

Ultimate Wood Casement Polygon

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Unit Features

Ultimate Wood Casement Polygon: UWCAPOLY

Ultimate Wood Casement Narrow Frame Polygon: UWCANFPOLY

Frame:

- Minimum frame angle 15°, minimum short leg of Rough Opening 6"

UWCAPOLY Hardware:

- Folding handles are standard.
 - Color: Satin Taupe is standard with optional colors White, Bronze, Satin Chrome, Satin Nickel, Oil Rubbed Bronze, Brass, Antique Brass.
- Locks used are a concealed multi-point sequential system.
 - OM spring line heights over 26 1/8" (664) to 53 1/8" (1349) will have a 2 point locking system.
 - OM spring line heights greater than 53 1/8" (1349) will have a 3 point locking system.
- Operable polygons have a single arm operator that includes a crank hardware system that allows the window to open to a full 90 degrees with a minimal reduction of egress net clear opening. All steel is covered with an E-Gard™ protection coat and the standard track is stainless steel. Operation force at handle is 5 lbs. or less.
- Units greater than 71 1/8" (1807) in height will require the use of a sash limiter, which is located on the operator track.
- Stainless Steel packages are available for coastal application.
- Narrow frame does not allow for the wash-mode feature.

Optional Glass for Full Frame Units:

- 1" Tripane Low E1 outer piece and Low E1 Argon inner piece
- 1" Tripane Low E1 outer piece and Low E1 Krypton-Argon inner piece
- 1" Tripane Low E2 outer piece and Low E2 Argon inner piece
- 1" Tripane Low E2 outer piece and Low E2 Krypton-Argon inner piece
- 1" Tripane Low E3 outer piece and Low E1 Argon inner piece
- 1" Tripane Low E3 outer piece and Low E1 Krypton-Argon inner piece

Minimum and Maximum Guidelines

| Minimum and Maximum Non - Certified - Full and Replacement Ultimate Wood Casement Polygon - Operable | | | | | | | | | | | |
|--|---------------------------|-----------|-------|------------|-------|-----------|--------|------------|--------|----------------|-------|
| Unit Type | | Min Width | | Min Height | | Max Width | | Max Height | | Min Springline | |
| | | in | mm | in | mm | in | mm | in | mm | in | mm |
| Insulating Glass 3/4", SG or 1" (Replacement N/A 1") | P4-0, P4-5/6 | 16 | (406) | 27 1/16 | (687) | 36 | (914) | 97 1/16 | (2465) | 27 1/16 | (687) |
| | | | | | | 40 | (1016) | 97 1/16 | (2465) | 27 1/16 | (687) |
| | P5-1, P5-5/6, P5-13/14 | 16 | (406) | 27 1/16 | (687) | 36 | (914) | 97 1/16 | (2465) | 27 1/16 | (687) |
| | | | | | | 40 | (1016) | 97 1/16 | (2465) | 27 1/16 | (687) |
| | P6-5 | 16 | (406) | 27 1/16 | (687) | 36 | (914) | 97 1/16 | (2465) | 27 1/16 | (687) |
| | | | | | | 40 | (1016) | 97 1/16 | (2465) | 27 1/16 | (687) |
| | P8-1 | 28 | (711) | N/A | | 48 | (1219) | N/A | | N/A | |

NOTE: All operating polygons are non-certified.

| Certified - Stationary Ultimate Wood Casement Polygon, Full Frame CE Marked | | | | | | | | | | | |
|---|--------|-----------|-------|------------|-------|-----------|--------|------------|--------|----------------|-------|
| Unit Type | | Min Width | | Min Height | | Max Width | | Max Height | | Min Springline | |
| | | in | mm | in | mm | in | mm | in | mm | in | mm |
| Insulating Glass 3/4" | P3 | 23 | (584) | 23 1/2 | (597) | 64 | (1626) | 96 1/16 | (2440) | N/A | |
| | | | | | | 96 1/16 | (2440) | 64 | (1626) | N/A | |
| | P4, P5 | 15 | (381) | 15 1/2 | (394) | 64 | (1626) | 96 1/16 | (2440) | 7 1/2 | (191) |
| | | | | | | 96 1/16 | (2440) | 64 | (1626) | 7 1/2 | (191) |
| | P6, P8 | 21 | (533) | 21 1/2 | (546) | 64 | (1626) | 96 1/16 | (2440) | N/A | |
| | | | | | | 96 1/16 | (2440) | 64 | (1626) | N/A | |
| Insulating Glass 1" Full Frame (Replacement N/A 1") | P3 | 23 | (584) | 23 1/2 | (597) | 88 | (2235) | 96 1/16 | (2440) | N/A | |
| | | | | | | 96 1/16 | (2440) | 88 | (2235) | N/A | |
| | P4, P5 | 15 | (381) | 15 1/2 | (394) | 88 | (2235) | 96 1/16 | (2440) | 7 1/2 | (191) |
| | | | | | | 96 1/16 | (2440) | 88 | (2235) | 7 1/2 | (191) |
| | P6, P8 | 21 | (533) | 21 1/2 | (546) | 88 | (2235) | 96 1/16 | (2440) | N/A | |
| | | | | | | 96 1/16 | (2440) | 88 | (2235) | N/A | |

| Maximum Non-Certified Frame Size - Full and Replacement - Stationary, Full Frame CE Marked | | | | |
|--|-----------|--------|------------|--------|
| Unit Type | Max Width | | Max Height | |
| | in | mm | in | mm |
| P3, P4, P5, P6, P8 3/4" IG | 64 | (1626) | 104 | (2642) |
| | 104 | (2642) | 64 | (1626) |
| P3, P4, P5, P6, P8 1" IG - Full Frame (Replacement N/A 1") | 88 | (2235) | 120 | (3048) |
| | 120 | (3048) | 88 | (2235) |

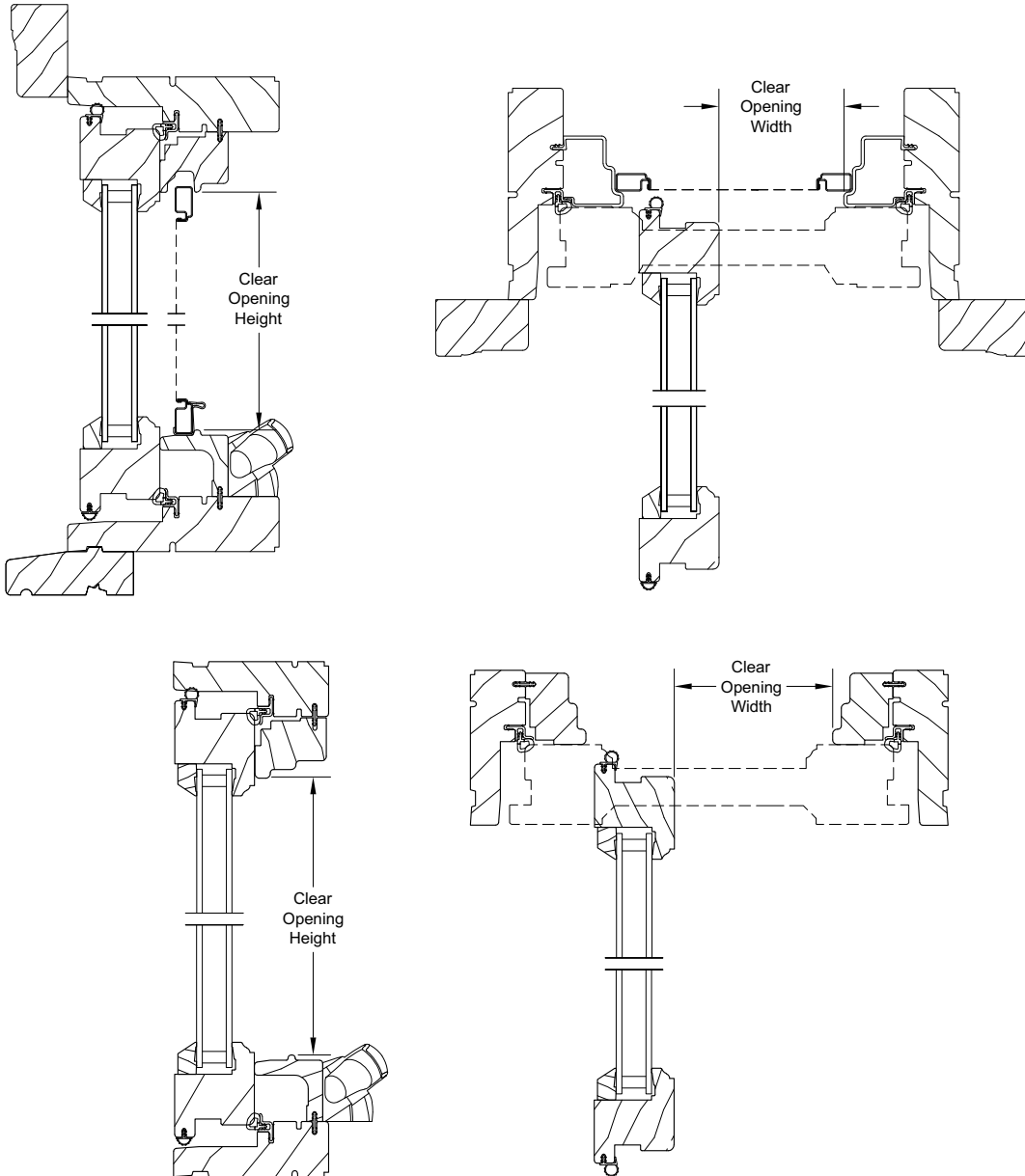
Minimum and Maximum Guidelines and Certified Sizes: IZ3 / Stationary

