, Gray tint, and Reflective Bronze
- Insulated glass will be altitude adjusted for higher elevations, argon gas not included

### **Accessories:**

- Installation brackets: 6 3/8" (162), 9 3/8" (238), or 15 3/8" (390)
- Masonry brackets: 6" (152) or 10" (254)
- Aluminum drip cap: Color: Bahama Brown, Bronze, Evergreen, Pebble Gray, White. Drip cap not designed to replace proper flashing.
- Marvin SillGuard™
- Wood exterior mouldings: Brick Mould Casing, Flat casing, Mullion cover

### **Note:**

Values shown in parenthesis represent metric equivalents.  
For product specifications please refer to the CSI Product Specifications, contact your Marvin representative.

# WOOD POLYGONS AND RECTANGLES

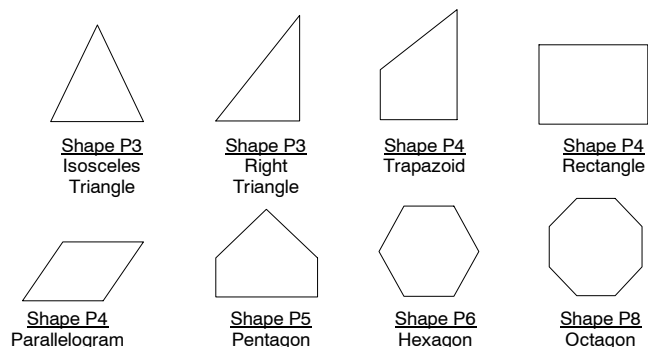
## NFRC VALUES / MINIMUM AND MAXIMUM MEASEUREMENTS / SHAPES

NFRC Unit Values					
Glazing Type	U-Factor	R-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Energy Star
<b>Direct Glaze 3/4" IG</b>					
<b>Size Tested</b>	<b>48 x 48</b>	<b>48 x 48</b>	<b>48 x 48</b>	<b>48 x 48</b>	
Single Glaze	1.01	0.90	0.73	0.76	-
Single Glaze with ADL	1.01	0.90	0.66	0.69	-
Single Glaze with EP	0.48	2.08	0.65	0.69	-
Single Glaze with EP with ADL	0.48	2.08	0.59	0.62	-
Single Glaze with Low E EP	0.35	2.86	0.55	0.63	N,NC
Single Glaze with Low E EP with ADL	0.37	2.70	0.50	0.57	NC
Insulating glass	0.48	2.08	0.65	0.69	-
Insulating glass - ADL	0.50	2.00	0.53	0.55	-
Insulating glass - SDL with spacer bars	0.48	2.08	0.59	0.62	-
Insulating Low E II glass	0.32	3.13	0.35	0.61	N, NC, SC, S
Insulating Low E II glass - ADL	0.38	2.63	0.29	0.49	NC, SC, S
Insulating Low E II glass - SDL with spacer bars	0.33	3.03	0.32	0.55	N, NC, SC, S
Insulating Low E II glass - Argon	0.28	3.57	0.35	0.61	N, NC, SC, S
Insulating Low E II glass - Argon - ADL	0.35	2.86	0.29	0.49	N, NC, SC, S
Insulating Low E II glass - Argon, SDL with spacer bars	0.29	3.45	0.32	0.55	N, NC, SC, S
<b>Direct Glaze 1" IG</b>					
<b>Size Tested</b>	<b>48 x 48</b>	<b>48 x 48</b>	<b>48 x 48</b>	<b>48 x 48</b>	
Insulating glass	0.46	2.17	0.65	0.69	-
Insulating glass - SDL with spacer bars	0.47	2.13	0.65	0.69	-
Insulating Low E II glass	0.31	3.23	0.29	0.49	N, NC, SC, S
Insulating Low E II glass - SDL with spacer bars	0.32	3.13	0.35	0.61	N, NC, SC, S
Insulating Low E II glass - Argon	0.27	3.70	0.29	0.49	N, NC, SC, S
Insulating Low E II glass - Argon, SDL with spacer bars	0.28	3.57	0.35	0.61	N, NC, SC, S

**NOTE:**  
 Product Values are determined using the National Fenestration Rating Council (NFRC) Procedures for determining fenestration product values.  
**U-Value:** (Btu/hr-sq ft-°F) Lower the U-Value, the greater the resistance to heat flow and better its insulating value.  
**R-Value:** (1/U-Value) Higher the R-Value, the greater the resistance to heat flow and better its insulating value.  
**Visible Light Transmittance (VLT):** Percentage of visible light transmitted through the unit.  
**Solar Heat Gain Coefficient (SHGC):** The lower a window's SHGC, the less solar heat it transmits, and the greater its shading ability.  
 Capillary tubes are required for IG units at high elevations. Argon will not be furnished in units with capillary tubes.  
 Contact the Architectural Department Hotline at (800-346-3363) for additional NFRC Unit Values.

Minimum and Maximum Measurements	
Glazing Type	Maximum Glass Size per Sash
<b>Wood Polygon and Rectangles</b>	
Insulating Glass 1" (25)	49 Sq. feet (4.55 Sq. Meters)
Single Glaze	38 Sq. feet (3.53 Sq. Meters)
<b>1 3/4" Sash</b>	
Insulating Glass 3/4" (19)	25.0 Sq. feet (2.32 Sq. Meters)
Insulated Glass 1" (25)	38.0 Sq. feet (3.53 Sq. Meters)
Minimum RO short leg dimension: 8"	

### Shape Identification



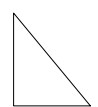
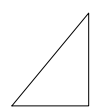
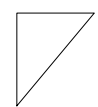
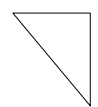

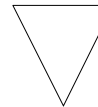
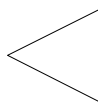
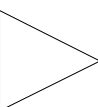




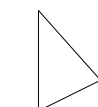
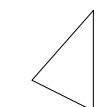
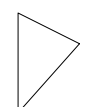
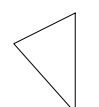


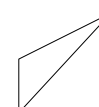
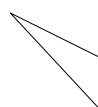
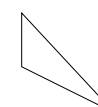
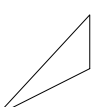


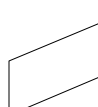
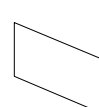



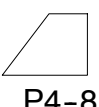
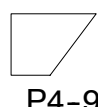
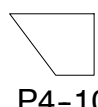
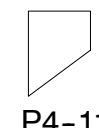
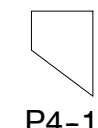
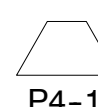

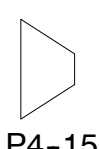
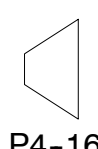
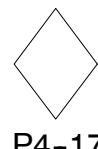
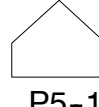


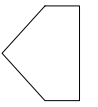




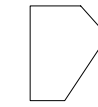
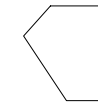
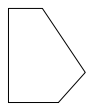
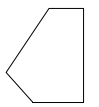





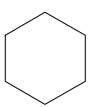

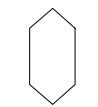
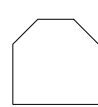
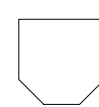
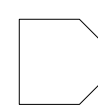
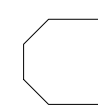
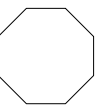
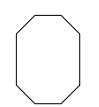

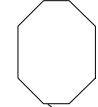
**NOTE:**  
 Shapes shown above may be rotated to obtain variations.  
 Contact your Marvin representative for shape availability not shown.

