

Elevate Casement / Awning

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Unit Features

Elevate Casement: ELCA

Elevate Awning: ELAWN

Elevate Casement Picture: ELCA P

Elevate Casement Transom: ELCA TR

Elevate Casement IZ3: ELCA IZ3

Elevate Casement Picture IZ3: ELCA P IZ3

Elevate Awning IZ3: ELAWN IZ3

For applicable Certification and Code information, refer to the Introduction and Product Performance chapter.

Frame and Sash:

- The frame and sash exteriors are made of Ultrex[®], an advanced fiber reinforced material that is resistant to thermal conductance.
- Exterior colors: Stone White, Pebble Gray, Bronze, Cashmere, Gunmetal, or Ebony. Frame and sash color may be selected independently.
- The interior is non finger-jointed pine, kiln dried to a moisture content of 6-12% at time of fabrication.
- Interior wood is available as Pine bare wood or factory applied white, clear, or designer black interior finishes. Frame and sash color may be selected independently.

Frame:

- Composite frame thickness is 1 5/16" (33). Frame width is 4 9/16" (116). 4/4 non finger-jointed pine interior stop is applied to all units. Ultrex frame is .080" (2) thick.

Sash:

- Composite sash thickness is 1 9/16" (40) with standard glass. Tripane sash are 1 31/32" (50) thick. Sash is .070" (2) thick.

Jamb Extension:

- Extension Thickness: 9/16" (14)
- Multiple depths available from 1/8" (3), 1/4"(6), and depths varying between 1/2"(13) and 4"(102) at 1/16" (2) increments
- Maximum jamb depth is 8 9/16". (217)
- 6 9/16" (167) or 6 13/16" (173) jamb extension - factory-applied
- All other jamb depth options are available shipped loose.
- Material: Bare Pine
- Option: factory applied white, designer black and clear lacquer interior finish

Casement Hardware:

- Dual arm roto hardware factory installed on casement units
 - Roto gear hardware is an E-coated, high strength, low alloy steel
 - Call number 17 and 21 widths up to RO 25" (635) require dyad operators.
- The hinge track is stainless steel
 - Hinge arm is E-coated high strength, low alloy steel
 - Hinge shoe is injection molded with a stainless steel insert.
- Egress hinge is required on units with an R.O. from 27.125" to 29.984" including CN 29 to meet egress code. This hinge does not allow for cleaning of the exterior of sash from the inside.
- Folding handle with removable snap fit covers are available in Almond Frost or White color finish.
 - Optional Brass, Satin Nickel, Oil Rubbed Bronze, and Matte Black hardware available.
- Sequential locks are used on all heights, with removable escutcheon and handle.
 - Optional coastal hardware is available.
- Optional factory applied Window Opening Control Device is available (min size: 17 27/32" (453) x 31 1/8" (791) - max size: 36" (914) x 71 1/8" (1807))
 - Available in almond frost, white, and matte black finishes.
- Optional field or factory applied Sash Limiter - 3" Travel is available (min size: 23" (584) x 31 1/8" (791) - max size: 36" (914) x 71 1/8" (1807))
 - Custodial and Non-Custodial options are available. Units with sash limiters do not meet egress criteria.

Unit Features Continued**Awning Hardware:**

- Scissors arm roto hardware factory installed on all awning units.
 - Roto hardware is an E-coated high strength, low alloy steel.
- The hinge track is stainless steel
 - hinge arm is E-coated high strength, low alloy steel
 - hinge shoe is injection molded with a stainless steel insert.
- Folding handle with removable snap fit covers are available in Almond Frost, White, or Matte Black color finish.
 - Optional Brass, Satin Nickel, and Oil Rubbed Bronze hardware available.
- A single point lock on each jamb/stile, with a removable escutcheon and handle
 - Optional coastal hardware is available
- Optional field or factory applied Sash Limiter - 3" Travel is available (min size: 24" (610) x 23" (584) - max size: 48" (1219) x 47 1/8" (1197)). Custodial and Non-Custodial options are available.

Glazing:

- Dual-pane units are manufactured with an 11/16" (17) IG with Low E1, E2, E3, or E3/ERS or no coating including argon gas or air fill.
- Tripane units are manufactured with a 1 1/8" (29) IG with a combination coating consisting of Low E2 on surface 2 and Low E1 on surface 5 including argon gas fill.
- Tempered glass and/or obscure glass, and California Fire glass (annealed exterior and tempered interior glazing configuration) are available as an option.
- The glazing seal is a silicone bedding on both interior and exterior surfaces utilized in a sandwich style sash.
- STC/OITC values are available for 3.1 mm thickness glass.
 - Optional 3.1/4.7 STC/OITC Upgrade glass is available. See the Product Performance chapter for STC and OITC ratings.
- Decorative glass options include glue chip, rain, reed, narrow reed, frost, and tinted (bronze, gray or green), Decorative glass is not available with Low E1, Low E3/ERS, tripane, or STC/OITC Upgrade options.

I3 Glazing:

- Optional I3 available on selected sizes.
 - I3 for winds up to 140 miles per hour.
- Glass is laminated insulated Low E2 or E3 Argon, consisting of annealed or tempered glass exterior and laminated glass interior.
- The laminated glass is comprised of two pieces of glass with either a SGP or PVB laminate layer between.
 - Interior and exterior glazing compound is silicone, in a sandwich style glazing system.

Installation:

- Factory applied folding nailing fin and drip cap system
 - Optional installation brackets for masonry available
 - Optional through jamb installation method available
- Factory mullions available up to 4W or 113" (2870) not to exceed 71 5/8" (1819) height or 2W2H with 94 3/4" (2407) height not to exceed 73" (1854) in width
- Factory supplied field mulling kits are available for standard assemblies, or 30°, 45° Bay, and Bow assemblies
- Picture units may require both nailing fin and installation brackets
- I3 glazed units require installation clip with nailing fin on all sizes for installation unless another installation method is selected (masonry installation brackets or through jamb installation).

Unit Features Continued**Weather Strip:**

- All units are dual weather stripped.
- Frame and sash are weather stripped on all four sides with an extruded PVC bulb.
- Foam filled bulb is only on the frame, the sash has a hollow bulb.

Screen:

- Screen Frame: Aluminum Screen Frame, Option: None
 - Available in Almond Frost, White, Ebony, Wood Veneer
- Screen Mesh: Marvin BrightView™, Options: None.

Interior / Exterior Simulated Divided Lites (SDL):

- Interior bar: 7/8" (22) wide bars
 - Pine bare wood or factory applied white finish, to match interior
- Exterior bar: 7/8" (22) wide bars Ultrex, finish to match exterior
 - Patterns available: rectangle, 6 or 9 lite Prairie cut or Cottage style cut
 - Simulated check rail option: 2 11/32" (60)
 - Pattern available: simulated rail in standard center or customer specified location with 7/8" (22) pattern above, below or both in pattern of rectangular equal lite or prairie lite cut
- SDL is unavailable with rain, reed and narrow reed decorative glass options. Glue Chip requires tempered glass. Tinted glass not available with spacer bar.

Grilles-Between-The-Glass (GBG):

- 23/32" (18) contoured aluminum bar placed between two panes of glass
- Pattern: Standard rectangular pattern, 6 or 9 lite Prairie cut, or Cottage style cut
 - Exterior colors: Stone White, Pebble Gray, Bronze, Cashmere, Gunmetal, or Ebony
- Interior Colors: White, Bronze, or Black.
- GBGs are not available on IZ3 or tinted units.

Exterior Casing:

- Non-integral to the unit
- Fastened to the exterior wall with barb and kerf
- 2" (51) brick mould available as a full surround or with sill nosing
- 3 1/2" (89) flat casing available as full surround or with sill nosing
 - Also available with 1" (25) ranch style sill and header overhang

Egress and Vent Openings: Casement

CN	Opening Width		Opening Height		Egress Opening		Floor to Clear Opening		Opening Vent Width		Opening Vent Height		Vent Opening	
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft - in	mm	ft - in	mm	ft ²	m ²
1731	0-7 1/4	(184)	2-2 23/32	(678)	1.34	(0.12)	4-5 7/32	(1352)	0-11 7/8	(302)	2-2 3/4	(678)	2.20	(0.20)
1735	0-7 1/4	(184)	2-6 23/32	(780)	1.54	(0.14)	4-1 7/32	(1250)	0-11 7/8	(302)	2-6 3/4	(780)	2.53	(0.24)
1739	0-7 1/4	(184)	2-10 23/32	(882)	1.75	(0.16)	3-9 7/32	(1149)	0-11 7/8	(302)	2-10 3/4	(882)	2.86	(0.27)
1743	0-7 1/4	(184)	3-2 27/32	(986)	1.95	(0.18)	3-5 3/32	(1044)	0-11 7/8	(302)	3-2 3/4	(983)	3.19	(0.30)
1747	0-7 1/4	(184)	3-6 23/32	(1085)	2.15	(0.20)	3-1 7/32	(946)	0-11 7/8	(302)	3-6 3/4	(1085)	3.52	(0.33)
1755	0-7 1/4	(184)	4-2 23/32	(1288)	2.55	(0.24)	2-5 7/32	(742)	0-11 7/8	(302)	4-2 3/4	(1288)	4.18	(0.39)
1759	0-7 1/4	(184)	4-6 23/32	(1390)	2.75	(0.26)	2-1 7/32	(641)	0-11 7/8	(302)	4-6 3/4	(1390)	4.51	(0.42)
1763	0-7 1/4	(184)	4-10 23/32	(1491)	2.95	(0.27)	1-9 7/32	(539)	0-11 7/8	(302)	4-10 3/4	(1491)	4.84	(0.45)
1771	T 0-7 1/4	(184)	5-6 23/32	(1694)	3.35	(0.31)	1-1 7/32	(336)	0-11 7/8	(302)	5-6 3/4	(1694)	5.50	(0.51)
2131	0-11 1/4	(286)	2-2 23/32	(678)	2.08	(0.19)	4-5 7/32	(1352)	1-3 7/8	(403)	2-2 3/4	(678)	2.94	(0.27)
2135	0-11 1/4	(286)	2-6 23/32	(780)	2.4	(0.22)	4-1 7/32	(1250)	1-3 7/8	(403)	2-6 3/4	(780)	3.38	(0.31)
2139	0-11 1/4	(286)	2-10 23/32	(882)	2.71	(0.25)	3-9 7/32	(1149)	1-3 7/8	(403)	2-10 3/4	(882)	3.83	(0.36)
2143	0-11 1/4	(286)	3-2 27/32	(986)	3.03	(0.28)	3-5 7/32	(1047)	1-3 7/8	(403)	3-2 3/4	(983)	4.27	(0.40)
2147	0-11 1/4	(286)	3-6 23/32	(1085)	3.33	(0.31)	3-1 7/32	(946)	1-3 7/8	(403)	3-6 3/4	(1085)	4.71	(0.44)
2155	0-11 1/4	(286)	4-2 23/32	(1288)	3.96	(0.37)	2-5 7/32	(742)	1-3 7/8	(403)	4-2 3/4	(1288)	5.59	(0.52)
2159	0-11 1/4	(286)	4-6 23/32	(1390)	4.27	(0.40)	2-1 7/32	(641)	1-3 7/8	(403)	4-6 3/4	(1390)	6.03	(0.56)
2163	0-11 1/4	(286)	4-10 23/32	(1491)	4.58	(0.43)	1-9 7/32	(539)	1-3 7/8	(403)	4-10 3/4	(1491)	6.47	(0.60)
2171	T 0-11 1/4	(286)	5-6 23/32	(1694)	5.21	(0.48)	1-1 7/32	(336)	1-3 7/8	(403)	5-6 3/4	(1694)	7.35	(0.68)
2531	1-3 1/4	(387)	2-2 23/32	(678)	2.83	(0.26)	4-5 7/32	(1352)	1-7 7/8	(505)	2-2 3/4	(678)	3.69	(0.34)
2535	1-3 1/4	(387)	2-6 23/32	(780)	3.25	(0.30)	4-1 7/32	(1250)	1-7 7/8	(505)	2-6 3/4	(780)	4.24	(0.39)
2539	1-3 1/4	(387)	2-10 23/32	(882)	3.67	(0.34)	3-9 7/32	(1149)	1-7 7/8	(505)	2-10 3/4	(882)	4.79	(0.44)
2543	1-3 1/4	(387)	3-2 27/32	(986)	4.11	(0.38)	3-5 7/32	(1047)	1-7 7/8	(505)	3-2 3/4	(983)	5.34	(0.50)
2547	1-3 1/4	(387)	3-6 23/32	(1085)	4.52	(0.42)	3-1 7/32	(946)	1-7 7/8	(505)	3-6 3/4	(1085)	5.89	(0.55)
2555	1-3 1/4	(387)	4-2 23/32	(1288)	5.37	(0.50)	2-5 7/32	(742)	1-7 7/8	(505)	4-2 3/4	(1288)	7.00	(0.65)
2559	1-3 1/4	(387)	4-6 23/32	(1390)	5.79	(0.54)	2-1 7/32	(641)	1-7 7/8	(505)	4-6 3/4	(1390)	7.55	(0.70)
2563	1-3 1/4	(387)	4-10 23/32	(1491)	6.21	(0.58)	1-9 7/32	(539)	1-7 7/8	(505)	4-10 3/4	(1491)	8.10	(0.75)
2571	T 1-3 1/4	(387)	5-6 23/32	(1694)	7.06	(0.66)	1-1 7/32	(336)	1-7 7/8	(505)	5-6 3/4	(1694)	9.21	(0.86)
2931	1-9 7/8	(556)	2-2 23/32	(678)	4.06	(0.38)	4-5 7/32	(1352)	1-11 7/8	(606)	2-2 3/4	(678)	4.43	(0.41)
2935	1-9 7/8	(556)	2-6 23/32	(780)	4.66	(0.43)	4-1 7/32	(1250)	1-11 7/8	(606)	2-6 3/4	(780)	5.09	(0.47)
2939	1-9 7/8	(556)	2-10 23/32	(882)	5.27	(0.49)	3-9 7/32	(1149)	1-11 7/8	(606)	2-10 3/4	(882)	5.75	(0.53)
2943	E 1-9 7/8	(556)	3-2 27/32	(986)	5.9	(0.55)	3-5 7/32	(1047)	1-11 7/8	(606)	3-2 3/4	(983)	6.42	(0.60)
2947	E 1-9 7/8	(556)	3-6 23/32	(1085)	6.48	(0.60)	3-1 7/32	(946)	1-11 7/8	(606)	3-6 3/4	(1085)	7.08	(0.66)
2955	E 1-9 7/8	(556)	4-2 23/32	(1288)	7.7	(0.72)	2-5 7/32	(742)	1-11 7/8	(606)	4-2 3/4	(1288)	8.41	(0.78)
2959	E 1-9 7/8	(556)	4-6 23/32	(1390)	8.31	(0.77)	2-1 7/32	(641)	1-11 7/8	(606)	4-6 3/4	(1390)	9.07	(0.84)
2963	E 1-9 7/8	(556)	4-10 23/32	(1491)	8.91	(0.83)	1-9 7/32	(539)	1-11 7/8	(606)	4-10 3/4	(1491)	9.73	(0.90)
2971	E T 1-9 7/8	(556)	5-6 23/32	(1694)	10.13	(0.94)	1-1 7/32	(336)	1-11 7/8	(606)	5-6 3/4	(1694)	11.06	(1.03)