| Certified - Stationary Ultimate Wood Casement Polygon IZ3 | | | | | | | | | | | |
|---|--------|-----------|-------|------------|-------|-----------|--------|------------|--------|----------------|-------|
| Unit Type | | Min Width | | Min Height | | Max Width | | Max Height | | Min Springline | |
| | | in | mm | in | mm | in | mm | in | mm | in | mm |
| Insulating Glass 1" Full Frame (Replacement N/A 1") | P3 | 23 | (584) | 23 1/2 | (597) | 60 | (1524) | 107 9/16 | (2732) | N/A | |
| | | | | | | 107 9/16 | (2732) | 60 | (1524) | | |
| | P4, P5 | 15 | (381) | 15 1/2 | (394) | 60 | (1524) | 107 | (2718) | 7.5 | (191) |
| | | | | | | 107 9/16 | (2732) | 60 | (1524) | 7.5 | (191) |
| | P6, P8 | 21 | (533) | 21 1/2 | (546) | 60 | (1524) | 107 9/16 | (2732) | N/A | |
| | | | | | | 107 9/16 | (2732) | 60 | (1524) | | |
| | P3 | 23 | (584) | 23 1/2 | (597) | 72 5/8 | (1845) | 77 1/8 | (1959) | N/A | |
| | | | | | | 77 1/8 | (1959) | 72 5/8 | (1845) | | |
| | P4, P5 | 15 | (381) | 15 1/2 | (394) | 72 5/8 | (1845) | 107 | (2718) | 7.5 | (191) |
| | | | | | | 77 1/8 | (1959) | 72 5/8 | (1845) | 7.5 | (191) |
| | P6, P8 | 21 | (533) | 21 1/2 | (546) | 72 5/8 | (1845) | 77 1/8 | (1959) | N/A | |
| | | | | | | 77 1/8 | (1959) | 72 5/8 | (1845) | | |
| Insulating Glass 3/4" Full Frame (Replacement N/A 3/4") | P3 | 23 | (584) | 23 1/2 | (597) | 36 | (914) | 72 1/2 | (1842) | N/A | |
| | | | | | | 72 1/2 | (1842) | 36 | (914) | | |
| | P4, P5 | 15 | (381) | 15 1/2 | (394) | 36 | (914) | 72 1/2 | (1842) | 7.5 | (191) |
| | | | | | | 72 1/2 | (1842) | 36 | (914) | 7.5 | (191) |
| | P6, P8 | 21 | (533) | 21 1/2 | (546) | 36 | (914) | 72 1/2 | (1842) | N/A | |
| | | | | | | 72 1/2 | (1842) | 36 | (914) | | |

| Product | Air Tested to psf | Water Tested to psf | Structural Overload Tested to psf | Certification Rating | Max Width In | Max Width mm | Max Height In | Max Height mm |
|--|-------------------|---------------------|-----------------------------------|----------------------|--------------|--------------|---------------|---------------|
| Ultimate Wood Casement Polygon Stationary 3/4" (Full Frame and Narrow Frame) | 1.57 | 7.5 | 75 | CW-PG50 | 64 | (1626) | 97 1/8 | (2467) |
| Ultimate Wood Casement Polygon Stationary 1" (Full Frame) | 1.57 | 7.5 | 75 | CW-PG50 | 72 | (1829) | 72 1/16 | (1830) |
| Ultimate Wood Casement Polygon Stationary 1" (Full Frame) | 1.57 | 7.5 | 75 | CW-PG50 | 88 | (2235) | 97 1/16 | (2465) |
| Product | Air Tested to psf | Water Tested to psf | Structural Overload Tested to psf | Certification Rating | Max Width In | Max Width mm | Max Height In | Max Height mm |
| Ultimate Wood Casement Polygon Picture 1" IZ3 (Full Frame) | 1.57 | 9.75 | 97.5 | CW-PG65 | 60 1/64 | (1524) | 107 9/16 | (2732) |
| Ultimate Wood Casement Polygon Picture 1" IZ3 (Full Frame) | 1.57 | 9.75 | 97.5 | CW-PG65 | 72 5/8 | (1845) | 78 5/64 | (1983) |
| Ultimate Wood Casement Polygon Picture 1" IZ3 (Full Frame) | 1.57 | 9.75 | 97.5 | CW-PG65 | 78 5/64 | (1959) | 72 41/64 | (1845) |
| Ultimate Wood Casement Polygon Picture 1" IZ3 (Full Frame) | 1.57 | 9.75 | 97.5 | CW-PG65 | 107 9/16 | (2732) | 60 1/64 | (1524) |

Measurement Conversions and Egress Openings

| In-Sash Polygon | | | | | |
|-----------------------|---------------|-----------|-----------|-----------|-----------|
| Unit Measurements | | Width | | Height | |
| From | To | | | | |
| Rough Opening | | in | mm | in | mm |
| OM of Frame | Rough Opening | +1 | (25) | +1/2 | (13) |
| Masonry Opening w/BMC | Rough Opening | +2 5/8 | (67) | +1 15/16 | (49) |
| Sash OM | Rough Opening | +2 11/16 | (68) | +3 1/8 | (79) |
| Sash | | in | mm | in | mm |
| Glass Size | OM of Sash | +3 1/64 | (77) | +3 1/64 | (77) |
| Glass | | in | mm | in | mm |
| Daylight Opening | Glass | +1 3/32 | (28) | +1 3/32 | (28) |