# WOOD POLYGONS AND RECTANGLES

## POLYGON SHAPE REFERENCE

### QUICK REFERENCE TO POLYGON SHAPES

*NOTE: Please contact your Marvin representative for availability and more information.*

 P3-1	 P3-2	 P3-3	 P3-4	 P3-5	 P3-6	 P3-7
 P3-8	 P3-9	 P3-10	 P3-11	 P3-12	 P3-13	 P3-14
 P3-15	 P3-16	 P3-17	 P3-18	 P3-19	 P3-20	 P3-21
 P3-22	 P4-1	 P4-2	 P4-3	 P4-4	 P4-5	 P4-6
 P4-7	 P4-8	 P4-9	 P4-10	 P4-11	 P4-12	 P4-13
 P4-14	 P4-15	 P4-16	 P4-17	 P5-1	 P5-2	 P5-3
 P5-4	 P5-5	 P5-6	 P5-7	 P5-8	 P5-9	 P5-10
 P5-11	 P5-12	 P5-13	 P5-14	 P5-15	 P5-16	 P6-1
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 P8-1	 P8-2	 P8-3	 P8-4			

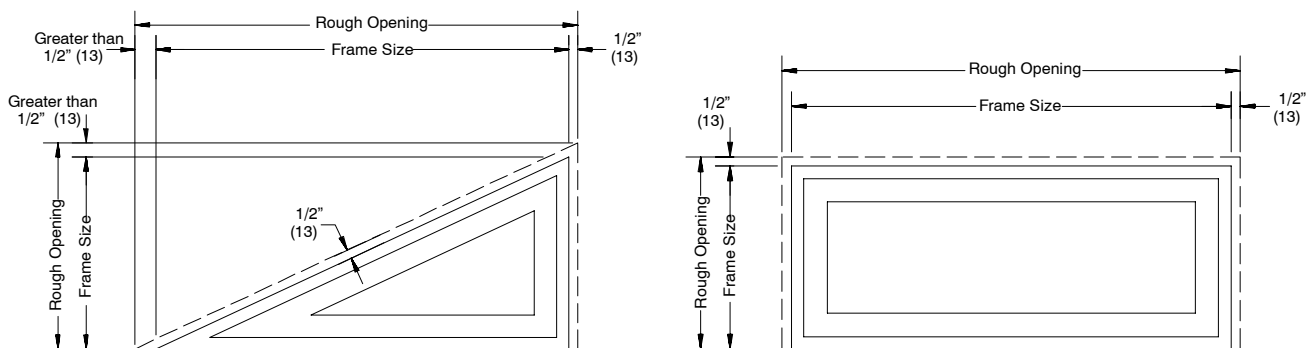
# WOOD POLYGONS AND RECTANGLES

## MEASUREMENT CONVERSIONS

Slope to Angle / Degree Conversions		
Slope	Angle	Degree / Minutes
1 /12	4.76	4 deg. 46'
2 /12	9.46	9 deg 28'
3 /12	14.04	14 deg. 2'
4 /12	18.43	18 deg. 26'
5 /12	22.62	22 deg. 37'
6 /12	26.57	26 deg. 34'
7 /12	30.26	30 deg. 15'
8 /12	33.69	33 deg. 41'
9 /12	36.87	36 deg. 52'
10 /12	39.81	39 deg. 48'
11 /12	42.51	42 deg. 31'
12 /12	45.00	45 deg. 0'
13 /12	47.29	47 deg. 17'
14 /12	49.40	49 deg. 24'
15 /12	51.34	51 deg. 20'
16 /12	53.13	53 deg. 22'
17 /12	54.78	54 deg. 47'
18 /12	56.31	56 deg. 19'
19 /12	57.72	57 deg. 43'
20 /12	59.04	59 deg. 2'
21 /12	60.26	60 deg. 15'
22 /12	61.39	61 deg. 23'
23 /12	62.45	62 deg. 27'
24 /12	63.43	63 deg. 26'

Angle to Pitch Conversions							
Angle	Pitch	Angle	Pitch	Angle	Pitch	Angle	Pitch
1	0.21 /12	25	5.60 /12	49	13.80 /12	73	39.25 /12
2	0.42 /12	26	5.85 /12	50	14.30 /12	74	41.85 /12
3	0.63 /12	27	6.11 /12	51	14.82 /12	75	44.78 /12
4	0.84 /12	28	6.38 /12	52	15.36 /12	76	48.13 /12
5	1.05 /12	29	6.65 /12	53	15.92 /12	77	51.98 /12
6	1.26 /12	30	6.93 /12	54	16.52 /12	78	56.46 /12
7	1.47 /12	31	7.21 /12	55	17.14 /12	79	61.73 /12
8	1.69 /12	32	7.50 /12	56	17.79 /12	80	68.06 /12
9	1.90 /12	33	7.79 /12	57	18.48 /12	81	75.77 /12
10	2.12 /12	34	8.09 /12	58	19.20 /12	82	85.38 /12
11	2.33 /12	35	8.40 /12	59	19.97 /12	83	97.73 /12
12	2.55 /12	36	8.72 /12	60	20.78 /12	84	114.17 /12
13	2.77 /12	37	9.04 /12	61	21.65 /12	85	137.16 /12
14	2.99 /12	38	9.38 /12	62	22.57 /12	86	171.61 /12
15	3.22 /12	39	9.72 /12	63	23.55 /12	87	228.97 /12
16	3.44 /12	40	10.07 /12	64	24.60 /12	88	343.64 /12
17	3.67 /12	41	10.43 /12	65	25.73 /12	89	687.48 /12
18	3.90 /12	42	10.80 /12	66	26.95 /12		
19	4.13 /12	43	11.19 /12	67	28.27 /12		
20	4.37 /12	44	11.59 /12	68	29.70 /12		
21	4.61 /12	45	12.00 /12	69	31.26 /12		
22	4.85 /12	46	12.43 /12	70	32.97 /12		
23	5.09 /12	47	12.87 /12	71	34.85 /12		
24	5.34 /12	48	13.33 /12	72	36.93 /12		

### Measurement Tolerances



**NOTE:**  
 1/2" (13) Rough Opening tolerance is maintained perpendicular to the frame of polygon units.  
 1/4" (6) Masonry Opening tolerance is maintained perpendicular to the frame or casing of polygon units.  
 Measurement tolerances vary due to polygon angles. Specify either Frame Size or Rough Opening measurement, Marvin's will calculate the appropriate tolerances.  
 Elevations above are shown without casing.