Egress and Vent Openings: Casement

CN	Opening Width		Opening Height		Egress Opening		Floor to Clear Opening		Opening Vent Width		Opening Vent Height		Vent Opening		
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft - in	mm	ft - in	mm	ft ²	m ²	
3331	1-11 1/4	(591)	2-2 23/32	(678)	4.31	(0.40)	4-5 7/32	(1352)	2-3 7/8	(708)	2-2 3/4	(678)	5.17	(0.48)	
3335	1-11 1/4	(591)	2-6 23/32	(780)	4.96	(0.46)	4-1 7/32	(1250)	2-3 7/8	(708)	2-6 3/4	(780)	5.94	(0.55)	
3339	1-11 1/4	(591)	2-10 23/32	(882)	5.60	(0.52)	3-9 7/32	(1149)	2-3 7/8	(708)	2-10 3/4	(882)	6.72	(0.62)	
3343	E	1-11 1/4	(591)	3-2 27/32	(986)	6.27	(0.58)	3-5 7/32	(1047)	2-3 7/8	(708)	3-2 3/4	(983)	7.49	(0.70)
3347	E	1-11 1/4	(591)	3-6 23/32	(1085)	6.89	(0.64)	3-1 7/32	(946)	2-3 7/8	(708)	3-6 3/4	(1085)	8.27	(0.77)
3355	E	1-11 1/4	(591)	4-2 23/32	(1288)	8.18	(0.76)	2-5 7/32	(742)	2-3 7/8	(708)	4-2 3/4	(1288)	9.81	(0.91)
3359	E	1-11 1/4	(591)	4-6 23/32	(1390)	8.83	(0.82)	2-1 7/32	(641)	2-3 7/8	(708)	4-6 3/4	(1390)	10.59	(0.98)
3363	E	1-11 1/4	(591)	4-10 23/32	(1491)	9.48	(0.88)	1-9 7/32	(539)	2-3 7/8	(708)	4-10 3/4	(1491)	11.36	(1.06)
3371	E T	1-11 1/4	(591)	5-6 23/32	(1694)	10.77	(1.00)	1-1 7/32	(336)	2-3 7/8	(708)	5-6 3/4	(1694)	12.91	(1.20)
3731		2-3 1/4	(692)	2-2 23/32	(678)	5.05	(0.47)	4-5 7/32	(1352)	2-7 7/8	(810)	2-2 3/4	(678)	5.91	(0.55)
3735	E	2-3 1/4	(692)	2-6 23/32	(780)	5.81	(0.54)	4-1 7/32	(1250)	2-7 7/8	(810)	2-6 3/4	(780)	6.80	(0.63)
3739	E	2-3 1/4	(692)	2-10 23/32	(882)	6.57	(0.61)	3-9 7/32	(1149)	2-7 7/8	(810)	2-10 3/4	(882)	7.68	(0.71)
3743	E	2-3 1/4	(692)	3-2 27/32	(986)	7.35	(0.68)	3-5 7/32	(1047)	2-7 7/8	(810)	3-2 3/4	(983)	8.57	(0.80)
3747	E	2-3 1/4	(692)	3-6 23/32	(1085)	8.08	(0.75)	3-1 7/32	(946)	2-7 7/8	(810)	3-6 3/4	(1085)	9.45	(0.88)
3755	E	2-3 1/4	(692)	4-2 23/32	(1288)	9.59	(0.89)	2-5 7/32	(742)	2-7 7/8	(810)	4-2 3/4	(1288)	11.22	(1.04)
3759	E	2-3 1/4	(692)	4-6 23/32	(1390)	10.35	(0.96)	2-1 7/32	(641)	2-7 7/8	(810)	4-6 3/4	(1390)	12.11	(1.12)
3763	E	2-3 1/4	(692)	4-10 23/32	(1491)	11.11	(1.03)	1-9 7/32	(539)	2-7 7/8	(810)	4-10 3/4	(1491)	12.99	(1.21)
3771	E T	2-3 1/4	(692)	5-6 23/32	(1694)	12.62	(1.17)	1-1 7/32	(336)	2-7 7/8	(810)	5-6 3/4	(1694)	14.76	(1.37)

NOTE: 3735 will meet national egress if the sill height is within 44" (1118) of the floor. Code restrictions may vary depending on local building codes.

Daylight Measurements: Casement

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
1731	0-10 25/32	(274)	2-1 29/32	(658)	1.94	(0.18)
1735	0-10 25/32	(274)	2-5 29/32	(760)	2.24	(0.21)
1739	0-10 25/32	(274)	2-9 29/32	(861)	2.54	(0.24)
1743	0-10 25/32	(274)	3-2 1/32	(966)	2.85	(0.26)
1747	0-10 25/32	(274)	3-5 29/32	(1065)	3.14	(0.29)
1755	0-10 25/32	(274)	4-1 29/32	(1268)	3.74	(0.35)
1759	0-10 25/32	(274)	4-5 29/32	(1369)	4.04	(0.38)
1763	0-10 25/32	(274)	4-9 29/32	(1471)	4.34	(0.40)
1771 T	0-10 25/32	(274)	5-5 29/32	(1674)	4.94	(0.46)
2131	1-2 25/32	(376)	2-1 29/32	(658)	2.66	(0.25)
2135	1-2 25/32	(376)	2-5 29/32	(760)	3.07	(0.29)
2139	1-2 25/32	(376)	2-9 29/32	(861)	3.48	(0.32)
2143	1-2 25/32	(376)	3-2 1/32	(966)	3.91	(0.36)
2147	1-2 25/32	(376)	3-5 29/32	(1065)	4.30	(0.40)
2155	1-2 25/32	(376)	4-1 29/32	(1268)	5.13	(0.48)
2159	1-2 25/32	(376)	4-5 29/32	(1369)	5.54	(0.51)
2163	1-2 25/32	(376)	4-9 29/32	(1471)	5.95	(0.55)
2171 T	1-2 25/32	(376)	5-5 29/32	(1674)	6.77	(0.63)
2531	1-6 25/32	(477)	2-1 29/32	(658)	3.38	(0.31)
2535	1-6 25/32	(477)	2-5 29/32	(760)	3.90	(0.36)
2539	1-6 25/32	(477)	2-9 29/32	(861)	4.43	(0.41)
2543	1-6 25/32	(477)	3-2 1/32	(966)	4.96	(0.46)
2547	1-6 25/32	(477)	3-5 29/32	(1065)	5.47	(0.51)
2555	1-6 25/32	(477)	4-1 29/32	(1268)	6.51	(0.61)
2559	1-6 25/32	(477)	4-5 29/32	(1369)	7.03	(0.65)
2563	1-6 25/32	(477)	4-9 29/32	(1471)	7.56	(0.70)
2571 T	1-6 25/32	(477)	5-5 29/32	(1674)	8.6	(0.80)
2931	1-10 25/32	(579)	2-1 29/32	(658)	4.10	(0.38)
2935	1-10 25/32	(579)	2-5 29/32	(760)	4.73	(0.44)
2939	1-10 25/32	(579)	2-9 29/32	(861)	5.37	(0.50)
2943	1-10 25/32	(579)	3-2 1/32	(966)	6.02	(0.56)
2947	1-10 25/32	(579)	3-5 29/32	(1065)	6.63	(0.62)
2955	1-10 25/32	(579)	4-1 29/32	(1268)	7.90	(0.73)
2959	1-10 25/32	(579)	4-5 29/32	(1369)	8.53	(0.79)
2963	1-10 25/32	(579)	4-9 29/32	(1471)	9.17	(0.85)
2971 T	1-10 25/32	(579)	5-5 29/32	(1674)	10.43	(0.97)

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
3331	2-2 25/32	(680)	2-1 29/32	(658)	4.82	(0.45)
3335	2-2 25/32	(680)	2-5 29/32	(760)	5.57	(0.52)
3339	2-2 25/32	(680)	2-9 29/32	(861)	6.31	(0.59)
3343	2-2 25/32	(680)	3-2 1/32	(966)	7.08	(0.66)
3347	2-2 25/32	(680)	3-5 29/32	(1065)	7.80	(0.72)
3355	2-2 25/32	(680)	4-1 29/32	(1268)	9.29	(0.86)
3359	2-2 25/32	(680)	4-5 29/32	(1369)	10.03	(0.93)
3363	2-2 25/32	(680)	4-9 29/32	(1471)	10.77	(1.00)
3371 T	2-2 25/32	(680)	5-5 29/32	(1674)	12.26	(1.14)
3731	2-6 25/32	(782)	2-1 29/32	(658)	5.54	(0.51)
3735	2-6 25/32	(782)	2-5 29/32	(760)	6.40	(0.59)
3739	2-6 25/32	(782)	2-9 29/32	(861)	7.25	(0.67)
3743	2-6 25/32	(782)	3-2 1/32	(966)	8.13	(0.76)
3747	2-6 25/32	(782)	3-5 29/32	(1065)	8.96	(0.83)
3755	2-6 25/32	(782)	4-1 29/32	(1268)	10.67	(0.99)
3759	2-6 25/32	(782)	4-5 29/32	(1369)	11.53	(1.07)
3763	2-6 25/32	(782)	4-9 29/32	(1471)	12.38	(1.15)
3771 T	2-6 25/32	(782)	5-5 29/32	(1674)	14.09	(1.31)

Vent and Daylight Measurements: Awning

CN	Opening Vent Width		Opening Vent Height		Vent Opening		Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft-in	mm	ft ²	m ²
2519	1-7 7/8	(505)	1-2 7/8	(377)	2.05	(0.19)	1-6 25/32	(477)	1-1 29/32	(353)	1.82	(0.17)
2523	1-7 7/8	(505)	1-6 7/8	(478)	2.60	(0.24)	1-6 25/32	(477)	1-5 29/32	(455)	2.34	(0.22)
2527	1-7 7/8	(505)	1-10 7/8	(580)	3.15	(0.29)	1-6 25/32	(477)	1-9 29/32	(557)	2.86	(0.27)
2535	1-7 7/8	(505)	2-6 7/8	(783)	4.25	(0.40)	1-6 25/32	(477)	2-5 29/32	(760)	3.90	(0.36)
2539	1-7 7/8	(505)	2-10 7/8	(885)	4.81	(0.45)	1-6 25/32	(477)	2-9 29/32	(861)	4.43	(0.41)
2547	1-7 7/8	(505)	3-6 7/8	(1088)	5.91	(0.55)	1-6 25/32	(477)	3-5 29/32	(1065)	5.47	(0.51)
2919	1-11 7/8	(606)	1-2 7/8	(377)	2.46	(0.23)	1-10 25/32	(579)	1-1 29/32	(353)	2.20	(0.20)
2923	1-11 7/8	(606)	1-6 7/8	(478)	3.12	(0.29)	1-10 25/32	(579)	1-5 29/32	(455)	2.84	(0.26)
2927	1-11 7/8	(606)	1-10 7/8	(580)	3.79	(0.35)	1-10 25/32	(579)	1-9 29/32	(557)	3.47	(0.32)
2935	1-11 7/8	(606)	2-6 7/8	(783)	5.11	(0.47)	1-10 25/32	(579)	2-5 29/32	(760)	4.73	(0.44)
2939	1-11 7/8	(606)	2-10 7/8	(885)	5.77	(0.54)	1-10 25/32	(579)	2-9 29/32	(861)	5.37	(0.50)
2947	1-11 7/8	(606)	3-6 7/8	(1088)	7.10	(0.66)	1-10 25/32	(579)	3-5 29/32	(1065)	6.63	(0.62)
3319	2-3 7/8	(708)	1-2 7/8	(377)	2.87	(0.27)	2-2 25/32	(680)	1-1 29/32	(353)	2.59	(0.24)
3323	2-3 7/8	(708)	1-6 7/8	(478)	3.64	(0.34)	2-2 25/32	(680)	1-5 29/32	(455)	3.33	(0.31)
3327	2-3 7/8	(708)	1-10 7/8	(580)	4.42	(0.41)	2-2 25/32	(680)	1-9 29/32	(557)	4.08	(0.38)
3335	2-3 7/8	(708)	2-6 7/8	(783)	5.97	(0.55)	2-2 25/32	(680)	2-5 29/32	(760)	5.57	(0.52)
3339	2-3 7/8	(708)	2-10 7/8	(885)	6.74	(0.63)	2-2 25/32	(680)	2-9 29/32	(861)	6.31	(0.59)
3347	2-3 7/8	(708)	3-6 7/8	(1088)	8.29	(0.77)	2-2 25/32	(680)	3-5 29/32	(1065)	7.80	(0.72)
3719	2-7 7/8	(810)	1-2 7/8	(377)	3.28	(0.30)	2-6 25/32	(782)	1-1 29/32	(353)	2.97	(0.28)
3723	2-7 7/8	(810)	1-6 7/8	(478)	4.17	(0.39)	2-6 25/32	(782)	1-5 29/32	(455)	3.83	(0.36)
3727	2-7 7/8	(810)	1-10 7/8	(580)	5.05	(0.47)	2-6 25/32	(782)	1-9 29/32	(557)	4.69	(0.44)
3735	2-7 7/8	(810)	2-6 7/8	(783)	6.82	(0.63)	2-6 25/32	(782)	2-5 29/32	(760)	6.40	(0.59)
3739	2-7 7/8	(810)	2-10 7/8	(885)	7.71	(0.72)	2-6 25/32	(782)	2-9 29/32	(861)	7.25	(0.67)
3747	2-7 7/8	(810)	3-6 7/8	(1088)	9.48	(0.88)	2-6 25/32	(782)	3-5 29/32	(1065)	8.96	(0.83)
4119	2-11 7/8	(911)	1-2 7/8	(377)	3.69	(0.34)	2-10 25/32	(884)	1-1 29/32	(353)	3.36	(0.31)
4123	2-11 7/8	(911)	1-6 7/8	(478)	4.69	(0.44)	2-10 25/32	(884)	1-5 29/32	(455)	4.33	(0.40)
4127	2-11 7/8	(911)	1-10 7/8	(580)	5.69	(0.53)	2-10 25/32	(884)	1-9 29/32	(557)	5.29	(0.49)
4135	2-11 7/8	(911)	2-6 7/8	(783)	7.68	(0.71)	2-10 25/32	(884)	2-5 29/32	(760)	7.23	(0.67)
4139	2-11 7/8	(911)	2-10 7/8	(885)	8.68	(0.81)	2-10 25/32	(884)	2-9 29/32	(861)	8.19	(0.76)
4147	2-11 7/8	(911)	3-6 7/8	(1088)	10.67	(0.99)	2-10 25/32	(884)	3-5 29/32	(1065)	10.13	(0.94)
4919	3-7 7/8	(1114)	1-2 7/8	(377)	4.52	(0.42)	3-6 25/32	(1087)	1-1 29/32	(353)	4.13	(0.38)
4923	3-7 7/8	(1114)	1-6 7/8	(478)	5.74	(0.53)	3-6 25/32	(1087)	1-5 29/32	(455)	5.32	(0.49)
4927	3-7 7/8	(1114)	1-10 7/8	(580)	6.96	(0.65)	3-6 25/32	(1087)	1-9 29/32	(557)	6.51	(0.60)
4935	3-7 7/8	(1114)	2-6 7/8	(783)	9.39	(0.87)	3-6 25/32	(1087)	2-5 29/32	(760)	8.89	(0.83)
4939	3-7 7/8	(1114)	2-10 7/8	(885)	10.61	(0.99)	3-6 25/32	(1087)	2-9 29/32	(861)	10.08	(0.94)
4947	3-7 7/8	(1114)	3-6 7/8	(1088)	13.05	(1.21)	3-6 25/32	(1087)	3-5 29/32	(1065)	12.45	(1.16)