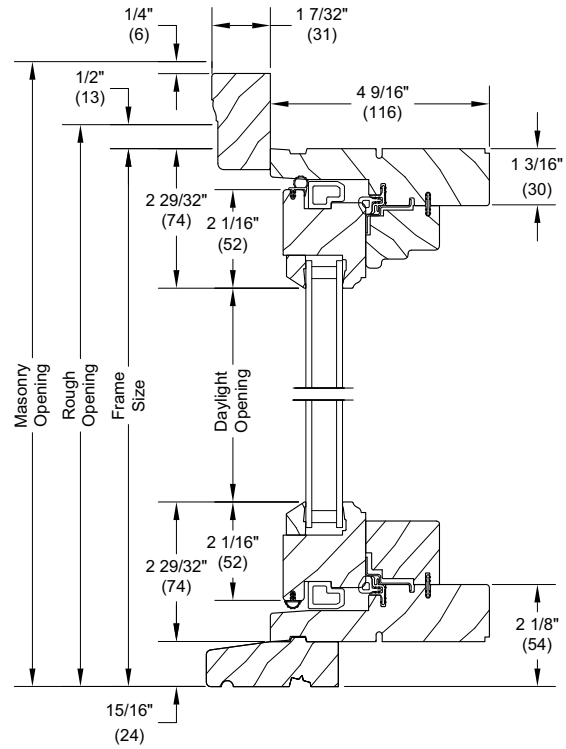
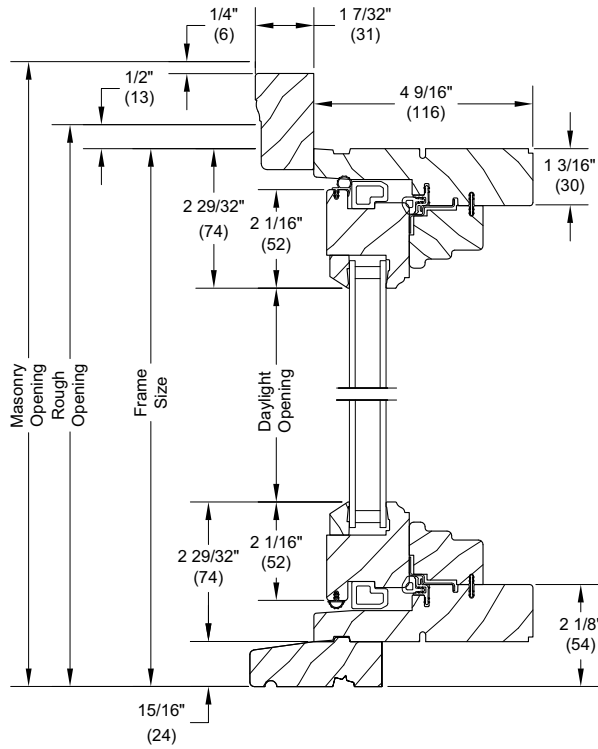
Slope to Angle and Angle to Pitch Conversions

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

| Angle to Pitch Conversions | | | | | | | |
|----------------------------|---------|-------|----------|-------|----------|-------|-----------|
| Angle | Pitch | Angle | Pitch | Angle | Pitch | Angle | Pitch |
| 1 | 0.21/12 | 26 | 5.85/12 | 51 | 14.82/12 | 76 | 48.13/12 |
| 2 | 0.42/12 | 27 | 6.11/12 | 52 | 15.36/12 | 77 | 51.98/12 |
| 3 | 0.63/12 | 28 | 6.38/12 | 53 | 15.92/12 | 78 | 56.56/12 |
| 4 | 0.84/12 | 29 | 6.65/12 | 54 | 16.52/12 | 79 | 61.73/12 |
| 5 | 1.05/12 | 30 | 6.93/12 | 55 | 17.14/12 | 80 | 68.06/12 |
| 6 | 1.26/12 | 31 | 7.21/12 | 56 | 17.79/12 | 81 | 75.77/12 |
| 7 | 1.47/12 | 32 | 7.50/12 | 57 | 18.48/12 | 82 | 85.38/12 |
| 8 | 1.69/12 | 33 | 7.79/12 | 58 | 19.20/12 | 83 | 97.73/12 |
| 9 | 1.90/12 | 34 | 8.09/12 | 59 | 19.97/12 | 84 | 114.17/12 |
| 10 | 2.12/12 | 35 | 8.40/12 | 60 | 20.78/12 | 85 | 137.16/12 |
| 11 | 2.33/12 | 36 | 8.72/12 | 61 | 21.65/12 | 86 | 171.61/12 |
| 12 | 2.55/12 | 37 | 9.04/12 | 62 | 22.57/12 | 87 | 228.97/12 |
| 13 | 2.77/12 | 38 | 9.38/12 | 63 | 23.55/12 | 88 | 343.64/12 |
| 14 | 2.99/12 | 39 | 9.72/12 | 64 | 24.60/12 | 89 | 687.48/12 |
| 15 | 3.22/12 | 40 | 10.07/12 | 65 | 25.73/12 | | |
| 16 | 3.44/12 | 41 | 10.43/12 | 66 | 26.95/12 | | |
| 17 | 3.67/12 | 42 | 10.80/12 | 67 | 28.27/12 | | |
| 18 | 3.90/12 | 43 | 11.19/12 | 68 | 29.70/12 | | |
| 19 | 4.13/12 | 44 | 11.59/12 | 69 | 31.26/12 | | |
| 20 | 4.37/12 | 45 | 12.00/12 | 70 | 32.97/12 | | |
| 21 | 4.61/12 | 46 | 12.43/12 | 71 | 34.85/12 | | |
| 22 | 4.85/12 | 47 | 12.87/12 | 72 | 36.93/12 | | |
| 23 | 5.09/12 | 48 | 13.33/12 | 73 | 39.25/12 | | |
| 24 | 5.34/12 | 49 | 13.80/12 | 74 | 41.85/12 | | |
| 25 | 5.60/12 | 50 | 14.30/12 | 75 | 44.78/12 | | |

Section Details: Stationary Full Frame

Scale: 3" = 1' 0"

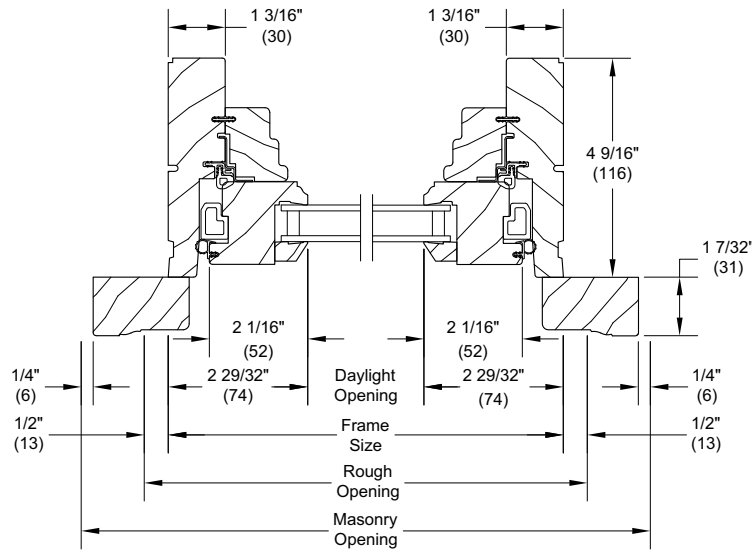


Head Jamb and Sill - Sloped Sill Cover

- P3 - 3 through 22
- P4 - 1, 2, 3, 4, 11, 12, 13, 14, 15, 16, 17
- P5 - 2, 7, 8
- P6 - 1, 2, 3, 4, 6
- P8 - 1, 2, 3, 4

Head Jamb and Sill - Flat Sill Cover

- P3 - 1, 2
- P4 - 5, 6, 7, 8, 9, 10
- P5 - 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16
- P6 - 5, 7, 8