# WOOD POLYGONS AND RECTANGLES

## MEASUREMENT CONVERSIONS

Measurement Conversions - Wood Polygons 3/4" Rectangle										
Size Referenced	Daylight Opening		Glass Size		Frame Size		Rough Opening		Masonry Opening (With Brick Mould Casing)	
Daylight Opening	<b>Dimension Needed</b>									
			Width	+ 1 1/16" (27)	Width	+ 3 3/8" (86)	Width	+ 4 3/8" (111)	Width	+ 6 7/8" (175)
Glass Size			Height	+ 1 1/16" (27)	Height	+ 4 5/16" (110)	Height	+ 4 13/16" (122)	Height	+ 6 1/16" (154)
	Width	- 1 1/16" (27)			Width	+ 2 5/16" (59)	Width	+ 3 5/16" (84)	Width	+ 5 13/16" (148)
Frame Size	Height	- 1 1/16" (27)			Height	+ 3 1/4" (83)	Height	+ 3 3/4" (95)	Height	+ 5" (127)
	Width	- 3 3/8" (86)	Width	- 2 5/16" (59)			Width	+ 1" (25)	Width	+ 3 1/2" (89)
Rough Opening	Height	- 4 5/16" (110)	Height	- 3 1/4" (83)			Height	+ 1/2" (13)	Height	+ 1 3/4" (44)
	Width	- 4 3/8" (111)	Width	- 3 5/16" (84)	Width	- 1" (25)			Width	+ 2 1/2" (64)
Masonry Opening (With Brick Mould Casing)	Height	- 4 13/16" (122)	Height	- 3 3/4" (95)	Height	- 1/2" (13)			Height	+ 1 1/4" (32)
	Width	- 6 7/8" (175)	Width	- 5 13/16" (148)	Width	- 3 1/2" (89)	Width	- 2 1/2" (64)		
	Height	- 6 1/16" (154)	Height	- 5" (127)	Height	- 1 3/4" (44)	Height	- 1 1/4" (32)		

Measurement Conversions - 1" Rectangle										
Size Referenced	Daylight Opening		Glass Size		Frame Size		Rough Opening		Masonry Opening (With Brick Mould Casing)	
Daylight Opening	<b>Dimension Needed</b>									
			Width	+ 1 5/8" (41)	Width	+ 3 3/8" (86)	Width	+ 4 3/8" (111)	Width	+ 6 7/8" (175)
Glass Size			Height	+ 1 5/8" (41)	Height	+ 4 5/16" (110)	Height	+ 4 13/16" (122)	Height	+ 6 1/16" (154)
	Width	- 1 5/8" (41)			Width	+ 1 3/4" (45)	Width	+ 2 3/4" (60)	Width	+ 5 1/4" (134)
Frame Size	Height	- 1 5/8" (41)			Height	+ 2 11/16" (68)	Height	+ 3 3/16" (81)	Height	+ 4 7/16" (112)
	Width	- 3 3/8" (86)	Width	- 1 3/4" (45)			Width	+ 1" (25)	Width	+ 3 1/2" (89)
Rough Opening	Height	- 4 5/16" (110)	Height	- 2 11/16" (88)			Height	+ 1/2" (13)	Height	+ 1 3/4" (44)
	Width	- 4 3/8" (111)	Width	- 2 3/4" (60)	Width	- 1" (25)			Width	+ 2 1/2" (64)
Masonry Opening (With Brick Mould Casing)	Height	- 4 13/16" (122)	Height	- 3 3/16" (81)	Height	- 1/2" (13)			Height	+ 1 1/4" (32)
	Width	- 6 7/8" (175)	Width	- 5 1/4" (134)	Width	- 3 1/2" (89)	Width	- 2 1/2" (64)		
	Height	- 6 1/16" (154)	Height	- 4 7/16" (112)	Height	- 1 3/4" (44)	Height	- 1 1/4" (32)		

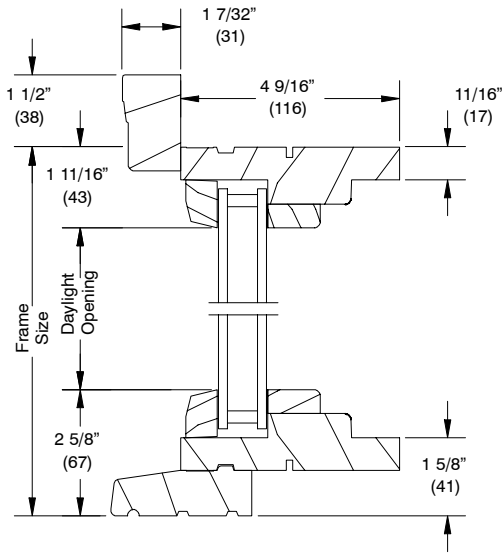
**NOTE:**  
Conversions represent units without dividers. Contact Marvin's for additional conversions.

# WOOD POLYGONS AND RECTANGLES

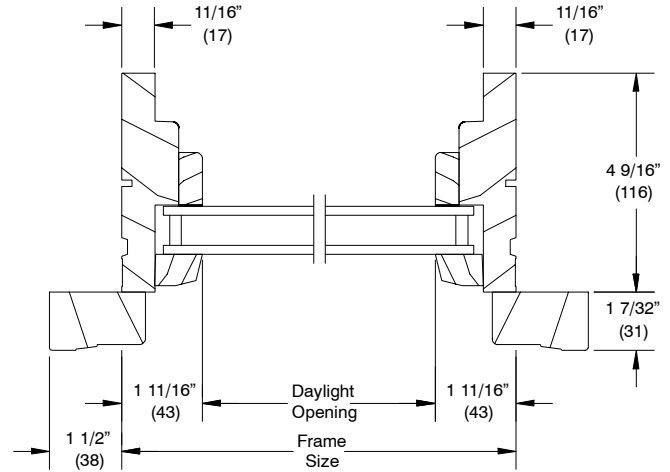
## SECTION DETAILS: DIRECT GLAZE

SCALE: 3" = 1' 0"