Daylight Measurement: Transom

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
1716	0-10 25/32	(274)	0-10 17/32	(268)	.79	(0.07)
1719	0-10 25/32	(274)	1-1 29/32	(353)	1.04	(0.10)
2116	1-2 25/32	(376)	0-10 17/32	(268)	1.08	(0.10)
2119	1-2 25/32	(376)	1-1 29/32	(353)	1.43	(0.13)
2516	1-6 25/32	(477)	0-10 17/32	(268)	1.38	(0.13)
2519	1-6 25/32	(477)	1-1 29/32	(353)	1.82	(0.17)
2916 T	1-10 25/32	(579)	0-10 17/32	(268)	1.67	(0.15)
2919 T	1-10 25/32	(579)	1-1 29/32	(353)	2.2	(0.20)
3316 T	2-2 25/32	(680)	0-10 17/32	(268)	1.96	(0.18)
3319 T	2-2 25/32	(680)	1-1 29/32	(353)	2.59	(0.24)
3716 T	2-6 25/32	(782)	0-10 17/32	(268)	2.25	(0.21)
3719 T	2-6 25/32	(782)	1-1 29/32	(353)	2.97	(0.28)
4116 T	2-10 25/32	(884)	0-10 17/32	(268)	2.55	(0.24)
4119 T	2-10 25/32	(884)	1-1 29/32	(353)	3.36	(0.31)
4916 T	3-6 25/32	(1087)	0-10 17/32	(268)	3.13	(0.29)
4919 T	3-6 25/32	(1087)	1-1 29/32	(353)	4.13	(0.38)
5716 T	4-2 25/32	(1290)	0-10 17/32	(268)	3.72	(0.35)
5719 T	4-2 25/32	(1290)	1-1 29/32	(353)	4.91	(0.46)
7316 T	5-6 25/32	(1696)	0-10 17/32	(268)	4.89	(0.45)
7319 T	5-6 25/32	(1696)	1-1 29/32	(353)	6.45	(0.60)

Daylight Measurement: Picture

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
1719	0-10 25/32	(274)	1-1 29/32	(353)	1.04	(0.10)
1723	0-10 25/32	(274)	1-5 29/32	(455)	1.34	(0.12)
1727	0-10 25/32	(274)	1-9 29/32	(557)	1.64	(0.15)
1731	0-10 25/32	(274)	2-1 29/32	(658)	1.94	(0.18)
1735	0-10 25/32	(274)	2-5 29/32	(760)	2.24	(0.21)
1739	0-10 25/32	(274)	2-9 29/32	(861)	2.54	(0.24)
1743	0-10 25/32	(274)	3-2 1/32	(966)	2.85	(0.26)
1747	0-10 25/32	(274)	3-5 29/32	(1065)	3.14	(0.29)
1755	0-10 25/32	(274)	4-1 29/32	(1268)	3.74	(0.35)
1759	0-10 25/32	(274)	4-5 29/32	(1369)	4.04	(0.38)
1763	0-10 25/32	(274)	4-9 29/32	(1471)	4.34	(0.40)
1771 T	0-10 25/32	(274)	5-5 29/32	(1674)	4.94	(0.46)
2119	1-2 25/32	(376)	1-1 29/32	(353)	1.43	(0.13)
2123	1-2 25/32	(376)	1-5 29/32	(455)	1.84	(0.17)
2127	1-2 25/32	(376)	1-9 29/32	(557)	2.25	(0.21)
2131	1-2 25/32	(376)	2-1 29/32	(658)	2.66	(0.25)
2135	1-2 25/32	(376)	2-5 29/32	(760)	3.07	(0.29)
2139	1-2 25/32	(376)	2-9 29/32	(861)	3.48	(0.32)
2143	1-2 25/32	(376)	3-2 1/32	(966)	3.91	(0.36)
2147	1-2 25/32	(376)	3-5 29/32	(1065)	4.30	(0.40)
2155	1-2 25/32	(376)	4-1 29/32	(1268)	5.13	(0.48)
2159	1-2 25/32	(376)	4-5 29/32	(1369)	5.54	(0.51)
2163	1-2 25/32	(376)	4-9 29/32	(1471)	5.95	(0.55)
2171 T	1-2 25/32	(376)	5-5 29/32	(1674)	6.77	(0.63)
2519	1-6 25/32	(477)	1-1 29/32	(353)	1.82	(0.17)
2523	1-6 25/32	(477)	1-5 29/32	(455)	2.34	(0.22)
2527	1-6 25/32	(477)	1-9 29/32	(557)	2.86	(0.27)
2531	1-6 25/32	(477)	2-1 29/32	(658)	3.38	(0.31)
2535	1-6 25/32	(477)	2-5 29/32	(760)	3.90	(0.36)
2539	1-6 25/32	(477)	2-9 29/32	(861)	4.43	(0.41)
2543	1-6 25/32	(477)	3-2 1/32	(966)	4.96	(0.46)
2547	1-6 25/32	(477)	3-5 29/32	(1065)	5.47	(0.51)
2555	1-6 25/32	(477)	4-1 29/32	(1268)	6.51	(0.61)
2559	1-6 25/32	(477)	4-5 29/32	(1369)	7.03	(0.65)
2563	1-6 25/32	(477)	4-9 29/32	(1471)	7.56	(0.70)
2571 T	1-6 25/32	(477)	5-5 29/32	(1674)	8.60	(0.80)
2919	1-10 25/32	(579)	1-1 29/32	(353)	2.20	(0.20)
2923	1-10 25/32	(579)	1-5 29/32	(455)	2.84	(0.26)
2927	1-10 25/32	(579)	1-9 29/32	(557)	3.47	(0.32)
2931	1-10 25/32	(579)	2-1 29/32	(658)	4.10	(0.38)
2935	1-10 25/32	(579)	2-5 29/32	(760)	4.73	(0.44)
2939	1-10 25/32	(579)	2-9 29/32	(861)	5.37	(0.50)
2943	1-10 25/32	(579)	3-2 1/32	(966)	6.02	(0.56)
2947	1-10 25/32	(579)	3-5 29/32	(1065)	6.63	(0.62)
2955	1-10 25/32	(579)	4-1 29/32	(1268)	7.90	(0.73)
2959	1-10 25/32	(579)	4-5 29/32	(1369)	8.53	(0.79)
2963	1-10 25/32	(579)	4-9 29/32	(1471)	9.17	(0.85)
2971 T	1-10 25/32	(579)	5-5 29/32	(1674)	10.43	(0.97)
3319	2-2 25/32	(680)	1-1 29/32	(353)	2.59	(0.24)
3323	2-2 25/32	(680)	1-5 29/32	(455)	3.33	(0.31)
3327	2-2 25/32	(680)	1-9 29/32	(557)	4.08	(0.38)
3331	2-2 25/32	(680)	2-1 29/32	(658)	4.82	(0.45)
3335	2-2 25/32	(680)	2-5 29/32	(760)	5.57	(0.52)
3339	2-2 25/32	(680)	2-9 29/32	(861)	6.31	(0.59)
3343	2-2 25/32	(680)	3-2 1/32	(966)	7.08	(0.66)
3347	2-2 25/32	(680)	3-5 29/32	(1065)	7.80	(0.72)
3355	2-2 25/32	(680)	4-1 29/32	(1268)	9.29	(0.86)
3359	2-2 25/32	(680)	4-5 29/32	(1369)	10.03	(0.93)
3363	2-2 25/32	(680)	4-9 29/32	(1471)	10.77	(1.00)
3371 T	2-2 25/32	(680)	5-5 29/32	(1674)	12.26	(1.14)
3719	2-6 25/32	(782)	1-1 29/32	(353)	2.97	(0.28)
3723	2-6 25/32	(782)	1-5 29/32	(455)	3.83	(0.36)
3727	2-6 25/32	(782)	1-9 29/32	(557)	4.69	(0.44)
3731	2-6 25/32	(782)	2-1 29/32	(658)	5.54	(0.51)
3735	2-6 25/32	(782)	2-5 29/32	(760)	6.40	(0.59)
3739	2-6 25/32	(782)	2-9 29/32	(861)	7.25	(0.67)
3743	2-6 25/32	(782)	3-2 1/32	(966)	8.13	(0.76)
3747	2-6 25/32	(782)	3-5 29/32	(1065)	8.96	(0.83)
3755	2-6 25/32	(782)	4-1 29/32	(1268)	10.67	(0.99)
3759	2-6 25/32	(782)	4-5 29/32	(1369)	11.53	(1.07)
3763	2-6 25/32	(782)	4-9 29/32	(1471)	12.38	(1.15)
3771 T	2-6 25/32	(782)	5-5 29/32	(1674)	14.09	(1.31)

Daylight Measurement: Picture

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
4119	2-10 25/32	(884)	1-1 29/32	(353)	3.36	(0.31)
4123	2-10 25/32	(884)	1-5 29/32	(455)	4.33	(0.40)
4127	2-10 25/32	(884)	1-9 29/32	(557)	5.29	(0.49)
4131	2-10 25/32	(884)	2-1 29/32	(658)	6.26	(0.58)
4135	2-10 25/32	(884)	2-5 29/32	(760)	7.23	(0.67)
4139	2-10 25/32	(884)	2-9 29/32	(861)	8.19	(0.76)
4143	2-10 25/32	(884)	3-2 1/32	(966)	9.19	(0.85)
4147	2-10 25/32	(884)	3-5 29/32	(1065)	10.13	(0.94)
4155	2-10 25/32	(884)	4-1 29/32	(1268)	12.06	(1.12)
4159	2-10 25/32	(884)	4-5 29/32	(1369)	13.03	(1.21)
4163	2-10 25/32	(884)	4-9 29/32	(1471)	13.99	(1.30)
4171 T	2-10 25/32	(884)	5-5 29/32	(1674)	15.92	(1.48)
4919	3-6 25/32	(1087)	1-1 29/32	(353)	4.13	(0.38)
4923	3-6 25/32	(1087)	1-5 29/32	(455)	5.32	(0.49)
4927	3-6 25/32	(1087)	1-9 29/32	(557)	6.51	(0.60)
4931	3-6 25/32	(1087)	2-1 29/32	(658)	7.70	(0.72)
4935	3-6 25/32	(1087)	2-5 29/32	(760)	8.89	(0.83)
4939	3-6 25/32	(1087)	2-9 29/32	(861)	10.08	(0.94)
4943	3-6 25/32	(1087)	3-2 1/32	(966)	11.3	(1.05)
4947	3-6 25/32	(1087)	3-5 29/32	(1065)	12.45	(1.16)
4955	3-6 25/32	(1087)	4-1 29/32	(1268)	14.83	(1.38)
4959	3-6 25/32	(1087)	4-5 29/32	(1369)	16.02	(1.49)
4963	3-6 25/32	(1087)	4-9 29/32	(1471)	17.21	(1.60)
4971 T	3-6 25/32	(1087)	5-5 29/32	(1674)	19.59	(1.82)
5719	4-2 25/32	(1290)	1-1 29/32	(353)	4.91	(0.46)
5723	4-2 25/32	(1290)	1-5 29/32	(455)	6.32	(0.59)
5727	4-2 25/32	(1290)	1-9 29/32	(557)	7.73	(0.72)
5731	4-2 25/32	(1290)	2-1 29/32	(658)	9.14	(0.85)
5735	4-2 25/32	(1290)	2-5 29/32	(760)	10.55	(0.98)
5739	4-2 25/32	(1290)	2-9 29/32	(861)	11.96	(1.11)
5743	4-2 25/32	(1290)	3-2 1/32	(966)	13.42	(1.25)
5747	4-2 25/32	(1290)	3-5 29/32	(1065)	14.78	(1.37)
5755	4-2 25/32	(1290)	4-1 29/32	(1268)	17.60	(1.64)
5759	4-2 25/32	(1290)	4-5 29/32	(1369)	19.02	(1.77)
5763	4-2 25/32	(1290)	4-9 29/32	(1471)	20.43	(1.90)
5771 T	4-2 25/32	(1290)	5-5 29/32	(1674)	23.25	(2.16)

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
7319	5-6 25/32	(1696)	1-1 29/32	(353)	6.45	(0.60)
7323	5-6 25/32	(1696)	1-5 29/32	(455)	8.31	(0.77)
7327	5-6 25/32	(1696)	1-9 29/32	(557)	10.16	(0.94)
7331	5-6 25/32	(1696)	2-1 29/32	(658)	12.02	(1.12)
7335	5-6 25/32	(1696)	2-5 29/32	(760)	13.87	(1.29)
7339	5-6 25/32	(1696)	2-9 29/32	(861)	15.73	(1.46)
7343	5-6 25/32	(1696)	3-2 1/32	(966)	17.64	(1.64)
7347	5-6 25/32	(1696)	3-5 29/32	(1065)	19.44	(1.81)
7355	5-6 25/32	(1696)	4-1 29/32	(1268)	23.15	(2.15)
7359 T	5-6 25/32	(1696)	4-5 29/32	(1369)	25.01	(2.32)

Minimum and Maximum Guidelines

Minimum and Maximum Guidelines - Standard Product										
Unit Type	Frame Size									
	CN	Min Width		Min Height		CN	Max Width		Max Height	
		in	mm	in	mm		in	mm	in	mm
ELCA (OP)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
ELCA (STAT)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
ELAWN (OP)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
ELAWN (STAT)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
ELCA P	1719	16	(406)	19 1/8	(486)	7359	72	(1829)	59 1/8	(1502)
						5771	56	(1422)	71 1/8	(1807)
ELCA TR	1716	16	(406)	15 3/4	(400)	7319	72	(1829)	19 1/8	(486)

Minimum and Maximum Guidelines - IZ3 Product										
Unit Type	Frame Size									
	CN	Min Width		Min Height		CN	Max Width		Max Height	
		in	mm	in	mm		in	mm	in	mm
ELCA (OP)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
ELCA (STAT)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
ELAWN (OP)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
ELAWN (STAT)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
ELCA P	3739	36	(914)	39 1/8	(994)	7355	72	(1829)	55 1/8	(1400)
						5771	56	(1422)	71 1/8	(1807)
ELCA TR	1719	16	(406)	19 1/8	(486)	3316	32	(813)	15 3/4	(400)
	2116	20	(508)	15 3/4	(400)	3316	32	(813)	15 3/4	(400)

NOTE: Special sizes are available in 1/64" increments, not to exceed the maximum or minimum available sizes listed above.