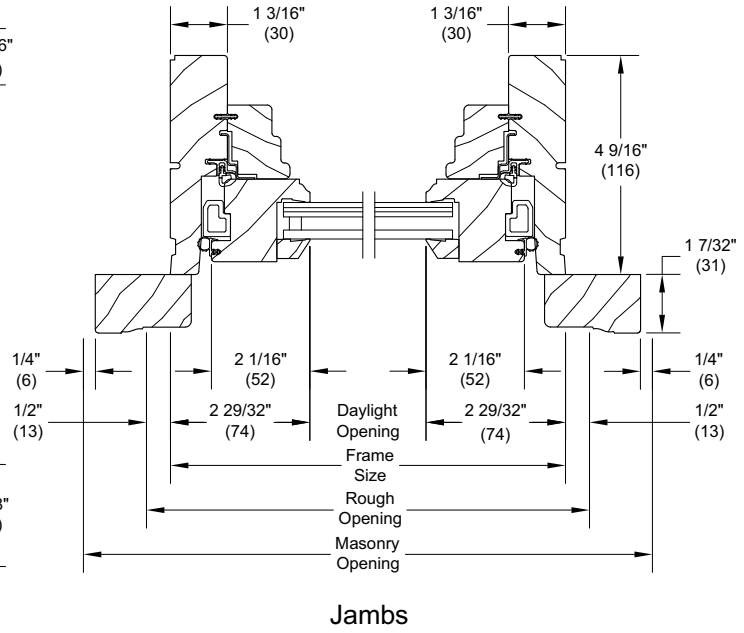
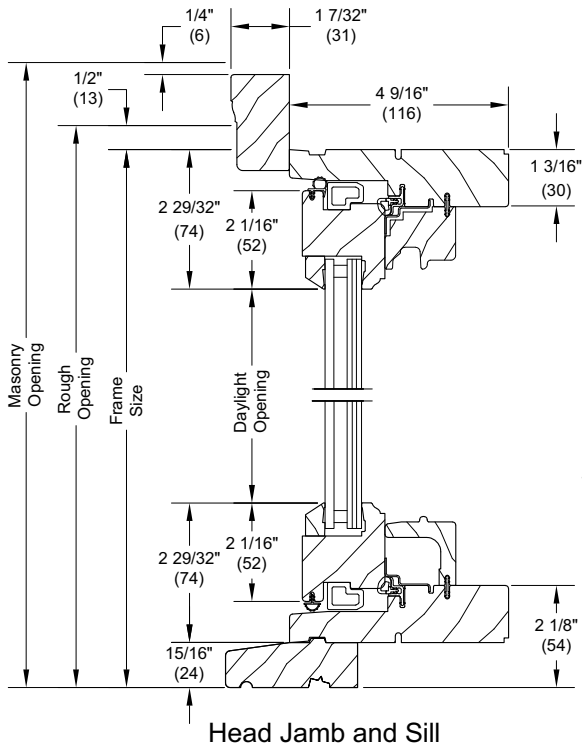


Jambs

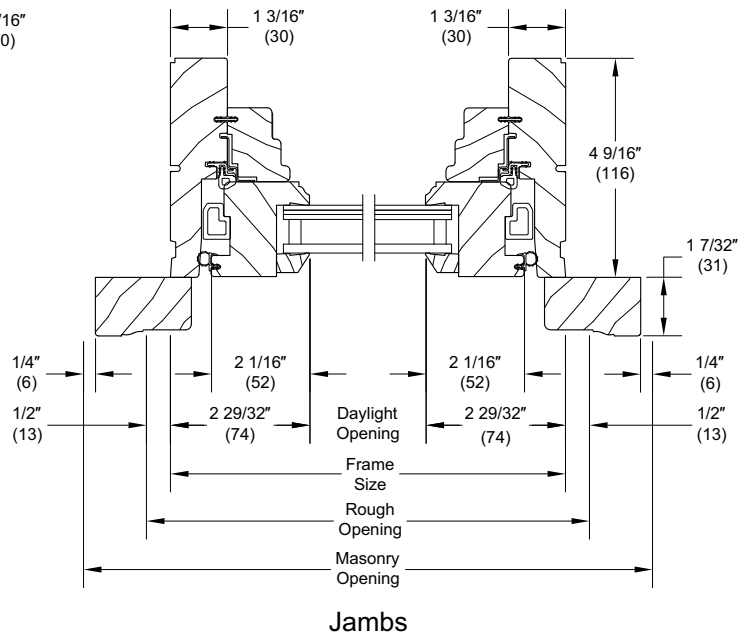
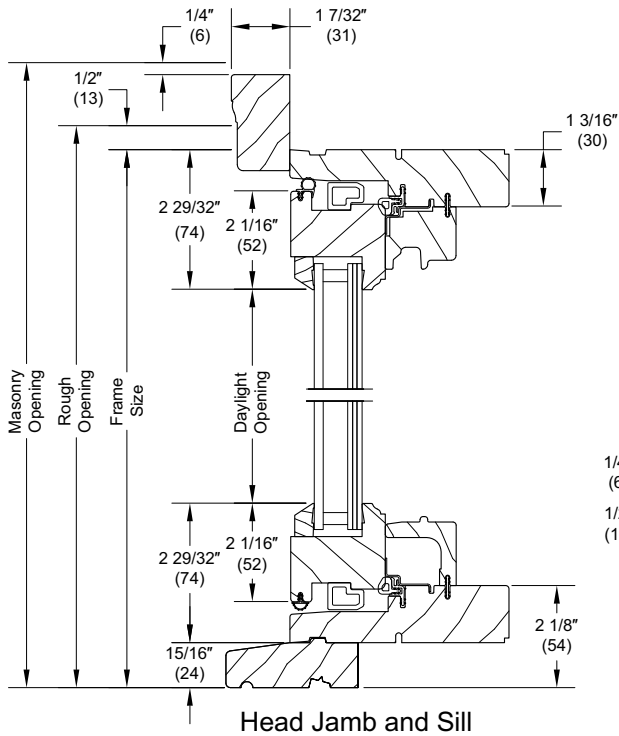
Section Details: Stationary IZ3 - 3/4" (19) and 1" (25) IG

Scale: 3" = 1' 0"