### Direct Glaze Insulated Glass

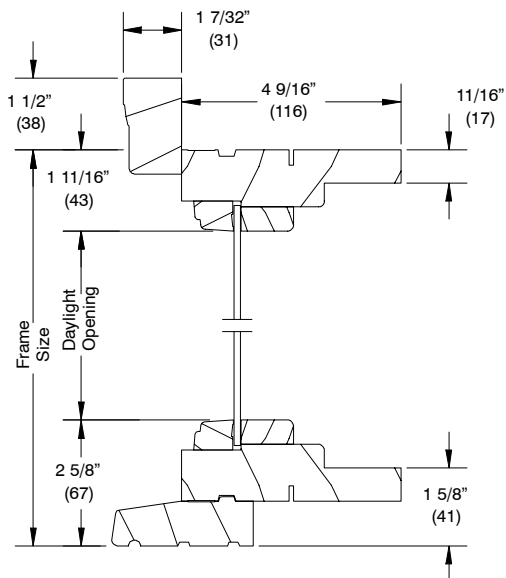


Head Jamb and Sill

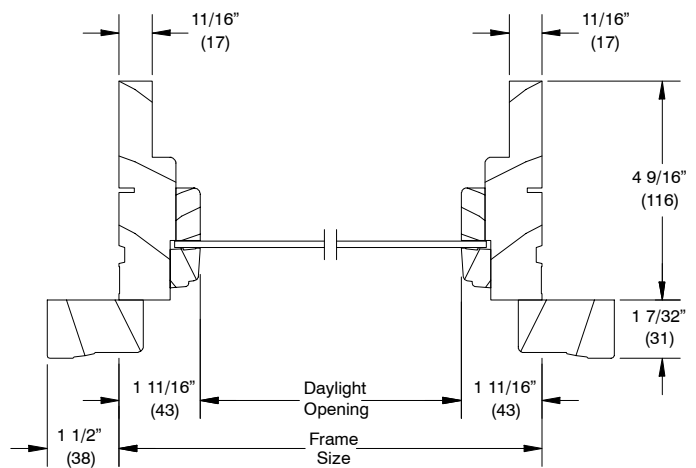


Jambs

### Direct Glaze Single Glaze



Head Jamb and Sill



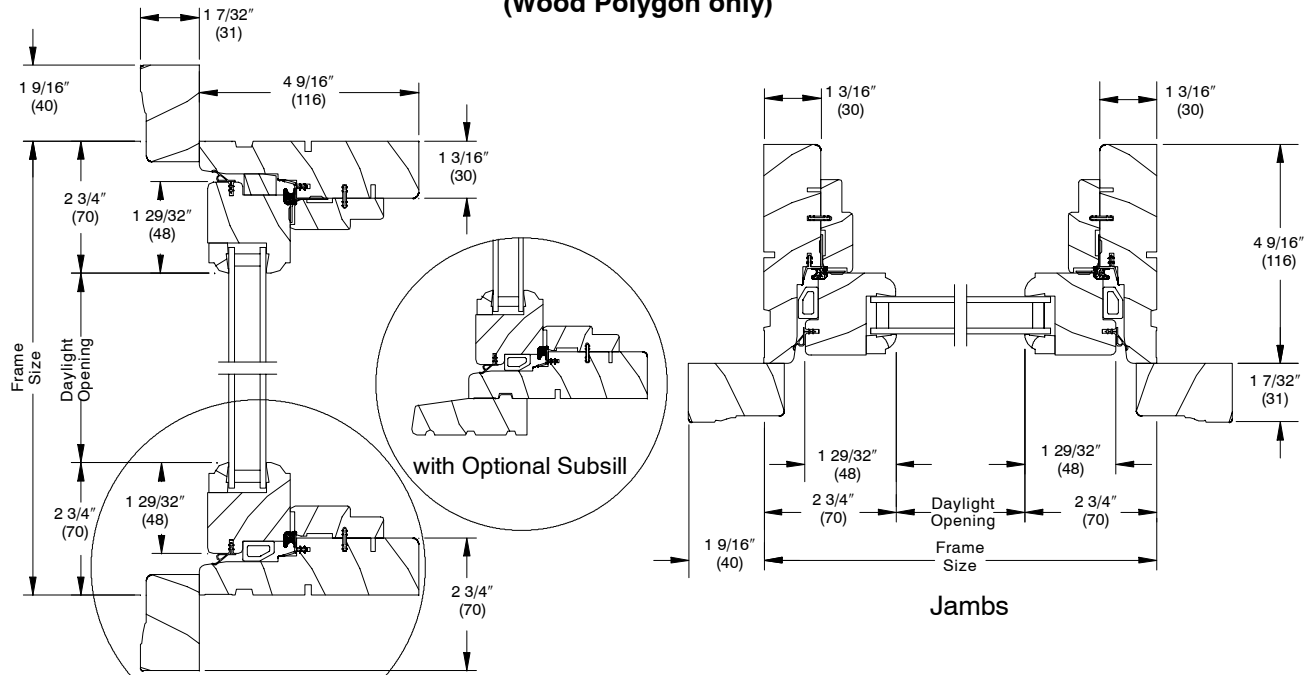
Jambs

# WOOD POLYGONS AND RECTANGLES

## SECTION DETAILS: IN SASH

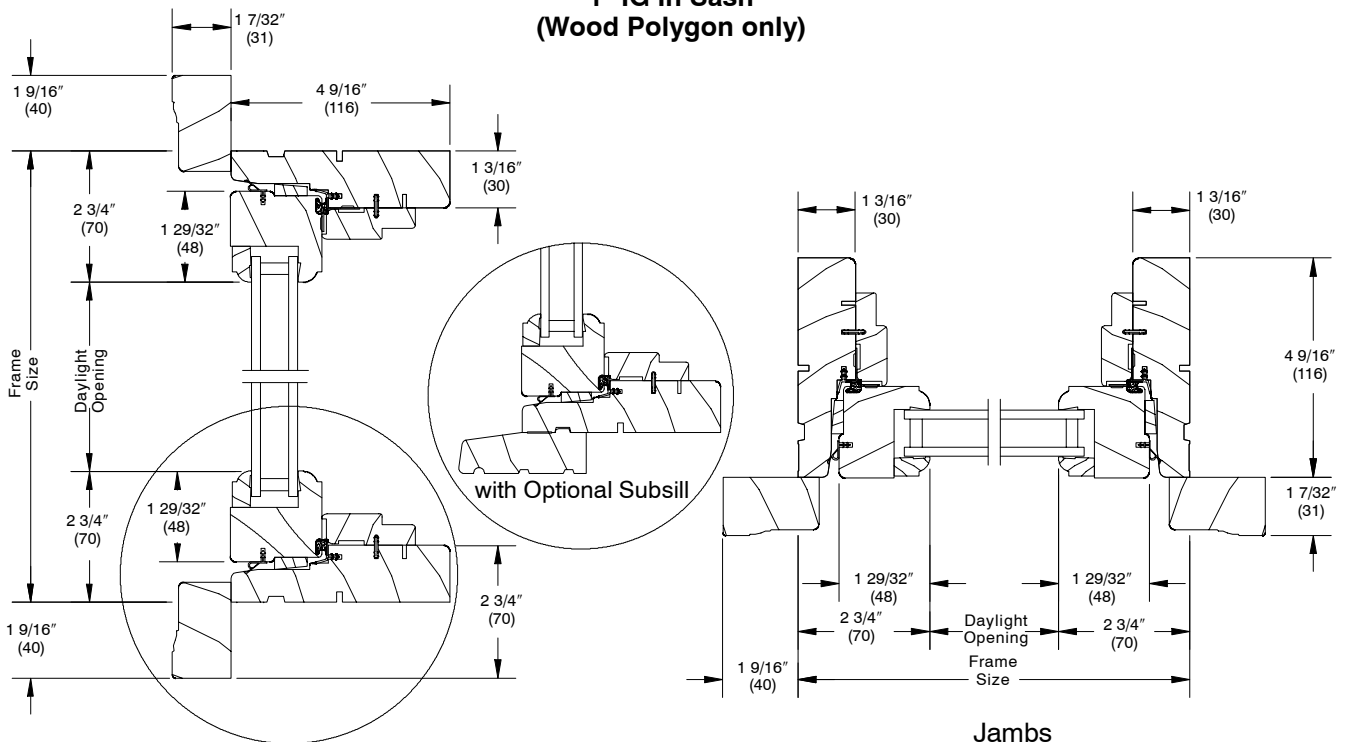
SCALE: 3" = 1' 0"