Certified Sizes and Ratings: Standard Product and IZ3

Product	Air Tested to psf	Water Tested to psf	Certification Rating	Max Overall Width	Max Overall Height
Elevate Casement (3771)	1.57	7.5	LC-PG50-C	36	71 1/8
Elevate Awning (4947)	1.57	7.5	LC-PG50-AP	48	47 1/8
Elevate Casement Picture (7359)	1.57	7.5	LC-PG50-FW	72	59 1/8
Elevate Casement Picture (5771)	1.57	7.5	LC-PG50-FW	56	71 1/8

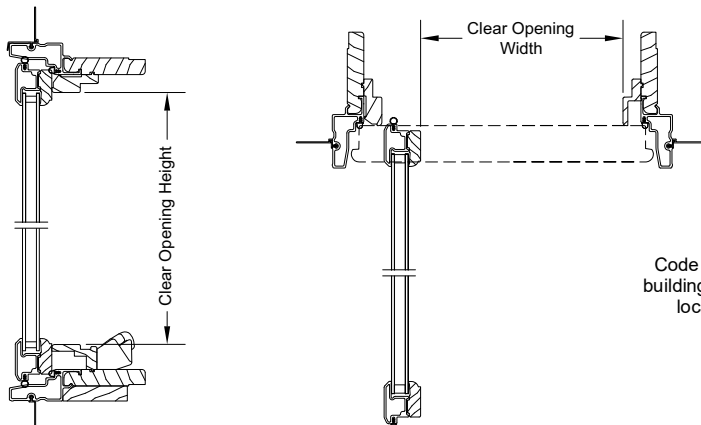
Product	Air Tested to psf	Water Tested to psf	Certification Rating	Max Overall Width	Max Overall Height
Elevate Casement IZ3 (3771)	1.57	8.35	LC-PG55-C	36	71 1/8
Elevate Awning IZ3 (4947)	1.57	8.35	LC-PG55-AP	48	47 1/8
Elevate Casement Picture IZ3 (5771)	1.57	8.35	LC-PG55-FW	56	71 1/8
Elevate Casement Picture IZ3 (7355)	1.57	8.35	LC-PG55-FW	72	55 1/8

Measurement Conversions and Egress Formulas

Unit Measurement					
From	To	Width		Height	
Rough Opening		in	mm	in	mm
Masonry Opening	Rough Opening	+ 1/2	(13)	+ 1/4	(06)
OM of Frame	Rough Opening	+ 1	(25)	+ 1/2	(13)
Daylight Opening	Rough Opening	+ 6 7/32	(158)	+ 5 23/32	(145)
Frame		in	mm	in	mm
Daylight Opening	OM of Frame	+ 5 7/32	(132)	+ 5 7/32	(132)
Sash		in	mm	in	mm
OM of Frame	OM of Sash	-1 11/16	(43)	-1 11/16	(43)
Daylight Opening	OM of Sash	+ 3 17/32	(90)	+ 3 17/32	(90)
Glass		in	mm	in	mm
OM of Frame	Glass (Standard Units)	-4 3/16	(106)	-4 3/16	(106)
OM of Frame	Glass (I23 Units)	-4 21/64	(110)	-4 21/64	(110)
Daylight Opening	Glass (Standard Units)	+ 1 1/32	(26)	+ 1 1/32	(26)
Daylight Opening	Glass (I23 Units)	+ 7/8	(22)	+ 7/8	(22)
Screen		in	mm	in	mm
OM of Frame	OM of Aluminum Screen	-3 29/64	(88)	-3 59/64	(100)
Daylight Opening	OM of Aluminum Screen	+ 1 49/64	(45)	+ 1 19/64	(33)
OM of Frame	OM of Wood Veneer Screen	-3 1/2	(89)	-3 31/32	(101)
Daylight Opening	OM of Wood Veneer Screen	+ 1 23/32	(44)	+ 1 1/4	(32)

Egress Calculations for Special Sizes			
Minimum Value for Net Clear Opening		Desired Dimension	Formula
20" (508)	Frame RO of 30" (762) and greater	Std. Hinge Opening Width (inches)	= Frame OMW - 8.758" (222)
20" (508)	Frame RO of 27 1/8" (689) - 29 63/64" (792)	Egress Hinge Opening Width (inches)	= Frame OMW - 6.125" (156)
24" (610)	-	Egress Opening Height (inches)	= Frame OMH - 4.420" (112)
5.7 square feet (53)		Egress Opening Area (sq. ft.)	= (Egress Width x Egress Height) / 144

Egress Measurements for Operating Casements



Code restrictions may vary depending on your local building codes. For additional information contact your local department for IBC or IRC requirements.

Mulling Guidelines

Factory Mullered Casement/Awning Assemblies

- Assemblies up to 7 units wide by 1 unit high
 - **MAXIMUM ROUGH OPENING** not to exceed 113" (2870) x 71 5/8" (1819)
- Assemblies up to 4 units wide by 5 units high
 - **MAXIMUM ROUGH OPENING** not to exceed 85" (2159) x 94 3/4" (2407)

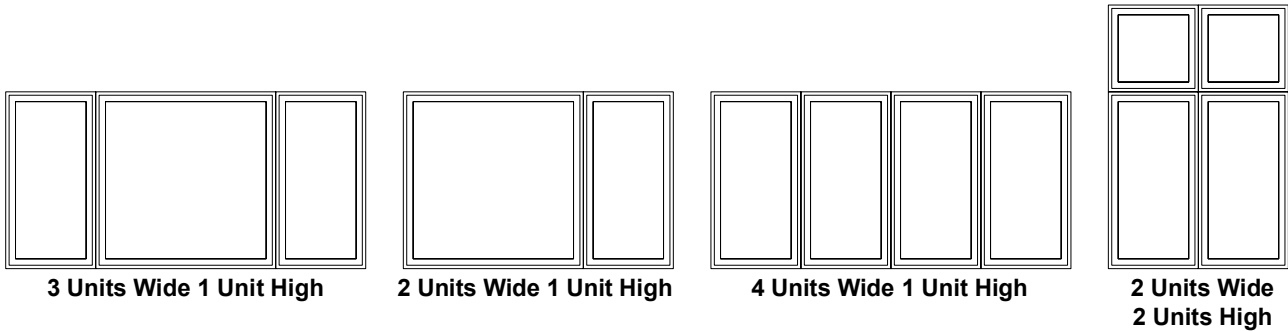
NOTE: Field mulling beyond the above limitations is not recommended.

Certified Mull Limits: WDMA Hallmark certified to AAMA 450

- If assemblies have individual units that have a lower design pressure than the mull, the entire assembly is rated at the lower design pressure.
- Mull certification includes mull clips (nail fin installation) or mull brackets (masonry installation) fastened at all mull points.
- Items not included in certified mull: Standard mull assemblies, field mull assemblies, Elevate Round Tops.
- Assemblies up to 7 units wide by 1 unit high - Maximum Rough Opening not to exceed 113" (2870) x 71 5/8" (1819)
- Assemblies up to 4 units wide by 5 units high - Maximum Rough Opening not to exceed 85" (2159) x 94 3/4" (2407)

Rough Opening for Assemblies

- **WIDTH:**
 - Frame Width = ADD Frame Widths + 1" (25)
 - Tolerance = 1/2" (13) from frame to Rough Opening at left and right jamb.
- **HEIGHT:**
 - Frame Height = ADD Frame Heights + 1/2" (13)
 - Tolerance = 1/2" (13) from frame to Rough Opening at head jamb.



IZ3 Mulling Guidelines

Factory Mulling

The Elevate Casement may be mulled to Elevate Casement products, Direct Glaze Polygon, and Round Tops.

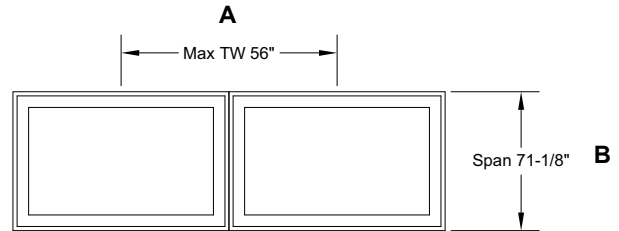
- Standard mull limits (all factory mulls)
 - Maximum Mullled Assembly RO Size
 - 4 units wide x 1 unit high - 113" (2870) x 71 5/8" (1819)
 - 4 units wide x 5 unit high - 85" (2159) x 94 3/4" (2407)
- Field Mulling beyond the above limitations is not recommended

IZ3 Certified Mull Limits: WDMA Hallmark certified to AAMA 450.

- If assemblies have individual units that have a lower design pressure than the mull; the entire assembly is rated at the lower design pressure.
- Mull certification includes 12" mull brackets fastened at all mull joints.
- Items not included in certified mulls: Standard mull assemblies, Elevate Direct Glaze Round Tops, Elevate Aluminum Direct Glaze Round Tops.

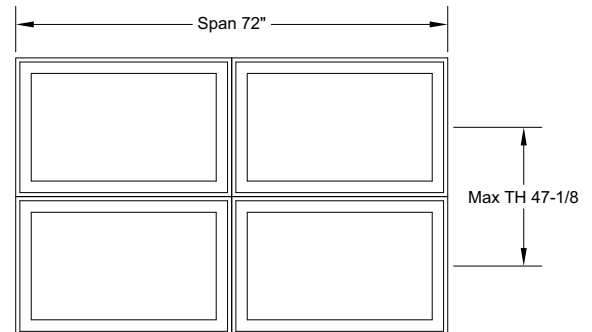
1 Directional Mull Limits				
Product	Max Span	Max TW or TH	Max R.O.	DP
Elevate Casement Vertical Mulling IZ3	71 1/8" (1807)	56" (1422)	113" (2870) x 71 5/8" (1819)	+55/-65
Elevate Casement Horizontal Mulling IZ3	72" (1829)	47 18" (1197)	73" (1854) x 94 3/4" (2407)	+55/-65

- Standard Mulls are not certified
- Assembly DP is lowest DP of mull or any product
- Stepped Mulls are not certified
- Tributary Width or Tributary Height = 1/2A + 1/2B



2 Wide 2 High Directional Mull Limits

- 2 Wide 2 High Directional Mull Limits
- Standard Mulls are not certified
- Max assembly RO size – 73" (1854) x 94 3/4" (2407)
- Max TH – 47-1/8" (1197), Span – 72" (1829)
- No non-reinforced mull joints
- Reinforcement is continuous across horizontal member



Standard Unit Measurements: Casement

Casement Unit Measurements												
Width												
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Screen OM		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft-in	mm	ft - in	mm
17	1-4 1/2	(419)	1-5	(432)	1-4	(406)	1-2 5/16	(364)	1-0 9/16	(319)	0-10 25/32	(274)
21	1-8 1/2	(521)	1-9	(533)	1-8	(508)	1-6 5/16	(465)	1-4 9/16	(421)	1-2 25/32	(376)
25	2-0 1/2	(622)	2-1	(635)	2-0	(610)	1-10 5/16	(567)	1-8 9/16	(522)	1-6 25/32	(477)
29	2-4 1/2	(724)	2-5	(737)	2-4	(711)	2-2 5/16	(668)	2-0 9/16	(624)	1-10 25/32	(579)
33	2-8 1/2	(826)	2-9	(838)	2-8	(813)	2-6 5/16	(770)	2-4 9/16	(726)	2-2 25/32	(680)
37	3-0 1/2	(927)	3-1	(940)	3-0	(914)	2-10 5/16	(872)	2-8 9/16	(827)	2-6 25/32	(782)

Casement Unit Measurements												
Height												
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Screen OM		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft-in	mm	ft - in	mm
31	2-7 3/8	(797)	2-7 5/8	(803)	2-7 1/8	(791)	2-5 7/16	(748)	2-3 7/32	(691)	2-1 29/32	(658)
35	2-11 3/8	(899)	2-11 5/8	(905)	2-11 1/8	(892)	2-9 7/16	(849)	2-7 7/32	(793)	2-5 29/32	(760)
39	3-3 3/8	(1000)	3-3 5/8	(1006)	3-3 1/8	(994)	3-1 7/16	(951)	2-11 7/32	(895)	2-9 29/32	(861)
43	3-7 1/2	(1105)	3-7 3/4	(1111)	3-7 1/4	(1099)	3-5 9/16	(1056)	3-3 11/32	(999)	3-2 1/32	(966)
47	3-11 3/8	(1203)	3-11 5/8	(1210)	3-11 1/8	(1197)	3-9 7/16	(1154)	3-7 7/32	(1098)	3-5 29/32	(1065)
55	4-7 3/8	(1407)	4-7 5/8	(1413)	4-7 1/8	(1400)	4-5 7/16	(1357)	4-3 7/32	(1301)	4-1 29/32	(1268)
59	4-11 3/8	(1508)	4-11 5/8	(1514)	4-11 1/8	(1502)	4-9 7/16	(1459)	4-7 7/32	(1403)	4-5 29/32	(1369)
63	5-3 3/8	(1610)	5-3 5/8	(1616)	5-3 1/8	(1603)	5-1 7/16	(1561)	4-11 7/32	(1504)	4-9 29/32	(1471)
71	5-11 3/8	(1813)	5-11 5/8	(1819)	5-11 1/8	(1807)	5-9 7/16	(1764)	5-7 7/32	(1707)	5-5 29/32	(1674)

NOTE: For standard or IZ3 casement elevations, visit: www.marvin.com

Standard Unit Measurements: Awning

Awning Unit Measurements												
Width												
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Screen OM		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft-in	mm	ft - in	mm
25	2-0 1/2	(622)	2-1	(635)	2-0	(610)	1-10 5/16	(567)	1-8 9/16	(522)	1-6 25/32	(477)
29	2-4 1/2	(724)	2-5	(737)	2-4	(711)	2-2 5/16	(668)	2-0 9/16	(624)	1-10 25/32	(579)
33	2-8 1/2	(826)	2-9	(838)	2-8	(813)	2-6 5/16	(770)	2-4 9/16	(726)	2-2 25/32	(680)
37	3-0 1/2	(927)	3-1	(940)	3-0	(914)	2-10 5/16	(872)	2-8 9/16	(827)	2-6 25/32	(782)
41	3-4 1/2	(1029)	3-5	(1041)	3-4	(1016)	3-2 5/16	(973)	3-0 9/16	(929)	2-10 25/32	(884)
49	4-0 1/2	(1232)	4-1	(1245)	4-0	(1219)	3-10 5/16	(1176)	3-8 9/16	(1132)	3-6 25/32	(1087)

Awning Unit Measurements												
Height												
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Screen OM		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft-in	mm	ft - in	mm
19	1-7 3/8	(492)	1-7 5/8	(498)	1-7 1/8	(486)	1-5 7/16	(443)	1-3 7/32	(387)	1-1 29/32	(353)
23	1-11 3/8	(594)	1-11 5/8	(600)	1-11 1/8	(587)	1-9 7/16	(545)	1-7 7/32	(488)	1-5 29/32	(455)
27	2-3 3/8	(695)	2-3 5/8	(702)	2-3 1/8	(689)	2-1 7/16	(646)	1-11 7/32	(590)	1-9 29/32	(557)
35	2-11 3/8	(899)	2-11 5/8	(905)	2-11 1/8	(892)	2-9 7/16	(849)	2-7 7/32	(793)	2-5 29/32	(760)
39	3-3 3/8	(1000)	3-3 5/8	(1006)	3-3 1/8	(994)	3-1 7/16	(951)	2-11 7/32	(895)	2-9 29/32	(861)
47	3-11 3/8	(1203)	3-11 5/8	(1210)	3-11 1/8	(1197)	3-9 7/16	(1154)	3-7 7/32	(1098)	3-5 29/32	(1065)

Standard Unit Measurements: Picture

Casement/Awning Picture Unit Measurements										
Width										
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
17	1-4 1/2	(419)	1-5	(432)	1-4	(406)	1-2 5/16	(364)	0-10 25/32	(274)
21	1-8 1/2	(521)	1-9	(533)	1-8	(508)	1-6 5/16	(465)	1-2 25/32	(376)
25	2-0 1/2	(622)	2-1	(635)	2-0	(610)	1-10 5/16	(567)	1-6 25/32	(477)
29	2-4 1/2	(724)	2-5	(737)	2-4	(711)	2-2 5/16	(668)	1-10 25/32	(579)
33	2-8 1/2	(826)	2-9	(838)	2-8	(813)	2-6 5/16	(770)	2-2 25/32	(680)
37	3-0 1/2	(927)	3-1	(940)	3-0	(914)	2-10 5/16	(872)	2-6 25/32	(782)
41	3-4 1/2	(1029)	3-5	(1041)	3-4	(1016)	3-2 5/16	(973)	2-10 25/32	(884)
49	4-0 1/2	(1232)	4-1	(1245)	4-0	(1219)	3-10 5/16	(1176)	3-6 25/32	(1087)
57	4-8 1/2	(1435)	4-9	(1448)	4-8	(1422)	4-6 5/16	(1380)	4-2 25/32	(1290)
73	6-0 1/2	(1842)	6-1	(1854)	6-0	(1829)	5-10 5/16	(1786)	5-6 25/32	(1696)