3/4" (19) IG

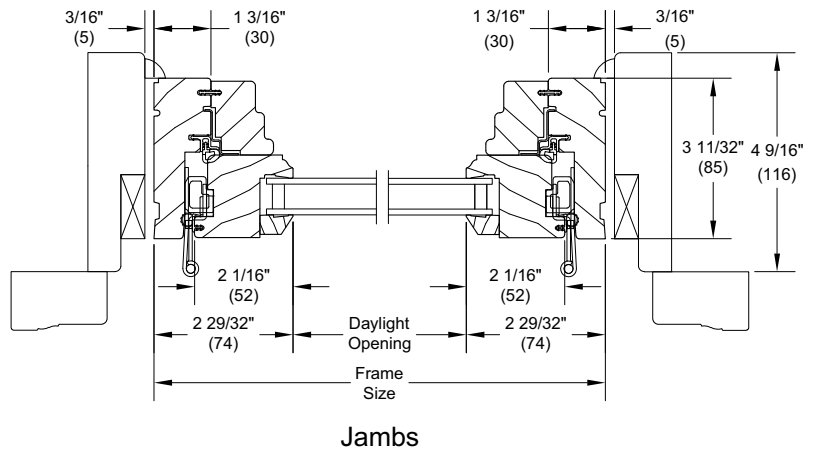
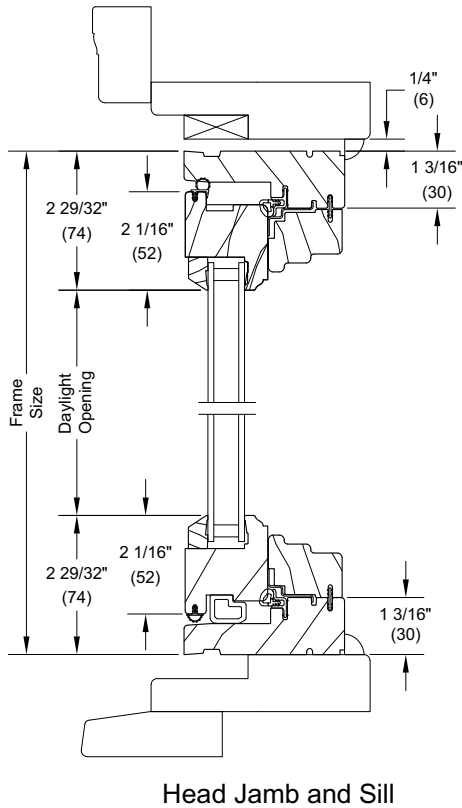
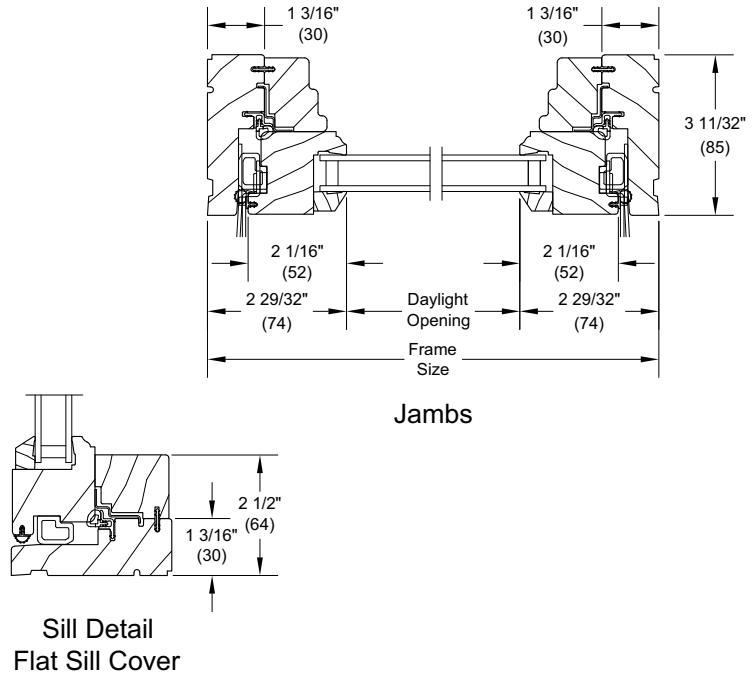
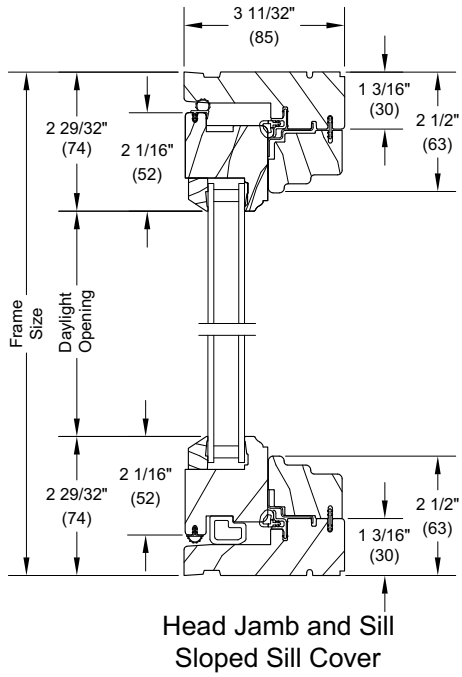


1" (25) IG



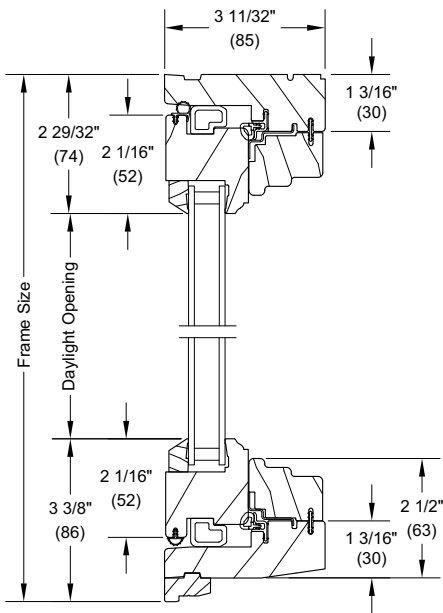
Section Details: Stationary Narrow Frame

Scale: 3" = 1' 0"

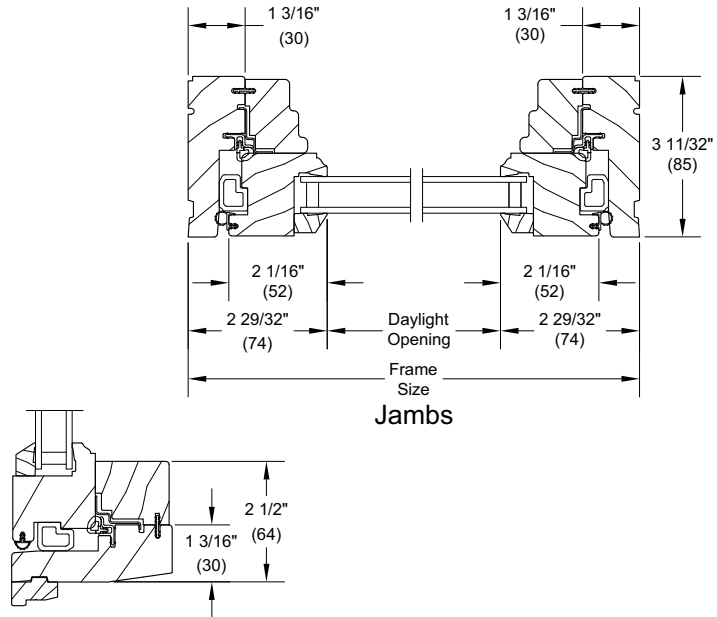


Section Details: Stationary in Double Hung Narrow Frame

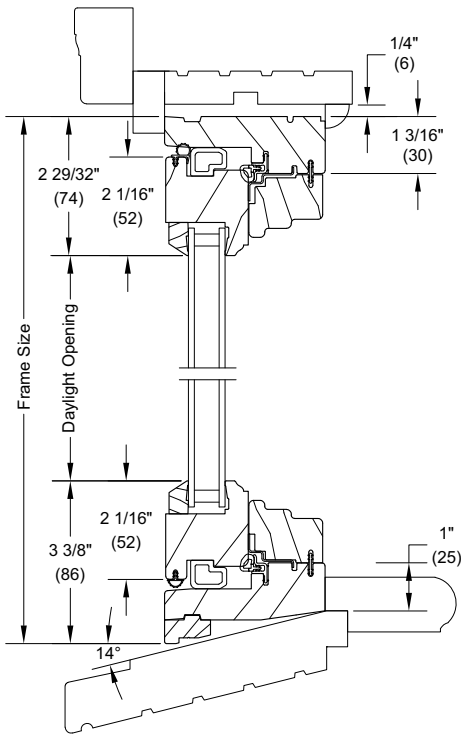
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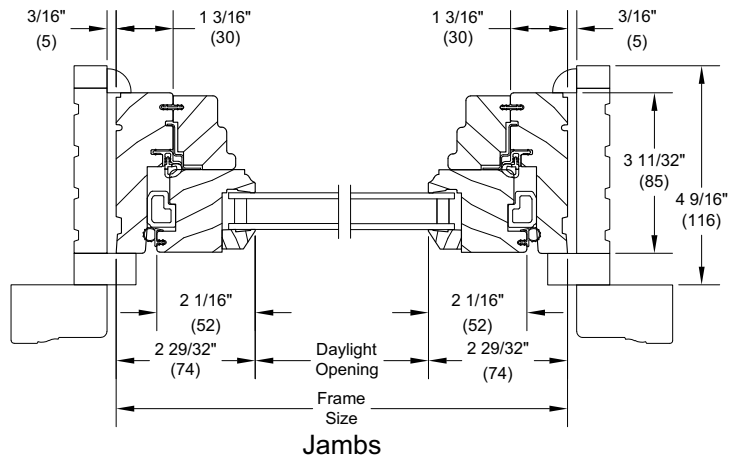
**Head Jamb and Sill
Sloped Sill Cover**