### 1 3/4" In Sash (Wood Polygon only)



Head Jamb and Sill  
(with BMC sill example P8-1 polygon)

### Picture 1" IG In Sash (Wood Polygon only)



Head Jamb and Sill (BMC sill shown)

**Note:** Depending on the polygon shape the unit may feature a subsill instead of brick mould casing (example: P5-1)

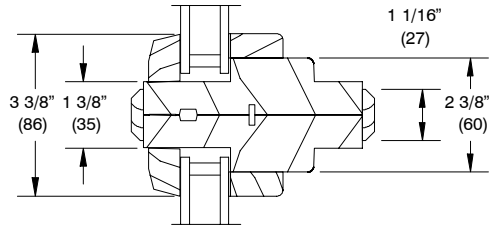
# WOOD POLYGONS AND RECTANGLES

## SECTION DETAILS: MULLIONS

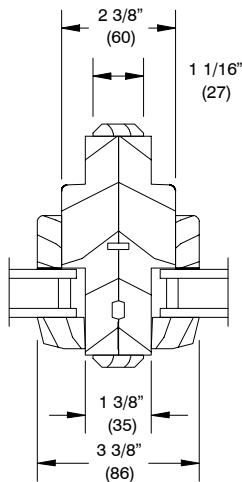
SCALE: 3" = 1' 0"