Casement/Awning Picture Unit Measurements										
Height										
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
19	1-7 3/8	(492)	1-7 5/8	(498)	1-7 1/8	(486)	1-5 7/16	(443)	1-1 29/32	(353)
23	1-11 3/8	(594)	1-11 5/8	(600)	1-11 1/8	(587)	1-9 7/16	(545)	1-5 29/32	(455)
27	2-3 3/8	(695)	2-3 5/8	(702)	2-3 1/8	(689)	2-1 7/16	(646)	1-9 29/32	(557)
31	2-7 3/8	(797)	2-7 5/8	(803)	2-7 1/8	(791)	2-5 7/16	(748)	2-1 29/32	(658)
35	2-11 3/8	(899)	2-11 5/8	(905)	2-11 1/8	(892)	2-9 7/16	(849)	2-5 29/32	(760)
39	3-3 3/8	(1000)	3-3 5/8	(1006)	3-3 1/8	(994)	3-1 7/16	(951)	2-9 29/32	(861)
43	3-7 1/2	(1105)	3-7 3/4	(1111)	3-7 1/4	(1099)	3-5 9/16	(1056)	3-2 1/32	(966)
47	3-11 3/8	(1203)	3-11 5/8	(1210)	3-11 1/8	(1197)	3-9 7/16	(1154)	3-5 29/32	(1065)
55	4-7 3/8	(1407)	4-7 5/8	(1413)	4-7 1/8	(1400)	4-5 7/16	(1357)	4-1 29/32	(1268)
59	4-11 3/8	(1508)	4-11 5/8	(1514)	4-11 1/8	(1502)	4-9 7/16	(1459)	4-5 29/32	(1369)
63	5-3 3/8	(1610)	5-3 5/8	(1616)	5-3 1/8	(1603)	5-1 7/16	(1561)	4-9 29/32	(1471)
71	5-11 3/8	(1813)	5-11 5/8	(1819)	5-11 1/8	(1807)	5-9 7/16	(1764)	5-5 29/32	(1674)

Standard Unit Measurements: Transom

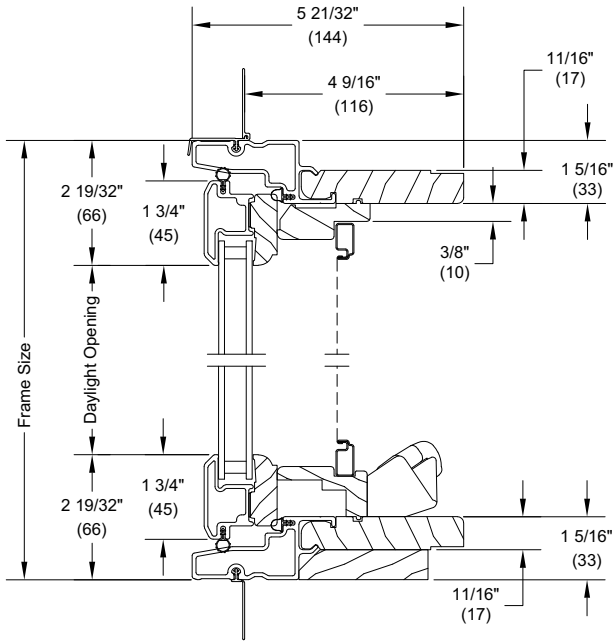
Casement/Awning Transom Unit Measurements										
Width										
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
17	1-4 1/2	(419)	1-5	(432)	1-4	(406)	1-2 5/16	(364)	0-10 25/32	(274)
21	1-8 1/2	(521)	1-9	(533)	1-8	(508)	1-6 5/16	(465)	1-2 25/32	(376)
25	2-0 1/2	(622)	2-1	(635)	2-0	(610)	1-10 5/16	(567)	1-6 25/32	(477)
29	2-4 1/2	(724)	2-5	(737)	2-4	(711)	2-2 5/16	(668)	1-10 25/32	(579)
33	2-8 1/2	(826)	2-9	(838)	2-8	(813)	2-6 5/16	(770)	2-2 25/32	(680)
37	3-0 1/2	(927)	3-1	(940)	3-0	(914)	2-10 5/16	(872)	2-6 25/32	(782)
41	3-4 1/2	(1029)	3-5	(1041)	3-4	(1016)	3-2 5/16	(973)	2-10 25/32	(884)
49	4-0 1/2	(1232)	4-1	(1245)	4-0	(1219)	3-10 5/16	(1176)	3-6 25/32	(1087)
57	4-8 1/2	(1435)	4-9	(1448)	4-8	(1422)	4-6 5/16	(1380)	4-2 25/32	(1290)
73	6-0 1/2	(1842)	6-1	(1854)	6-0	(1829)	5-10 5/16	(1786)	5-6 25/32	(1696)

Casement/Awning Transom Unit Measurements										
Height										
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
16	1-4	(406)	1-4 1/4	(413)	1-3 3/4	(400)	1-2 1/16	(357)	0-10 17/32	(268)
19	1-7 3/8	(492)	1-7 5/8	(498)	1-7 1/8	(486)	1-5 7/16	(443)	1-1 29/32	(353)

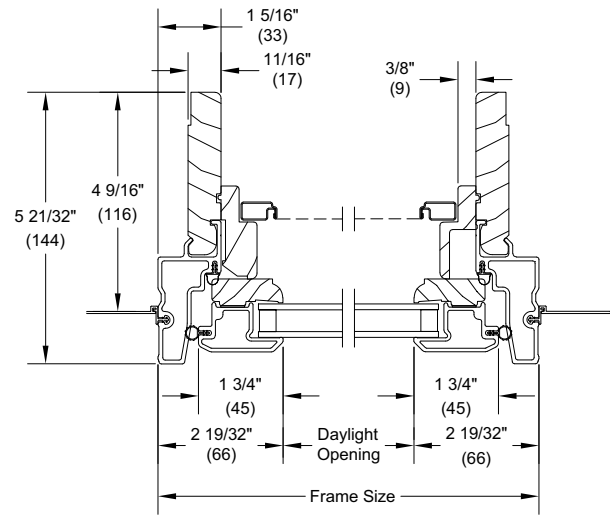
Section Details: Operating - Casement / Awning

Scale: 3" = 1' 0"

Operating - 4 9/16" (116)

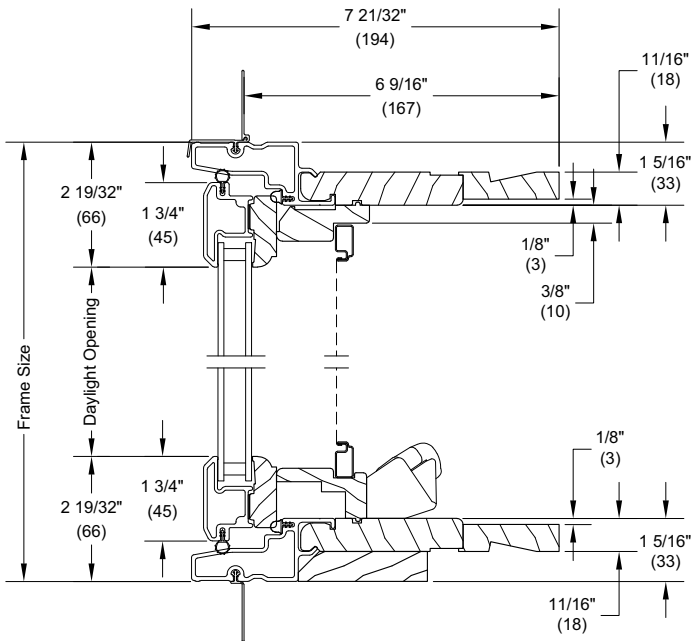


Head Jamb and Sill

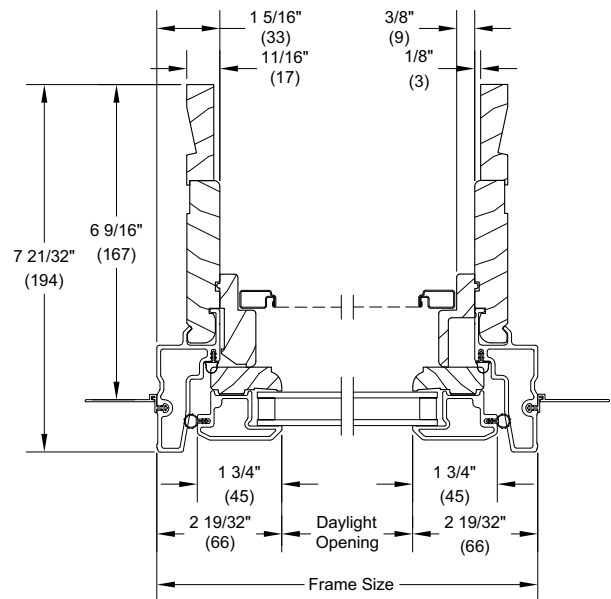


Jambs

Operating - 6 9/16" (167)



Head Jamb and Sill

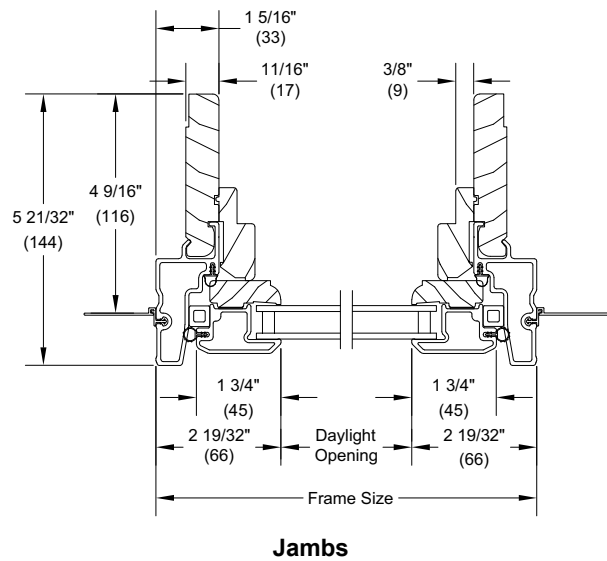
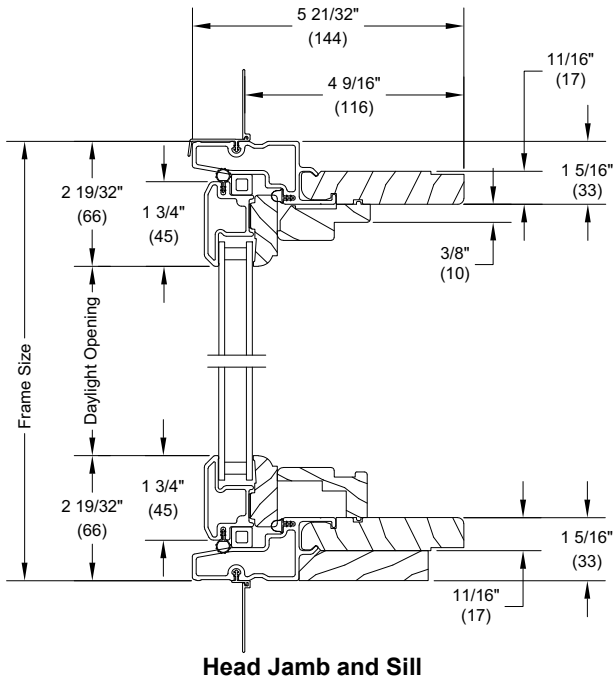


Jambs

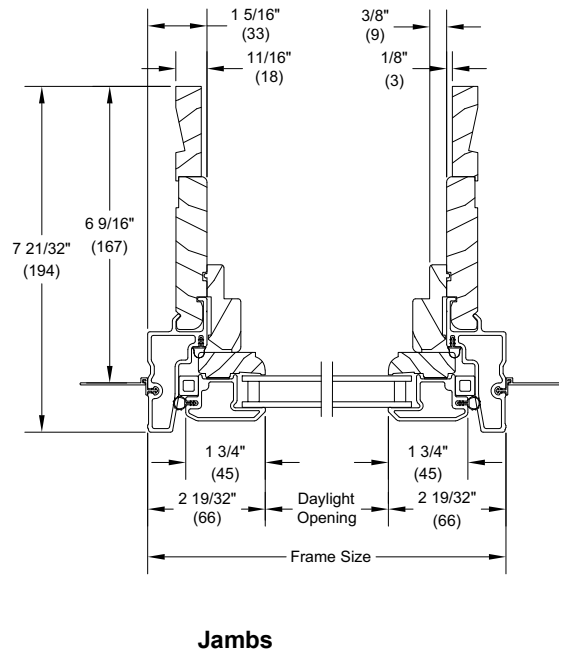
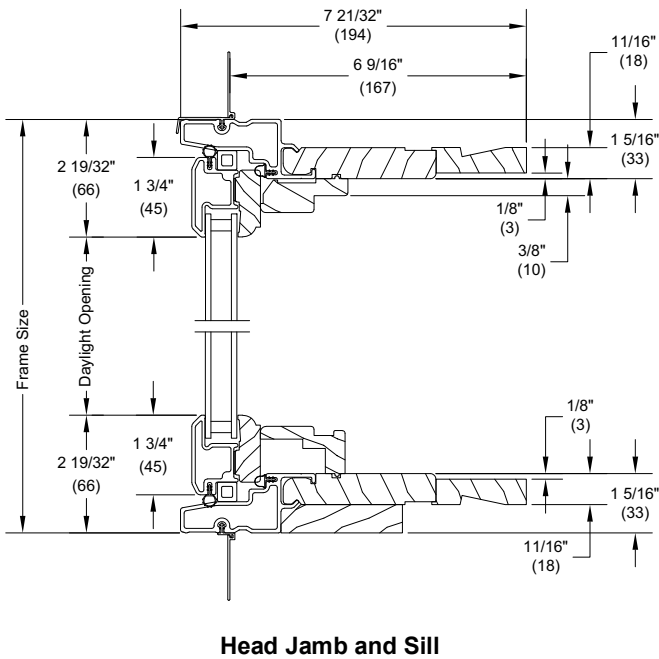
Section Details: Stationary/Picture - Casement / Awning

Scale: 3" = 1' 0"

Stationary/Picture - 4 9/16" (116)