**Sill Detail
Flat Sill Cover**



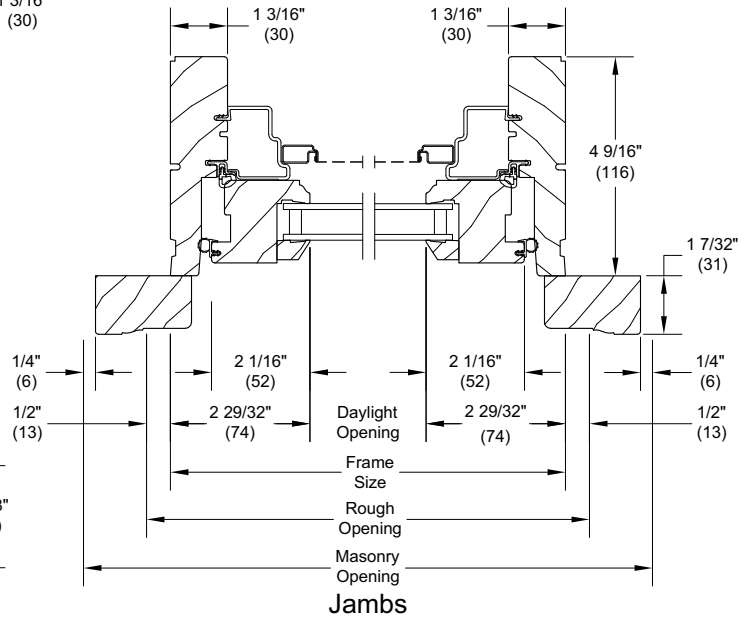
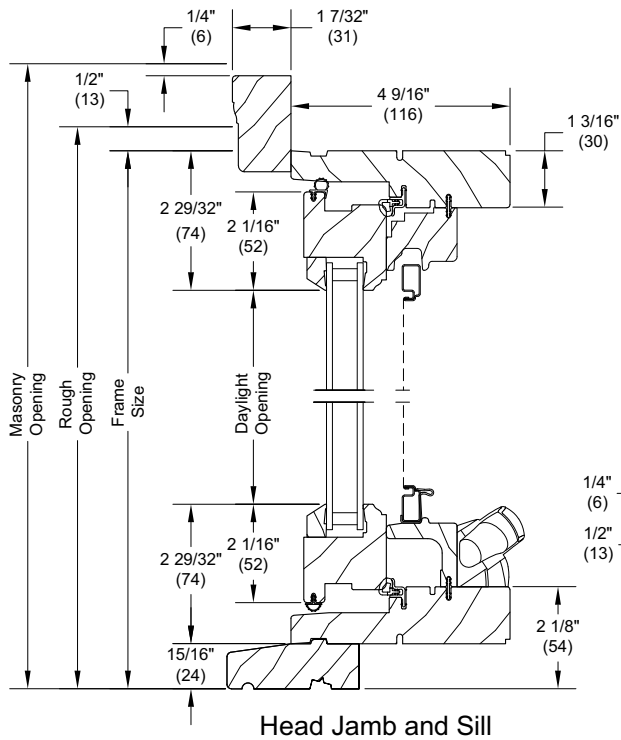
Head Jamb and Sill



Jamb

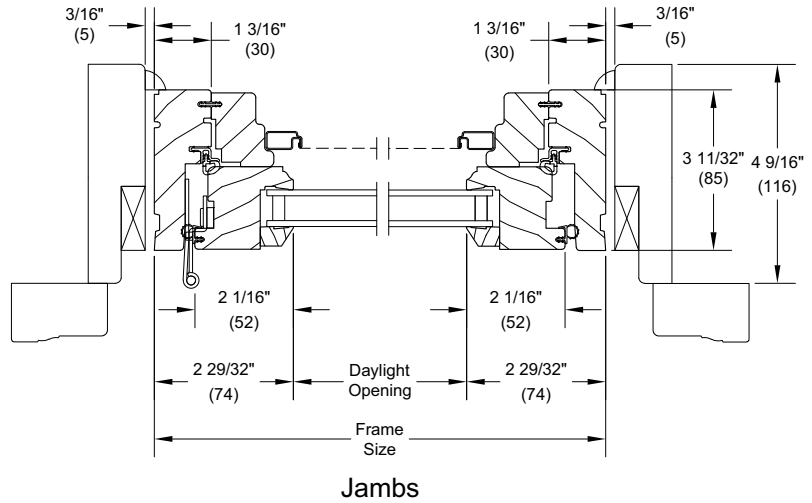
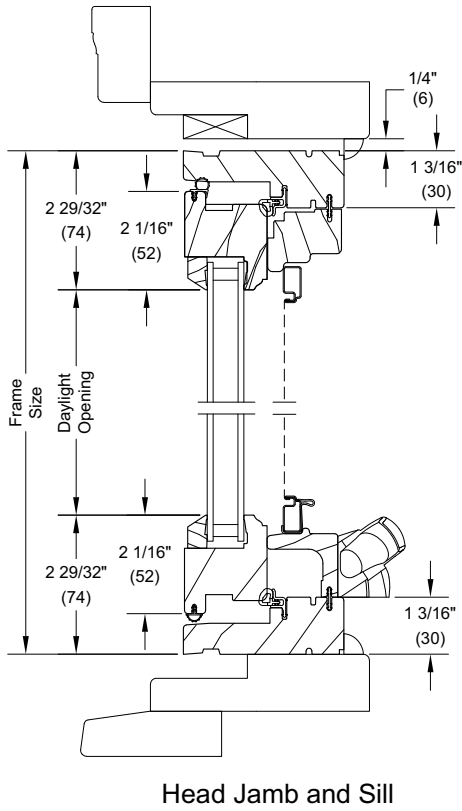
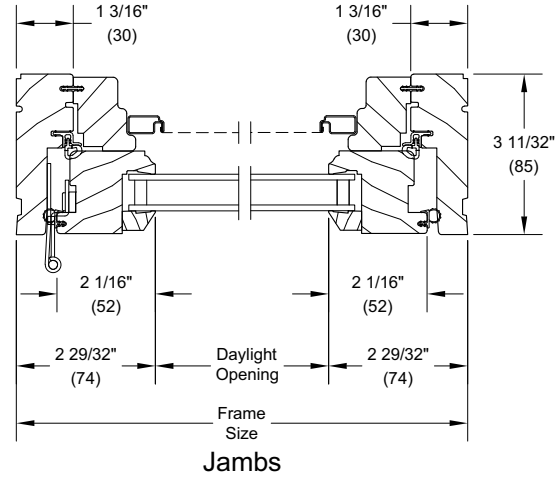
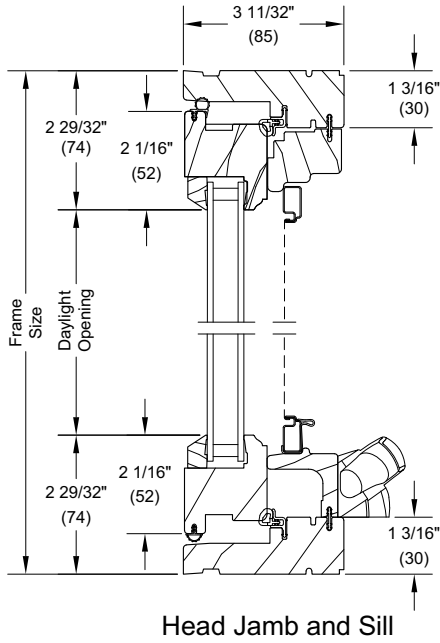
Section Details: Operable Full Frame

Scale: 3" = 1' 0"