### Mullions

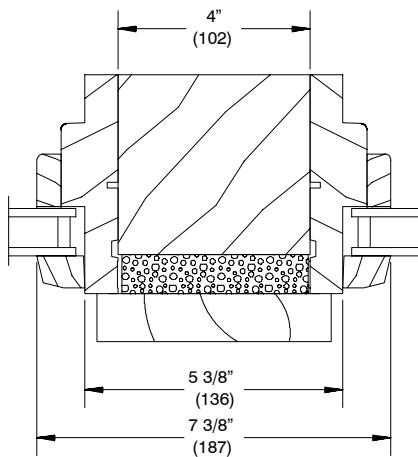
#### Direct Glaze



Horizontal Mullion

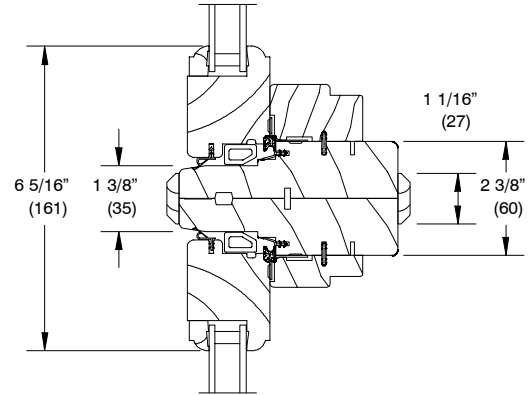


Vertical Mullion

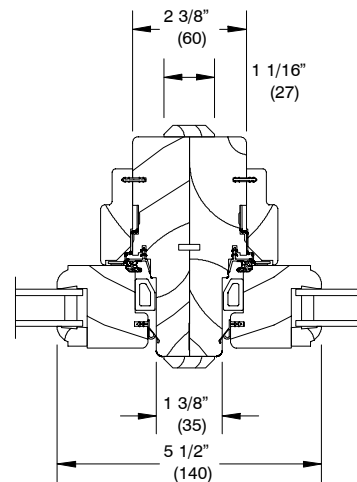


4" Space Mull

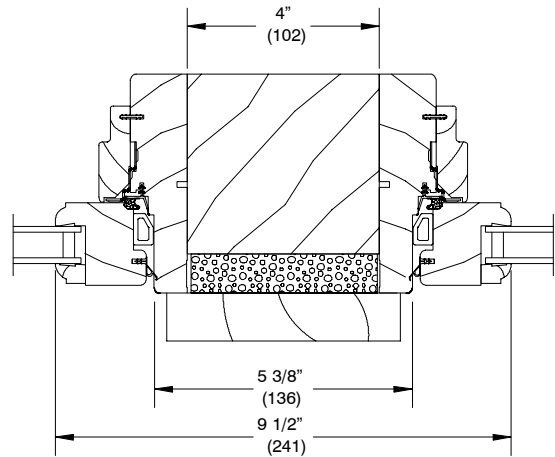
#### In-Sash



Horizontal Mullion



Vertical Mullion



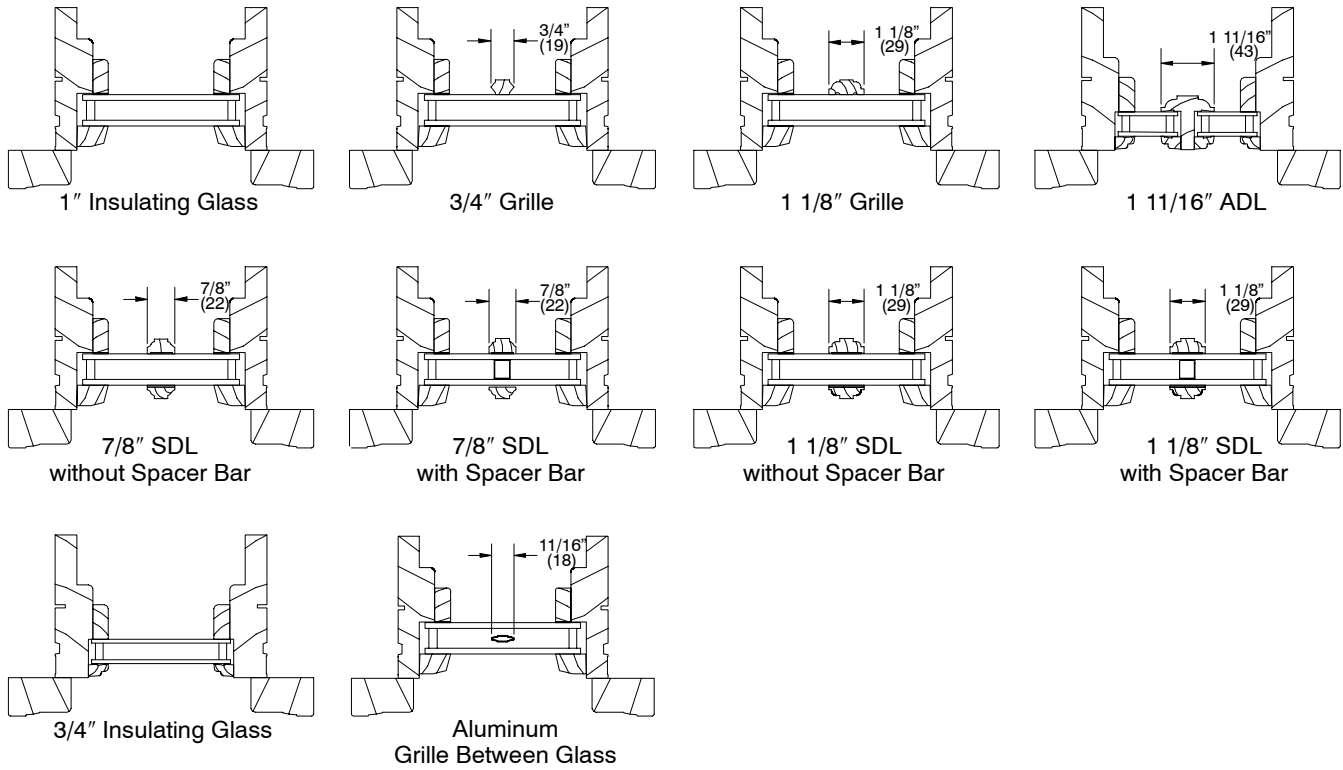
4" Space Mull

# WOOD POLYGONS AND RECTANGLES

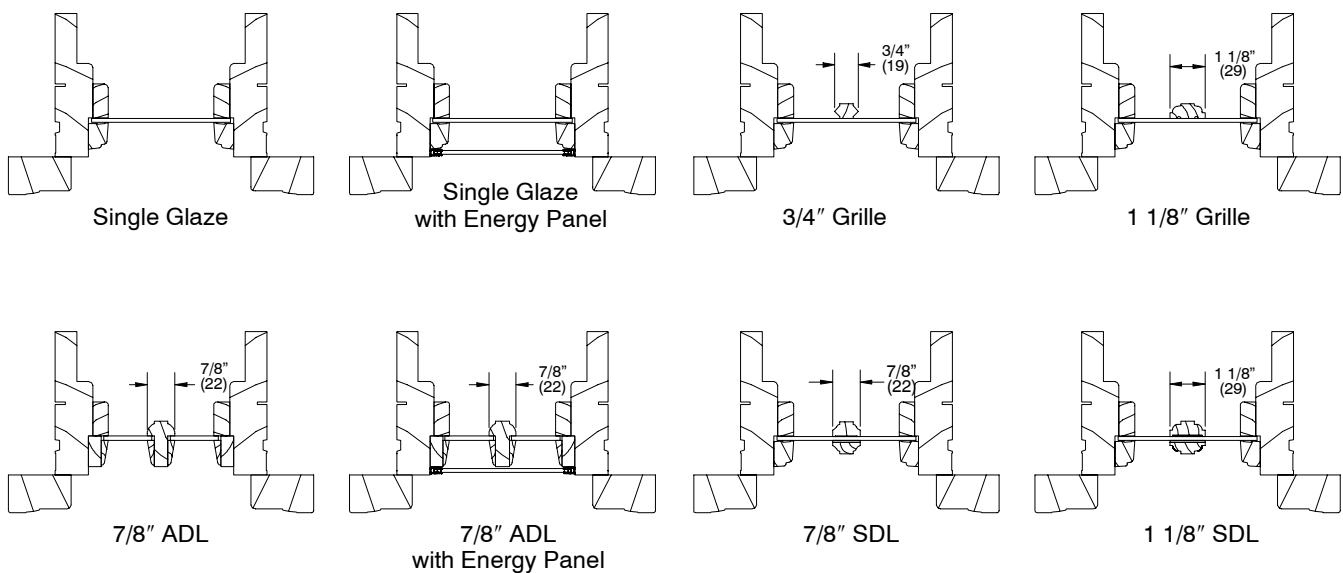
## SECTION DETAILS: DIVIDED LITE OPTIONS

SCALE: 3" = 1' 0"

### Insulating Glass Direct Glaze



### Single Glaze



**NOTE:**

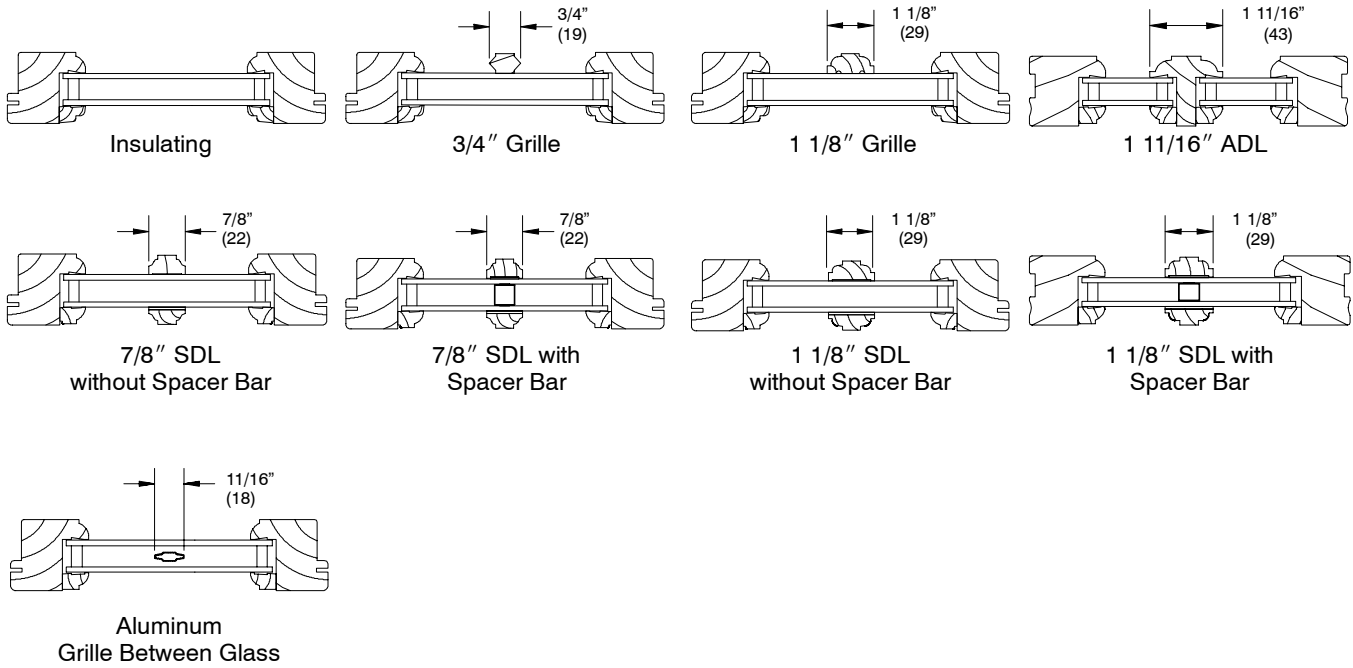
Grille = Removable interior divider  
SDL = Simulated divided lite  
ADL = Authentic divided lite