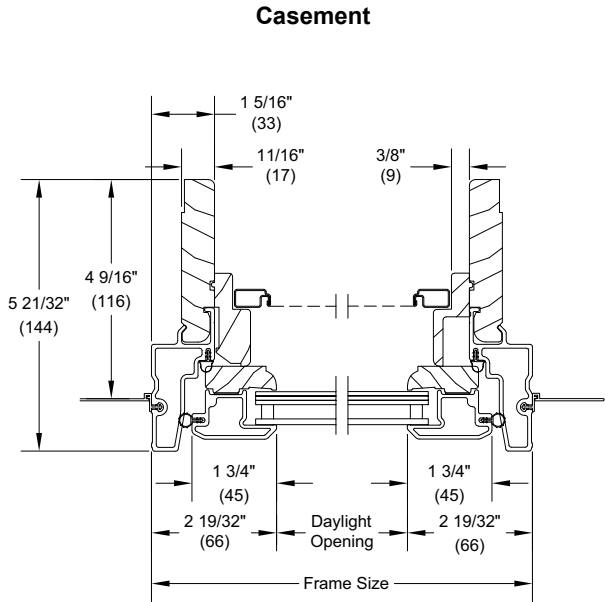
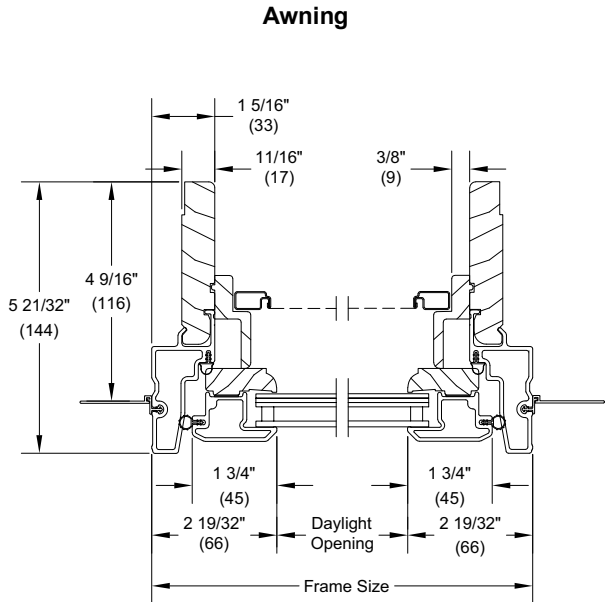
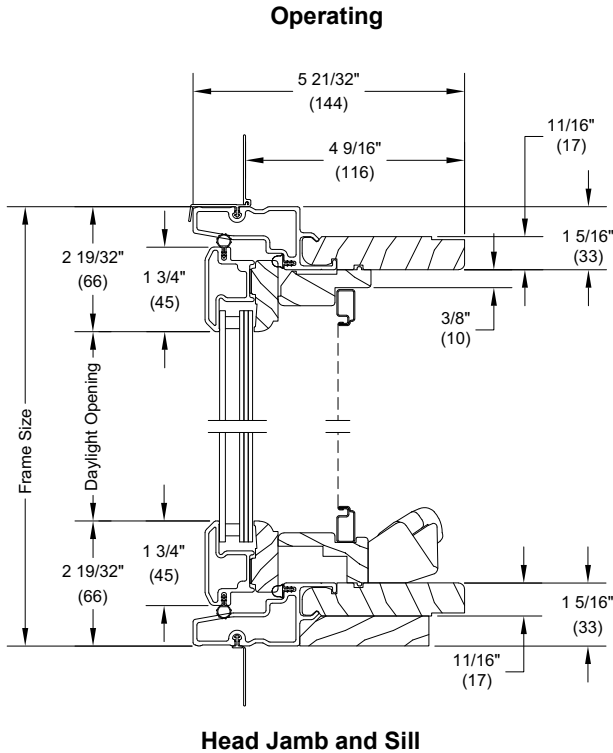


Stationary/Picture - 6 9/16" (167)



Section Details: Casement IZ3

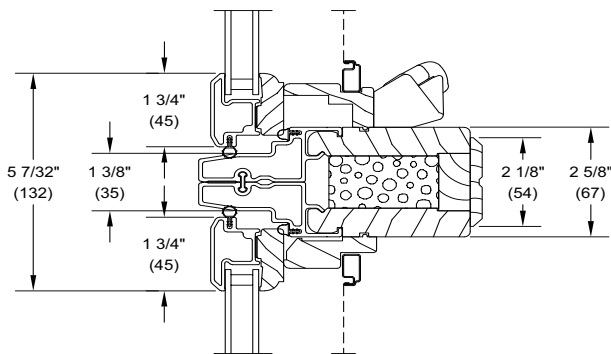
Scale: 3" = 1' 0"



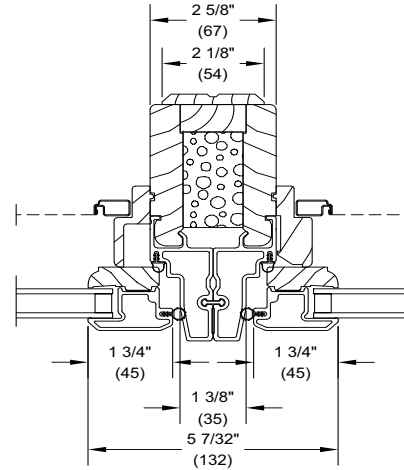
NOTE:

Section Details: Casement/Awning Mullion Options

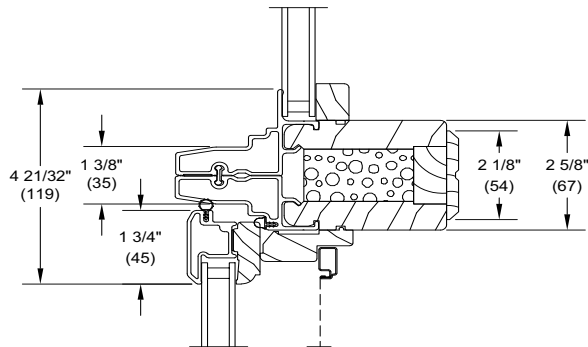
Scale: 3" = 1' 0"



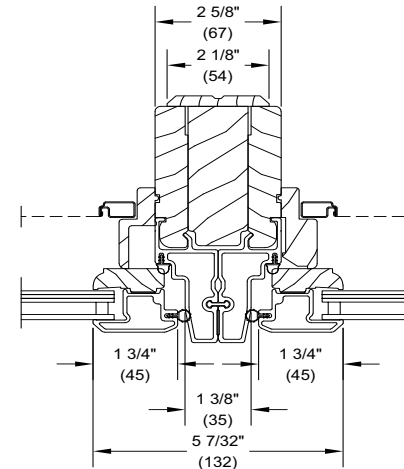
Awning Over Casement Unit



Casement or Awning Units 2 Wide



Direct Glaze Polygon Over Casement



Reinforced Casement or Awning Units 2 Wide

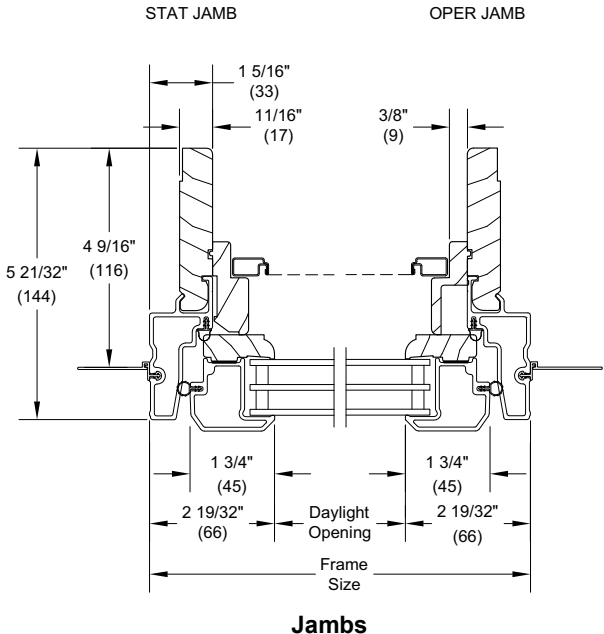
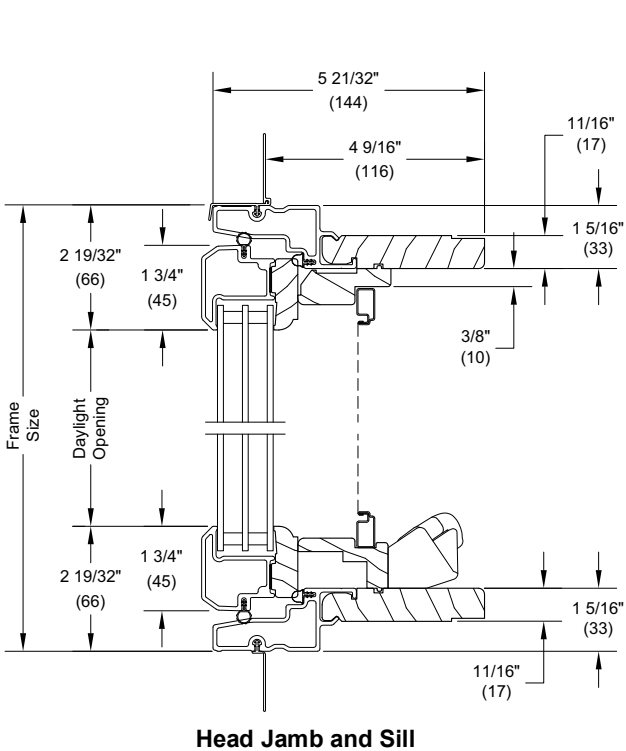
NOTE:



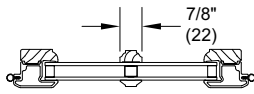
Represents units that are certified for IZ3 glazing with a wind zone 3.

Section Details: Casement / Awning Tri-Pane Glass Option

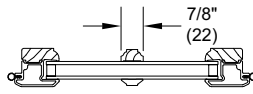
Scale: 3" = 1' 0"



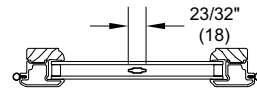
Section Details: Divided Lite Options



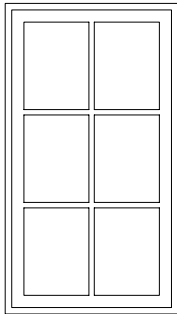
Wood SDL With Spacer Bar



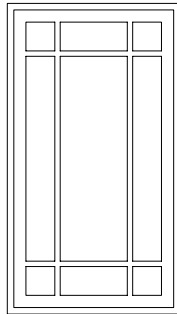
Wood SDL Without Spacer Bar



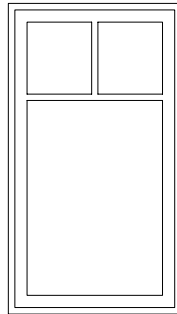
Aluminum Grille Between Glass
GBG



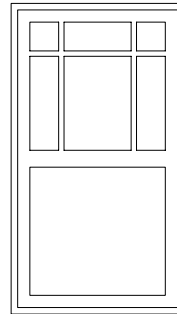
**Rectangle GBG
or SDL**



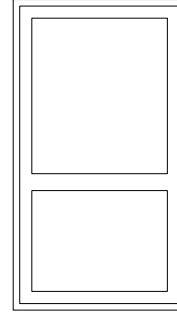
**Prairie
GBG or SDL**



**Cottage
GBG or SDL**



**Prairie SDL
w/ Simulated
Check Rail**



**Custom
Simulated
Check Rail**

Conversions Formula:

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

NOTES:

- Direct Glaze Round Top with GBG or SDL will only align with the default lite cut of the unit it is intended to be mullied with.
- Rectangle GBGs for special size units will default to the next smaller standard size lite pattern. Also available will be Prairie patterns, Cottage patterns, and customer specified equal rectangular lite patterns.
- Rectangular SDL for special size units will default to the next smaller standard size lite pattern. Also available will be Prairie patterns, Cottage patterns, and customer specified equal rectangular lite patterns.
- Prairie GBG and SDL available in 9 lite and 6 lite top, bottom, left, and right patterns.
- Cottage GBGs and SDL for special sizes units will default to the next smaller standard size lite pattern. Cottage GBGs and SDL are also available in customer selected lite patterns.
- Round Top lite patterns will not align with Casement/Awning optional GBG or SDL lite patterns.
- Maximum number of lites wide and high for equal lite SDL option is 11 lites.
- Minimum DLO measurement for equal lite SDL option is 4" (102) and will be validated by OMS.
- Minimum DLO measurement for equal lite GBG option is 3" (76) and will be validated by OMS.
- Standard DLO measurement for Prairie GBG and SDL options is 4" (102). Special DLO corners are n/a.
- Standard DLO height measurement for Cottage SDL option is 10" (254). Minimum DLO height is 8" (203) for one high pattern. Minimum DLO height is 4" (102) for two high pattern.
- Standard DLO height measurement for Cottage GBG option is 10" (254). Minimum DLO height is 3" (76) for both one and two high patterns.
- Simulated Rail: Rectangular, Prairie 6-Lite and 9-Lite SDL patterns are available with Simulated Rail.
- Simulated Rail: Custom ratio and specified DLO are available with Simulated Rail and will be validated by OMS.
- GBGs are not available on IZ3

Available Divided Lite Patterns

Default Rectangular Lite Pattern per Sash - GBG, SDL

Standard CN Height	Standard CN Width									
	17	21	25	29	33	37	41	49	57	73
16 ELDG	--	--	--	--	--	--	--	--	--	6W1H
16	2W1H	2W1H	2W1H	3W1H	3W1H	3W1H	4W1H	4W1H	5W1H	7W1H
19	1W2H	2W2H	2W2H	3W2H	3W2H	3W2H	4W2H	4W2H	5W2H	7W2H
23	1W2H	2W2H	2W2H	3W2H	3W2H	3W2H	4W2H	4W2H	5W2H	7W2H
27	1W2H	2W2H	2W2H	3W2H	3W2H	3W2H	4W2H	4W2H	5W2H	7W2H
31	1W2H	2W2H	2W2H	3W2H	3W2H	3W2H	4W2H	4W2H	5W2H	7W2H
35	1W2H	2W2H	2W2H	3W2H	3W2H	3W2H	4W2H	4W2H	5W2H	7W2H
39	1W3H	2W3H	2W3H	3W3H	3W3H	3W3H	4W3H	4W3H	5W3H	7W3H
43	1W3H	2W3H	2W3H	3W3H	3W3H	3W3H	4W3H	4W3H	5W3H	7W3H
47	1W3H	2W3H	2W3H	3W3H	3W3H	3W3H	4W3H	4W3H	5W3H	7W3H
55	1W4H	2W4H	2W4H	3W4H	3W4H	3W4H	4W4H	4W4H	5W4H	7W4H
59	1W4H	2W4H	2W4H	3W4H	3W4H	3W4H	4W4H	4W4H	5W4H	7W4H
63	1W5H	2W5H	2W5H	3W5H	3W5H	3W5H	4W5H	4W5H	5W5H	--
71	1W5H	2W5H	2W5H	3W5H	3W5H	3W5H	4W5H	4W5H	5W5H	--

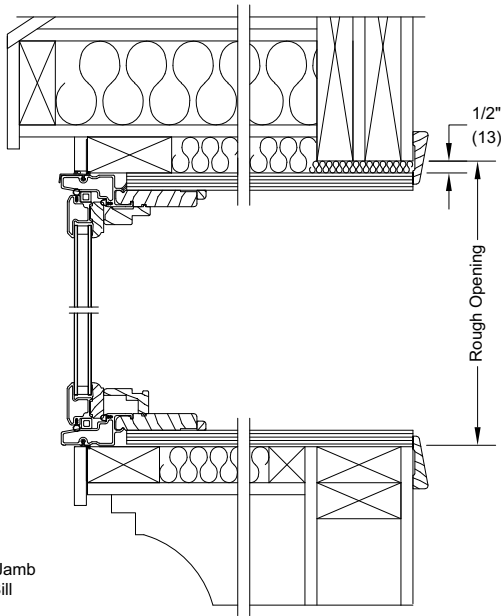
Optional Standard Cottage Lite Pattern per Sash - GBG, SDL

Standard CN Height	Standard CN Width									
	17	21	25	29	33	37	41	49	57	73
All Heights	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite

NOTE: Prairie lite pattern is not available in the CN19 height transoms.