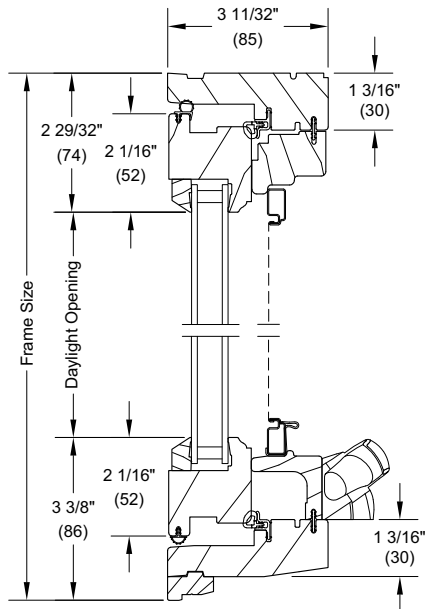
Section Details: Operable Narrow Frame

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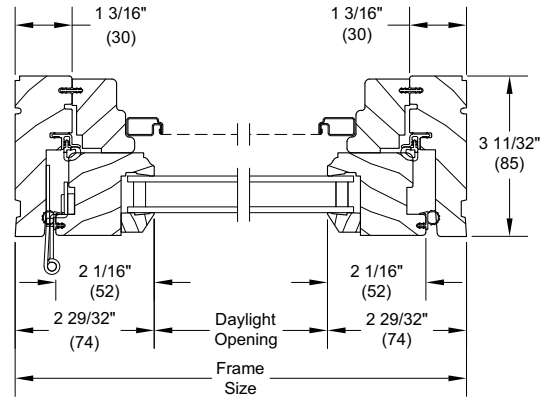


Section Details: Operable Narrow Frame in Double Hung Frame

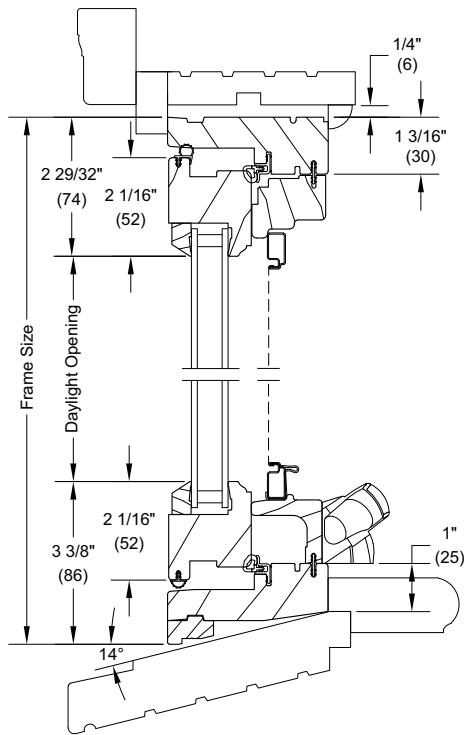
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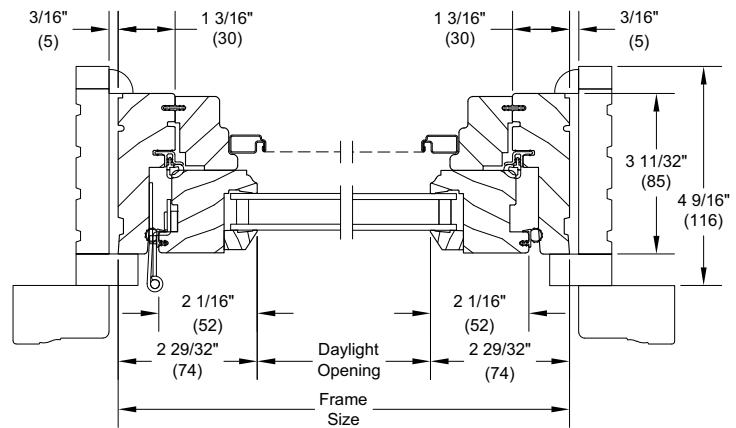
Head Jamb and Sill



Jamb



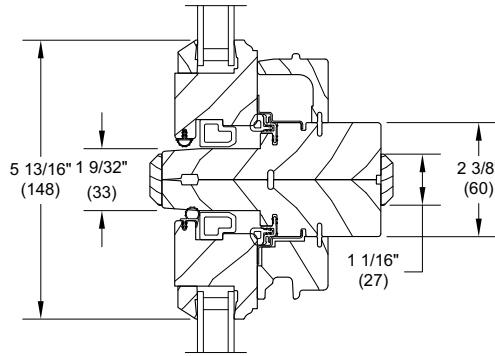
Head Jamb and Sill



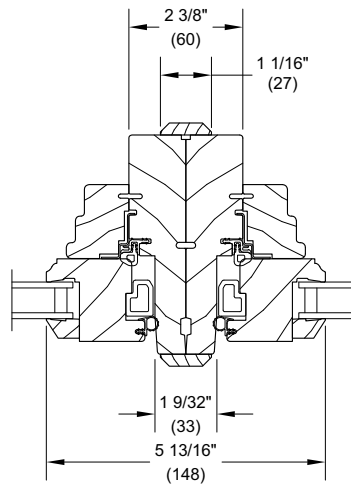
Jamb

Section Details: Stationary In-Sash Casement Polygon Mullion Options

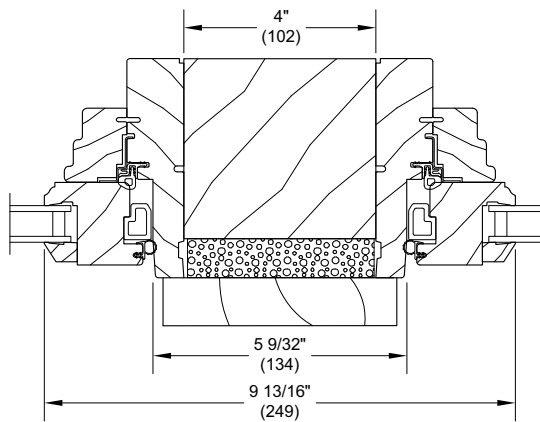
Scale: 3" = 1' 0"



Horizontal Mullion



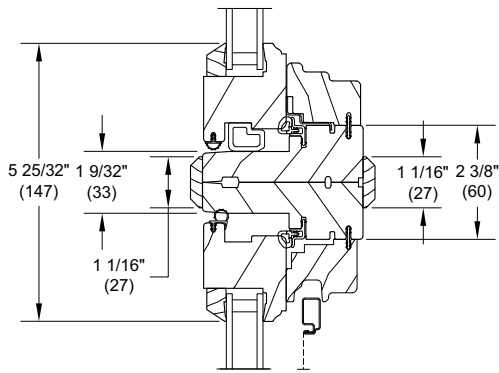
Vertical Mullion



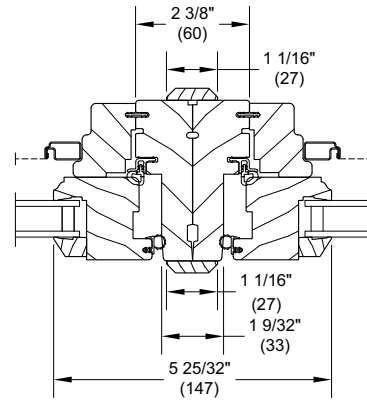
4" Space Mull

Section Details: Operable In-Sash Casement Polygon Mullion Options

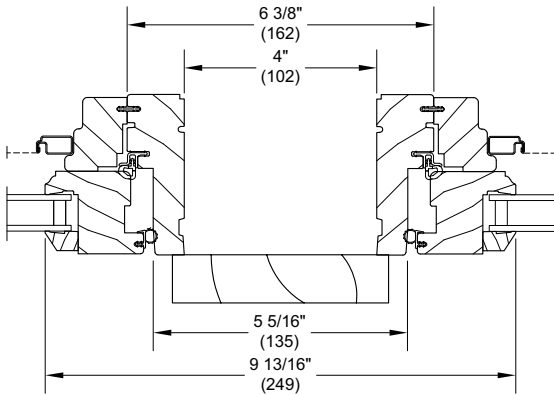
Scale: 3" = 1' 0"



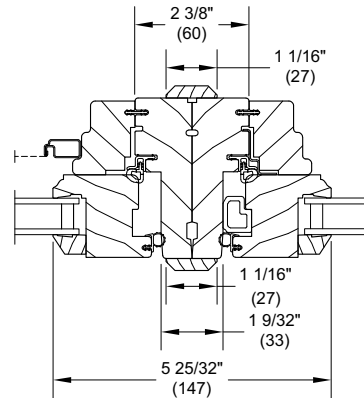
Horizontal Mullion - Stationary/Operator