# WOOD POLYGONS AND RECTANGLES

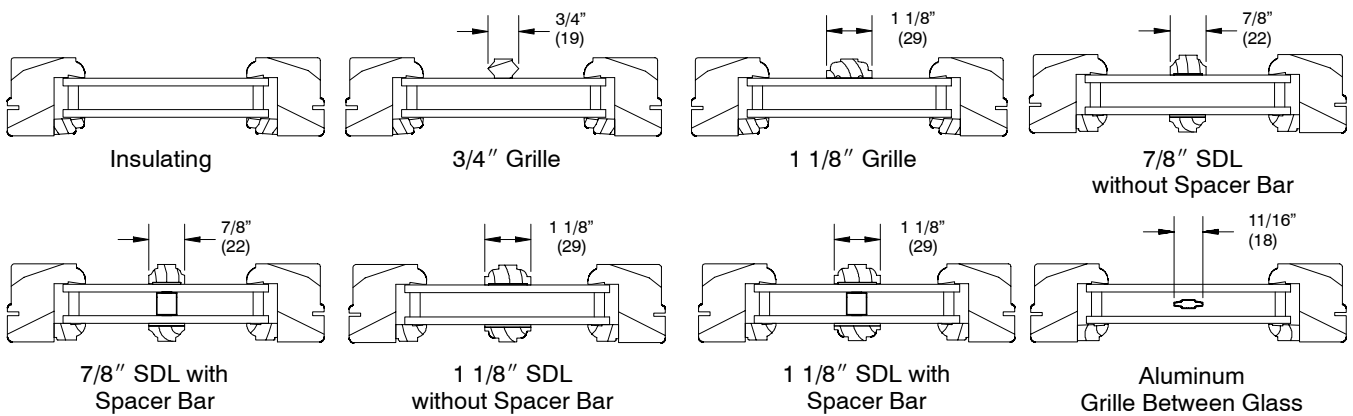
## SECTION DETAILS: DIVIDED LITE OPTIONS

NOT TO SCALE

### In-Sash 3/4" Insulating Glass



### In-Sash 1" Insulating Glass



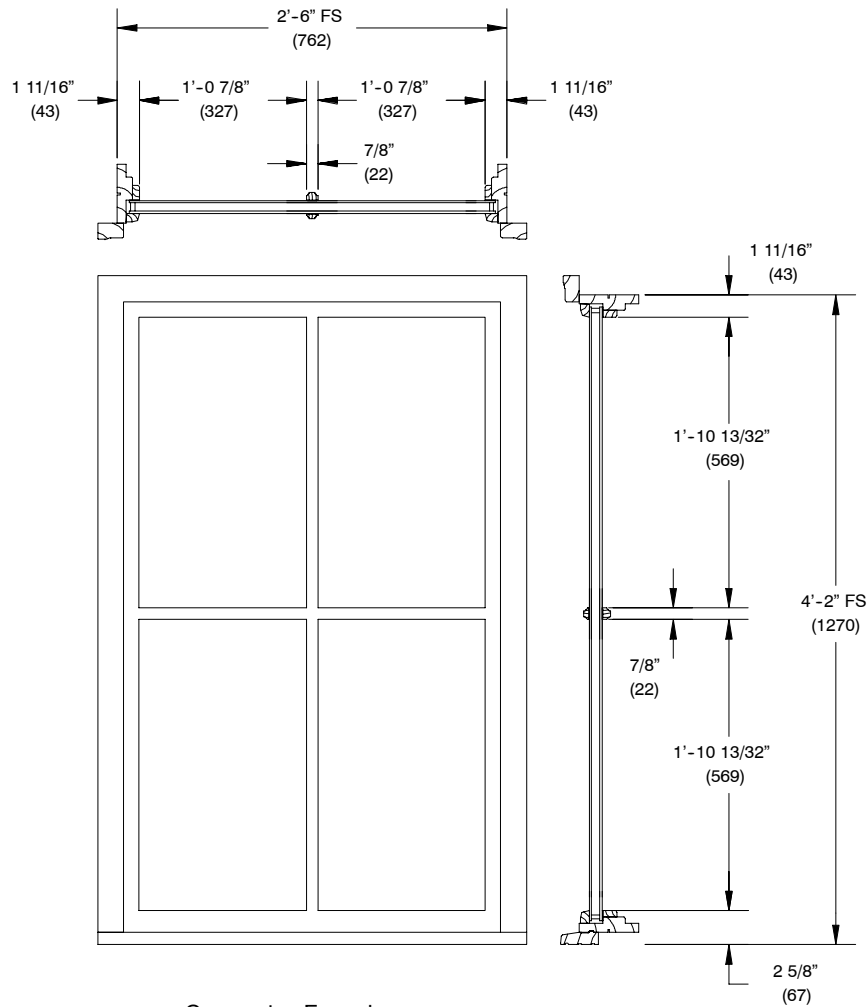
**NOTE:**

Grille = Removable interior divider  
 SDL = Simulated divided lite  
 ADL = Authentic divided lite

# WOOD POLYGONS AND RECTANGLES

## RECTANGULAR DAYLIGHT OPENING CONVERSIONS

NOT TO SCALE



Conversion Formula:

$$\frac{\text{DLO} - \text{Total Bar Width}}{\text{Number of Lites}} = \text{Individual DLO}$$