Bow / Bay Units

Scale: 3/4" = 1' 0"

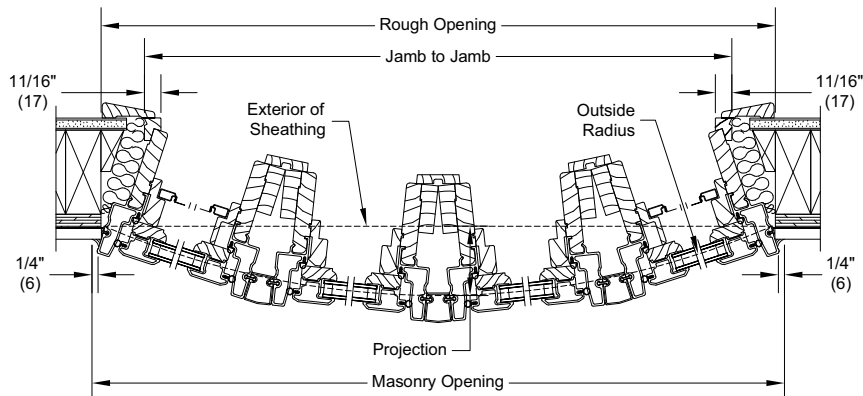


Casement Bay / Bow Height Dimensions				
CN	MO Height		RO Height	
	ft-in	mm	ft-in	mm
31	2-7 9/16	(802)	2-7 13/16	(808)
35	2-11 9/16	(903)	2-11 13/16	(910)
39	3-3 9/16	(1005)	3-3 13/16	(1011)
43	3-7 9/16	(1107)	3-7 13/16	(1113)
47	3-11 9/16	(1208)	3-11 13/16	(1214)
55	4-7 9/16	(1411)	4-7 13/16	(1418)
59	4-11 9/16	(1513)	4-11 13/16	(1519)
63	5-3 9/16	(1615)	5-3 13/16	(1621)
71	5-11 9/16	(1818)	5-11 13/16	(1824)

NOTES:

- IZ3 glazed units are not available in Bow/Bay configuration.
- Structural support members supplied by others.

4 and 5 Wide Casement Bow Widths						
CN	MO Width		RO Width		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm
17-4W	5-6 3/8	(1686)	5-6 1/4	(1683)	0-6 7/8	(175)
21-4W	6-9 15/16	(2081)	6-9 13/16	(2078)	0-8 9/16	(217)
25-4W	8-1 1/2	(2477)	8-1 3/8	(2474)	0-10 3/16	(259)
29-4W	9-5 1/16	(2872)	9-4 15/16	(2869)	0-11 7/8	(301)
17-5W	6-9 13/16	(2078)	6-9 1/2	(2070)	0-10 1/4	(260)
21-5W	8-4 15/16	(2564)	8-4 5/8	(2556)	1-0 11/16	(323)
25-5W	10-0 1/16	(3050)	9-11 3/4	(3042)	1-3 3/16	(385)



4 Wide Bow-Jamb

30° Bay Units

30 Degree Casement Bay - Width Dimensions								
CN	MO Width		RO Width		Jamb to Jamb		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
17 Wide Units								
17-17-17	4-1 15/16	(1268)	4-1 3/8	(1255)	3-7 7/8	(1114)	0-8 5/8	(219)
17-21-17	4-5 15/16	(1370)	4-5 3/8	(1356)	3-11 7/8	(1216)	0-8 5/8	(219)
17-25-17	4-9 15/16	(1471)	4-9 3/8	(1458)	4-3 7/8	(1318)	0-8 5/8	(219)
17-29-17	5-1 15/16	(1573)	5-1 3/8	(1559)	4-7 7/8	(1419)	0-8 5/8	(219)
17-33-17	5-5 15/16	(1674)	5-5 3/8	(1661)	4-11 7/8	(1521)	0-8 5/8	(219)
17-37-17	5-9 15/16	(1776)	5-9 3/8	(1763)	5-3 7/8	(1622)	0-8 5/8	(219)
17-41-17	6-1 15/16	(1878)	6-1 3/8	(1864)	5-7 7/8	(1724)	0-8 5/8	(219)
17-49-17	6-9 15/16	(2081)	6-9 3/8	(2067)	6-3 7/8	(1927)	0-8 5/8	(219)
21 Wide Units								
21-17-21	4-8 7/8	(1444)	4-8 5/16	(1431)	4-2 13/16	(1290)	0-10 5/8	(270)
21-21-21	5-0 7/8	(1546)	5-0 5/16	(1532)	4-6 13/16	(1392)	0-10 5/8	(270)
21-25-21	5-4 7/8	(1647)	5-4 5/16	(1634)	4-10 13/16	(1494)	0-10 5/8	(270)
21-29-21	5-8 7/8	(1749)	5-8 5/16	(1735)	5-2 13/16	(1595)	0-10 5/8	(270)
21-33-21	6-0 7/8	(1850)	6-0 5/16	(1837)	5-6 13/16	(1697)	0-10 5/8	(270)
21-37-21	6-4 7/8	(1952)	6-4 5/16	(1939)	5-10 13/16	(1798)	0-10 5/8	(270)
21-41-21	6-8 7/8	(2054)	6-8 5/16	(2040)	6-2 13/16	(1900)	0-10 5/8	(270)
21-49-21	7-4 7/8	(2257)	7-4 5/16	(2243)	6-10 13/16	(2103)	0-10 5/8	(270)
21-57-21	8-0 7/8	(2460)	8-0 5/16	(2447)	7-6 13/16	(2306)	0-10 5/8	(270)
21-73-21	9-4 7/8	(2866)	9-4 5/16	(2853)	8-10 13/16	(2713)	0-10 5/8	(270)
25 Wide Units								
25-17-25	5-3 3/4	(1620)	5-3 1/4	(1607)	4-9 3/4	(1466)	1-0 5/8	(321)
25-21-25	5-7 3/4	(1721)	5-7 1/4	(1708)	5-1 3/4	(1568)	1-0 5/8	(321)
25-25-25	5-11 3/4	(1823)	5-11 1/4	(1810)	5-5 3/4	(1669)	1-0 5/8	(321)
25-29-25	6-3 3/4	(1925)	6-3 1/4	(1911)	5-9 3/4	(1771)	1-0 5/8	(321)
25-33-25	6-7 3/4	(2026)	6-7 1/4	(2013)	6-1 3/4	(1873)	1-0 5/8	(321)
25-37-25	6-11 3/4	(2128)	6-11 1/4	(2115)	6-5 3/4	(1974)	1-0 5/8	(321)
25-41-25	7-3 3/4	(2229)	7-3 1/4	(2216)	6-9 3/4	(2076)	1-0 5/8	(321)
25-49-25	7-11 3/4	(2433)	7-11 1/4	(2419)	7-5 3/4	(2279)	1-0 5/8	(321)
25-57-25	8-7 3/4	(2636)	8-7 1/4	(2623)	8-1 3/4	(2482)	1-0 5/8	(321)

NOTES:

- Factory assembled. Bay/Bow units include head and seat boards.
- 30 Bay mull kits available for field assembly.
- Structural support member and interior trim supplied by others.

30° Bay Units

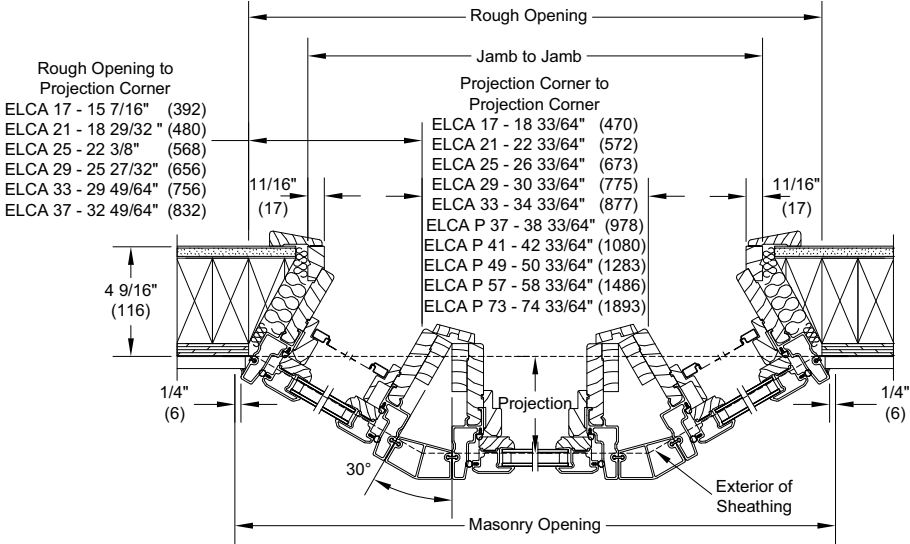
30 Degree Casement Bay - Width Dimensions								
CN	MO Width		RO Width		Jamb to Jamb		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
29 Wide Units								
29-17-29	5-10 11/16	(1796)	5-10 3/16	(1782)	5-4 5/8	(1642)	1-2 5/8	(372)
29-21-29	6-2 11/16	(1897)	6-2 3/16	(1884)	5-8 5/8	(1744)	1-2 5/8	(372)
29-25-29	6-6 11/16	(1999)	6-6 3/16	(1986)	6-0 5/8	(1845)	1-2 5/8	(372)
29-29-29	6-10 11/16	(2101)	6-10 3/16	(2087)	6-4 5/8	(1947)	1-2 5/8	(372)
29-33-29	7-2 11/16	(2202)	7-2 3/16	(2189)	6-8 5/8	(2049)	1-2 5/8	(372)
29-37-29	7-6 11/16	(2304)	7-6 3/16	(2290)	7-0 5/8	(2150)	1-2 5/8	(372)
29-41-29	7-10 11/16	(2405)	7-10 3/16	(2392)	7-4 5/8	(2252)	1-2 5/8	(372)
29-49-29	8-6 11/16	(2609)	8-6 3/16	(2595)	8-0 5/8	(2455)	1-2 5/8	(372)
29-57-29	9-2 11/16	(2812)	9-2 3/16	(2798)	8-8 5/8	(2658)	1-2 5/8	(372)
33 Wide Units								
33-17-33	6-5 5/8	(1972)	6-5 1/8	(1958)	5-11 9/16	(1818)	1-4 5/8	(422)
33-21-33	6-9 5/8	(2073)	6-9 1/8	(2060)	6-3 9/16	(1920)	1-4 5/8	(422)
33-25-33	7-1 5/8	(2175)	7-1 1/8	(2162)	6-7 9/16	(2021)	1-4 5/8	(422)
33-29-33	7-5 5/8	(2277)	7-5 1/8	(2263)	6-11 9/16	(2123)	1-4 5/8	(422)
33-33-33	7-9 5/8	(2378)	7-9 1/8	(2365)	7-3 9/16	(2225)	1-4 5/8	(422)
33-37-33	8-1 5/8	(2480)	8-1 1/8	(2466)	7-7 9/16	(2326)	1-4 5/8	(422)
33-41-33	8-5 5/8	(2581)	8-5 1/8	(2568)	7-11 9/16	(2428)	1-4 5/8	(422)
33-49-33	9-1 5/8	(2785)	9-1 1/8	(2771)	8-7 9/16	(2631)	1-4 5/8	(422)
37 Wide Units								
37-17-37	7-0 9/16	(2148)	7-0 1/16	(2134)	6-6 1/2	(1994)	1-6 5/8	(473)
37-21-37	7-4 9/16	(2249)	7-4 1/16	(2236)	6-10 1/2	(2096)	1-6 5/8	(473)
37-25-37	7-8 9/16	(2351)	7-8 1/16	(2338)	7-2 1/2	(2197)	1-6 5/8	(473)
37-29-37	8-0 9/16	(2453)	8-0 1/16	(2439)	7-6 1/2	(2299)	1-6 5/8	(473)
37-33-37	8-4 9/16	(2554)	8-4 1/16	(2541)	7-10 1/2	(2401)	1-6 5/8	(473)
37-37-37	8-8 9/16	(2656)	8-8 1/16	(2642)	8-2 1/2	(2502)	1-6 5/8	(473)

NOTES:

- *Factory assembled. Bay/Bow units include head and seat boards.*
- *30 Bay mull kits available for field assembly.*
- *Structural support member and interior trim supplied by others.*

Section Details: 30° Bay Units

Scale: 3" = 1' 0"