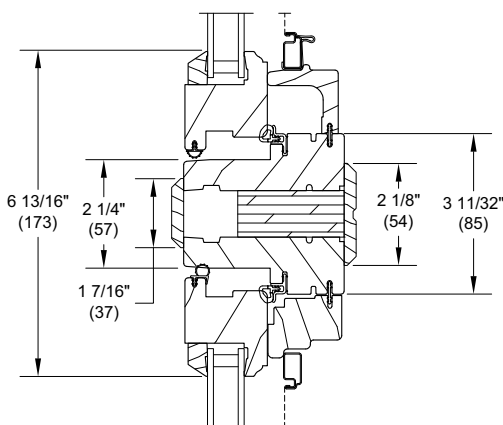
Vertical Mullion - Operator/Operator/Direct Mull



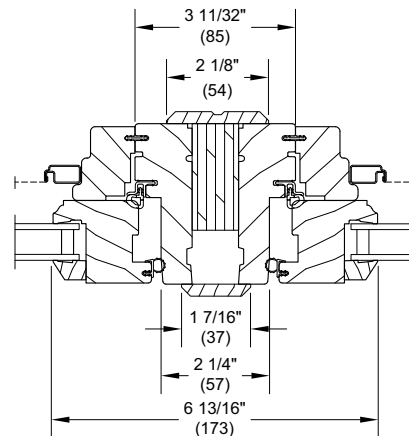
Vertical Mullion - with 4" Space Mull
Operator/Operator



Vertical Mullion - Operator/Picture/Direct Mull



Horizontal Mullion - LVL Operator/Operator



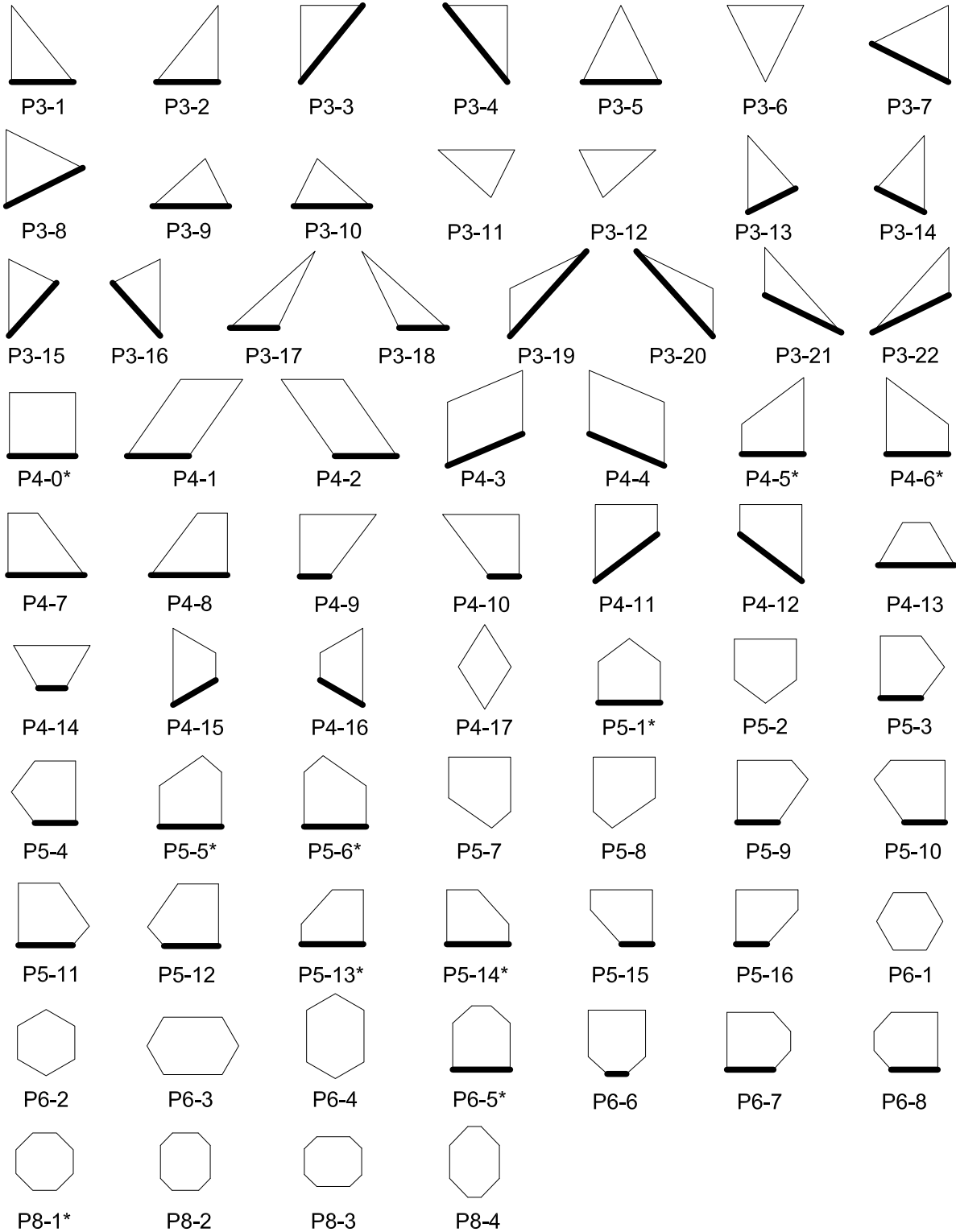
Vertical Mullion - LVL Operator/Operator

Configuration Limits

| 3 9/16" Bottom Rail Limitations | | |
|---------------------------------|----------------------|-------------------------------|
| Shape | Standard Bottom Rail | Standard and Wide Bottom Rail |
| All P3 | X | |
| P4 - 1,2,3,4 | X | |
| P4 - 5,6 | | X |
| P4 - 7 through 17 | X | |
| P5 - 1 | | X |
| P5 - 2,3,4 | X | |
| P5 - 5,6 | | X |
| P5 - 7 through 12 | X | |
| P5 - 13, 14 | | X |
| P5 - 15, 16 | X | |
| P6 - 1,2,3,4 | X | |
| P6 - 5 | | X |
| P6 - 6,7,8 | X | |
| P8 - 1,2,3,4 | X | |

| UWCA Sub sill Rules | | |
|---|--------------------|----------------|
| Shape | Subsill by default | BMC all around |
| P3 - 1,2,5,9,10,17,18 | X | |
| P3 - 3,4,6,7,8,1,12,13,14,15,16,19,20,21,22 | | X |
| P4 - 1,2,5,6,7,8,9,10,13,14 | X | |
| P4 - 3,4,11,12,15,16,17 | | X |
| P5 - 1,3,4,5,6,9 through 16 | X | |
| P5 - 2,7,8 | | X |
| P6 - 1,2,3,4 | | X |
| P6 - 5,6,7,8 | X | |
| P8 - 1,2,3,4 | | X |

Polygon Shape Reference



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

NOTE: Dark line indicates subsill placement.

Field Measurement

| Operator and Stationary In-Sash Casement Polygon Conversion from Field Measurement to Frame OSM | | |
|--|---|--|
| Width | | |
| Condition | Formula | |
| If blind stop width is 1/2" (13) or less | Frame OM Width - inside opening width - 0.375 | |
| Height | | |
| Condition | Type of Sill Bevel | Formula |
| If old sill angle is less than 8° | Flat-bottom Sill | Frame OM Height = inside opening height - 0.250 |
| If old sill angle is greater than 8° and less than 14° | 8-degreee-bottom sill | Frame OM Height = inside opening height - 0.0563 (frame IM height has a .250 clearance) |
| If old is angle is 14° of greater | 14-degree bottom sill | Frame OM Height = inside height = .431 (frame OM Height has a .250 clearance) |

| Interior Frame Size to Frame Size (exterior) | |
|--|--------------|
| Frame Bevel | Conversions |
| 0° | 0 |
| 8° | +3/16" (5) |
| 14° | +11/16" (17) |