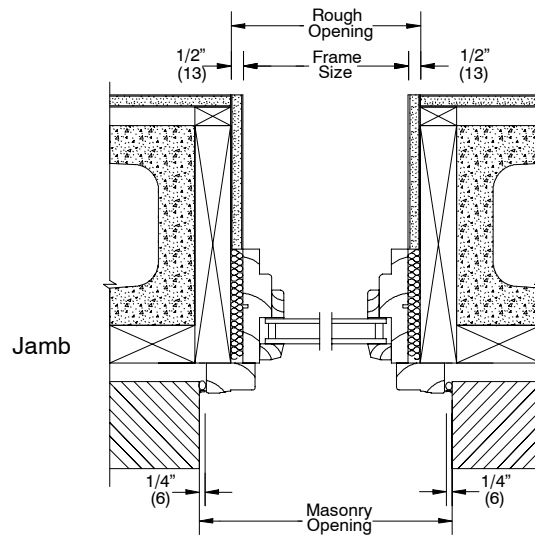
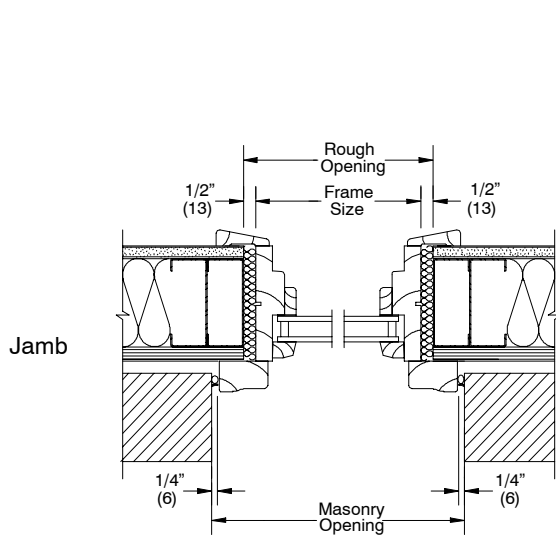
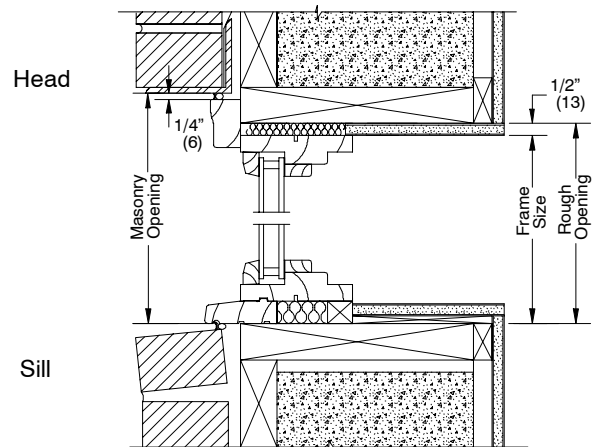
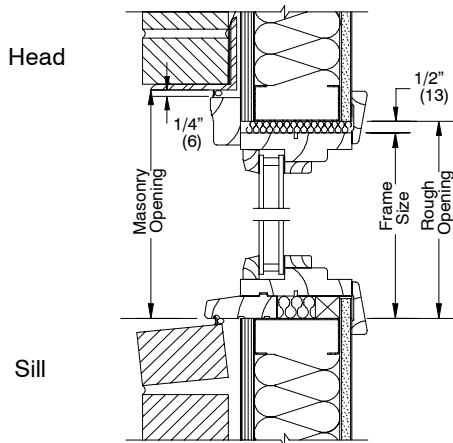
**NOTE:**

For additional information on individual daylight openings please contact your Marvin representative.

# WOOD POLYGONS AND RECTANGLES

## SECTION DETAILS: CONSTRUCTION

NOT TO SCALE



Brick Veneer with Steel Stud Construction

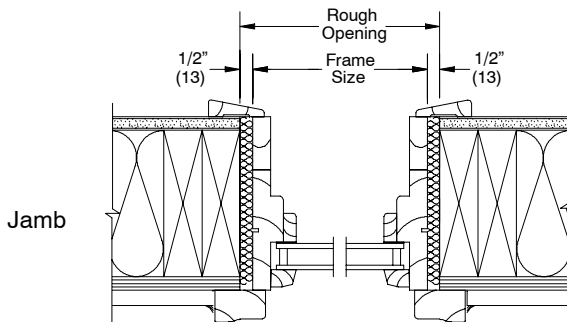
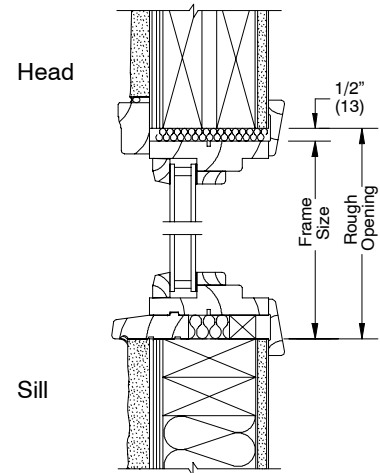
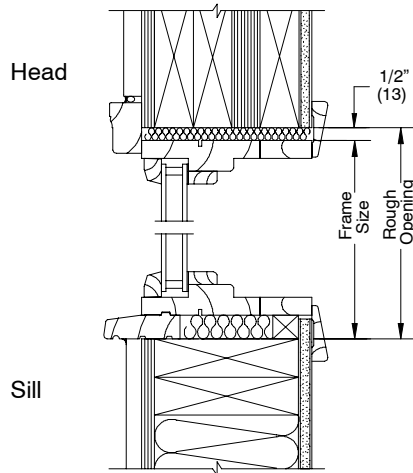
Brick Veneer with Concrete Block Construction

**NOTE:**

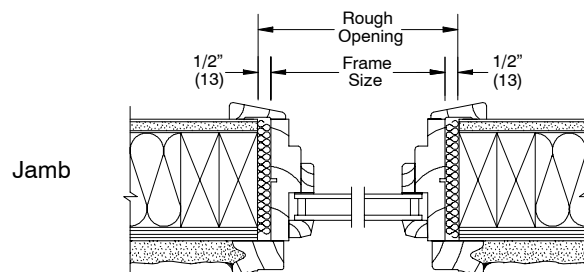
The above wall sections represent typical wall conditions, these details are not intended as installation instructions. Please refer to the installation instructions provided with the purchased units.

# WOOD POLYGONS AND RECTANGLES

## SECTION DETAILS: CONSTRUCTION NOT TO SCALE



Wood Siding with 2x6  
Frame Construction



Stucco with 2x4  
Frame Construction

**NOTE:**

The above wall sections represent typical wall conditions, these details are not intended as installation instructions. Please refer to the installation instructions provided with the purchased units.