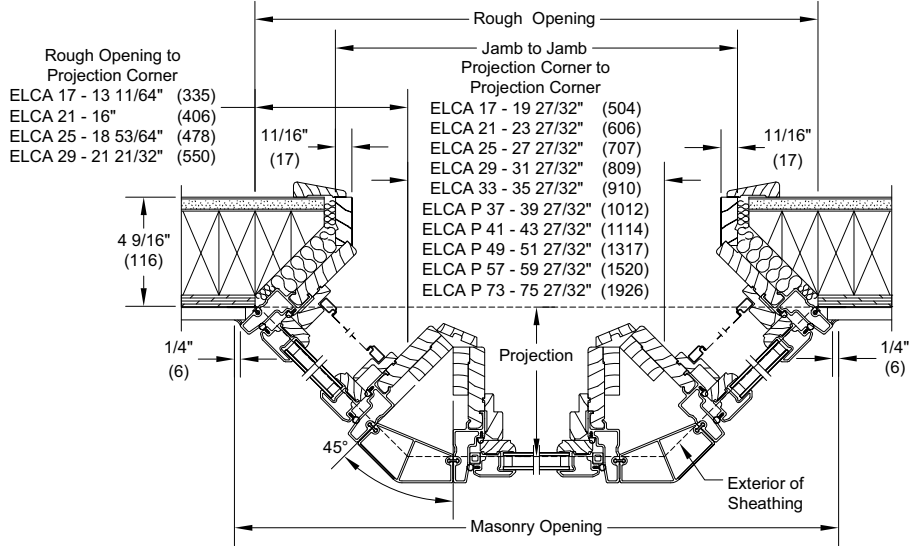


45° Bay Units

45 Degree Casement Bay - Width Dimensions								
CN	MO Width		RO Width		Jamb to Jamb		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
17 Wide Units								
17-17-17	3-11 1/8	(1198)	3-10 3/16	(1173)	3-2 3/4	(984)	1-0 11/16	(322)
17-21-17	4-3 1/8	(1299)	4-2 3/16	(1274)	3-6 3/4	(1085)	1-0 11/16	(322)
17-25-17	4-7 1/8	(1401)	4-6 3/16	(1376)	3-10 3/4	(1187)	1-0 11/16	(322)
17-29-17	4-11 1/8	(1503)	4-10 3/16	(1478)	4-2 3/4	(1289)	1-0 11/16	(322)
17-33-17	5-3 1/8	(1604)	5-2 3/16	(1579)	4-6 3/4	(1390)	1-0 11/16	(322)
17-37-17	5-7 1/8	(1706)	5-6 3/16	(1681)	4-10 3/4	(1492)	1-0 11/16	(322)
17-41-17	5-11 1/8	(1807)	5-10 3/16	(1782)	5-2 3/4	(1593)	1-0 11/16	(322)
17-49-17	6-7 1/8	(2011)	6-6 3/16	(1986)	5-10 3/4	(1797)	1-0 11/16	(322)
21 Wide Units								
21-17-21	4-4 13/16	(1341)	4-3 13/16	(1317)	3-8 3/8	(1127)	1-3 1/2	(394)
21-21-21	4-8 13/16	(1443)	4-7 13/16	(1418)	4-0 3/8	(1229)	1-3 1/2	(394)
21-25-21	5-0 13/16	(1545)	4-11 13/16	(1520)	4-4 3/8	(1331)	1-3 1/2	(394)
21-29-21	5-4 13/16	(1646)	5-3 13/16	(1621)	4-8 3/8	(1432)	1-3 1/2	(394)
21-33-21	5-8 13/16	(1748)	5-7 13/16	(1723)	5-0 3/8	(1534)	1-3 1/2	(394)
21-37-21	6-0 13/16	(1849)	5-11 13/16	(1825)	5-4 3/8	(1635)	1-3 1/2	(394)
21-41-21	6-4 13/16	(1951)	6-3 13/16	(1926)	5-8 3/8	(1737)	1-3 1/2	(394)
21-49-21	7-0 13/16	(2154)	6-11 13/16	(2129)	6-4 3/8	(1940)	1-3 1/2	(394)
21-57-21	7-8 13/16	(2357)	7-7 13/16	(2333)	7-0 3/8	(2143)	1-3 1/2	(394)
21-73-21	9-0 13/16	(2764)	8-11 13/16	(2739)	8-4 3/8	(2550)	1-3 1/2	(394)
25 Wide Units								
25-17-25	4-10 1/2	(1485)	4-9 1/2	(1460)	4-2 1/16	(1271)	1-6 5/16	(466)
25-21-25	5-2 1/2	(1587)	5-1 1/2	(1562)	4-6 1/16	(1373)	1-6 5/16	(466)
25-25-25	5-6 1/2	(1688)	5-5 1/2	(1663)	4-10 1/16	(1474)	1-6 5/16	(466)
25-29-25	5-10 1/2	(1790)	5-9 1/2	(1765)	5-2 1/16	(1576)	1-6 5/16	(466)
25-33-25	6-2 1/2	(1892)	6-1 1/2	(1867)	5-6 1/16	(1678)	1-6 5/16	(466)
25-37-25	6-6 1/2	(1993)	6-5 1/2	(1968)	5-10 1/16	(1779)	1-6 5/16	(466)
25-41-25	6-10 1/2	(2095)	6-9 1/2	(2070)	6-2 1/16	(1881)	1-6 5/16	(466)
25-49-25	7-6 1/2	(2298)	7-5 1/2	(2273)	6-10 1/16	(2084)	1-6 5/16	(466)
25-57-25	8-2 1/2	(2501)	8-1 1/2	(2476)	7-6 1/16	(2287)	1-6 5/16	(466)
25-73-25	9-6 1/2	(2908)	9-5 1/2	(2883)	8-10 1/16	(2694)	1-6 5/16	(466)
29 Wide Units								
29-17-29	5-4 1/8	(1629)	5-3 1/8	(1604)	4-7 11/16	(1415)	1-9 1/8	(537)
29-21-29	5-8 1/8	(1730)	5-7 1/8	(1705)	4-11 11/16	(1516)	1-9 1/8	(537)
29-25-29	6-0 1/8	(1832)	5-11 1/8	(1807)	5-3 11/16	(1618)	1-9 1/8	(537)
29-29-29	6-4 1/8	(1934)	6-3 1/8	(1909)	5-7 11/16	(1720)	1-9 1/8	(537)
29-33-29	6-8 1/8	(2035)	6-7 1/8	(2010)	5-11 11/16	(1821)	1-9 1/8	(537)
29-37-29	7-0 1/8	(2137)	6-11 1/8	(2112)	6-3 11/16	(1923)	1-9 1/8	(537)
29-41-29	7-4 1/8	(2238)	7-3 1/8	(2213)	6-7 11/16	(2024)	1-9 1/8	(537)
29-49-29	8-0 1/8	(2442)	7-11 1/8	(2417)	7-3 11/16	(2228)	1-9 1/8	(537)
29-57-29	8-8 1/8	(2645)	8-7 1/8	(2620)	7-11 11/16	(2431)	1-9 1/8	(537)

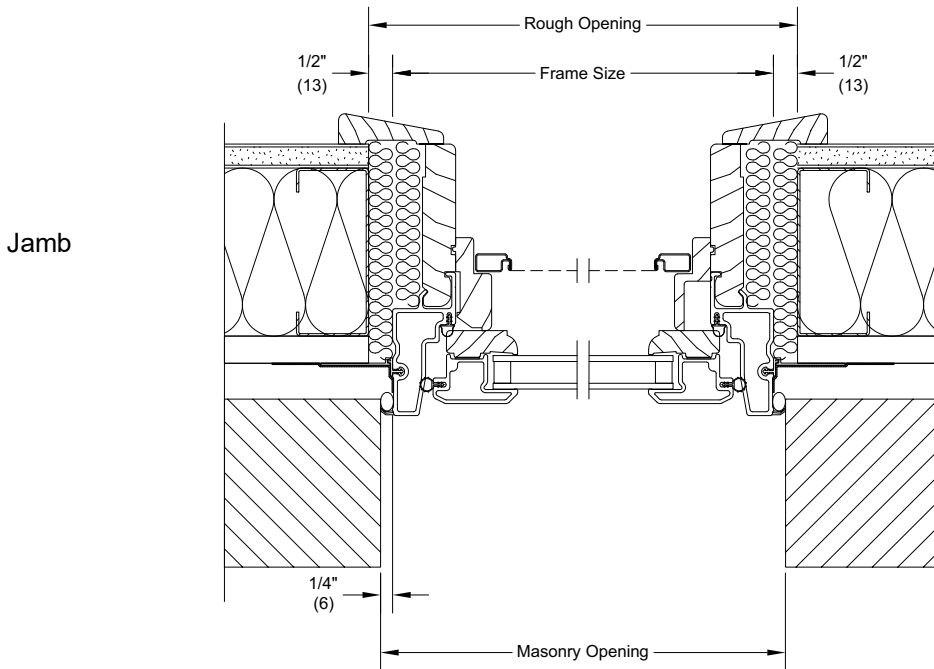
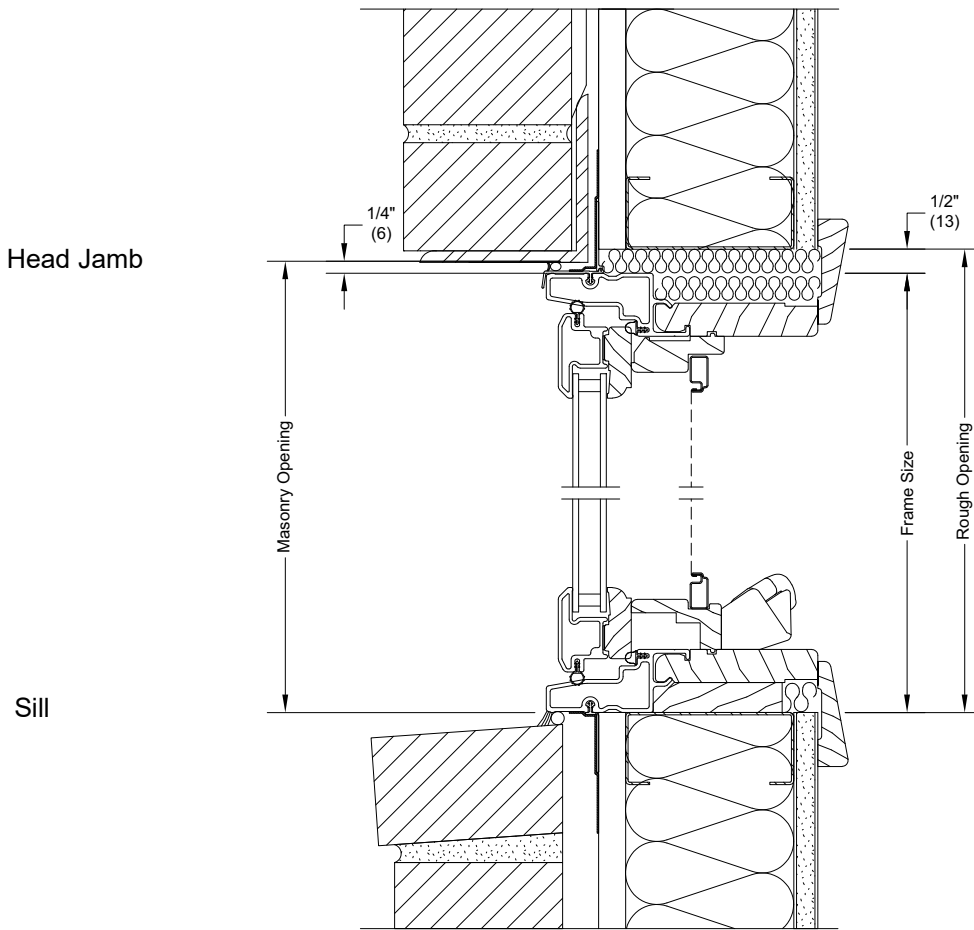
Section Details: 45° Bay Units

Scale: 3" - 1' 0"



Section Details: Installation Suggestion - Brick Veneer With Steel Frame Construction

Scale: 1 1/2" - 1' 0"

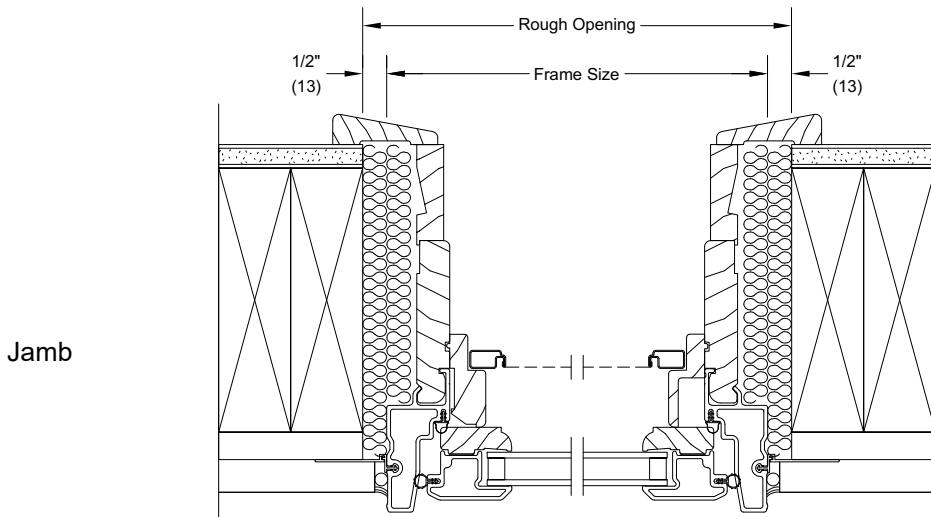
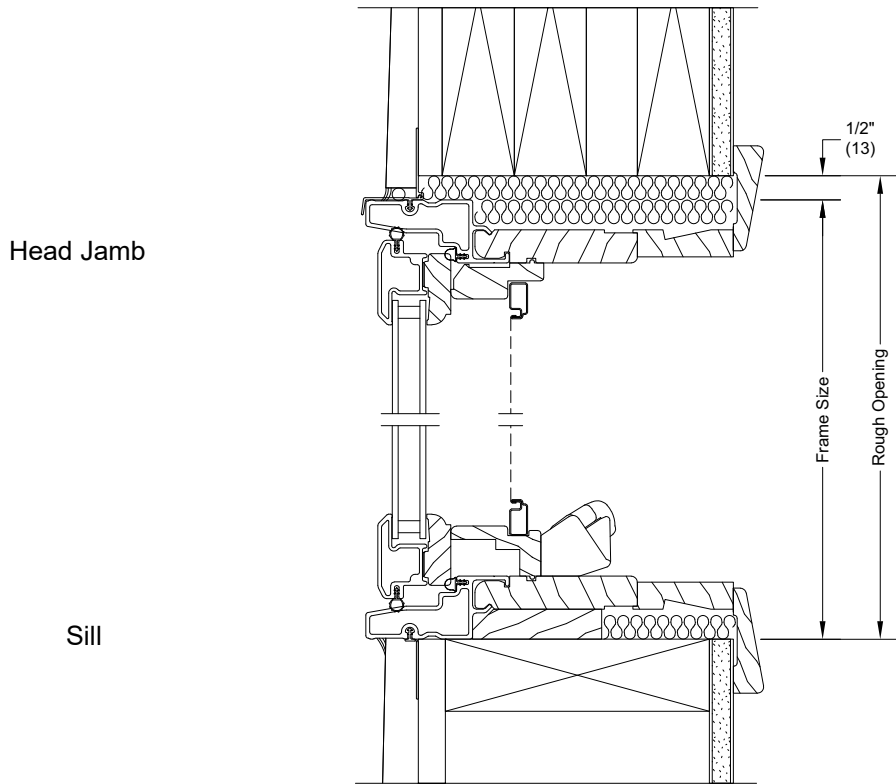


NOTES:

- Picture unit installation similar.
- 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.

Section Details: Installation Suggestion - Wood Siding With 2x6 Frame Construction

Scale: 1 1/2" - 1' 0"



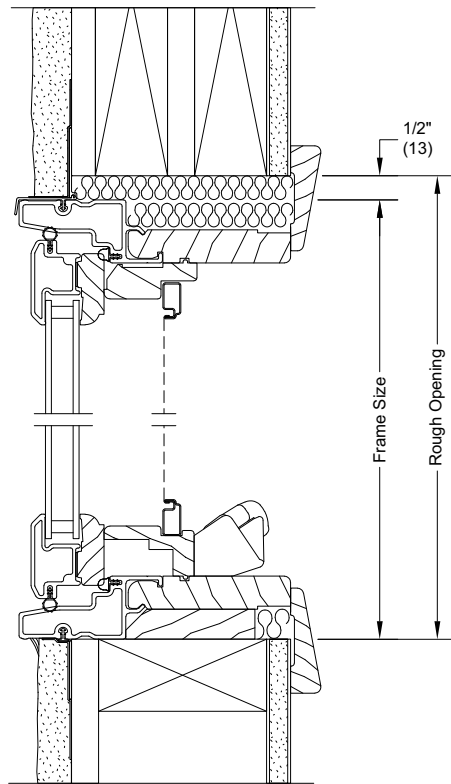
NOTES:

- 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.
- Picture unit installation similar. Picture units may require both nailing fin and installation brackets.

Section Details: Installation Suggestion - Stucco With 2x4 Frame Construction

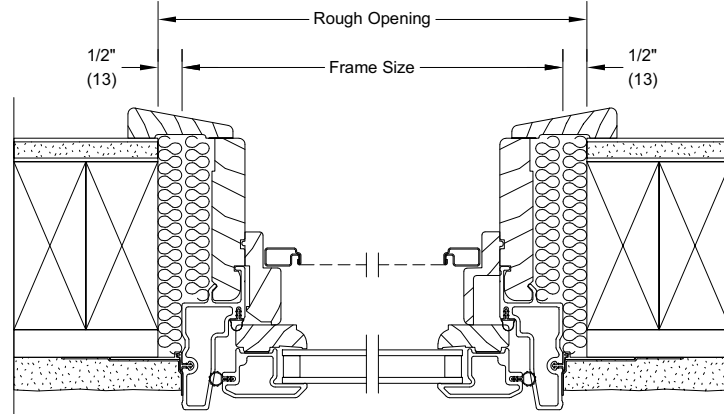
Scale: 1 1/2" - 1' 0"

Head Jamb



Sill

Jamb



NOTES:

- *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.*
- *Picture unit installation similar. Picture units may require both nailing fin and installation brackets.*